Important Plant Areas of Ukraine

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Editor: V.A. Onyshchenko

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The book contains descriptions of 173 Important Plant Areas of Ukraine. Data on each site include its area, geographical coordinates, selection criteria, areas of EUNIS habitat types, characterization of vegetation, threats, human activities, information about protected areas, references, and a map on the sattelite image background.

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Книга містить описи 173 Важливих ботанічних територій України. Дані про кожну територію включають її площу, географічні координати, критерії виділення, площі оселищ за класифікацією EUNIS, характеристику рослинності, загрози, види людської діяльності, інформацію про природно-заповідні території, список літератури і карту на основі космічної фотографії.

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Selection criteria

The aim of the Important Plant Areas (IPAs) programme is to identify and protect a network of the best sites for plant conservation throughout Europe and the rest of the world, using consistent criteria (Anderson, 2002). The identification of IPAs is based on three criteria. Criterion A – Presence of threatened plant species: the site holds significant populations of one or more species that are of global or regional conservation concern. Criterion B – Presence of botanical richness: the site has an exceptionally rich flora in a regional context in relation to its biogeographic zone. Criterion C – Presence of threatened habitats: the site is an outstanding example of a habitat or vegetation type of global or regional plant conservation and botanical importance. "IPA" is not an official designation. IPAs are selected scientifically using criteria supported by expert scientific judgement.

IPA criteria were published in 2001 (Palmer & Smart 2001). Since then IPA were selected in many countries. In Ukraine, first six IPAs were identified in 2008 (Onyshchenko et al. 2008). In 2012 16 new areas were selected in the Sea of Azov region (Kolomiychuk et. al. 2012). The present book includes information about 173 IPAs identified within the territory of Ukraine. These data are available also in the IPA database online. IPAs were identified in Ukraine mainly using criteria A and C.

Criterion A includes subcriteria A(i) (species with categories EX, CR, En and VU in the IUCN database version 2015–4), A(ii) (species listed in Appendix I of the Bern Convention, Resolution 6 of the Steering Committee of the Bern Convention, or the Red Data Book of European bryophytes), A(iii) (species with categories "endangered" and "vulnerable" in the Red Data Book of Ukraine (2009) that are considered national endemics of Ukraine), A(iv) (limited range species with categories "endangered" and "vulnerable" in the Red Data Book of Ukraine (2009) that are not national endemics). Totally the Criterion A list for Ukraine has 185 species (table 1): subcriterion A(i) – 23 species, A(ii) – 96, A(iii) – 33, and A(iv) – 65 species. 145 species were used as criteria.

Table 1. Criterion A species and corresponding selected areas.

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Achillea glaberrima Klokov		*			LC	*	*	-	R	Kamiani Mohyly
Aconitum besserianum Andrz. ex Trautv.			*		-	-	-	-	V	Medobory; Kniazhpilskyi Lis; Sovyi Yar; Vasylivskyi i Rozkopynskyi Yary; Shebutynskyi Yar; Ternava – Dnister
Aconitum pseudanthora Błocki ex Pacz.			*		-	-	-	-	V	Probabyn, Vymushiv

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Adenophora lilifolia (L.) Ledeb.		*			-	-	*	-	-	Sinozhati, Dziurkach
Agrimonia pilosa Ledebour		*			-	-	*	-	-	–
Agropyron cimmericum Nevski	*				En	-	-	-	-	Byriuchyi Ostriv; Arabatska Strilka; Peresyp Aktaskoho Ozera; Kazantyp
Agropyron dasyanthum Ledeb.	*				En	-	-	-	-	Kozachelaherska Arena; Nyzhniodniprovski Pisky; Biriuchyi Ostriv; Dnipro – Orlil
Aldrovanda vesiculosa L.	*	*			En	*	*	-	R	Zaplava Prypiati; Shatski Ozera; Dunaiski Plavni
Allium pervestitum Klokov	*			*	En	-	-	-	E	Molochnyi Lyman; Kazantyp; Bereh Syvashyka
Allium regelianum A.Becker ex Iljin		*			-	*	*	-	R	Molochnyi Lyman; Tendrivska Zatoka; Askania-Nova; Bereh Syvashyka
Allium savranicum (Nyman) Oxner				*	-	-	-	-	V	Nyzhniodniprovski Pisky; Dnipro – Oril; Triokhizbenskyi Step; Volyzhyn Lis
Allium scythicum Zoz			*		DD	-	-	-	V	Skhidnyi Churiuk; Tendrivska Zatoka
Allium sphaeropodum Klokov				*	-	-	-	-	V	–
Alyssum borzaeanum Nyár. (*Odontarrhena borzaeana* (Nyár.) D.A.German)		*			-	*	-	-	V	Peresyp Aktaskoho Ozera; Tendrivska Zatoka
Alyssum gymnopodum P.A.Smirn. (*Odontarrhena gymnopoda* (P.A.Smirn.) D.A.German)				*	-	-	-	-	V	Kreidiana Flora; Oskilski Skhyly; Petro-Ivanivka; Marina Hora
Alyssum savranicum Andrz. ex Besser (*Odontarrhena savranica* (Andrz. ex Besser) D.A.German)				*	-	-	-	-	E	Nyzhniodniprovski Pisky; Kozachelaherska Arena; Volyzhyn Lis

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Anacamptodon splachnoides (Brid.) Brid.		*			-	-	-	E	V	Chornohora
Androsace koso-poljanskii Ovcz.				*	-	-	-	-	E	Vovchanski Skyly; Oskilski Skhyly; Petro-Ivanivka
Angelica palustris (Besser) Hoffm.		*			-	*	*	-	-	–
Anoectangium handelii Schiffn.		*			-	-	-	V	V	–
Astracantha arnacantha (M.Bieb.) Podlech (*Astragalus arnacantha* M.Bieb.)				*	-	-	-	-	V	Krymski Hory; Mehanom; Tepe-Oba; Karadah
Astragalus reduncus Pall.				*	-	-	-	-	E	Ak-Monaiskyi Step; Askania-Nova; Mehanom; Tepe-Oba
Astragalus setosulus Gontsch.	*	*	*		Vu	*	*	-	E	Krymski Hory; Mehanom
Astragalus tanaiticus C. Koch	*	*			Vu	*	*	-	R	Kamiani Mohyly
Astragalus zingeri Korsh.				*	-	-	-	-	E	–
Barbula enderesii Garov.		*			-	-	-	V	-	–
Betula oycoviensis Besser	*				Vu	-	-	-	-	–
Botrychium matricarifolium A.Br. ex Koch		*			-	*	-	-	E	Chyvchyny; Svydovets; Chornohora
Botrychium multifidum (S.G.Gmel.) Rupr.		*			-	*	-	-	R	Chyvchyny; Marmaroski Hory
Brassica taurica (Tzvelev) Tzvelev	*	*			EN	*	*	-	V	Ayu-Dah; Mys Martian
Buxbaumia viridis (Moug. ex Lam. et DC.) Brid. ex Moug. et Nestl.		*			-	*	*	V	-	Chornohora
Caldesia parnassifolia (L.) Parl.		*			LC	*	*	-	E	–
Calophaca wolgarica (Moug.) Moug. et Nestl.				*	LC	-	-	-	V	Troitska Balka
Campanula abietina Griseb. et Schenk		*			-	*	-	-	-	Chyvchyny; Marmaroski Hory; Svydovets; Chornohora

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Campanula serrata (Kit.) Hendrych		*			LC	-	*	-	-	Chyvchyny; Marmaroski Hory; Chornohora; Dzhohul
Caragana scythica (Kom.) Pojark.				*	-	-	-	-	V	Korsak-Mohyla
Carex secalina Wahlenb.		*			-	*	-	-	V	Dunaiski Plavni; Nyzhnii Dnipro; Hrakove
Carlina cirsioides Klokov				*	-	-	-	-	V	Chortova Hora; Kasova Hora; Horodnytski Tovtry
Carlina onopordifolia Besser ex Szafer, Kulcz. et Pawł.	*	*		*	Vu	*	*	-	V	Velyki Holdy; Lysa Hora i Stinka; Vasylivka; Pidlyska Hora
Centaurea appendicata Klokov			*		-	-	-	-	E	Lysohirka
Centaurea breviceps Iljin			*		-	-	-	-	V	Kozachelaherska Arena; Nyzhniodniprovski Pisky
Centaurea comperiana Steven			*		-	-	-	-	V	Krymski Hory
Centaurea donetzica Klokov				*	-	-	-	-	V	Sviati Hory
Centaurea konkae Klokov			*		-	-	-	-	E	Kurylivka; Kuchuhury
Centaurea margarita-alba Klokov			*		-	-	-	-	E	Mykhailo-Laryne; Kovalivka
Centaurea margaritacea Ten.	*		*		-	-	-	-	E	Mishkovo-Pohorilove
Centaurea paczoskii Kotov ex Klokov			*		-	-	-	-	E	Bobrovyi Kut; Novohredneve
Centaurea protogerberi Klokov				*	-	-	-	-	E	–
Centaurea protomargaritacea Klokov			*		-	-	-	-	E	Halitsynove
Centaurea pseudoleucolepis Kleopow	*	*			Ex	*	*	-	R	Kamiani Mohyly
Centaurea sarandinakiae N.B.Illar.				*	-	-	-	-	V	Krymski Hory; Karadah
Centaurea taliewii Kleopow (*Rhaponticoides taliewii* (Kleopow) M.V.Agab. & Greuter)				*	-	-	-	-	V	Tarkhankut; Askania-Nova

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Cephalaria demetrii Bobrov			*		-	-	-	-	E	Krymski Hory; Karadah
Cephalaria litvinovii Bobrov				*	-	-	-	-	E	–
Cerasus klokovii Sobko			*		-	-	-	-	V	Hranitno-Stepove Pobuzhia
Chamaecytisus graniticus (Rehmann.) Rothm.			*		-	-	-	-	V	Yelanetskyi Step; Mykhailivskyi Step; Zelena Balka
Chamaecytisus podolicus (Błocki) Klásková				*	-	-	-	-	V	Kadubivska Stinka; Probabyn; Medobory
Chamaecytisus wulffii (V.Krecz.) Klásková				*	-	-	-	-	V	Krymski Hory
Cochlearia polonica Frohl.	*	*		*	En	*	*	-	E	Koltivska Ulohovyna
Colchicum fominii Bordz.		*		*	LC	*	*	-	V	Skhyly Kohylnyka; Kuchurhan
Comperia comperiana (Steven) Asch. et Graebn.		*			-	*	-	-	E	Krymski Hory
Crambe aspera M.Bieb.				*	-	-	-	-	V	Tepe-Oba; Opuk; Karadah
Crambe grandiflora DC.				*	DD	-	-	-	V	Osovynskyi Step; Karalarskyi Step; Kazantyp; Ak-Monaiskyi Step; Karadah
Crambe koktebelica (Junge) N.Busch		*			DD	*	*	-	R	Tepe-Oba; Opuk; Karadah
Crambe mitridatis Juz.				*	-	-	-	-	V	Ak-Monaiskyi Step; Kazantyp; Karalarskyi Step; Tarkhankut; Opuk
Crambe pinnatifida W.T.Aiton				*	-	-	-	-	V	Kazantyp; Karadah
Crambe steveniana Rupr.				*	-	-	-	-	V	Osovynskyi Step; Tene-Оба; Karadah
Crambe tataria Sebeok		*			-	-	*	-	V	Khomutovskyi Step; Mykhailivskyi Step
Crataegus pojarkovae Kossych			*		-	-	-	-	V	Karadah
Crocus banaticus Gay				*	-	-	-	-	E	–
Cyclamen kuznetzovii Kotov et Czernowa		*	*		-	*	*	-	E	Krymski Hory

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Cypripedium calceolus L.		*			-	*	*	-	V	Romosh; Tsetsyno, Krymski Hory; Pidlyska Hora
Daphne sophia Kalen.	*			*	En	-	-	-	E	Vovchanski Skyly; Kolodiazne
Daphne taurica Kotov			*		-	-	-	-	E	Krymski Hory
Delphinium rossicum Litv.				*	-	-	-	-	V	Dnipro-Oril
Delphinium sergii Wissjul.				*	-	-	-	-	V	Provalskyi Step; Dolyna Mertvovodu
Dendranthema zawadskii (Herbich) Tzvelev		*			-	*	*	-	R	–
Desmatodon cernuus (Hüb.) B. et S.		*			-	-	-	V	-	–
Dianthus bessarabicus Klokov			*		-	-	-	-	E	Dunaiski Plavni
Dianthus hypanicus Andrz.	*	*	*		Vu	*	*	-	V	Dolyna Mertvovodu; Hranitno-Stepove Pobuzhia; Dolyna Inhulu
Dianthus pseudoserotinus Błocki				*	-	-	-	-	V	Levkivski Lisy; Shatski Ozera
Dicranum viride (Sull. et Lesq.) Lindb.		*			-	*	*	V	-	Chyvchyny; Marmaroski Hory; Chornohora
Diplotaxis cretacea Kotov				*	-	-	-	-	V	Striltsivskyi Step; Kreidiana Flora; Oskilski Skhyly; Marina Hora
Dracocephalum austriacum L.		*			-	*	*	-	V	Horodnytski Tovtry; Hostra Skelia
Dracocephalum ruyschiana L.		*			-	*	-	-	I	Potashnianski Lisy; Koltivska Ulohovyna
Echium russicum G.F.Gmel.		*			-	-	*	-	-	–
Eleocharis carniolica W.D.J.Koch		*			LC	*	*	-	V	–
Eremurus tauricus Steven				*	-	-	-	-	E	Krymski Hory; Karadah
Erysimum hungaricum Zapał.	*				Vu	-	-	-	-	–
Erysimum krynkense Lavrenko				*	-	-	-	-	E	–
Erysimum ucrainicum J.Gay				*	-	-	-	-	V	Oskilski Skhyly; Balakyrivka

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Ferula orientalis L.		*			-	*	-	-	-	Molochnyi Lyman; Askania-Nova
Festuca porcii Hack.				*	-	-	-	-	V	Chyvchyny; Chornohora
Fritillaria montana Hoppe		*			DD	*	*	-	E	Shebutynskyi Yar; Vasylivskyi i Rozkopynskyi Yary; Kaplivka; Podvirivka
Genista tetragona Besser	*	*		*	Vu	*	*	-	E	Trostianets
Gladiolus palustris Gaud.		*			DD	-	-	-	E	–
Goniolimon graminifolium (Ait.) Boiss.				*	-	-	-	-	V	Nyzhniodniprovski Pisky; Volyzhyn Lis
Goniolimon rubellum (S.G.Gmel.) Klokov			*		-	-	-	-	V	Arabatska Strilka; Mytrofanivskyi Pivostriv; Bereh Syvashyka
Gymnospermium odessanum (DC.) Takht.				*	-	-	-	-	V	Hranitno-Stepove Pobuzhia, Mykhailivskyi Step
Gypsophila thyraica Krasnova			*		-	-	-	-	V	Verbetska Tovtra; Kadubivska Stinka; Tovtrivska Stinka; Pohorylivka; Probabyn
Hamatocaulis verniculosus (Mitt.) Hedenas		*			-	*	*	-	-	Marmaroski Hory; Svydovets; Chornohora
Hedysarum cretaceum Fisch.				*	-	-	-	-	E	Kreidiani Vidslonennia
Hedysarum ucrainicum Kaschm.				*	-	-	-	-	E	Novobila; Sharivka
Heterophyllium affine (Mitt.) Fleisch.		*			-	-	-	E	R	Svydovets; Chornohora
Himantoglossum caprinum (M.Bieb.) C.Koch		*		*	-	*	*	-	V	Krymski Hory; Karadah
Hyacinthella pallasiana (Steven) Losinsk.				*	-	-	-	-	V	Naholnyi Kriazh
Iris humilis Georgi (*Iris pineticola* Klokov)		*		*	-	-	*	-	V	Sviati Hory
Iris hungarica Waldst. & Kit.		*			-	-	*	-	-	Irpinskyi Lis, Ternava – Dnister; Pohorylivka; Kadubivska Stinka

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Jurinea cyanoides (L.) Rchb.		*			-	-	*	-	-	–
Lagoseris purpurea (Willd.) Boiss. (*Crepis purpurea* (Willd.) M.Bieb.)	*	*	*		Vu	*	*	-	V	Krymski Hory
Larix decidua Mill. subsp. *polonica* (Racib.) A.E.Murray				*	-	-	-	-	E	Kedryn
Lepidium syvaschicum Kleopow			*		DD	-	-	-	V	Arabatska Strilka; Skhidnyi Churiuk; Mytrofanivskyi Pivostriv
Lepidium turczaninowii Lipsky	*	*		*	Cr	*	*	-	E	Tepe-Oba
Ligularia sibirica (L.) Cass. (*L. bucovinensis* Nakai)		*			-	-	*	-	V	Chyvchyny; Bushchanske Boloto
Limonium tschurjukiense (Klokov) Lavrenko ex Klolkov				*	-	-	-	-	V	Tiup-Tarkhan i Kalynivskyi Pivostriv
Linaria cretacea Fisch. ex Spreng.				*	-	-	-	-	V	Kreidiana Flora; Riznykivka; Balakyrivka; Skhyly Krasnoi i Kobylky
Lindernia procumbens (Krock.) Borb.		*			LC	*	-	-	-	Dnipro – Oril
Liparis loeselii (L.) Rich.		*			-	*	*	-	V	Bushchanske Boloto; Bir na Merli
Mannia triandra (Scop.) Grolle		*			-	-	*	-	-	Chornohora; Uholka – Shyrokyi Luh
Marsilea quadrifolia L.		*			LC	-	*	-	V	–
Medicago kotovii Wissjul.	*				Vu	-	-	-	-	Byriuchyi Ostriv
Medicago saxatilis M.Bieb.	*				En	-	-	-	I	Krymski Hory
Meesia longiseta Hedw.		*			-	*	*	R	Ex	–
Moehringia hypanica Grynj et Klokov	*	*			Vu	-	*	-	R	Dolyna Mertvovodu; Hranitno-Stepove Pobuzhia
Moehringia lateriflora (L.) Fenzl.		*			-	-	*	-	-	–

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Narcissus angustifolius Curt.		*			-	*	*	-	V	Dolyna Nartsysiv; Marmaroski Hory; Svydovets
Neckera pennata Hedw.		*			-	-	-	V	-	Svydovets; Chornohora; Uholka – Shyrokyi Luh
Nigritella carpatica (Zapał.) Teppner, Klein et Zagulski (*Gymnadenia carpatica* (Zapał.) Teppner & E.Klein)				*	-	-	-	-	E	Chyvchyny; Dzhohul
Onobrychis pallasii (Willd.) M.Bieb.			*		-	-	-	-	V	Krymski Hory; Mehanom; Tepe-Oba; Karadah
Onobrychis vassilczenkoi Grossh.				*	-	-	-	-	V	–
Onosma graniticola Klokov				*	-	-	-	-	E	Provalskyi Step; Hranitno-Stepove Pobuzhia
Onosma polyphylla Ledeb.		*		*	-	*	*	-	V	Krymski Hory; Mehanom; Karadah
Ophrys oestrifera M.Bieb.		*			-	*	-	-	E	Krymski Hory; Kazantyp; Mys Martian; Tepe-Oba; Karadah
Ophrys taurica (Aggeenko) Nevski		*			-	*	-	-	E	Krymski Hory
Orchis provincialis Balb.		*			-	*	-	-	E	Krymski Hory
Orchis punctulata Steven ex Lindl.		*			-	*	-	-	E	Krymski Hory; Tepe-Oba; Karadah
Ornithogalum amphibolum Zahar.				*	-	-	-	-	E	–
Orthotrichum scanicum Gronv.		*			-	-	-	E	-	–
Paeonia tenuifolia L.		*			-	*	*	-	V	Krymski Hory; Khomutovskyi Step; Striltsivskyi Step; Vitrohon
Pallavicinia lyelii (Hook.) Carruth.		*			-	-	-	V	-	–
Pinguicula bicolor Woł. (*Pinguicula vulgaris* L. ssp. *bicolor* (Woł.) A. et D.Löve)				*	-	-	-	-	E	Koltivska Ulohovyna
Pinus cretacea (Kalen.) Kondr.				*	-	-	-	-	V	–

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Pinus stankewiczii (Sukacz.) Fomin (P. *brutia* Ten. var. *pityusa* (Steven) Silba; *P. pityusa* Steven var. *stankewiczii* Sukacz.)	*			*	Vu	-	-	-	V	Krymski Hory
Poa granitica Braun-Blanq. (*Poa deylii* Chrtek et V.Jirasek)		*			-	-	*	-	-	Marmaroski Hory; Svydovets
Pterygoneurum kozlovii Lazar.		*			-	-	-	V	R	–
Pterygoneurum lamellatum (Lindb.) Jur.		*			-	-	-	V	-	–
Pulsatilla grandis Wend.		*			LC	*	*	-	V	Sinozhati, Horodnytski Tovtry; Kasova Hora; Horaivka; Pohorylivka
Pulsatilla patens (L.) Mill. (*P. latifolia* Rupr.)		*			-	*	*	-	I	Levkivski Lisy; Sinozhati
Pyramidula tetragona (Brid.) Brid.		*			-	-	-	V	-	–
Ranunculus lapponicus L.		*			-	-	*	-	-	–
Rheum rhaponticum L.		*			-	-	*	-	-	–
Rhus coriaria L.	*				Vu	-	-	-	-	Krymski Hory; Karadah
Rhododendron luteum Sweet		*			-	-	*	-	-	Olevski Lisy; Yemilchynski Lisy
Salvinia natans (L.) All.		*			I	*	-	-	I	Dunaiski Plavni; Nyzhnii Dnipro
Saxifraga hirculus L.		*			-	*	*	-	V	Bushchanske Boloto
Schivereckia podolica (Besser) Andrz. & Besser ex DC. (*Draba podolica* (Besser) Rupr.)		*			LC	*	*	-	I	Hostra Skelia; Medobory; Ustia – Shutnivtsi; Ternava – Dnister; Marina Hora
Senecio besserianus Minder.			*		-	-	-	-	V	–
Serratula lycopifolia (Vill.) A.Kern. (*Klasea lycopifolia* (Vill.) Á.Löve & D.Löve)		*			DD	*	*	-	-	Podvirivka, Vyshnivka
Serratula tanaitica P.Smirn.		*			-	*	*	-	R	–

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Silene cretacea Fisch. ex Spreng.		*		*	-	*	*	-	V	Kreidiana Flora; Riznykivka; Skhyly Krasnoi i Kobylky
Silene hypanica Klokov			*		-	-	-	-	V	Hranitno-Stepove Pobuzhia
Silene jailensis N.I. Rubtzov			*		-	-	-	-	V	Krymski Hory
Silene sytnikii Krytzka, Novosad et Protopopova			*		-	-	-	-	V	Dolyna Mertvovodu; Hranitno-Stepove Pobuzhia
Sisymbrium confertum Steven ex Turcz.		*			DD	*	-	-	-	Krymski Hory
Sisymbrium supinum L.		*			LC	-	*	-	-	–
Spiraea polonica Błocki			*		-	-	-	-	E	Zhyzhava; Ternava – Dnister
Steveniella satyrioides (Steven) Schlechter		*			-	*	*	-	E	Krymski Hory
Stipa anomala P.A.Smirn.				*	-	-	-	-	E	–
Stipa poëtica Klokov				*	-	-	-	-	V	Karadah
Stipa syreistschikowii P.A.Smirn.		*		*	-	*	*	-	V	Mehanom; Tepe-Oba; Karadah
Stipa zalesskii Wilensky		*			-	-	*	-	I	Kreidiana Flora; Vitrohon
Syrenia talievi Klokov				*		-	-	-	V	Kreidiana Flora; Marina Hora
Syringa josikaea Jacq. fil.		*		*	-	*	*	-	V	–
Thesium ebracteatum Hayne		*			-	*	*	-	-	–
Thymus littoralis Klokov et Des.-Shost.			*		-	-	-	-	V	Karalarskyi Step; Arabatska Strilka; Peresyp Aktaskoho Ozera; Opuk
Tilia dasystyla Steven				*	-	-	-	-	E	Krymski Hory; Karadah
Tortula handelii Schiffn.		*			-	-	-	V	-	–
Tozzia carpathica Woł.		*			DD	-	*	-	-	Chyvchyny; Marmaroski Hory; Chornohora
Trapa natans L.		*			LC	*	-	-	I	Dunaiski Plavni; Nyzhnii Dnipro

Taxon	A(i)	A(ii)	A(iii)	A(iv)	IUCN db 2015-4	BC	Res 6	RBEB	RDBU	IPAs where the taxon is a criterion of selection
Tulipa hypanica Klokov et Zoz			*		-	-	-	-	V	Hranitno-Stepove Pobuzhia; Yelanetskyi Step; Mykhailivskyi Step; Dolyna Inhulu; Zelena Balka
Tulipa scythica Klokov et Zoz			*		-	-	-	-	V	Askania-Nova
Typha minima Funk		*			-	*	-	-	E	Dunaiski Plavni
Typha shuttleworthii W.D.J.Koch et Sond.		*			-	*	-	-	-	Chyvchyny
Ulota rehmanii Jur.		*			-	-	-	E	-	–
Zostera marina L.		*			LC	*	-	-	-	Molochnyi Lyman; Biriuchyi Ostriv; Arabatska Strilka; Obytichna Kosa

Abbreviations: IUCN db 2015 – version 2015-4 of the IUCN database, BC – Appendix I of the Bern Convention, Res6 - Resolution 6 of the Bern Convention (1998, year of revision 2011), RBEB – Red Data Book of European bryophytes (1995), RDBU – Red Data Book of Ukraine (2009).

Note. The scientific names of plants are given mostly according to the checklist of vascular plants of Ukraine (Mosyakin & Fedoronchuk 1999), with necessary taxonomic and nomenclatural adjustments. However, to avoid confusion, we mainly preserved as "main" names of protected species those names which are listed in the official documents mentioned above, even in the cases when new taxonomic and phylogenetic data dictate changes in their nomenclature. For example, some species of *Centaurea* are currently placed in segregate genera (e.g., *Rhaponticoides, Psephellus*), some species of *Alyssum* were recently transferred to *Odontarrhena*, etc. In all such cases, the names currently accepted by taxonomists are provided after the names used in the IUCN database, Appendix I of the Bern Convention, Resolution 6 of the Steering Committee of the Bern Convention, the Red Data Book of Ukraine, the Red Data Book of European bryophytes, or in other relevant red lists. Since the present book is not a taxonomic treatment, such usage of plant names should not be viewed as endorsement of alternative taxonomic or nomenclatural decisions.

Criterion B was applied only for the EUNIS level 2 habitat G1 Broadleaved deciduous woodland. The indicator species checklist of this habitat contains 77 species. All these species have their optimum in this habitat type and constancy <3% in vegetation data plots of deciduous woods. Most of them are species with small extent of occurence. Analysis of distribution of indicator species number in deciduous forests of Ukraine shows that the richest 10% of forests are Crimean forests and some forests of the western part of Ukraine with calcareous rocks (Onyshchenko et al. 2008). Six areas have been selected by this criterion: Krymski Hory, Uholka – Shyrokyi Luh, Verkhniobuzki Lisy, Medobory, Karadah, and Mys Martian. Selected areas contain 6% of the habitat G1 in Ukraine.

Checklist of species for assessment of the botanical richness of habitats type G1: Broadleaved deciduous woodland

Taxaceae

1. *Taxus baccata* L.

Ranunculaceae

2. *Aconitum besserianum* Andrz. ex Trautv.
3. *Aconitum degenii* Gayer
4. *Aconitum gracile* (Rchb.) Gayer
5. *Aconitum lasiostomum* Rchb.
6. *Aconitum nemorosum* M.Bieb. ex Rchb.
7. *Aconitum variegatum* L.
8. *Aquilegia vulgaris* L
9. *Cimicifuga europaea* Schipcz. (*Actaea europaea* (Schipcz.) J.Compton)
10. *Delphinium pallasii* Nevski
11. *Helleborus purpurascens* Waldst. et Kit.

Urticaceae

12. *Urtica kioviensis* Rogov.

Caryophyllaceae

13. *Cerastium sylvaticum* Waldst. et Kit.

Brassicaceae

14. *Cardamine tenera* S.G. Gmel. ex C.A. Mey.
15. *Hesperis candida* Kit. ex Müggenb., Kanitz et Knapp
16. *Hesperis matronalis* L.
17. *Hesperis steveniana* DC.
18. *Hesperis sibirica* L.
19. *Hesperis voronovii* N.Busch

Primulaceae

20. *Cyclamen kuznetzovii* Kotov et Czernowa s.str. (*Cyclamen coum* Mill. s.l.)
21. *Lysimachia verticillaris* Spreng.

Thymeleaceae

22. *Daphne sophia* Kalen.
23. *Daphne taurica* Kotov

Tiliaceae

24. *Tilia dasystyla* Stev.

Fabaceae

25. *Lathyrus laevigatus* (Waldst. et Kit.) Fritsch
26. *Lathyrus transsilvanicus* (Spreng.) Rchb.
27. *Lathyrus venetus* (Mill.) Wohlf.

Rutaceae

28. *Dictamnus gymnostylis* Stev.

Aceraceae

29. *Acer stevenii* Pojark.

Apiaceae

30. *Laserpitium latifolium* L.

Celastraceae

31. *Euonymus nanus* M.Bieb.

Rhamnaceae

32. *Rhamnus tinctoria* Waldst. et Kit.

Santalaceae

33. *Thesium ebracteatum* Hayne

Oleaceae

34. *Syringa josikaea* Jacq. fil.

Rubiaceae

35. *Asperula propinqua* Pobed.

Boraginaceae

36. *Solenanthus biebersteinii* DC.

Solanaceae

37. *Scopolia carniolica* Jacq.

Scrophulariaceae

38. *Scrophularia vernalis* L.

Campanulaceae

39. *Adenophora liliifolia* (L.) A. DC.

Liliaceae

40. *Colchicum umbrosum* Steven
41. *Erythronium dens-canis* L.
42. *Fritillaria ruthenica* Wikstr.
43. *Nectaroscordum meliophilum* (Juz.) Zahar. (*Allium siculum* Ucria subsp. *dioscoridis* (Sm.) K.Richt.)
44. *Ruscus hypoglossum* L.
45. *Veratrum nigrum* L.

Amaryllidaceae

46. *Galanthus elwesii* Hook. fil
47. *Leucojum vernum* L.

Iridaceae

48. *Crocus banaticus* J. Gay
49. *Iris graminea* L.
50. *Iris hungarica* Waldst. et Kit.
51. *Iris variegata* L.

Orchidaceae

52. *Anacamptis pyramidalis* (L.) Rich.
53. *Comperia comperiana* (Steven) Asch. et Graebn.
54. *Corallorhiza trifida* Châtel.
55. *Cypripedium calceolus* L.
56. *Dactylorhiza romana* (Seb. et Mauri) Soó
57. *Epipactis atrorubens* (Hoffm ex Bernh.) Schult.
58. *Epipactis microphylla* (Ehrh.) Sw.
59. *Epipactis purpurata* Smith
60. *Epipogium aphyllum* (F.W.Schmidt) Sw.
61. *Himantoglossum caprinum* (M.Bieb.) K.Koch
62. *Limodorum abortivum* (L.) Sw.
63. *Ophrys apifera* Huds.
64. *Ophrys oestrifera* M.Bieb.
65. *Ophrys taurica* (Aggeenko) Nevski
66. *Orchis mascula* (L.) L.
67. *Orchis picta* Loisel.
68. *Orchis provincialis* Balb.

69. *Orchis punctulata* Stev. ex. Lindl.
70. *Orchis purpurea* Huds.
71. *Orchis simia* Lam.
72. *Steveniella satyrioides* (Steven) Schltr.

Cyperaceae

73. *Carex depauperata* Curt. ex With.
74. *Carex strigosa* Huds.

Poaceae

75. *Festuca drymeia* Mert. et Koch

Araceae

76. *Arum albispathum* Steven ex Ledeb.
77. *Arum orientale* M.Bieb.

Criterion C in our analysis was the presence of habitats from Reslution 4 of the Steering Committee of the Bern Convention, 2014 version (table 2). In addition, one priority habiatat from the Habitats Directive was used: 4070 Bushes with *Pinus mugo* and *Rhododendron hirsutum* (Mugo-Rhododendretum hirsuti). The Ukrainian subtype of this habitat (F2.46) is not present in Resolution 4. For most habitat types we selected maximum five areas. Main exceptions are some habitats correspoding to the priority habitats of the Habiatats Directive: E1.2 Perennial calcareous grassland and basic steppes (includes 62C0 Ponto-Sarmatic steppes and 6240 Sub-Pannonic steppic grasslands), F3.247 Ponto-Sarmatic deciduous thickets (includes priority habitat type 40C0 Ponto-Sarmatic deciduous thickets), G1.6 *Fagus* woodland (includes priority habitat type 9150 Medio-European limestone beech forests of the Cephalanthero-Fagion), G1.7 Thermophilous deciduous woodland (includes priority habitat types 91H0 Pannonian woods with *Quercus pubescens* and 91I0 Euro-Siberian steppic woods with *Quercus* spp.). The largest number of IPAs are selected for habitat E1.2. Former (and potential) area of habitat E1.2 in Ukraine is a few tens of times larger than its current area. At present, the habitat is highly fragmented so five best sites include only 10% of its area in Ukraine. Besides, five sites cannot represent the geographical and ecological diversity patterns of steppes.

Table 2. Criterion C habitats and corresponding areas.

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
A1.11	Mussel and/or barnacle comminities	–
A1.22	Mussels and fucoids on moderately exposed shores	–
A1.44	Communities of littoral caves and overhangs	–
A2.2	Littoral sand and muddy sand	–
A2.3	Littoral mud	–
A2.4	Littoral mixed sediments	–
A2.5	Coastal saltmarshes and saline reedbeds	Molochnyi Lyman; Dzharylhach; Tendrivska Zatoka

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
A2.61	Seagrass beds on littoral sediments	–
A3	Infralittoral rock and other hard substrata	Tarkhankut; Mehanom; Tepe-Oba; Opuk
A4	Circalittoral rock and other hard substrata	–
A5	Sublittoral sediment	Tendrivska Zatoka; Dzharylhach; Opuk; Mehanom
B1.1	Sand beach driftline	Arabatska Strilka; Biriuchyi Ostriv; Obytichna Kosa
B1.3	Shifting coastal dunes	Tendrivska Zatoka; Dzharylhach; Arabatska Strilka; Biriuchyi Ostriv
B1.4 (*2130)	Coastal stable dune grassland (grey dunes)	Tendrivska Zatoka; Dzharylhach; Arabatska Strilka
B1.8	Moist and wet dune slacks	–
B2.1	Shingle beach driftlines	–
B2.3	Upper shingle beaches with open vegetation	–
B3.3	Rock cliffs, ledges and shores, with angiosperms	Kazantyp; Krymski Hory; Mehanom; Tepe-Oba; Opuk
C1.1	Permanent oligotrophic lakes, ponds and pools	Shatski Ozera; Bile Ozero; Svydovets; Chornohora
C1.222	Floating *Hydrocharis morsus-ranae* rafts	–
C1.223	Floating *Stratiotes aloides* rafts	Zaplava Prypiati; Zaplava Desny; Zaplavy Dnipra i Sozha
C1.224	Floating *Utricularia australis* and *Utricularia vulgaris* colonies	Zaplava Desny; Dunaiski Plavni; Zaplavy Dnipra i Sozha; Nyzhnii Dnipro
C1.225	Floating *Salvinia natans* mats	Dunaiski Plavni; Nyzhnii Dnipro
C1.226	Floating *Aldrovanda vesiculosa* communities	Zaplava Prypiati; Shatski Ozera; Dunaiski Plavni
C1.25	Charophyte submerged carpets in mesotrophic waterbodies	Shatski Ozera
C1.32	Free-floating vegetation of eutrophic waterbodies	–
C1.33	Rooted submerged vegetation of eutrophic waterbodies	–
C1.3411	*Ranunculus* communities in shallow water	Zaplava Desny; Dunaiski Plavni; Nyzhnii Dnipro; Zaplavy Dnipra i Sozha

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
C1.3413	*Hottonia palustris* beds in shallow water	–
C1.44	Charophyte submerged carpets in dystrophic waterbodies	–
C1.5	Permanent inland saline and brackish lakes, ponds and pools	–
C1.66	Temporary inland saline and brackish waters	–
C1.67	Turlough and lake-bottom meadows	–
C2.12 (*7220)	Hard water springs	Krymski Hory; Chyvchyny; Marmaroski Hory; Chornohora
C2.18	Acid oligotrophic vegetation of spring brooks	–
C2.19	Lime-rich oligotrophic vegetation of spring brooks	–
C2.1A	Mesotrophic vegetation of spring brooks	–
C2.1B	Eutrophic vegetation of spring brooks	–
C2.25	Acid oligotrophic vegetation of fast-flowing streams	–
C2.26	Lime-rich oligotrophic vegetation of fast-flowing streams	–
C2.27	Mesotrophic vegetation of fast-flowing streams	–
C2.28	Eutrophic vegetation of fast-flowing streams	Zaplava Tysy
C2.33	Mesotrophic vegetation of slow-flowing rivers	Zaplava Desny; Zaplavy Dnipra i Sozha
C2.34	Eutrophic vegetation of slow-flowing rivers	Nyzhnii Dnipro; Dunaiski Plavni; Zaplava Tysy
C3.4	Species-poor beds of low-growing water-fringing or amphibious vegetation	Zaplava Desny; Zaplavy Dnipra i Sozha; Kanivski Ostrovy; Zaplava Tysy; Ubort – Bolotnytsia
C3.51	Euro-Siberian dwarf annual amphibious swards (but excluding C3.5131 Toad-rush swards)	Zaplava Desny; Zaplavy Dnipra i Sozha; Kanivski Ostrovy; Zaplava Tysy
C3.55	Sparsely vegetated river gravel banks	–
C3.62	Unvegetated river gravel banks	–

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
D2.226	Peri-Danubian black-white-star sedge fens	Chyvchyny, Chornohora; Svydovets; Marmaroski Hory
D2.3	Transition mires and quaking bogs	Perebrody; Somyno; Syra Pohonia; Bile Ozero; Ubort – Bolotnytsia; Cheremske Boloto
D4.1	Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks	Pecheniiske Boloto; Zolochivka; Chyvchyny; Bushchanske Boloto; Koltivska Ulohovyna; Markovychi
D5.2	Beds of large sedges normally without free-standing water	Zaplava Desny; Zaplava Prypiati; Zaplavy Dnipra i Sozha; Nyzhnii Dnipro; Dunaiski Plavni
D6.1 (*1340)	Inland saline and brackish marshes and reedbeds	Tendrivska zatoka
E1.11 (*6110)	Euro-siberian pioneer rock debris swards	Ternava – Dnister; Zhyzhava; Hranitno-Stepove Pobuzhia; Dolyna Inhulu; Dolyna Mertvovodu
E1.12	Euro-Siberian pioneer calcareous sand swards	–
E1.13	Continental dry rocky steppic grasslands and dwarf scrub on chalk outcrops	Kreidiana Flora; Novobila; Oskilski Skhyly; Vovchanski Skyly
E1.2 (incl. *6240, *62C0)	Perennial calcareous grassland and basic steppes	Krymski Hory; Tarkhankut; Askania-Nova; Karalarskyi Step; Medvezhanka; Osovynskyi Step; Naholnyi Kriazh; Kalmiuskyi Step; Novobila; Polovetskyi Step; Oskilski Skhyly, Mykhailivskyi Step; Yelanetskyi Step; Davydo-Mykilske; Hranitno-Stepove Pobuzhia; Zelena Balka; Khomutovskyi Step; Dzharylhach; Dolyna Mertvovodu; Dobrianski Hory; Obytichna Kosa; Skhidnyi Churiuk; Striltsivskyi Step; Mehanom; Tepe-Oba; Vitrohon; Provalskyi Step; Ternava – Dnister; Tulyntsi – Makedony; Karadah; Vyshnivka; Kasova Hora; Pohorylivka; Chorna Hora; Yulivski Hory
E1.2 (6210, *Important orchid sites)	Perennial calcareous grassland and basic steppes (Important orchid sites)	Zholoby; Dubovetski Skhyly
E1.3 (*6220)	Mediterranean xeric grassland	–

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
E1.71 (overlaps with *6230)	*Nardus stricta* swards	Polonyna Borzhava; Chyvchyny
E1.9	Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland	Nyzhniodniprovski Pisky; Triokhizbenskyi Step; Kozachelaherska Arena; Dnipro – Oril
E2.2	Low and medium altitude hay meadows	Zaplava Desny; Hadiatski Luky; Zaplavy Dnipra i Sozha; Zaplava Siverskoho Dintsia; Stuzhytsia
E2.3	Mountain hay meadows	Chyvchyny
E3.4	Moist or wet eutrophic and mesotrophic grassland	Zaplava Desny; Zaplavy Dnipra i Sozha; Zaplava Prypiati; Kremenchutski Plavni
E3.5	Moist or wet oligotrophic grassland	Zaplava Prypiati; Zaplava Desny; Zaplavy Dnipra i Sozha; Dubrova
E4.11	Boreo-alpine acidocline snow-patch grassland and herb habitats	Svydovets; Chornohora; Polonyna Borzhava, Marmaroski Hory
E4.12	Boreo-alpine calcicline snow-patch grassland and herb habitats	Svydovets; Chornohora
E4.3 (overlaps with *6230)	Acid alpine and subalpine grassland	Svydovets; Chornohora; Marmaroski Hory; Polonyna Borzhava, Chyvchyny
E4.4	Calcareous alpine and subalpine grassland	Chornohora; Svydovets; Chyvchyny; Marmaroski Hory;
E5.4	Moist or wet tall-herb and fern fringes and meadows	Zaplava Desny; Kanivski Ostrovy; Zaplavy Dnipra i Sozha; Zaplava Tysy
E5.5	Subalpine moist or wet tall-herb and fern stands	Chornohora; Chyvchyny; Svydovets; Marmaroski Hory
E6.2	Continental inland salt steppes	Tendrivska Zatoka; Molochnyi Lyman; Dunaiski Plavni; Hrakove; Samarskyi Lis
F2.22	Alpide acidocline *Rhododendron* heaths	Svydovets; Chornohora; Marmaroski Hory; Chyvchyny
F2.26	*Bruckenthalia* heaths	–
F2.46 (*4070)	Carpathian *Pinus mugo* scrub	Chornohora; Chyvchyny; Grofa; Gorgany; Ihrovets - Tavpishyrka
F3.16	*Juniperus communis* scrub	Medobory
F3.241 (*40A0)	Central European subcontinental thickets	Chorna Hora

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
F3.247 (*40C0)	Ponto-Sarmatic deciduous thickets	Krymski Hory; Striltsivskyi Step; Hranitno-Stepove Pobuzhia; Ternava – Dnister; Osovynskyi Step; Kreidiana Flora; Karalarskyi Step; Kamiani Mohyly; Dolyna Mertvovodu; Zhyzhava
F4.2	Dry heaths	Polonyna Borzhava; Chyvchyny; Svydovets; Chornohora
F5.13	Juniper matorral	–
F7	Spiny Mediterranean heaths (phrygana, hedgehog-heaths and related coastal cliff vegetation)	Krymski Hory; Tarkhankut; Karadah; Mehanom; Tepe-Oba
F9.1	Riverine scrub	Zaplava Desny; Zaplavy Dnipra i Sozha; Kanivski Ostrovy; Kremenchutski Plavni
F9.3	Southern riparian galleries and thickets	Mehanom
G1.11 (overlaps with *91E0)	Riverine *Salix* woodland	Zaplava Desny; Zaplavy Dnipra i Sozha; Kremenchutski Plavni; Zaplava Tysy; Kanivski Ostrovy
G1.12 (included in *91E0)	Boreo-alpine riparian galleries	Chyvchyny; Marmaroski Hory; Svydovets; Chornohora
G1.21 (included in *91E0)	Riverine *Fraxinus – Alnus* woodland, wet at high but not at low water	Zaplava Desny; Zaplavy Dnipra i Sozha; Koncha-Zaspivskyi Lis; Dubrova
G1.22	Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers	Zaplava Siverskoho Dintsia; Samarskyi Lis; Zaplava Latorystsi; Zaplavni Lisy na Borzhavi; Zaplava Desny; Dnipro – Oril
G1.3	Mediterranean riparian woodland	Zaplava Tysy; Kremenchutski Plavni; Dnipro – Oril; Samarskyi Lis; Kanivski Ostrovy; Zaplava Siverskoho Dintsia
G1.4115	Eastern Carpathian *Alnus glutinosa* swamp woods	–
G1.414	Steppe swamp *Alnus glutinosa* woods	Zaplava Siverskoho Dintsia; Samarskyi Lis; Zaplavni Lisy na Borzhavi; Sviati Hory; Volyzhyn Lis
G1.51	Sphagnum *Betula* woods	Somyno; Morochno-2; Cheremske Boloto

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
G1.6 (excluding G1.66)	*Fagus* woodland (excluding Medio-European limestone *Fagus* forests)	Krymski Hory; Uholka – Shyrokyi Luh; Skhidne Roztochia; Stuzhytsia; Svydovets
G1.66 (*9150)	Medio-European limestone *Fagus* forests	Verkhniobuzky Lisy; Tsetsyno; Holohirskyi Lis; Uholka – Shyrokyi Luh
G1.7 (incl. *91H0, *91I0)	Thermophilous deciduous woodland	Krymski Hory; Savranskyi Lis (91I0); Serbyno (91I0); Yulivski Hory (91H0, 91I0, 91M0); Chorna Hora (91H0, 91M0); Kreidiana Flora (91I0); Potashnianski Lisy (91I0); Dubrova (91I0); Ternava-Dnister (91I0); Levkivski Lisy (91I0); Ardov (91H0)
G1.8	Acidophilous *Quercus*-dominated woodland	Slovechanskyi Kriazh; Polonskyi Lis; Horodnytskyi Lis; Yemilchynski Lisy
G1.A1	*Quercus – Fraxinus – Carpinus betulus* woodland on eutrophic and mesotrophic soils	Medobory; Chornyi Lis; Homilshanskyi Lis; Brytavskyi Lis; Sviati Hory
G1.A4 (incl. *9180)	Ravine and slope woodland	Medobory; Verkhniobuzki Lisy; Krymski Hory; Marmaroski Hory; Stuzhytsia
G3.1B	Alpine and Carpathian subalpine *Picea* forests	Chyvchyny; Chornohora; Gorgany; Svydovets; Grofa
G3.1F	Enclave *Picea abies* forests	Cherevaskyi Lis; Rys; Cheremske Boloto; Shatski Ozera
G3.25	Carpathian *Larix* and *Pinus cembra* forests	Gorgany; Yaiko Perehinske; Kedryn; Ihrovets - Tavpishyrka
G3.4232	Sarmatic steppe *Pinus sylvestris* forests	Sviati Hory; Samarskyi Lis; Koncha-Zaspivskyi Lis; Bir na Merli
G3.4E	Ponto-Caucasian *Pinus sylvestris* forests	Krymski Hory
G3.5 (incl. *9530)	*Pinus pallasiana* and *Pinus banatica* forests	Krymski Hory; Mys Martian
G3.7	Lowland to montain mediterranean *Pinus* woodland (excluding *Pinus* nigra)	Krymski Hory
G3.9 (incl. *9560)	Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*	Krymski Hory; Mys Martian; Karahah
G3.E (*9120)	Nemoral bog conifer woodland	Syra Pohonia; Ubort – Bolotnytsia; Turova Dacha; Morochno-2; Vtenske Boloto

Code	Name in Resolution 4	IPAs where the habitat is a criterion of selection
H1	Terrestrial underground caves, cave systems, passages and waterbodies	–
H2.3	Temperate-montane acid siliceous screes	Gorgany; Svydovets; Chornohora; Marmaroski Hory
H2.4 (incl. *8160)	Temperate-montane calcareous and ultra-basic screes	Chyvchyny
H2.5	Acid siliceous screes of warm exposures	–
H2.6 (incl. *8160)	Calcareous and ultra-basic screes of warm exposures	Krymski Hory; Ternava – Dnister; Zhyzhava
H3.1	Acid siliceous inland cliffs	Hranitno-Stepove Pobuzhia; Dolyna Mertvovodu; Kamiani Mohyly
H3.2	Basic and ultra-basic inland cliffs	Krymski Hory; Karadah; Ayu-Dah; Tepe-Oba; Ternava – Dnister
H3.511 (*8240)	Limestone pavements	Krymski Hory; Kazantyp; Chyvchyny
X01	Estuaries	–
X02	Saline coastal lagoons	–
X03	Brackish coastal lagoons	–
X04 (incl. *7110)	Raised bog complexes	Syra Pohonia; Ubort – Bolotnytsia; Morochno-2
X18	Wooded steppe	–
X29	Salt lake islands	–
X35	Inland Sand Dunes	Kozachelaherska Arena; Triokhizbenskyi Step; Zaplava Prypiati

Literature

Anderson S. Identifying Important Plant Areas: a site selection manual for Europe, and a basis for developing guidelines for other regions of the world. – Plantlife, 2002. – 52 pp.

Identifying and protecting the World's most important plant areas. – Plantlife, 2004. – 7 pp.

Kolomiychuk V.P., Onyshchenko V.A., Peregrym M.M. Important plant areas of Azov Region / Ed. T.L. Andrienko. – Kyiv: Alterpress, 2012. – 42 pp. (in Ukr.) [Коломійчук В.П., Онищенко В.А., Перегрим М.М. Важливі ботанічні території Приазов'я / під ред. Т.Л. Андрієнко. – Київ: Альтерпрес, 2012. – 42 с.]

Mosyakin S.L., Fedoronchuk M.M. Vascular plants of Ukraine: A nomenclatural checklist. Kiev, 1999. – xxiv + 346 pp.

Onyshchenko V.A., Andrienko T.L., Chorney I.I., Kolomiychuk V.P., Didukh Ya.P., Oliiar H.I., Pryadko O.I. Methodical aspects of introduction of international program "Important Plant Areas" in Ukraine. – Kyiv: Aristei, 2008 – 43 pp. (in Ukr.) [Онищенко В.А., Андрієнко Т.Л., Чорней І.І., Коломійчук В.П., Дідух Я.П., Оліяр Г.І., Прядко О.І., Вірченко В.М., Арап Р.Я. Методичні аспекти впровадження міжнародної програми "Важливі ботанічні території" в Україні. – К.: Арістей, 2008. – 43 с.]

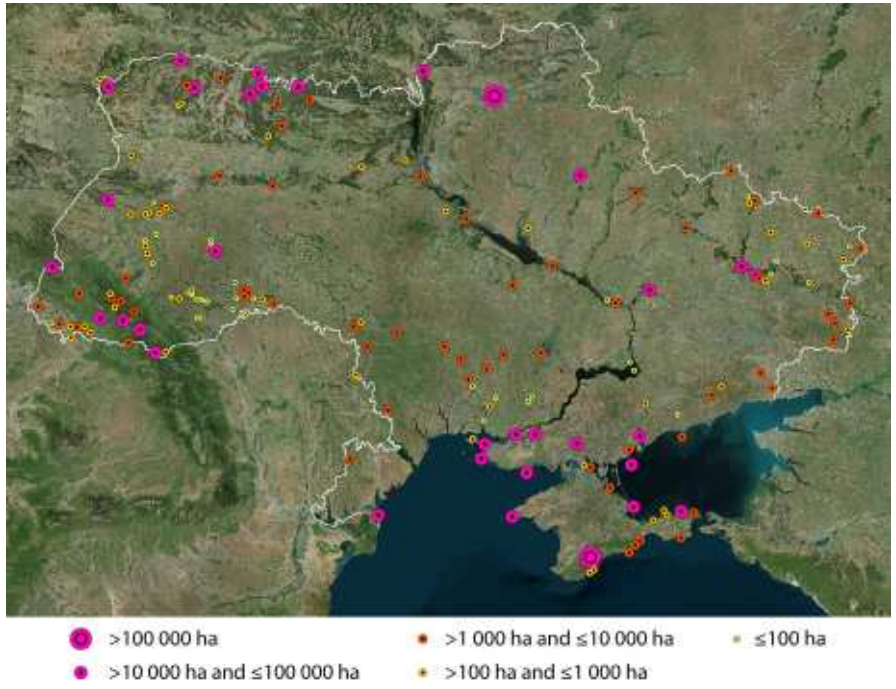
Palmer M., Smart J. Guidelines to the selection of Important Plant Areas in Europe. Planta Europa, 2001.

Red Data Book of European bryophytes, Trondheim, 1995. — 291 pp.

Red Data Book of Ukraine. Vegetable kingdom / ed. by Ya.P. Didukh. – Kyiv: Globalconsulting, 2009. – 900 pp. (in Ukr.) [Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.]

Descriptions of IPAs

Totally, 173 IPAs were identified (maps 1, 2). Their total area is 1 300 774 ha (2.29% of Ukraine with the Territorial sea). The largest areas are “Krymski Hory” (“Crimean Mountains”, 301 150 ha) and “Zaplava Desny” (“Floodplain of the Desna”, 185 741 ha). The smallest area is 4.4 ha. About 55.8% of the total area of IPAs belong to national and regional (subnational) protected areas. Overlapping with Emerald Sites is 86.6%.



Map 1. Centres of Important Plant Areas in Ukraine

Map 2. Important Plant Areas in Ukraine

Aiu-Dah

V.A. Onyshchenko

Ukrainian name: Аю-Дар.
Transliteration/Translation variants: Ayu-Dag, Ayuv Dağ (Crimean Tatar), Vedmid’-Hora (Ukrainian), Medved’-Gora (Russian).
Area: 636.0 ha.
Altitude: 0–571 m.
Latitude: 44°33’29” N (44.5581°).
Longitude: 34°20’09” E (34.3357°).
Administrative regions. Autonomous Republic of Crimea: Alushta city (mainly), Yalta city; Territorial waters of Ukraine.
Ownership: state**.**
Biogeographic regions: steppic.
Habitats. Level 1. A – 15.3%; B – 1.7%; E – 10.0%; F – 40.0%; G – 25.0%; H – 8.0%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.5%; A2 Littoral sediment – 1.1%; A3 Infralittoral rock and other hard substrata –7.0%; A5 Sublittoral sediment – 6.7%; B2 Coastal shingle – 1.2%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.5%; E1 Dry grasslands – 10.0%; F3 Temperate and mediterranean-montane scrub –

15.0%; F5 Maquis, arborescent matorral and thermo-Mediterranean bushes – 25.0%; F6 Garrigue; G1 Broadleaved deciduous woodland – 25.0%; H2 Screes – 1.9%; H3 Inland cliffs, rock pavements and outcrops – 6.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.

Futher habitat description. A2.1 Littoral coarse sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.3 Mediterranean xeric grassland; F3.2 Submediterranean deciduous thickets and brushes; F5.2 Maquis; F5.3 Pseudomaquis; F6.4 Black Sea garrigues; G1.7 Thermophilous deciduous woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.

Land use: nature conservation and research – 100%; tourism/recreation – major

Protected areas: includes Aiu-Dah state landscape reserve (527 ha), overlaps (about 100 ha) with regional hydrological nature monument “Pryberezhnyi Kompleks Bilia Hory Aiu-dah”.

Threats: development (recreation/tourism) – low, eutrophication – low.

General description. The IPA is located in the southern part of the Crimea. It includes Mount Ayu-Dah and a 200-m wide strip of the sea. The main rock type is gabbro. A large area is occupied by low (4–5 m) *Quercus pubescens* and *Carpinus orientalis* woods with some presence of *Fraxinus angustifoliua*, *Juniperus excelsa*, *Sorbus domestica*. Low shrubby plants of *Ruscus ponticus* often form a dense layer. Major species of the herb layer are *Poa sterilis* and *Luzula forsteri*. On the top of the mount, main dominant of the tree layer is *Quercus petraea*. In the herb layer, *Poa sterilis* and *Luzula forsteri* are dominants. The Southern slope is covered by low thickets of *Juniperus excelsa*, *Juniperus oxycedrus*, *Cistus tauricus*, *Quercus pubescens*. Considerable areas are occupied by screes and outcrops. Littoral habitats are represented by shingle beach and rocks.

Botanical significance. Main locality of endemic species *Brassica taurica* (>80% of global population). Important area for conservation of basic outcrops and termophilous deciduous woods.

Criterion A(ii)

- *Brassica taurica* (Tzvelev) Tzvelev (*Brassica sylvestris* Mill. subsp. *taurica* Tzvelev); A(i); A(ii); abundance: 190 individuals; trend: unknown; species data quality: good; trend data quality: poor.

Criterion C

- H3.2 Basic and ultra-basic inland cliffs; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

2. Шеляг-Сосонко Ю.Р., Дидух Я.П., Молчанов Е.Ф. Государственный заповедник “Мыс Мартьян”. – Киев: Наук. думка, 1985. – 260 с.

Ak-Monaiskyi Step

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Ак-Монайський степ.

Transliteration/Translation variants: Ak-Monaiskii Steppe.

Area: 468.0 ha.

Altitude: 0–37 m.

Latitude: 45°18’53” N (45.3146°).

Longitude: 35°36’38” E (35.6104°).

Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.

Ownership: state.

Biogeographic regions: steppic.

Habitats. Level 1. A – 16.0%; B – 3.0%; E – 78.0%; H – 3.0%.

Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.2%; A2 Littoral sediment – 1.3%; A3 Infralittoral rock and other hard substrata – 2.5%; A5 Sublittoral sediment – 12.0%; B1 Coastal dunes and sandy shores – 0.1%; B2 Coastal shingle – 2.4%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.5%; E1 Dry grasslands – 78.0%; H2 Screes – 0.3%; H3 Inland cliffs, rock pavements and outcrops – 1.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. A2.1 Littoral coarse sediment; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.5 Sublittoral macrophyte-dominated sediment; B1.2 Sand beaches above the driftline; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: agriculture (animals) – 30%; tourism/recreation – minor.
Protected areas: overlaps (446 ha) with Emerald Site "Ak-Monaiskyi Steppe".
Threats: –.
General description. A part of the southern shore of the Sea of Azov. Major vegetation type is the steppe dominated by *Festuca valesiaca*, *Koeleria cristata*, *Stipa brauneri*, *S. capillata*, *S. pulcherrima*. Other fequent species are *Artemisia taurica*, *Bellevalia sarmatica*, *Convolvulus cantabrica*, *Dactylis glomerata*, *Euphorbia seguierana*, *Gypsophilla paniculata*, *Ornithogalum flavescens*, *Poa bulbosa*, *Securigera varia*, *Teucrium chamaedrys*, *Thalictrum minus*, *Tragopogon major*, *Verbascum phlomoides*, *Xeranthemum annum*. By the sea, *Crambe pontica, Eringium maritimum*, *Leymus sabulosus* occasionally prevail. There are many calcareous cliffs and screes.
Botanical significance. Important area for some steppe species, in particular *Astragalus reduncus*, *Crambe grandiflora*, *Crambe mitridatis*.

Criterion A
- *Astragalus reduncus* Pall.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe grandiflora* DC.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe mitridatis* Juz.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create a state botanical reserve.

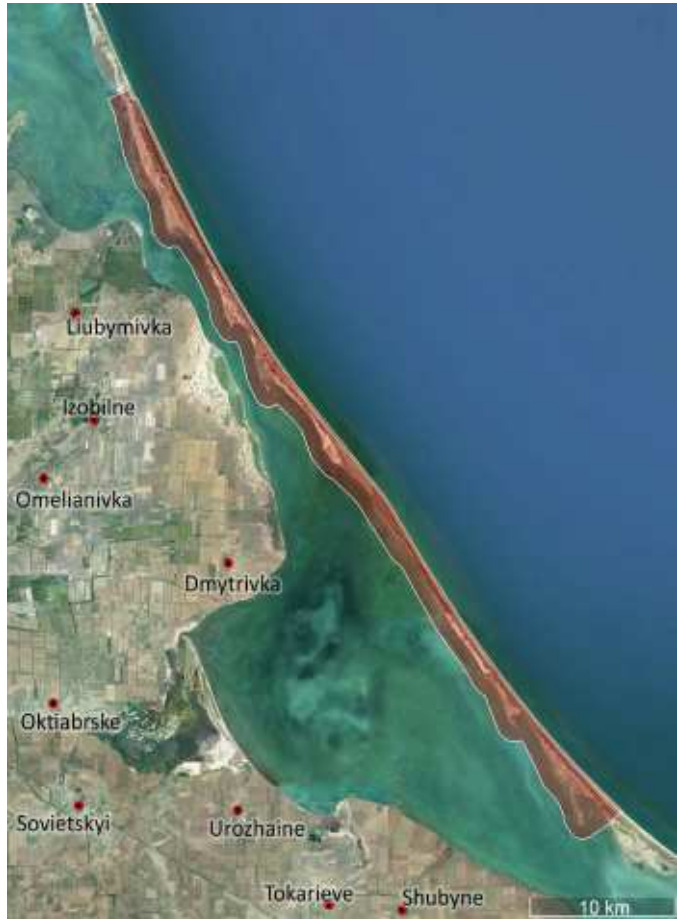
Arabatska Strilka

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Арабатська стрілка.
Transliteration/Translation variants: Arabatska Spit, Arabatska Bar.
Area: 12377.0 ha.
Altitude: 0–5 m.
Latitude: 45°31'26" N (45.5238°).
Longitude: 35°11'00" E (35.1831°).
Administrative regions. Autonomous Republic of Crimea: Lenine raion. Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 76.5%; B – 2.0%; C – 2.3%; D – 1.0%; E – 17.2%; H – 1.0%.
Habitats. Level 2. A2 Littoral sediment – 10.9%; A5 Sublittoral sediment – 65.6%; B1 Coastal dunes and sandy shores – 1.4%; B2 Coastal shingle – 0.6%; C1 Surface standing waters – 2.3%; D6 Inland saline and brackish marshes and reedbeds – 1.0%; E1 Dry grasslands – 13.2%; E6 Salt steppes – 4.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.2 Littoral sand and muddy sand; A2.3 Littoral mud; A2.4 Littoral mixed sediments; A2.5 Coastal saltmarshes and saline reedbeds; B1.1 Sand beach driftlines; B1.2 Sand beaches above the driftline; B1.3 Shifting coastal dunes; B1.4 Coastal stable dune grassland (grey dunes); B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; C1.5 Permanent inland saline and brackish lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; D6.1 Inland saltmarshes; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E1.2 Perennial calcareous grassland and basic steppes (E1.2G); E6.2 Continental inland salt steppes; H5.6 Trampled areas.
Land use: agriculture (animals) – 20%; forestry – minor; hunting – minor; mowing/hay making – minor; nature conservation and research – major; tourism/recreation – minor.
Protected areas: includes Arabatskyi state landscape reserve (600 ha), included in Ramsar Site "Eastern Syvash", included in Emeral Site "Eastern Syvash".
Threats: climate change/ sea level rise – medium, development (recreation/tourism) – low, natural events: erosion – medium.
General description. A bar consisting of sand and shell with the adjacent waters of the Sea of Azov and Syvash Bay. The sand steppe occupies elevated areas. It is dominated by *Agropyron cimmericum*, *Ephedra distachya*, *Euphorbia seguierana*, *Marrubium peregrinum*,

Medicago kotovii, *Stipa borysthenica*, *Stipa capillata*, *Tortula ruralis*. Dominants of halophytic vegetation are *Boloboschoenus maritimus*, *Elytrigia elongata*, *Halimione pedunculata*, *Halimione verrucifera*, *Halocnemum strobilaceum*, *Juncus maritimus*, *Limonium meyeri*, *Plantago salsa*, *Puccinellia gigantea*, *Salicornia perennans*, *Suaeda prostrata*, *Tripolium pannonicum*, *Phragmites australis*. On the supralittoral sand and shell, *Leymus sabulosus*, *Crambe maritima*, *Cakile euxina*, *Centaurea odessana*, *Carex colchica*, *Eryngium maritimum* prevail. Large areas of the Syvash are ocuupied by *Zostera marina*.

Botanical significance. Important area for conservation of sand steppes and brackish aquatic vegetation.



Criterion A

- *Agropyron cimmericum* Nevski; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

- *Goniolimon rubellum* (S.G.Gmel.) Klokov; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Lepidium syvaschicum* Kleopow; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Thymus littoralis* Klokov et Shost.; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Zostera marina* L.; A(ii); abundance: abundant; trend: stable; species data quality: good; trend data quality: poor.

Criterion C

- B1.1 Sand beach driftlines; area: 10 ha; trend: stable; area data quality: medium; trend data quality: medium.
- B1.3 Shifting coastal dunes; area: 50 ha; trend: stable; area data quality: medium; trend data quality: medium.
- B1.4 Coastal stable dune grassland (grey dunes); area: 90 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Increase area of Arabatskyi state landscape reserve to include all of the IPA.

Literature

1. Коломійчук В.П., Абкадирова Е.Ш. Ботанічна і ландшафтна характеристика проектованого ландшафтного заказника “Арабатський степ” // Проблеми фундаментальної і прикладної екології, екол. геології та раціон. природокористування : мат-ли міжнарод. наук.-практ. конфер. – Кривий Ріг: Видавничий Дім, 2009. – С. 290–293.

2. Корженевский В.В., Клюкин А.А. Растительность абразионных и аккумулятивных форм рельефа морских побережий и озер Крыма. – Ялта: ГНБС, 1990. – 108 с. – Деп. в ВИНИТИ 10.07.90, № 3822-В90.

3. Лоскот Н.П. О растительном покрове южной части Арабатской стрелки / Вопросы физиологии, биохимии, цитологии и флоры Украины. – К.: Наукова думка, 1974. – С. 13–16.

Ardov

R.Ya. Kish

Ukrainian name: Ардов.
Area: 31.0 ha.
Altitude: 113–240 m.
Latitude: 48°13’59” N (48.2330°).
Longitude: 22°39’05” E (22.6514°).
Administrative regions. Zakarpatska region: Berehove raion.
Ownership: state.
Biogeographic regions: pannonian.
Habitats. Level 1. E – 7.0%; F – 3.4%; G – 88.6%; H – 1.0%.
Habitats. Level 2. E1.2 Perennial calcareous grassland and basic steppes – 7.0%; F3 Temperate and mediterranean-montane scrub – 3.4%; G1 Broadleaved deciduous woodland – 88.6%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. F3.1 Temperate thickets and scrub; F3.2 Submediterranean

deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – 90%, nature conservation and research – 81%.

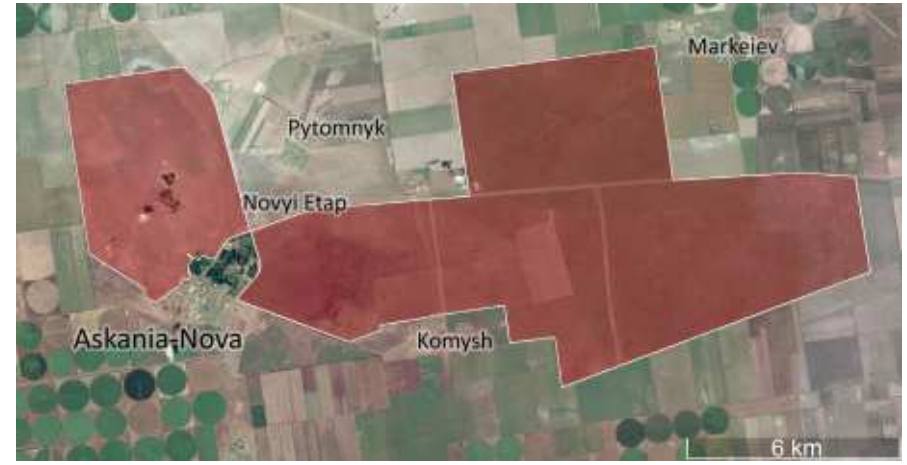
Protected areas: includes regional botanical reserve "Ardov" (24.0 ha).
Threats: abandonment/reduction of land management – medium.
General description. A hill composed of rhyolitic tuff, andesite, basalt, and sedimentary rocks. The main vegetation type is termophilous oak woods. Dominant of the tree layer is *Quercus dalechampii*. The shrub layer consists of *Cornus mas*, *Corylus avellana*, *Euonymus europaeus*, *Ligustrum vulgare*, *Pyrus communis*, *Spiraea media*, *Swida sanguinea* (*Cornus sanguinea*). In the herb layer, there are *Achillea millefolium*, *Anthericum ramosum*, *Anthoxanthum odoratum*, *Brachypodium pinnatum*, *Campanula patula*, *Campanula persicifolia*, *Carex caryophyllea*, *Carex michelii*, *Chondrilla juncea*, *Clinopodium vulgare*, *Euphorbia cyparissias*, *Hylotelephium polonicum*, *Inula ensifolia*, *Laser trilobum*, *Melica uniflora*, *Melittis melissophyllum*, *Millium effusum*, *Muscari comosum*, *Poa nemoralis*, *Polygonatum odoratum*, *Potentilla argentea*, *Potentilla recta*, *Veronica teucrium*, *Vincetoxicum hirundinaria*, *Viscaria viscosa*. There are also dry grasslands (with *Dianthus carthusianorum*, *Festuca rupicola*, *Galathella linosyris*, *Galium campanulatum*, *Geranium sanguineum*, *Melica transsilvanica*, *Phleum phleoides*, *Rosa gallica*, *Seseli annuum*, *Veronica spicata*) and shrubs (*Crataegus monogyna* s. l., *Prunus spinosa*, *Rosa* sp., *Spiraea media*).
Botanical significance. The largest location of Habitat Directive priority habitat 91H0 in Ukraine.
Criterion C

- G1.7 Thermophilous deciduous woodland (*91H0); area: 24 ha; trend: stable; area data quality: good; trend data quality: medium.

Askania-Nova

V.A. Onyshchenko

Ukrainian name: Асканія-Нова.
Area: 11024.0 ha.
Altitude: 19–32 m.
Latitude: 46°27'47" N (46.4630°).
Longitude: 33°57'46" E (33.9628°).
Administrative regions. Kherson region: Chaplynka raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.2%; E – 99.8%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.1%; E1 Dry grasslands – 88.0%; E2 Mesic grasslands – 11.0%; E3 Seasonally wet and wet grasslands – 0.8%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes, E2.5 Meadows of the steppe zone, E3.4 Moist or wet eutrophic and mesotrophic grassland.



Land use: nature conservation and research – 100%; agriculture (animals) – 20%; tourism/recreation – minor.
Protected areas: included in Askania-Nova biosphere reserve (national category), Askania-Nova biosphere reserve (UNESCO), and Emerald Site "Askaniia-Nova Biosphere Reserve".
Threats: abandonment / reduction of land management – low, burning of vegetation – low.
General description. One of the largest steppe areas in Ukraine. It represents the southern European steppes on chestnut soils. Main dominants of steppe communities are *Stipa ucrainica*, *Sitpa capillata*, *Stipa lessingiana*, *Festuca valesiaca*. Species of high constancy: *Dianthus andrzejowskianus*, *Euphorbia seguierana*, *Falcaria vulgaris*, *Galium ruthenicum*, *Goniolimon tataricum*, *Hylotelephium stepposum*, *Limonium sareptanum*, *Phlomoides hybrida* (*Phlomis hybrida*), *Phlomis pungens*, *Potentilla laciniosa*, *Seseli tortuosum*, *Verbascum phoeniceum*. In depressions, there are mesic grasslands dominated by *Poa angustifolia*,

Alopecurus pratensis, *Carex praecox* with presence of *Achillea micranthoides*, *Allium regelianum*, *Euphorbia virgata*, *Phalacrachena inuloides*.
In more humid habitats, *Elytrigia pseudocaesia* and *Catex melanostachya* dominate. In years with floods they are replaced with *Beckmannia eruciformis*, *Butomus umbellatus*, *Gratiola officinalis*, *Lythrum virgatum*, *Schoenoplectus lacustris*.
Botanical significance. This area is one of the most important for conservation of steppe vegetation in Europe.
Criterion A
- *Allium regelianum* A.Becker ex Iljin; A(ii); abundance: occasional; trend: fluctuating; species data quality: medium; trend data quality: medium. A large part of national population.
- *Astragalus reduncus* Pall.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Centaurea taliewii* Kleopow (*Rhaponticoides taliewii* (Kleopow) M.V.Agab. & Greuter); A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Ferula orientalis* L.; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Tulipa scythica* Klokov et Zoz; A(iii); abundance: frequent; trend: fluctuating; species data quality: medium; trend data quality: medium. A large part of national population.

Criterion C
- E1.2 Perennial calcareous grassland and basic steppes; area: 9617 ha; trend: stable; area data quality: good; trend data quality: good.

Literature

1. Веденьков Е.П. Флора заповедника “Аскания-Нова” (аннотированный список цветковых растений заповедной степи). – М., 1989. – 52 с.

2. Дрогобыч Н.Е., Шаповал В.В. Распространение редких, исчезающих и эндемичных видов флоры цветковых в заповедной степи “Аскания-Нова”. 2. Эндемичное ядро // Вісті Біосферного заповідника “Асканія-Нова”. – Асканія-Нова, 2004. – Т. 6. – С. 6–13.

3. Ткаченко В.С. Особливості автогенезу асканійського степу // Укр. ботан. журн. – 1990. – 47, № 4. – С. 20–25.

4. Ткаченко В.С., Шаповал В.В. Сукцесії фітосистем ділянки “Північна” новоасканійського заповідного степу у другій половині XX і на початку XXI ст. // Вісті Біосферного заповідника “Асканія-Нова”. – 2010. – Т. 12. – С. 21–32.

5. Шаповал В.В. БЗ Асканія-Нова імені Ф.Е. Фальц-Фейна // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 13–30.

Balakyrivka

V.A. Onyshchenko

Ukrainian name: Балакирівка.
Area: 266.0 ha.
Altitude: 57–140 m.
Latitude: 49°20'57" N (49.3490°).
Longitude: 38°55'08" E (38.9188°).
Administrative regions. Luhansk region: Starobilsk raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. E – 78.5%; F – 2.0%; G – 13.9%; H – 5.6%.
Habitats. Level 2. E1 Dry grasslands – 78.5%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 13.9%; H2 Screes – 5.6%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial

calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; forestry – minor; nature conservation and research – major.
Protected areas: includes Balakyrivskyi regional landscape reserve (204 ha), included in Emerald Site "Balakyrivskyi".
Threats: agricultural intensification/expansion (arable) – low, extraction (minerals/quarries) – low; forestry (afforestation) – medium.
General description. Slopes of the valleys of the Aidar Rivers with the steppe vegetation, chalk outcrops, and oak woods. Steppes are dominated by *Stipa capillata*, *Stipa lessingiana*, *Festuca valesiaca* s.l. Dominants of chalk outcrops are *Hyssopus cretaceus*, *Pimpinella titanophila*, *Thymus cretaceus*.
Botanical significance. Important area for conservation of chalk outcrops with endemic species.
Criterion A

- *Erysimum ucrainicum* J.Gay.; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.
- *Linaria cretacea* Fisch. ex Spreng.; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.

Conservation proposals. Do not allow afforestation. Change the status of regional landscape reserve to state botanical reserve.

Bereh Syvashyka

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Берег Сивашика.
Transliteration/Translation variants: Bereg Sivashika, Coast of Syvashyk.
Area: 1646.0 ha.
Altitude: 0–8 m.
Latitude: 46°22'43" N (46.3786°).
Longitude: 35°05'30" E (35.0916°).
Administrative regions. Zaporizhia region: Yakymivka raion .
Ownership: state (major), private.
Biogeographic regions: steppic.
Habitats. Level 1. A – 30.7%; C – 23.9%; E – 45.3%; H – 0.1%.
Habitats. Level 2. A2 Littoral sediment – 3.9%; A5 Sublittoral sediment – 26.8%; C1 Surface standing waters – 18.0%; C3 Littoral zone of inland surface waterbodies – 5.9%; E1 Dry grasslands – 3.0%; E6 Salt steppes – 42.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.3 Littoral mud; A2.5 Coastal saltmarshes and saline reedbeds; A5.3 Subittoral mud; C3.2 Water-fringing reedbeds and tall helophytes other than canes; E1.2 Perennial calcareous grassland and basic steppes; E6.2 Continental inland salt steppes; H5.6 Trampled areas.

Land use: agriculture (animals) – major; nature conservation and research – major
Protected areas: included in Pryazovskyi national nature park, overlaps (about 670 ha) with Syvashyk state landscape reserve, included in Emerald Site "Pryazovskyi National Nature Park".

Threats: burning of vegetation – low.
General description. Syvashyk is a lagoon of the Sea of Azov. On the littoral of the lagoon and saline lakes, there are salt marshes with *Halocnemum strobilaceum, Artemisia santonica, Petrosimonia brachiata, P. oppositifolia, Suaeda salsa, Puccinellia fominii, P. distans.* At slightly higher levels, there are salt grasslands dominated by *Elytrigia elongata, Limonium meyeri, Juncus gerardii, Apera maritima.* On rather steep slopes and on the plateau, there are typical steppes and salt steppes. The typical steppes are dominated by *Festuca valesiaca*, *Koeleria cristata*, *Stipa capillata*, *S. ucrainica*. Major dominants of the salt steppes are *Agropyron pectinatum*, *Artemisia taurica*, *Festuca valesiaca* s.l., *Kochia prostrata.*
Botanical significance. One of 10 known localities of *Allium regelianum* in Ukraine. One of 7 known localities of *Allium pervestitum* in Ukraine.

Criterion A

- *Allium pervestitum* Klokov; A(i), A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Allium regelianum* A.Becker ex Iljin.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Goniolimon rubellum* (S.G.Gmel.) Klokov; A(iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.

Literature

1. Костильов О.В., Устименко П.М., Попович С.Ю. Рослинний покрив заказника "Сивашик" // Укр. ботан. журн. – 1994. – 51, № 5. – С. 115–120.

2. Коломійчук В.П. Ключові ботанічні території Північного Приазов'я // Заповідна справа в Україні. – 2008. – Т. 14, вип. 1. – С. 61–66.

3. Коломійчук В.П., Яровий С.О. Конспект флори судинних рослин Приазовського національного природного парку. – К.: Альтерпрес, 2011. – 296 с.

Bile Ozero

V.A. Onyshchenko

Ukrainian name: Біле Озеро.
Transliteration/Translation variants: White Lake
Area: 11126 ha.
Altitude: 154–165 m.
Latitude: 51°30'03" N (51.5008°).
Longitude: 25°42'42" E (25.7116°).
Administrative regions. Rivne region: Volodymyrets, Zarichne raion; Volynska region: Manevychi raion.
Ownership: state, private (minor).
Biogeographic regions: continental.
Habitats. Level 1. C – 4.2%; D – 38%; E – 0.1%; F – 1.0%; G – 56.7%.
Habitats. Level 2. C1 Surface standing waters – 4.2%; D2 – Valley mires, poor fens and transition mires – 25%; D5 Sedge and reedbeds, normally without free-standing water – 13%; E2 Mesic grasslands – 0.1%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 10%; G3 Coniferous woodland – 40.0%; G4 Mixed deciduous and coniferous woodland – 6.7%.
Futher habitat description. C1.1 Permanent oligotrophic lakes, ponds and pools; C1.2 Permanent mesotrophic lakes, ponds and pools; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; G1.5 Broadleaved swamp woodland on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus* tremula or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland, G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland.
Land use: forestry – minor, nature conservation and research – 72%; tourism/recreation – minor.

Protected areas: overlaps (8051 ha) with Rivnenskyi nature reserve, overlaps (8051) with Emerald Site "Rivnenskyi Nature Reserve".

Threats: eutrophication – low; water (drainage) – low.
General description. Major habitats types are *Pinus sylvestris* forests and transition mires. The largest area is occupied by mesic pine forests dominated by *Vaccinium myrtillus* and *Pleurozium shreberi*. Constant species are *Betula pendula*, *Dicranum polysetum*, *Melampyrum pratense*. On richer soils, differential species are *Luzula pilosa*, *Maianthemum bifolium*, *Quercus robur*. Dry pine forests are dominanted by *Cladonia gracilis*, *Cladonia mitis*, *Corynephorus canescens*. There also occur swamped *Alnus glutinosa* woods (often with dominance of *Sphagnum palustre* or *S. squarrosum*), swamped *Betula pubescens*

woods, swamped *Pinus sylvestris* woods and bogs, wet *Alnus glutinosa* forests, small areas of *Picea abies* forests and *Carpinus betulus* forests. Mires are represented by both mesotrophic and eutrophic ones. The most typical are communities dominated by *Carex lasiocarpa* and *Carex rostrata* with a layer of *Sphagnum* species (*S. cuspidatum*, *S. fallax*, *S. flexuosum*, *S. subsecundum*). In the places with a higher water level, *Potentilla palustris*, *Menyanthes trifoliata*, *Sphagnum teres* dominate. Vegetation of the oligo-mesotrophic karst Lake Bile (453 ha) includes communities of *Chara delicatula*, *Isoetes lacustris*, *Myriophyllum spicatum*, *Nymphaea candida*, *Phragmites australis*, *Polygonum amphibium*, *Potamogeton gramineus*, *Potamogeton pusillus*, *Schoenoplectus lacustris* (*Scirpus lacustris*).

Botanical significance. Important for conservation of transition mires and oligotrophic lakes.

Criterion C

- C1.1 Permanent oligotrophic lakes, ponds and pools; area: 400 ha; trend: decreasing; area data quality: poor; trend data quality: poor.
- D2.3 Transition mires and quaking bogs; area: 1600 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Reduce the intensity of recreation by Bile Lake. Create state reserves in northeastern and southwestern parts of the IPA that are not yet included in Rivnenskyi nature reserve.

Literature

1. Андрієнко Т.Л. ПЗ Рівненський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 313–324.
2. Андрієнко Т.Л., Прядко О.І., Онищенко В.А. Раритетна компонента флори Рівненського природного заповідника // Укр. ботан. журн. – 2006. – 63, № 2. – С. 220–228.
3. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 215 с.
4. Водно-болотні угіддя України / під ред. Г.Б. Марушевського та І.С. Жарук. – К.: Чорноморська програма Ветландс Інтернешнл, 2006. – 312 с.
5. Орлов О.О., Якушенко Д.М., Борисова О.В. Синтаксономія рослинності озера Біле (Рівненський природний заповідник) // Збереження та відтворення біорізноманіття природо-заповідних територій: матеріали міжнар. наук.-практ. конф., присвяч. 10-річчю Рівненського природного заповідника (м. Сарни, 11 – 13 черв. 2009 р.) / ред. кол.: М. Д. Будз та ін. – Рівне, 2009. – С. 258–266.
6. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Bir na Merli

O.V. Bezrodnova, N.B. Saidakhmedova

Ukrainian name: Бір на Мерлі.
Transliteration/Translation variants: Pinewoods on the Merla River
Area: 2924.0 ha.
Altitude: 110–145 m.
Latitude: 50°03'44" N (50.0622°).

Longitude: 35°14'00" E (35.2335°).
Administrative regions. Kharkiv region: Krasnokutsk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1: C – 0.4%, %, D – 0.2%, F – 0.3%, G – 98.1%, H – 1.0%.
Habitats. Level 2: C1 Surface standing waters – 0.2%; C3 Littoral zone of inland surface waterbodies – 0.2%; D2 Valley mires, poor fens and transition mires – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.1%; F9 Riverine and fen scrubs – 0.3%; G1 Broadleaved deciduous woodland – 8.1%, G3 Coniferous woodland – 75.0%; G4 Mixed deciduous and coniferous woodland – 15.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description: C1.2 Permanent mesotrophic lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D2.3 Transition mires and quaking bogs; F9.2 *Salix* carr and fen scrub; G1.4 Broadleaved swamp woodland not on acid peat; G1.7 Thermophilous deciduous woodland; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.C Mixed *Pinus sylvestris* – thermophilous *Quercus* woodland; H5.6 Trampled areas.

Land use: forestry – minor; nature conservation and research – 100%.
Protected areas: included in Slobozhanskyi national nature park, included in Emerald Site

"Slobozhanskyi National Nature Park".
Threats: forestry (intensified forest management) – low.
General description. Terrace of the Merla river with woods and swamps. *Pinus sylvestris* woods (both natural and plantations) occupies the largest area. Frequent species are *Calamagrostis epigeios*, *Chamaecytisus ruthenicus*, *Euonymus verrucosus*, *Frangula alnus*, *Genista tinctoria*, *Helichrysum arenarium*, *Polygonatum odoratum*, *Sambucus racemosa*, *Solidago virgaurea*, *Sorbus aucuparia*. In habitats with higher moisture and richness of soil, the fraction of deciduous trees is higher. Typical species are *Acer campestre*, *A. platanoides*, *A. tataricum*, *Clinopodium vulgare*, *Dryopteris carthusiana*, *Dryopteris filix-mas*, *Corylus avellana*, *Euonymus europaeus*, *Fragaria vesca*, *Fraxinus excelsior*, *Geranium robertianum*, *Padus avium*, *Poa nemoralis*, *Rubus saxatilis*, *Quercus robur, Sambucus nigra*, *Tilia cordata, Ulmus glabra*. In moderately wet *Alnus glutinosa* woods, frequent species are *Aegopodium podagraria*, *Glechoma hederacea*, *Galium aparine*, *Padus avium*, *Sambucus nigra*, *Viburnum opulus*. The tree layer of swamped woods consists of *Alnus glutinosa*, *Pinus sylvestris*, *Betula pendula*, *Betula pubescens*, *Populus tremula*. Dominants of the herb and shrub layers are *Carex vesicaria*, *Filipendula ulmaria*, *Molinia caerulea*, *Ribes nigrum*, *Salix aurita*, *Salix cinerea*, *Scirpus sylvatica*, *Thelypteris palustris*, *Urtica galeopsifolia*. In mesotrophic habitats, there occur *Carex lasiocarpa*, *Eriophorum angustifolium*, *Eriophorum vaginatum*, *Lycopodium annotinum*, *Spagnum auriculatum*, *S. fallax*, *S. flexuosum*, *S. girgensohnii*, *S. palustre*, *S. subsecundum*. Eutrophic and mesotrophic mires without the tree layer occupy smaller areas. Frequent species of sandy glades are *Artemisia marschalliana*, *Psephellus sumensis* (*Centaurea sumensis*), *Helichrysum arenarium*, *Jurinea cyanoides*, *Koeleria sabuletorum*, *Oenothera biennis*, *Rumex acetosella*, *Thymus pallasianus*, *Cladonia* spp.
Botanical significance. One of the largest protected steppe pine woods in Ukraine. Swamps with species that are rare in the forest-steppe zone. There are 6 species from the list of criterion A species: *Dracocephalum ruyschiana*, *Iris humilis*, *Iris hungarica*, *Jurinea cyanoides*, *Liparis loeselii*, *Pulsatilla patens*.
Criterion A
- *Liparis loeselii* (L.) Rich.; A(ii); rare; trend: decreasing; species data quality: poor; trend data quality: poor.

Criterion C
- G3.4232 Sarmatic steppe *Pinus sylvestris* forests; area: 1500 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Безроднова О.В., Саідахмедова Н.Б. Збереження популяції *Diphasiastrum complanatum* (L.) Holub у НПП "Слобожанський" // Природоохоронні території в минулому, сучасному й майбутньому світі (до 130-річчя створення "Пам'ятки Пеняцької" – першої природоохоронної території у Європі): Матеріали Другої міжнародної наукової конференції (Львів – Броди – Пеняки, 26-27 жовтня 2016 року). – Львів: Ліга-Прес, 2016. – С. 39–42.

2. Саідахмедова Н.Б., Безроднова О.В. Профілі та трансекти // Літопис природи Національного природного парку "Слобожанський" (за 2015 рік). Т. 4. – Краснокутськ, 2016. – С. 13–20 [Рукопис].

3. Філатова О.В., Саідахмедова Н.Б., Клімов О.В. НПП Слобожанський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 486–495.

Bobrovyi Kut

V.P. Kolomiychuk

Ukrainian name: Бобровий Кут.
Area: 30.5 ha.
Altitude: 7–23 m.
Latitude: 47°05'16" N (47.0877°).
Longitude: 32°55'33" E (32.9258°).
Administrative regions. Kherson region: Velyka Oleksandrivka raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 91.5%; G – 3.5%; H – 2.0%; J – 3.0%.
Habitats. Level 2. E1 Dry grasslands – 91.5%; G1 Broadleaved deciduous woodland – 3.5%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%; J3 Active opencast mineral extraction sites, including quarries – 3.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; G1.C Highly artificial broadleaved deciduous forestry plantations; H5.6 Trampled areas; J3.2 Active opencast mineral extraction sites, including quarries.

Land use: agriculture (animals) – major, extraction (minerals) – minor, mowing/hay making – minor.
Protected areas: –
Threats: agricultural intensification/expansion (grazing) – low, burning of vegetation – low,

extraction (mineral/quarries) – medium.
General description. Grassland on the sand terrace of the Inhulets River. Dominant species are *Artemisia campestris*, *Festuca beckeri*, *Poa bulbosa*. Other frequent species are *Agropyron lavrenkoanum*, *Chondrilla juncea*, *Dianthus platyodon*, *Echinops ritro*, *Eragrostis minor*, *Jurinea* sp., *Helicrysum arenarium*, *Koeleria glauca*, *Plantago scabra*, *Tortula ruralis*, *Cladonia* sp. Small parts of the area are artificial wood stands with *Robinia pseudoacacia*, *Ulmus minor*, *Elaeagnus angustifolia* and an illegal sand quarry.
Botanical significance. Important area for the narrow endemic species *Centaurea paczoskii* (one of 2 localities).
Criterion A

- *Centaurea paczoskii* Kotov ex Klokov; A(iii); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Create a state botanical reserve and an Emerald Site.
Literature

1.Мойсієнко І.І., Мельник Р.М. Волошка Пачоського *Centaurea paczoskii* Klokov (*C. margaritacea* Ten. subsp. *paczoskii* (Kotov et Klokov) Dostál) / Червона книга України. рослинний світ. / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 306.

2.Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok. (*Centaurea* L.) // Укр. ботан. журн. – 1991. – 48, № 3. – С. 78–80.

Brytavskyi Lis

V.A. Onyshchenko

Ukrainian name: Бритавський ліс.
Transliteration/Translation variants: Brytavskyi Forest.
Area: 4407 ha.
Altitude: 190–281 m.
Latitude: 48°10'36" N (48.1767°).
Longitude: 29°08'24" E (29.1400°).
Administrative regions. Vinnytsia region: Chechelnyk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. G – 99.5%; H – 0.5%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 99.5%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5% .
Futher habitat description. G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – minor, nature conservation and research – major.
Protected areas: includes Brytavskyi state botanical reserve (3259 ha), included in Karmeliukove Podillia national nature park, included in Emerald Site "Karmeliukove Podillia National Nature Park".
Threats: development (recreation/tourism) – low.
General description. Almost the entire territory is occupied by the broadleaved forest. The tree layer is dominated by *Quercus petraea*, *Quercus robur*, *Carpinus betulus*. In the herb

layer, there prevail *Carex brevicollis*, *Carex pilosa*, *Corydalis solida*, *Lamium galeobdolon*, sometimes also *Convallaria majalis*, *Hedera helix*, *Vinca minor*. Typical species are *Acer campestre*, *Acer platanoides*, *Acer tataricum*, *Aegonychon purpureocaeruleum*, *Arum besseranum*, *Cerasus avium*, *Cornus mas*, *Euphorbia amygdaloides*, *Iris graminea*, *Hedera helix*, *Melica uniflora*, *Scutellaria altissima*, *Stellaria holostea*, *Swida sanguinea* (*Cornus sanguinea*), *Viburnum lantana*.

Botanical significance. Well preserved oak-hornbeam forest.
Criterion C

- G1.A1 *Quercus – Fraxinus – Carpinus betulus* woodland on eutrophic and mesotrophic soils; area: 4350 ha; trend: stable; area data quality: good; trend data quality: good.

Literature

1. Куземко А.А., Яворська О.Г., Ворона Є.І., Чорна Г.А., Федорончук М.М. Ключові території національного рівня на території Вінницької області та їх значення для оптимізації мережі природно-заповідного фонду // Заповідна справа в Україні. – 2010. – т. 16, вип. 1. – С. 88–93.

2. Польовий Є.В., Давидов Д.А. Синузія весняних ефемероїдів Британського лісу // Наукові записки НаУКМА. – 2016. – Т. 184. – С. 67–71.

3. Яворська О.Г. НПП Кармелюкове Поділля // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 266–272.

Bushchanske Boloto

O.V. Holovko, V.A.Onyshchenko

Ukrainian name: Бущанське болото.
Transliteration/Translation variants: Bushchanske Fen.
Area: 880.0 ha.
Altitude: 206–230 m.
Latitude: 50°17'55" N (50.2987°).
Longitude: 26°12'40" E (26.2057°).
Administrative regions. Rivne region: Ostroh raion, Zdolbuniv raion

Ownership: state, private (minor).
Biogeographic regions: continental.
Habitats. Level 1. C – 0.7%; D – 27.7%; E – 19.0%; F – 7.0%; G – 45.6%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; C2 Surface running waters – 0.2%; C3 Littoral zone of inland surface waterbodies – 0.4%; D4 Base-rich fens and calcareous spring mires – 15.9%; D5 Sedge and reedbeds, normally without free-standing water – 11.8%; E3 Seasonally wet and wet grasslands – 17.6%; E5 Woodland fringes and clearings and tall forb stands – 1.4%; F9 Riverine and fen scrubs – 7.0%; G1 Broadleaved deciduous woodland – 33.3%; G3 Coniferous woodland – 8.5%; G4 Mixed deciduous and coniferous woodland – 3.8%.

Futher habitat description. D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.2 *Salix* carr and fen scrub; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland.
Land use: mowing/hay making – 6%; forestry – minor; nature conservation and research – major.
Protected areas: overlaps (about 773 ha) with Dermansko-Ostrozkyi national nature park, overlaps (265 ha) with Bushchanskyi state botanical reserve; includes Zaplava Zbytynky regional botanical reserve (112.5 ha), includes Boloto Kruhliak regional botanical reserve (32.6 ha), includes Pivdennomostivskyi regional landscape reserve (17.7 ha), overlaps (about 773 ha) with Emerald Site "Dermansko-Ostrozkyi National Nature Park".
Threats: abandonment/reduction of land management – low.
General description. Bottom of the Zbytynka river valley with woods and fens. The main vegetation type is swamp forest dominated mainly by *Alnus glutinosa*. In the herb layer, there prevail *Carex appropinquata*, *Carex acutiformis*, *Filipendula vulgaris*. Other typical species are *Ranunculus repens*, *Peucedanum palustre*, *Stachys palustris*. Dominants of non-forest mires are *Carex rostrata*, *Carex lasiocarpa*, *Carex flava*, *Aulacomium palustre*, *Drepanocladus aduncus*, *Hamatocaulis vernicosus*, *Calliergonella cuspidata*. Mires with dominance of *Carex lasiocarpa*, *Sphagnum fallax*, *S. squarrosum*, *S. warnstorfii* occupy a small area. Rich fens are dominated by *Schoenus ferrugineus*, *Carex davalliana*, *Carex hostiana*, *Carex flava*, *Molinia caerulea*. On higher ground there is a *Pinus sylvestris* forest.
Botanical significance. Important area for rich fens and *Ligularia sibirica*, *Liparis loeselii*, *Saxifraga hirculus*.
Criterion A

- *Ligularia sibirica* (L.) Cass. (*L. bucovinensis* Nakai); A(ii); rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Liparis loeselii* (L.) Rich.; A(ii); rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Saxifraga hirculus* L.; A(ii); rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 140 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Андрієнко Т.Л., Онищенко В.А., Дацюк В.В. НПП Дермансько-Острозький // Фіторізноманіття національних природних парків України / Під заг. ред. Т.Л. Андрієнко та В.А. Онищенка. – Київ: Науковий світ, 2003. – С. 206–214.

2. Головко О.В., Діхтярук В.М., Кальчук Г.В. Аналіз стану популяції *Swertia perennis* L. (*Gentianaceae*) на території національного природного парку "Дермансько-Острозький" // Труды Гос. Никит. ботан. сада. – 2013. – Т. 135. – С. 132–137.

3. Пашкевич Н.А., Блінкова О.І., Козинятко Т.А. Еколого-ценотичні особливості популяції *Schoenus ferrugineus* L. на території Дермансько-Острозького національного природного парку // Заповідна справа в Україні. – 2013. – 19 (1). – С. 86–88.

Byriuchyi Ostriv

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Бирючий острів.
Transliteration/Translation variants: Byryuchiy Island, Biriuchii Ostrov.
Area: 13406.1 ha.
Altitude: 0–5 m.
Latitude: 46°08'59" N (46.1498°).
Longitude: 35°08'24" E (35.1400°).
Administrative regions. Kherson region: Henichesk raion. Zaporizhia region: Yakymivka raion. Territorial waters of Ukraine.
Ownership: state (major), private.
Biogeographic regions: steppic.
Habitats. Level 1. A– 44.3%; B – 1.2%; C – 4.0%; D – 11.0%; E – 37.0%; G – 1.0%; H – 1.5%.
Habitats. Level 2. A2 Littoral sediment – 5.0%; A5 Sublittoral sediment – 39.3%; B1 Coastal dunes and sandy shores – 0.7%; B2 Coastal shingle – 0.5%; C1 Surface standing waters – 3.0%; C3 Littoral zone of inland surface waterbodies – 1.0%; D6 Inland saline and brackish marshes and reedbeds – 11.0%; E1 Dry grasslands – 35.0%; E6 Salt steppes – 2.0%; G1 Broadleaved deciduous woodland – 1.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.5%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.2 Littoral sand and muddy sand; A2.4 Littoral mixed sediments; A2.5 Coastal saltmarshes and saline reedbeds; B1.1 Sand beach driftlines; B1.2 Sand beaches above the driftline; B1.3 Shifting coastal dunes; B1.4 Coastal stable dune grassland (grey dunes); B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; C1.5 Permanent inland saline and brackish lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E1.2 Perennial calcareous grassland and basic steppes (E1.2G); E6.2 Continental inland salt steppes; G1.C Highly artificial broadleaved deciduous forestry plantations, H5.6 Trampled areas.
Land use: agriculture (animals) – major; forestry – minor; hunting – minor; mowing/hay making – 3%; nature conservation and research – major; tourism/recreation – minor.
Protected areas: overlaps (about 10407 ha) with Azovo-Syvaskyi national nature park, overlaps (about 1220 ha) with Pryazovskyi national nature park, overlaps (about 10407 ha) with Emeral Site "Azovo-Syvaskyi National Nature Park", overlaps (about 1220 ha) with Emeral Site "Pryazovskyi National Nature Park".
Threats: climate change/ sea level rise – low, development (recreation/tourism) – low, forestry (afforestation) – low, natural events: spit erosion – medium.
General description. A large spit and adjacent sea. The spit consists of sand and shell. The northwestern side is occupied by *Phragmites australis* (mainly), *Bolboschoenus maritimus*, *Juncus maritimus*. A large area is covered by saline meadows dominated by *Puccinellia distans*, *Puccinellia gigantea*, *Lepidium latifolium*, *Elytrigia elongata*, *Elytrigia pseudocaesia*, *Tripolium vulgaris*, *Juncus gerardii*. On the elevated areas, there are sand steppes with prevailng *Festuca beckeri, Carex colchica, Ephedra distachya*, *Marrubium peregrinum*, *Teucrium polium*, *Stipa borysthenica*, *Astragalus borysthenicus*, *Medicago kotovii.* Other species of high constancy are *Agropyron lavrenkoanum*, *Agropyron pectinatum*, *Alyssum hirsutum*, *Androsace elongata*, *Centaurea diffusa*, *Cynodon dactylon*, *Secale sylvestre*,

Silene subconica, *Thymus dimorphus*, *Verbascum pinnatifidum*. On the littoral, there dominate *Cakile euxina* and *Salsola pontica*. On the beach ridges, dominant species are *Leymus sabulosus, Eryngium maritimum, Crambe maritima, Argusia sabirica, Euphorbia seguieriana*. In the most saline habitats, there dominate *Salicornia perennans* (mainly), *Suaeda prostrata*, *Limonium caspium*, *Halocnemum strobilaceum*, *Limonium meyeri*. The major dominant of the aquatic vegetation is *Zostera marina*. It co-dominates with *Zostera noltii* (*Nanozostera noltii*), *Zannichellia pedunculata, Potamogeton pectinatum* (*Stuckenia pectinata*).

Botanical significance. Important area for conservation of sand steppes, psammophytic species, and brackish aquatic vegetation.

Criterion A

- *Agropyron cimmericum* Nevski; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Agropyron dasyanthum* Ledeb.; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Medicago kotovii* Wissjul.; A(i); abundance: occasional; trend: decreasing; species data quality: medium; trend data quality: medium.
- *Zostera marina* L.; A(iv); abundance: abundant; trend: stable; species data quality: good; trend data quality: poor.

Criterion C

- B1.1 Sand beach driftlines; area: 10 ha; trend: stable; area data quality: medium; trend data quality: medium.
- B1.3 Shifting coastal dunes; area: 30 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Reduce the number of ungulates.

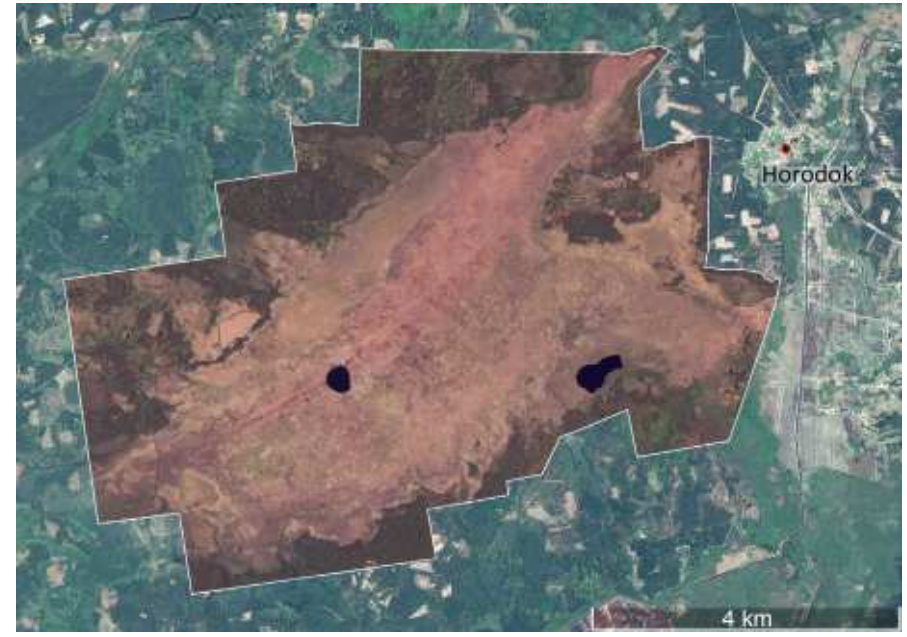
Literature

1. Dubyna D.V., Neuhauslova Z., Shelyag-Sosonco Ju.R. Coastal vegetation of the "Birjucij Island" Spit in the Azov Sea, Ukraine // Preslia. – Praha, 1994. – Vol. 66. – P. 193–216.
2. Dubyna D.V., Neuhauslova Z., Shelyag-Sosonco Ju.R. Vegetation of the "Birjucij Island" Spit in the Azov Sea. Sand Steppe Vegetation // Folia Geobot. Phytotax. – Praha, 1995. – Vol. 30**. –** P. 1–31.
3. Dubyna D.V., Neuhäuslová Z., Shelyag-Sosonco Ju.R Salt meadows of the Birjuchij Islands Spit in the Azov Sea, Ukraine // Preslia. – Praha, 1996. – Vol. 68. – P. 51–62.
4. Dubyna D.V., Neuhauslova Z., Shelyag-Sosonco Ju.R. Salt meadows (Festuco-Puccinellietea) of the "Birjucij Island" Spit in the Azov Sea, Ukraine // Preslia. – Praha, 2000. – Vol. 72. – P. 31–48.
5. Dubyna D.V., Neuhäuslová Z. Salt meadows of the Birjuchij Islands Spit in the Azov Sea. Classes Juncetea maritimi and Bolboschoenetea maritimi // Acta Bot. Croat. – 2000. – Vol. 59, №1. – P. 167–178.
6. Dubyna D.V., Neuhäuslová Z. The vegetation of the Azov-Sivash National Nature Park. Class Thero-Salicornietea (S. Pignatti 1953) R.Tx. in R. Tx. et Oberd. 1958 // Thaiszia. – J. Bot. (Kosice). – 2003. – Vol. 13, №1. – P. 1–30.
7. Коломійчук В.П. Ключові ботанічні території Північного Приазов'я // Заповідна справа в Україні. – 2008. – Т. 14, вип. 1. – С. 61–66.
8. Коломійчук В.П. НПП Приазовський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 5–26.
9. Тищенко О.В. Рослинність приморських кіс північного узбережжя Азовського моря. – Київ: Фітосоціоцентр, 2006. – 156 с.
10. Фіторізноманіття національних природних парків України / Під заг. ред. Т.Л. Андрієнко та В.А. Онищенка. – Київ: Науковий світ, 2003. – 143 с.

Cheremske Boloto

V.A. Onyshchenko

Ukrainian name: Черемське болото.
Transliteration/Translation variants: Cheremske Mire.
Area: 4205 ha.
Altitude: 157–160 m.
Latitude: 51°31’52” N (51.5310°).
Longitude: 25°33’20” E (25.5555°).
Administrative regions. Rivne region: Volodymyrets raion; Volynska region: Manevychi raion.
Ownership: state.
Biogeographic regions: continental.



Habitats. Level 1. C – 0.5%; D – 34%; F – 1%; G – 64.5%.
Habitats. Level 2. C1 Surface standing waters – 0.5%; D1 Raised and blanket bogs – 1%; D2 Valley mires, poor fens and transition mires – 32%; D5 Sedge and reedbeds, normally without free-standing water – 1%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 15%; G3 Coniferous woodland – 45.5%; G4 Mixed deciduous and coniferous woodland – 4%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.4 Permanent dystrophic lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D1.1 Raised bogs; D2.3 Transition mires and quaking bogs;

D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; F9.2 *Salix* carr and fen scrub; G1.4 Broadleaved swamp woodland not on acid peat; G1.5 Broadleaved swamp woodland on acid peat; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.B Non-riverine *Alnus* woodland; G3.1 *Abies* and *Picea* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland.

Land use: forestry – minor, nature conservation and research – 71%.

Protected areas: includes Cheremskyi nature reserve (2975.7 ha), includes Emerald Site "Cheremskyi Nature Reserve" (2975.7 ha).

Threats: burning of vegetation – low, water (drainage) – low.

General description. Transition mire and surrounding forest. The mire is dominated by *Carex rostrata*, *Menyanthes trifoliata*, *Vaccinium oxycoccos* (*Oxycoccus palustris*), *Phragmites australis*, *Carex appropinquata*, *Carex lasiocarpa*, *Sphagnum fallax*, often with the open layer of *Betula pubescens*. Raised bogs with oppressed *Pinus sylvestris* occupy about 50 ha. *Pinus sylvestris* forests occupy the largest area. Typical dominants are *Vaccinium myrtillus*, *Pleurozium schreberi*, *Dicranum polysetum*. In drier habitats, there dominate lichens (*Cladonia alpestre*, *C. rangiferina*, *C. sylvatica*, *Cetraria islandica*). In wet habitats the main dominant of the herb layer is *Molinia caerulea*. In swamp pine forests, there dominate *Eriophorum vaginatum*, *Ledum palustre*, *Vaccinium oxycoccos* (*Oxycoccus palustris*), *Sphagnum nemoreum*, *S. fallax*, *S*, *centrale*. Swampy *Alnus glutinosa* forests are dominated by *Carex riparia*, *Carex acutiformis*, *Scirpus sylvaticus*, *Phragmites australis*. In more mesic alder forests, dominant species are *Athyrium filix-femina*, *Vaccinium myrtillus*, *Deschampsia cespitosa*. The IPA includes mesotrophic lakes Redychi (14 ha) and Cheremske (7.7 ha).

Botanical significance. One of the largest transition mires in Ukraine.

Criterion C

- D2.3 Transition mires and quaking bogs; area: 900 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G1.51 Sphagnum *Betula* woods; area: 500 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G3.1F Enclave *Picea abies* forests; area: 15 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

1. Андриенко Т.Л.,Коніщук В.В. Карта рослинності Черемського природного заповідника // Укр. ботан. журн. – 2003. – 60, № 6. – С. 659–669.
2. Коніщук В.В. Рідкісні види рослин Черемського природного заповідника // Укр. ботан. журн. – 2003. – 60, № 3. – С. 264–272.
3. Коніщук В.В. Хвойні ліси Черемського природного заповідника // Рослинність хвойних лісів України (матеріали робочої наради, Київ, листопад 2003 р). – К.: Фітосоціоцентр, 2003. – С. 111–122.
4. Коніщук В.В. Нові місцезнаходження рідкісних рослин у Черемському природному заповіднику // Заповідна справа в Україні. – Канів, 2004. – Т. 10, Вип. 1–2. – С. 18–23.
5. Коніщук В.В. Раритетна компонента біорізноманіття Черемського природного заповідника // Науковий вісник Волинського державного університету імені Лесі Українки № 11 (Ч. II). – Луцьк: РВВ "Вежа", 2007 р. – С. 125–132.
6. Коніщук В.В. ПЗ Черемський // Фіторізноманіття заповідників і національних природних парків України. Ч.1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ, 2012. – С. 379–389
7. Коніщук В.В., Коновальчук В.К., Парчук Г.В. Черемське болото – потенційне Рамсарське угіддя: проблеми і перспективи охорони // Вісник національного університету водного господарства та природокористування (збірник наукових праць), Випуск 1 (33). – Рівне, 2006. – С. 28–35.
8. Прядко Е.И. Растительность и стратиграфия болота Черемошского в Западном Полесье / Вопросы физиологии, биохимии, цитологии и флоры Украины. – К.: Наук. думка, 1974. – С. 28–53.
9. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Cherevaskyi Lis

V.A. Onyshchenko

Ukrainian name: Череваський ліс.

Transliteration/Translation variants: Cherevaskyi Forest.

Area: 466.0 ha.

Altitude: 171–188 m.

Latitude: 51°17'35" N (51.29305°).

Longitude: 25°26'05" E (25.43465°).

Administrative regions. Volynska region: Manevychi raion.

Ownership: state.

Biogeographic regions: continental.

Habitats. Level 1. E – 1.0%; G – 98.0%; H – 0.8%; J – 0.2%.

Habitats. Level 2. G1 Broadleaved deciduous woodland – 13.0%; G3 Coniferous woodland – 70.0%; G4 Mixed deciduous and coniferous woodland – 15.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.8%; J4 Transport networks and other constructed hard-surfaced areas – 0.2%.

Futher habitat description. G1.4 Broadleaved swamp woodland not on acid peat; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.1 *Abies* and *Picea* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; H5.6 Trampled areas.

Land use: forestry – major.

Protected areas: included in Emerald Site "Cherevaskyi Lis".

Threats: forestry (intensified forest management) – medium.

General description. Forest dominated by *Pinus sylvestris*, *Betula pendula*, *Alnus glutinosa*, *Picea abies*.

Botanical significance. The largest location of *Picea abies* forests in the flatland part of Ukraine.

Criterion C

- G3.1F Enclave *Picea abies* forests; area: 200 ha; trend: decreasing; area data quality: poor; trend data quality: poor.

Conservation proposals. Create a state botanical reserve (or a state forest reserve).

Literature

1. Мельник В.І. Острівні ялинники Українського Полісся. – К.: Наукова думка, 1993. – 104 с.

Chorna Hora

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Чорна гора.
Transliteration/Translation variants: Black Mount, Black Hill.
Area: 810 ha.
Altitude: 170–565 m.
Latitude: 48°09’14” N (48.1538°).
Longitude: 23°04’18” E (23.0716°).
Administrative regions. Zakarpatska region: Vynohradiv raion.
Ownership: state.
Biogeographic regions: pannonian.
Habitats. Level 1. E – 1.1%; F – 0.3%; G – 98.1%; H – 0.5%.
Habitats. Level 2. E1 Dry grasslands – 1.1%; F3 Temperate and mediterranean-montane scrub – 0.3%; G1 Broadleaved deciduous woodland – 98.1%; H2 Screes – 0.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.

Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes – 0.3%; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.6 *Fagus* woodland; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid siliceous inland cliffd; H5.6 Trampled areas.
Land use: forestry – minor, nature conservation and research – 93%.
Protected areas: overlaps (747 ha) with Carpathian biosphere reserve (UNESCO) (includes cluster “Chorna Hora” of the biosphere reserve), overlaps (747 ha) with the Karpatskyi biosphere reserve (national category), includes state botanical reserve “Chorna Hora” (747 ha, belongs to the biosphere reserve), overlaps (747 ha) with Emerald Site “Carpathian Biosphere Reserve.
Threats: abandonment/reduction of land management – low.
General description. A hill composed of tuff, andesite, rhyolite, and sedimentary rocks. On the southern slopes, the major vegetation type is the termophilous oak wood. The tree layer is composed of *Quercus petraea*, sometimes with *Quercus dalechampii*, *Quercus polycarpa*, *Tilia tomentosa*, *Fraxinus ornus* (single locality in Ukraine). In the shrub layer, there prevail *Cornus mas*, *Crataegus monogyna* s. l., *Euonymus europaeus*, *Ligustrum vulgare*. Typical species of the herb layer are Aegonychon purpureo-caeruleum, Ajuga genevensis, *Anthericum ramosum*, *Astragalus glycyphyllos*, *Brachypodium pinnatum*, *Carex michelii*, *Clinopodium vulgare*, *Euphorbia cyparissias*, *Euphorbia polychroma*, *Hylotelephium polonicum*, *Hypericum perforatum*, *Inula hirta*, *Lathyrus niger*, *Melica picta*, *Melica uniflora*,

Melittis melissophyllum, *Poa nemoralis*, *Polygonatum odoratum*, *Stellaria holostea*, *Veronica chamaedrys*, *Veronica officinalis*, *Vincetoxicum hirundinaria*. On the nothern slopes there are *Fagus sylvatica* and mixed *Fagus sylvatica – Quercus petraea* forests (with *Asarum europaeum*, *Brachypodium sylvaticum*, *Carex pilosa*, *Dentaria bulbifera*, *Galium odoratum*, *Geranium roberthianum*, *Lamium galeobdolon*, *Mercurialis perennis*). Grasslands occupy a small area. Dominant species are *Festuca pseudodalmatica* and *Brachypodium pinnatum*, there are also *Anchusa barellieri*, *Carduus collinus*, *Cruciata pedemontana*, *Ferulago sylvatica*, *Galium campanulatum*, *Melica transsilvanica*, *Phleum phleoides*, *Potentilla recta*, *Scabiosa ochroleuca*, *Stipa transcarpathica*, *Teucrium chamaedrys*, *Thymus pannonicus*, *Tordylium maximum*, *Trifolium alpestre*, *Veronica spicata*.

Botanical significance. The largest location of steppe vegetation and one of the largest locations of termophilous oak woods in the Transcarpathian part of Ukraine.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes (*6240); area: 9 ha; trend: decreasing; area data quality: medium; trend data quality: medium.
- F3.241 Central European subcontinental thickets; area: 5 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.7 Thermophilous deciduous woodland (*91H0, 91M0); area: 400 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Do not allow the expansion of shrubs and trees in grasslands.

Literature

1. Стойко С.М. Дубові ліси Українських Карпат: екологічні особливості, відтворення, охорона. – Львів, 2009. – 220 с.

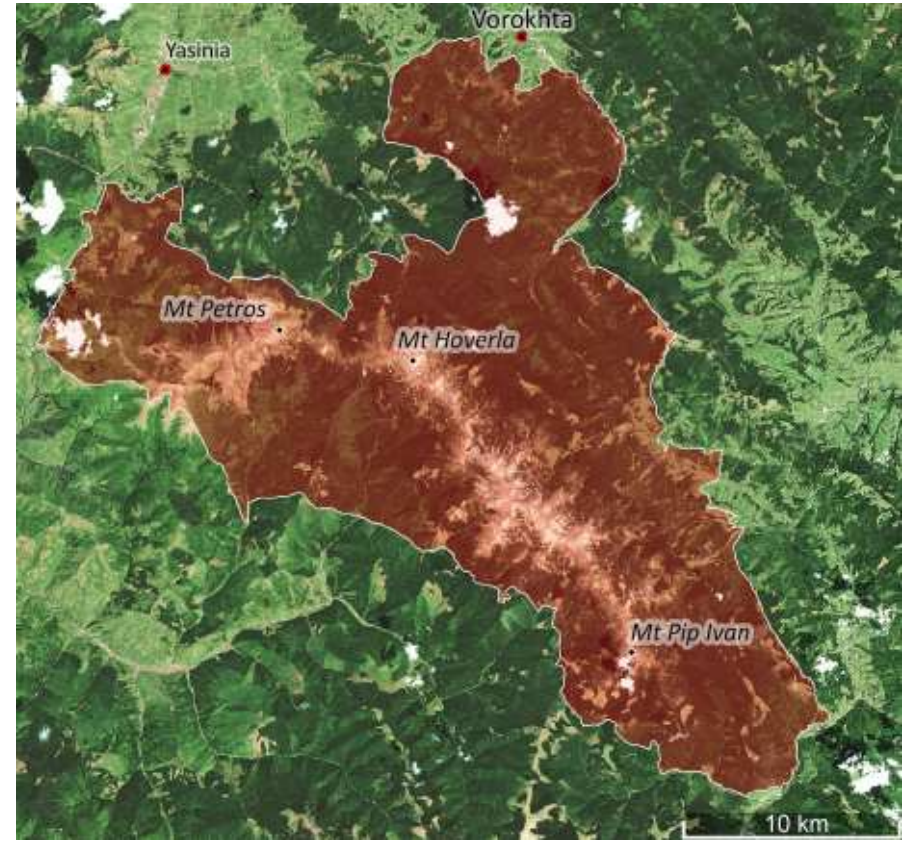
2. Фіторізноманіття заповідників і національних природних парків України. Ч.1. Біосферні заповідники. Природні заповідники / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – 406 с.

Chornohora

V.A. Onyshchenko, V.M. Virchenko

Ukrainian name: Чорногора.
Area: 43124.0 ha.
Altitude: 570–2061 m.
Latitude: 48°08′03″ N (48.1341°).
Longitude: 24°32′45″ E (24.5458°).
Administrative regions. Ivano-Frankivsk region: Verkhovyna raion, Yaremche city; Zakarpatska region: Rakhiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.2%; D – 0.1%; E – 16.0%; F – 6.2%; G – 77.0%; H – 0.5%.
Habitats. Level 2. C1 Surface standing waters – 0.0%; C2 Surface running waters – 0.2%; E1 Dry grasslands – 0.1%; E2 Mesic grasslands – 0.1%; E3 Seasonally wet and wet grasslands – 0.1%; E4 Alpine and subalpine grasslands stands – 10.1%; E5 Woodland fringes and clearings and tall forb stands – 5.7%; F2 Arctic, alpine and subalpine scrub – 6.2%; G1 Broadleaved deciduous woodland – 6.5%; G3 Coniferous woodland – 35.3%; G4 Mixed deciduous and coniferous woodland – 35.2%; H2 Screes – 0.0%; H3 Inland cliffs, rock

pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.



Futher habitat description. C1.1 Permanent oligotrophic lakes, ponds and pools; C1.2 Permanent mesotrophic lakes, ponds and pools; C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E4.1 Vegetated snow-patch; E4.2 Moss and lichen dominated mountain summits, ridges and exposed slopes; E4.3 Acid alpine and subalpine grassland; E4.4 Calcareous alpine and subalpine grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H2.4 Temperate-montane calcareous and ultra-basic screes; H3.1 Acid silicious inland cliffs;

H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – minor, forestry – minor, mowing/hay making – minor, nature conservation and research – major, tourism/recreation – minor.
Protected areas: overlaps (about 14537 ha) with Karpatskyi (Carpathian) biosphere reserve (national category), overlaps (about 14537 ha) with Carpathian biosphere reserve (UNESCO), overlaps (about 14537 ha) with Emerald Site "Carpathian Biosphere Reserve", overlaps (about 26269 ha) with Karparskyi (Carpathian) national nature park, overlaps (15402 ha) with World Heritage Site "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany" (core zone: 2477 ha, buffer zone: 12925 ha), overlaps (about 26269 ha) with Emerald Site "Carpathian National Nature Park".
Threats: climate change/sea level rise – low, development (recreation/tourism) – low.
General description. The area includes the highest part of the Ukrainian Carpathians. Major vegetation type is mixed *Picea abies – Fagus sylvatica – Abies alba* forests. The herb layer is dominated by *Athyrium filix-femina*, *Dryopteris dilatata*, *D. carthusiana*, *D. filix-mas*, *Lamium galeobdolon*, *Calamagrostis arundinacea*, *Oxalis acetosella*, *Rubus hirtus*. Other frequent species are *Anemone nemorosa*, *Dentaria glandulosa* (*Cardamine glandulosa*), *Gentiana asclepiadea*, *Homogyne alpina*, *Luzula luzuloides*, *Luzula sylvatica*, *Symphytum cordatum*, *Vaccinium myrtillus*. Pure *Fagus sylvatica* forests of similar species composition occupy a smaller area. Natural pure *Picea abies* forests predominate at higher altitudes and form the upper limit of the forest vegetation. Dominants of their herb layer are *Calamagrostis arundinacea*, *Luzula sylvatica*, *Oxalis acetosella*, *Vaccinium myrtillus*. Other frequent species are *Athyrium distentifolium*, *Homogyne alpina*, *Leucanthemum rotundifolium*, *Rubus idaeus*, *Senecio ovatus*, *Soldanella hungarica*, *Sorbus aucuparia*, *Streptopus amplexifolium*, *Vaccinium vitis-idaea*. The moss layer is dominated by *Dicranum scoparium*, *Pleurozium schreberi*, *Polytrichum formosum*. In the grasslands of the forest belt, there predominate *Agrostis tenuis*, *Festuca rubra* and *Nardus stricta*. There occur poor and rich fens. In the subalpine belt, the largest area is occupied by *Pinus mugo* communities. Besides there are shrubs dominated by *Duschekia alnobetula* (*Alnus alnobetula*), *Juniperus sibirica*. Other important subalpine dominants are *Nardus stricta*, *Deschampsia cespitosa*, *Vaccinium myrtillus*, *Festuca airoides* (*F. supina*), *Calamagrostis villosa*. *Rhododendron myrtifolium* heaths are less common. In the wet habitats, there occur communities of *Adenostyles alliariae*, *Cirsium waldsteinii*. There are small areas of bogs, transition mires, poor and rich fens. On the silicate rocks, there prevail *Festuca picta* and *Poa deylii*. Calcareous rocky grasslands dominated by *Festuca inarmata* (*Festuca amethystina* s.l.) or *Festuca versicolor* cover small areas. At the highest altitudes (>1800 m), the typical dominants are *Oreojuncus trifidus* (*Juncus trifidus*), *Carex curvula*, *Carex sempervirens*.
Botanical significance. The most important area for subalpine habitats and species in Ukraine. Important for oligotrophic aquatic habitats and some species of mosses.
Criterion A
- *Anacamptodon splachnoides* (Brid.) Brid.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Botrychium matricariifolium* (A. Braun ex Döll) W.D.J.Koch; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Buxbaumia viridis* (Moug. ex Lam. et DC.) Brid. ex Moug. et Nestl. (*B. indusiata* Brid.); A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Campanula abietina* Griseb. & Schenk; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

- *Campanula serrata* (Kit.) Hendrych; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Dicranum viridae* (Sull. et Lesq.) Lindb.; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Festuca porcii* Hack.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Hamatocaulis vernicosus* (Mitt.) Hedenas (*Drepanocladus vernicosus* (Mitt.) Warnst.); A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Heterophyllium affine* (Mitt.) Fleisch; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Mannia triandra* (Scop.) Grolle; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Neckera pennata* Hedw.; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Tozzia carpathica* Woł.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C
- C1.1 Permanent oligotrophic lakes, ponds and pools; area: 1 ha; trend: stable; area data quality: medium; trend data quality: medium.
- C2.12 Hard water springs; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- D2.226 Peri-Danubian black-white-star sedge fens; area: 5 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.11 Boreo-alpine acidocline snow-patch grassland and herb habitats; area: 10 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.12 Boreo-alpine calcicline snow-patch grassland and herb habitats; area: 1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.3 Acid alpine and subalpine grassland; area: 4000 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E4.4 Calcareous alpine and subalpine grassland; area: 400 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.5 Subalpine moist or wet tall-herb and fern stands; area: 2500 ha; trend: stable; area data quality: medium; trend data quality: poor.
- F2.22 Alpide acidocline *Rhododendron* heaths; area: 30 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F2.46 (*4070) Carpathian *Pinus mugo* scrub; area: 2100 ha; trend: stable; area data quality: good; trend data quality: poor.
- F4.2 Dry heaths; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G1.12 Boreo-alpine riparian galleries; area: 100 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G3.1B Alpine and Carpathian subalpine *Picea forests*; area: 2000 ha; trend: increasing; area data quality: medium; trend data quality: medium.
- H2.3 Temperate-montane acid siliceous screes; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature
1.Андриенко Т.Л., Каркуциев Г.Н., Прядко Е.И. Гидрофильная растительность

верховьев р. Прут // Гидробиол. журн. – 1991. – 27, № 5. – С. 16–22.

2.Біорізноманіття Карпатського біосферного заповідника / Кол. авт., Ред. рада: Я.І. Мовчан, Ф.Д. Гамор та ін. – К.: Інтерекоцентр, 1997. – 711 с.

3.Гамор Ф.Д., Волощук М.І., Антосяк Т.М., Козурак А.В. БЗ Карпатський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 45–72.

4.Карпатський національний природний парк // Киселюк О.І., Приходько М.М., Яворський А.І. та ін. / За ред. М.М.Приходька, О.І. Киселюка, А.І. Яворського. – Івано-Франківськ: Фоліант, 2009. – 672 с.

5.Малиновський К.А. Рослинність високогір'я Українських Карпат. – К.: Наук. думка, 1980. – 280 с.

6.Малиновський К.А., Крічфалушій В.В. Рослинні угруповання високогір'я Українських Карпат. – Ужгород, 2002. – 244 с.

7.Нестерук Ю. Рослинний світ Українських Карпат: Чорногора. Екологічні мандрівки. – Львів: БаК, 2003. – 520 с.

8.Онищенко В.А., Данилик І.І. НПП Карпатський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 273–292.

9.Природа Карпатського національного парку. – К.: Наук. думка, 1993. – 216 с.

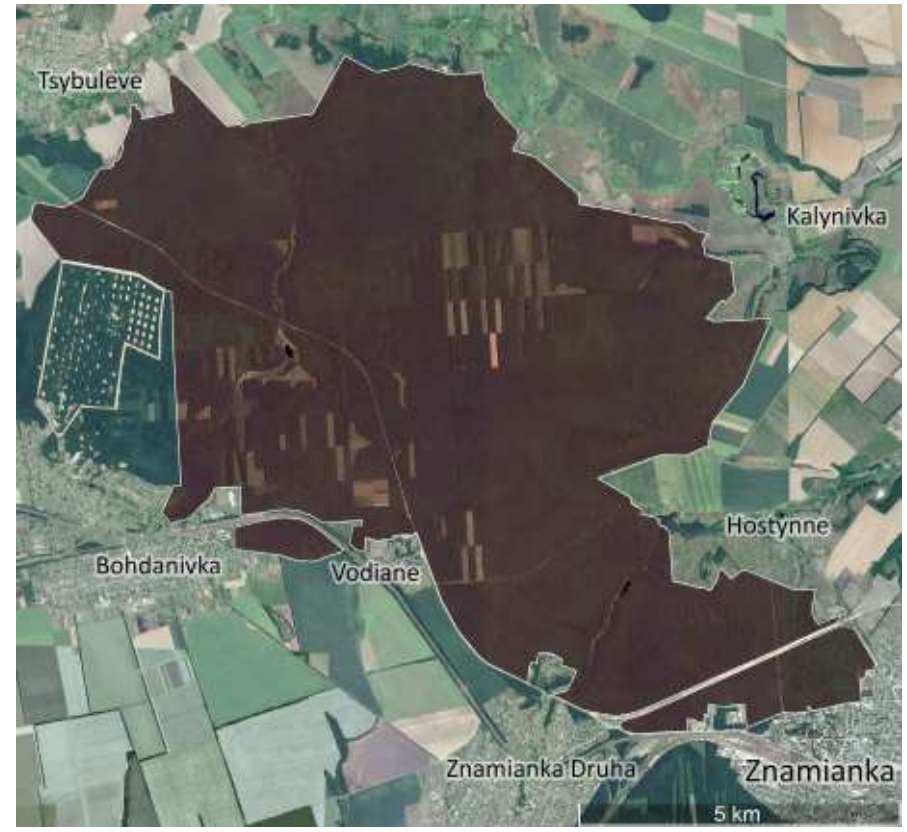
10. Флора і рослинність Карпатського заповідника / Стойко С.М., Тасенкевич Л.О., Мілкіна Л.І. та ін. – К.: Наук. думка, 1982. – 220 с.

Chornyi Lis

V.A. Onyshchenko

Ukrainian name: Чорний ліс.
Transliteration/Translation variants: Black Woods, Black Forest.
Area: 6909 ha.
Altitude: 168–218 m.
Latitude: 48°46'20" N (48.7721°).
Longitude: 32°34'21" E (32.5726°).
Administrative regions. Kirovohrad region: Znamianka raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.1%; D – 0.1%; E – 0.1%; F – 0.2%; G – 98.3%; H – 1.0%; J – 0.2%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.1%; E2 Mesic grasslands – 0.1%; G1 Broadleaved deciduous woodland – 98.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%; J4 Transport networks and other constructed hard-surfaced areas – 0.2%.
Futher habitat description. G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – 46%.
Protected areas: overlaps with Chornoliskyi state landscape reserve (about 3200 ha), includes Chornoliska state hydrological nature monument (2 ha), included in Emerald Site "Znamianskyi Chornyi Lis".

Threats: forestry (intensified forest management) – low; development (recreation/tourism) – low.



General description. One of the largest woods in the southern forest-steppe zone of Ukraine. Almost the entire territory is occupied by the dark broadleaved forest. The tree layer is dominated by *Quercus robur*, *Fraxinus excelsior*, *Carpinus betulus*, sometimes by *Acer campestre*, *Acer platanoides*, *Tilia cordata*. Main dominants of the herb layer in summer are *Aegopodium podagraria*, *Stellaria holostea*, on slopes often also *Carex pilosa*. In spring there prevail *Allium ursinum*, *Anemone ranunculoides*, *Corydalis cava*, *Corydalis solida*, *Ficaria verna*. Other typical species are *Alliaria petiolata*, *Asarum europaeum*, *Corylus avellana*, *Euonymus europaeus*, *Euonymus verrucosus*, *Galium aparine*, *Gagea lutea*, *Galium odoratum*, *Geum urbanum*, *Polygonatum multiflorum*, *Pulmonaria obscura*, *Scilla siberica*, *Ulmus glabra*, *Urtica dioica*, *Viola odorata*. An interesting object in this area is a small mire which is one of the southernmost localities of *Sphagnum* in Ukraine (Chornoliska state hydrological nature monument).
Botanical significance. Rather well preserved broadleaved forest, one of the best in Ukraine.
Criterion C

- G1.A1 *Quercus – Fraxinus – Carpinus betulus* woodland on eutrophic and mesotrophic soils; area: 5900 ha; trend: stable; area data quality: good; trend data quality: good.

Conservation proposals. Create an Emerald Site. Do not allow clearcutting.

Literature

1. Мирза-Сіденко В.М., Андрієнко Т.Л., Онищенко В.А., Прядко О.І. Флора і рослинність проектованого Чорнолісько-Дмитрівського національного природного парку // Укр. ботан. журн. – 2008. – 65, № 3. – С. 352–369.

2. Наумович Г.О., Ходосовцев О.Є. Лишайники Чорного лісу (Знам'янський район, Кіровоградська область) // Чорноморський ботанічний журнал. – 2008. – 4, № 1. – С. 7–13.

3. Онищенко В.А., Андрієнко Т.Л. Майбутній національний парк // Заповідні куточки Кіровоградської землі. – К.: Арктур-А, 1999. – С. 131–134.

4. Онищенко В.А., Сіденко В.М. Класифікація лісової рослинності ур. Чорний ліс (Знам'янський район Кіровоградської області) // Наук. вісник Чернівецького університету. – Вип. 145. – Сер.: Біологія, 2002. – С. 178–194.

Chortova Hora

V.A. Onyshchenko, N.V. Shumska

Ukrainian name: Чортова гора.
Transliteration/Translation variants: Devil's Hill.
Area: 12 ha.

Altitude: 290–350 m.
Latitude: 49°24'06" N (49.4017°).
Longitude: 24°39'54" E (24.6649°).
Administrative regions. Ivano-Frankivsk region: Rohatyn raion.

Ownership: state.
Biogeographic regions: continental
Habitats. Level 1. E – 100.0%; H – 0.0%.
Habitats. Level 2. E1 Dry grasslands – 99.0%; E7 Sparsely wooded grasslands – 1.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E7.2 Sub-continental parkland; H3.2 Basic and ultra-basic inland cliffs.
Land use: nature conservation and research – major.
Protected areas: same as Chortova Hora state botanical nature monument.
Threats: abandonment/reduction of land management – low.
General description. A hill with grasslands dominated by *Brachypodium pinnatum*, *Elytrigia repens*, *Festuca valesiaca*, with presence of *Filipendula vulgaris*, *Fragaria viridis*, *Salvia pratensis*.
Botanical significance. The largest population of *Carlina cirsioides* in Ukraine.
Criterion A

- *Carlina cirsioides* Klokov; A(iv); abundance: frequent (5000 individuals); trend: stable; species data quality: good; trend data quality: poor.

Literature

1. Куковиця Г.С., Дідух Я.П., Шеляг-Сосонко Ю.Р., Абдулоєва О.С. Синтаксономія лучних степів пам'яток природи республіканського значення гг. Касова та Чортова // Укр. фітоцен. зб. – 1998. – Сер. А, Вип. 2 (11). – Київ: Фітосоціоцентр. – С. 42–62.

2. Шумська Н.В., Дмитраш І.І. Поширення та еколого-ценотичні особливості *Carlina cirsioides* Klok. і *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł. на Бурштинському Опіллі // Флорологія та фітосозологія. – Т. 2. – Київ: Фітон, 2011. – С. 77–81.

Chyvchyny

I.I. Chorney, V.A. Onyshchenko

Ukrainian name: Чивчини.
Area: 23177.0 ha.
Altitude: 970–1769 m.
Latitude: 47°48'23" N (47.8063°).
Longitude: 24°52'41" E (24.8780°).
Administrative regions. Chernivtsi region: Putyla raion; Ivano-Frankivsk region: Verkhovyna raion.
Ownership: state (major), private.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.3%; D – 1.0%; E – 15.4%; F – 2.8%; G – 80.2%; H – 0.3%.
Habitats. Level 2. C2 Surface running waters – 0.3%; D4 Base-rich fens and calcareous spring mires – 0.8%; D5 Sedge and reedbeds, normally without free-standing water – 0.2%; E1 Dry grasslands – 4.8%; E2 Mesic grasslands – 1.4%; E4 Alpine and subalpine grasslands stands – 2.0%; E5 Woodland fringes and clearings and tall forb stands – 7.2%; F2 Arctic, alpine and subalpine scrub – 2.8%; G1 Broadleaved deciduous woodland – 1.0%; G3 Coniferous woodland – 76.2%; G4 Mixed deciduous and coniferous woodland – 3.0%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.

Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland (E1.71 *Nardus stricta* swards, E1.72 *Agrostis* – *Festuca* grassland); D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; D5.2 Beds of large sedges normally without free-standing water; E3.4 Moist or wet eutrophic and

mesotrophic grassland; E4.1 Vegetated snow-patch; E4.2 Moss and lichen dominated mountain summits, ridges and exposed slopes; E4.3 Acid alpine and subalpine grassland; E4.4 Calcareous alpine and subalpine grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H2.4 Temperate-montane calcareous and ultra-basic screes; H3.1 Acid silicious inland cliffs; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements; H5.6 Trampled areas.

Land use: agriculture (animals) – minor, forestry – minor, nature conservation and research – major.

Protected areas: includes Verkhovynskyi national nature park (12022.9 ha), overlaps (about 6540 ha) with Cheremoskyi national nature park, includes Chornyi Dil state landscape

reserve (263 ha), overlaps (about 6300 ha) with Chyvchyno-Hryniavskyi regional landscape reserve, overlaps (about 5890 ha) with Emerald Site "Cheremoskyi", overlaps (about 14000 ha) with Emerald Site "Verkhovynskyi".

Threats: abandonment/reduction of land management – low, climate change/sea level rise – low.

General description. The major vegetation type is pure *Picea abies* forest. On rich soils, there dominate *Anemone nemorosa*, *Dentaria glandulosa* (*Cardamine glandulosa*), *Calamagrostis arundinacea*, *Calamagrostis villosa*, *Oxalis acetosella*. Species of significant constancy in spruce forests are *Athyrium distentifolium*, *Athyrium filix-femina*, *Dicranum scoparium*, *Dryopteris dilatata*, *Dryopteris filix-mas*, *Euphorbia carniolica*, *Gymnocarpium dryopteris*, *Homogyne alpina*, *Leucanthemum roundifolium*, *Lonicera nigra*, *Phegopteris connectilis*, *Polytrichum formosum*, *Senecio ovatus*, *Solidago virgaurea*, *Sorbus aucuparia*, *Stellaria nemorum*, *Streptopus amplexifolius*, *Symphytum cordatum*, *Vaccinium myrtillus*. In some places over the *Picea abies* belt, there is *Pinus mugo* scrub. Mesic grasslands of the forest belt are dominated by *Cynosurus cristatus*, *Festuca rubra*, *Festuca pratensis*, *Agrostis capillaris*, *Anthoxanthum odoratum*, *Dactylis glomerata*. Their typical species are *Gymnadenia conopsea*, *Dactylorhiza majalis*, *Listera ovata* (*Neottia ovata*), *Traunsteinera globosa*, *Campanula serrata*. At higher altitudes, the main dominant of grasslands is *Nardus stricta*, species of high constancy are *Agrostis capillaris*, *Arnica montana*, *Avenella flexuosa*, *Deschampsia cespitosa*, *Hypochaeris uniflora*, *Luzula luzuloides*, *Scorzonera rosea*, *Sieglingia decumbens*, *Vaccinium myrtillus*, *Vaccinium vitis-idaea*. A common vegetation type is subalpine *Deschampsia caespitosa* grasslands (with *Arnica montana*, *Bistorta officinalis*, *Calamagrostis arundinacea*, *Festuca rubra*, *Geranium alpestre*, *Hypericum maculatum*, *Luzula luzuloides*, *Phleum alpinum*, *Poa chaixii*, *Scorzonera rosea*, *Viola declinata*). Smaller areas are dominated by *Petasites kablikianus* (along streams), *Festuca saxatilis* and *Festuca carpatica* (on stony calcareous soil). There occur calcareous outcrops with rare species (*Aster alpinus*, *Saxifraga luteoviridis*, *Saxifraga aizoides*, *Silenananthe zawadskii*, *Ptarmica tenuifolia*, *Festuca saxatilis*, *Silene dubia*, *Jovibarba preissiana*, *Campanula kladniana*, *Cystopteris alpina*), rich fens dominated by *Carex paniculata* and *Carex flava*; raised bogs, subalpine small shrubs communities dominated by *Juniperus sibirica*, *Vaccinium myrtyllus*, *Vaccinium uliginosum*; hard water springs and streams with *Doronicum carpaticum*; acid springs and streams with *Cardamine opizii* and *Saxifraga stellaris* (*Micranthes stellaris*).

Botanical significance. Rich in endemic species part of the Carpathians. Important area for mountain spruce forests and subalpine vegetation.

Criterion A

- *Botrychium matricariifolium* (A. Braun ex Döll) W.D.J.Koch; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Botrychium multifidum* (S.G.Gmel.) Rupr.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Campanula abietina* Griseb. & Schenk; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Campanula serrata* (Kit.) Hendrych; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Dicranum viride* (Sull. et Lesq.) Lindb.; A(ii); abundance: occasional; trend: unknown; species data quality: poor; trend data quality: poor.
- *Festuca porcii* Hack.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Ligularia sibirica* (L.) Cass. (*L. bucovinensis* Nakai); A(ii); rare; trend: unknown; species

data quality: medium; trend data quality: poor.

- *Nigritella carpatica* (Zapał.) Teppner, Klein et Zagulski (*Gymnadenia carpatica* (Zapał.) Teppner et Klein); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Tozzia carpathica* Woł.; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Typha schuttleworthii* W.D.J.Koch et Sond.; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- C2.12 Hard water springs; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- D2.226 Peri-Danubian black-white-star sedge fens; area: 15 ha; trend: stable; area data quality: poor; trend data quality: poor.
- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 150 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E1.71 *Nardus stricta* swards; area: 130 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E2.3 Mountain hay meadows; area: 100 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E4.3 Acid alpine and subalpine grassland; area: 350 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E4.4 Calcareous alpine and subalpine grassland; area: 3 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.5 Subalpine moist or wet tall-herb and fern stands; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: poor.
- F2.22 Alpide acidocline *Rhododendron* heaths; area: 1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F2.46 (*4070) Carpathian *Pinus mugo* scrub; area: 670 ha; trend: stable; area data quality: good; trend data quality: poor.
- F4.2 Dry heaths; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G1.12 Boreo-alpine riparian galleries; area: 100 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G3.1B Alpine and Carpathian subalpine *Picea* forests; area: 20000 ha; trend: increasing; area data quality: medium; trend data quality: medium.
- H2.4 Temperate-montane calcareous and ultra-basic screes; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.
- H3.511 Limestone pavements; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Pawłowski B., Walas J. Les associations des plantes vesculaires des Monts de Czywczyn // Bull. Int. Acad. pol. B. – 1949. – 1. – P. 1–181.
2. Pawłowski B. Ogólna charakterystyka geobotaniczna Gór Czywczyńskich // Rozprawy Wydziału Mat.-Przyrodniczego. – Kraków, 1948. – P. 1–72.
3. Андрієнко Т.Л., Чорней І.І., Онищенко В.А., Буджак В.В. Флора та рослинність проектованого міждержавного україно-румунського біосферного резервату “Мармароські та Чивчино-Гринявські гори” // Укр. ботан. журн. – 2005. – 62, № 4. – С. 589–596.

4. Величко М.В., Чорней І.І. Ботанічна характеристика урочища Мокринів Камінь у Чивчинських горах (Українські Карпати) // Заповідна справа в Україні. – 2003. – Т. 9, вип. 2. – С. 16–18.
5. Величко М.В., Чорней І.І., Буджак В.В. Інвентаризаційний список судинних рослин Чивчинських гір (Українські Карпати) // Наук. вісник Чернівецького ун-ту: Зб. наук. праць. Вип. 223: Біологія. – Чернівці: Рута, 2004. – С. 152–161.
6. Горбик В.П. Лучна рослинність Чивчинських та Гринявських гір // Укр. ботан. журн. – 1968. – 25, № 4. – С. 11–17.
7. Горбик В.П. Лісова та чагарникова рослинність Чивчинських та Гринявських гір // Укр. ботан. журн. – 1968. – 25, № 6. – С. 87–92.
8. Горбик В.П. Ботанічні об’єкти Чивчинських і Гринявських гір, що потребують охорони // Мат-ли 5 з’їзду Укр. ботан. тов. – Ужгород, 1972. – С. 133–134.
9. Горбик В.П., Андрієнко Т.Л. Болота Чивчин // Укр. ботан. журн. – 1969. – 26, № 3. – С. 40–44.
10. Загульський М.М., Чорней І.І. Нове місцезнаходження *Nigritella nigra* (L.) Rich. (*Orchidaceae*) в Українських Карпатах // Укр. ботан. журн. – 1993. – 50, № 2. – С. 125–129.
11. Малиновський К.А., Крічфалушій В.В. Рослинні угруповання високогір’я Українських Карпат – Ужгород, 2002. – 244 с.
12. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
13. Чопик В.І. Ботаніко-географічна характеристика Чивчино-Гринявських гір в Українських Карпатах // Укр. ботан. журн. – 1969. – 26, № 6. – С. 26–33.
14. Чорней І.І. До питання про ботанічну цінність Чивчинських гір (Українські Карпати) // Наук. вісн. Чернівецького ун-ту: Зб. наук. праць. – Вип. 298: Біологія. – Чернівці: Рута, 2006. – С. 269–273.
15. Чорней І.І., Буджак В.В. Нове місцезнаходження раритетних видів флори у Чивчинських горах (Українські Карпати) // Укр. ботан. журн. – 2003. – 60, № 1. – С. 53–57.
16. Чорней І.І., Буджак В.В., Андрієнко Т.Л. Болота Буковинських Карпат // Укр. ботан. журн. – 2008. – 65, № 2. – С. 180–188.
17. Чорней І.І., Загульський М.М., Смолінська М.О., Королюк В.І. Стан та перспективи охорони рідкісних видів флори у верхів’ї р. Білий Черемош // Екологічні основи оптимізації режиму охорони і використання природно-заповідного фонду. Тез. доп. наук.-практ. конф. – Рахів, 1993. – С. 70–72.
18. Чорней І.І., Токарюк А.І., Буджак В.В. НПП Верховинський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 74–92.
19. Чорней І.І., Токарюк А.І., Буджак В.В. НПП Черемоський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 530–547.

Davydo-Mykilske

V.A. Onyshchenko, M.M. Peregrym

Ukrainian name: Давидо-Микільське.

Area: 1580.0 ha.
Altitude: 25–150 m.
Latitude: 48°30’49” N (48.5136°).
Longitude: 39°51’00” E (39.8499°).
Administrative regions. Luhansk region: Sorokyne (Krasnodon) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 70.5%; F – 3.0%; G – 26.0%; H – 0.5%.
Habitats. Level 2. E1 Dry grasslands – 70.5%; F3 Temperate and mediterranean-montane scrub – 3.0%; G1 Broadleaved deciduous woodland – 25.9%; G3 Coniferous woodland – 0.1%; H2 Screes – 0.5%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; forestry – minor.
Protected areas: included in Emerald Site “Sukhodilskyi Regional Landscape Park”.
Threats: agricultural intensification/expansion (arable) – low, agricultural intensification/expansion (grazing) – low, extraction (minerals/quarries) – low, forestry (afforestation) – medium.
General description. Slope of the valley of the Siverskyi Donets river with the steppe vegetation, forests, and chalk outcrops. Dominants of steppe vegetation are 4 species of *Stipa* (*S. pulcherrima*, *S. lessingiana*, *S. ucrainica* and *S. capillata*), *Festuca valesiaca*, *Caragana frutex*, *Amygdalus nana* and *Bothriochloa ischaemum*. Significant components of the steppe communities are *Salvia nutans*, *Phlomis pungens*, *Marrubium praecox*, *Psephellus marschallianus* (*Centaurea marschalliana*). Plant communities on chalk are formed by *Onosma tanaitica*, *Artemisia salsoloides*, *Linum czernjajevii*, *Ephedra distachya, Euphorbia cretophila*, *Astragalus albicaulis*, *Hedysarum grandiflorum*. Dominants of natural woods are *Quercus robur*, *Fraxinus excelior*, *Ulmus suberosa*, *Euonymus verrucosus*, *Galium aparine*, *Geum urbanum*, *Chelidonium majus*. There are also a lot of ephemeroids: *Ficaria stepporum*, *Corydalis solida*, *C. marschalliana*, *Anemone ranunculoides*, *Fritillaria ruthenica*, *Tulipa quercetorum*, *Scilla siberica*, *Gagea lutea*, *Gagea minima*.
Botanical significance. Important area for conservation of the steppe vegetation and chalk outcrops.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 1120 ha; trend: stable; area data quality: good; trend data quality: poor.

Conservation proposals. Do not allow afforestation. Create a state botanical reserve an Emerald Site.
Literature:

1. Природно-заповідний фонд Луганської області // О.А. Арапов (заг. ред.), Т.В. Сова, О.А. Савенко, В.Б. Фєрєнц, Н.У. Кравець, Л.Л. Зятьков, Л.О. Морозова. Довідник. – 3-є вид., доп. і перероб. – Луганськ: “Луганська правда”, 2013. – 224 с.
2. Перегрим М.М., Мойсієнко І.І., Перегрим Ю.С., Мельник В.О. *Tulipa gesneriana* L. (*Liliaceae*) в Україні. – К.: Видавничо- поліграфічній центр “Київський університет”, 2009. – 135 с.

Dnipro – Oril

V.A. Onyshchenko

Ukrainian name: Дніпро – Оріль.
Area: 3766.2 ha.
Altitude: 50–73 m.
Latitude: 48°30’30” N (48.5083°).
Longitude: 34°47’54” E (34.7983°).

Administrative regions. Dnipropetrovsk region: Dnipropetrovsk raion, Petrykivka raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 17.0%; D – 1.0%; E – 39.4%; F – 0.2%; G – 40.8%; H – 0.5%; I – 1.1%.
Habitats. Level 2. C1 Surface standing waters – 8.0%; C2 Surface running waters – 8.0%; C3 Littoral zone of inland surface waterbodies – 1.0%; D5 Sedge and reedbeds, normally without free-standing water – 1.0%; E1 Dry grasslands – 16.7%; E2 Mesic grasslands – 5.9%; E3 Seasonally wet and wet grasslands – 15.8%; E6 Inland salt steppes – 1.0%; F9 Riverine and fen scrubs – 0.2%; G1 Broadleaved deciduous woodland – 28.9% G3 Coniferous woodland – 11.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%; I1 Arable land and market gardens – 1.1%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; D6.1 Inland saltmarshes;

E1.2 Perennial calcareous grassland and basic steppes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E2.5 Meadows of the steppe zone; E3.4 Moist or wet eutrophic and mesotrophic grassland; E6.2 Continental inland salt steppes; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.5 Broadleaved swamp woodland on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.F Highly artificial coniferous plantations.
Land use: nature conservation and research – 100%; agriculture (arable) – 1%; mowing / hay making – minor.
Protected areas: same as Dniprovsko-Orilskyi Nature Reserve and Emerald Site “Dniprovsko-Orilskyi Nature Reserve”.
Threats: abandonment / reduction of land management – low, burning of vegetation – low, water (dredging / canalization) – low.
General description. This is a part of the floodplain and sand terrace over the floodplain on the left bank of the Dnipro in the steppe zone. The floodplain has its flooding regime close to natural. Vegetation of this area is diverse. Forest vegetation is represented by floodplain *Quercus robur* woods (400 ha), *Populus alba* and *Populus nigra* woods (400 ha), *Salix alba* woods (80 ha), swamped *Alnus glutinosa* woods (1–2 ha), *Pinus sylvestris* and *Pinus nigra* subsp. *pallasiana* plantations (450 ha). Typical species of *Quercus robur* woods are *Ulmus minor* (dominantes in the second sublayer of the tree layer), *Acer tataricum*, *Sambucus nigra*, *Crataegus curvisepala*, *Alliaria petiolata*, *Galium aparine*, *Chaerophyllum temulum*, *Convallaria majalis*, *Geum urbanum*, *Glechoma hederacea*, *Stellaria media* (*Alsine media*), *Torilis japonica*, *Urtica dioica*. Typical species of *Populus* woods are *Amorpha fruticosa* (invasive), *Frangula alnus*, *Swida sanguinea* (Cornus sanguinea), *Rubus caesius*, *Viburnum opulus*. Typical species of *Salix alba* woods: *Populus nigra* (frequent co-dominant), *Cardamine amara*, *Carex riparia*, *Equisetum arvense*, *Iris pseudacorus*, *Stachys sylvatica*. Typical species of *Alnus glutinosa* woods are *Carex acutiformis*, *Thelypteris palustris*. Shrub vegetation includes communities of *Salix acutifolia* (on sands) and *Salix cinerea* (in waterlogged parts of floodplain). Dry grasslands (670 ha) include sand steppe and open sand grassland. They are dominated by *Festuca beckeri*, *Stipa borysthenica*, *Artemisia marschalliana*, *Euphorbia seguieriana*, *Gypsophila paniculata*. Typical species: *Allium savranicum*, *Chamaecytisus borysthenicus*, *Helichrysum arenarium*, *Jasione montana*, *Minuartia piskunovii*, *Mollugo cerviana*, *Polygonum arenarium*, *Salix acutifolia*, *Jacobaea borysthenica* (*Senecio borysthenicus*), *Seseli tortuosum*. Floodplain periodically wet grasslands usually are dominated by *Festuca regeliana*. Typical species: *Agrostis stolonifera*, *Alopecurus pratensis*, *Calamagrostis canescens*, *Carex otrubae*, *Elytrigia repens*, *Galium physocarpum*, *Hieracium umbellatum*, *Inula britannica*, *Lathyrus pratensis*, *Poa pratensis*, *Poa remota*, *Thalictrum flavum*, *Vicia tenuifolia*, *Vicia terasperma*. Mesic grasslands are dominated by *Poa angustifolia*. Saltmarshes are dominated by *Elytrigia elongata*, *Glaux maritima*, *Limonium hypanicum*, *Salicornia perennans*, *Spergularia media*. Eutrophic mires are represented mainly by reedbeds dominated by *Phragmites australis*, *Typha latifolia*, *Typha angustifolia* and eutrophic sedge mires dominated by *Carex riparia*, *Carex acuta*. Aquatic vegetation is very diverse. Main dominants: *Lemna minor*, *Lemna trisulca*, *Nymphaea alba*, *Nuphar lutea*, *Salvinia natans*, *Stratiotes aloides*, *Spirodela polyrrhiza*, *Trapa borysthenica* (*T. natans* s. l.), *Wolffia arrhiza*. Smaller areas are covered by *Ceratophyllum demersum*, *Potamogeton crispus*, *Potamogeton lucens*, *Potamogeton pectinatus* (*Stuckenia pectinata*), *Potamogeton perfoliatus*.
Botanical significance. This area is one of the most important for conservation of floodplain complexes in Ukraine.

Criterion A

- *Agropyron dasyanthum* Ledeb.; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Allium savranicum* Besser; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Delphinium rossicum* Litv.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Lindernia procumbens* (Krock.) Borb.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; area: 500 ha; trend: unknown; area data quality: medium; trend data quality: poor.
- G1.22 Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers; area: 400 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G1.3 Mediterranean riparian woodland; area: 400 ha; trend: unknown; area data quality: medium; trend data quality: poor.

Literature

1. Манюк В.В. Эколого-флористические особенности дубрав Днепровско-Орельського природного заповедника // Питання степового лісознавства та лісової рекультивації земель. – Д.: ДДУ, 1998. – С. 139–146.

2. Манюк В.В. Нарис рослинності Дніпровсько-Орельського природного заповідника // Заповідна справа в Україні. – Канів, 2000. – Т. 6, вип. 1–2. – С. 7–14.

3. Манюк В.В. Структура, типологія, динаміка і відновлення дібров Дніпровсько-Орільського природного заповідника. Дис. … канд. биол. наук: 03.00.16. – Д., 2005. – 373 с.

4. Манюк В.В. ПЗ Дніпровсько-Орільський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 102–114.

5. Придюк М.П. Мікобіота Дніпровсько-Орельського природного заповідника / Автореф. дис... канд. біол. наук: 03.00.21. – К., 1999. – 19 с.

Dobrianski Hory

V.A. Onyshchenko

Ukrainian name: Добрянські гори.
Transliteration/Translation variants: Dobrianski Hills.
Area: 1048.0 ha.
Altitude: 100–190 m.
Latitude: 48°21’28” N (48.3577°).
Longitude: 39°23’01” E (39.3836°).
Administrative regions. Luhansk region: Lutuhyne raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.1%; E – 93.3%; F – 2.0%; G – 4.2%; H – 0.3%; J – 0.1%.

Habitats. Level 2. C1 Surface standing waters – 0.1%; E1 Dry grasslands – 92.0%; E2 Mesic grasslands – 1.3%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 4.2%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.3%; J4 Transport networks and other constructed hard-surfaced areas – 0.1%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; H5.6 Trampled areas.
Land use: agriculture (animals) – major, forestry – minor.
Protected areas: includes proposed botanical reserve “Dobrianski Hory” (about 100 ha), overlaps with Emerald Site “Dobrianski Hory” (about 108 ha).
Threats: agricultural intensification/expansion (arable) – low, agricultural intensification/expansion (grazing) – low, extraction (minerals/quarries) – low, forestry (afforestation) – low.

General description. A slope of the Luhanchyk river valley. The major habitat type is the steppe. It is dominated by *Festuca valesiaca* s.l., *Stipa capillata*, *Stipa dasyphylla*, *Stipa pennata*, *Caragana frutex*. Forests are dominated by *Quercus robur*, *Fraxinus excelior*, *Ulmus suberosa*, *Euonymus verrucosus*, *Galium aparine*, *Geum urbanum*, *Ficaria stepporum*, *Corydalis solida*. Prevailng species of the shrub vegetation are *Cerasus fruticosa*, *Cerasus stepposa*, *Rosa* sp. There are outcrops of sandstone, slate, and coal.
Botanical significance. Important area for conservation of the steppe vegetation.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 930 ha; trend: stable; area data quality: good; trend data quality: medium.

Conservation proposals. Create a state botanical reserve including the entire IPA.
Literature

1. Перегрим М.М. Флора та рослинність проектованого заповідного урочища “Добрянські гори” (Луганська область) // Теоретичні та прикладні аспекти інтродукції рослин і зеленого будівництва: Матеріали II Міжнародної наукової конференції молодих дослідників. – Київ: Фітосоціоцентр, 2002 – С. 65–66.

Dolyna Inhulu

V.A. Onyshchenko

Ukrainian name: Долина Інгулу.
Transliteration/Translation variants: Ingul Valley, Ingul River Valley**.**
Area: 1243.0 ha.
Altitude: 39–81 m.
Latitude: 47°46’24” N (47.7734°).
Longitude: 32°22’42” E (32.3782°).
Administrative regions. Kirovohrad region: Ustynivka raion; Mykolaiv region: Novyi Buh raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 19.6%; D – 0.2%; E – 74.2%; F – 1.0%; G – 4.0%; H – 1.0% .
Habitats. Level 2. C1 Surface standing waters – 19.0%; C2 Surface running waters – 0.5%; C3 Littoral zone of inland surface waterbodies – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.2%; E1 Dry grasslands – 71.0%; E2 Mesic grasslands – 3.0%; E3 Seasonally wet and wet grasslands – 0.2%; F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 4.0%; H2 Screes – 0.0; H3 Inland cliffs, rock pavements and outcrops – 0.4%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.6%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.3 Permanent eutrophic lakes, ponds and pools; C2.2 Permanent non-tidal, fast, turbulent watercourses; C2.3 Permanent non-tidal, smooth-flowing watercourses; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.C Highly artificial broadleaved deciduous forestry plantations; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – major; forestry – minor; nature conservation and research – major; water management – minor.
Protected areas: overlaps with Pryinhulskyi regional landscape park (1031 ha) and Emerald Site “Pryinhulskyi Regional Landscape Park “ (1031 ha), overlaps with regional hydrological reserve “Sofiivske Vodoskhovyshche” (174 ha); includes state zoological reserve “Polozova Balka” (27 ha), regional botanical reserve “Pelaheivskyi” (123.5 ha).
Threats: agricultural intensification/expansion (grazing) – low; forestry (afforestation) – low.
General description. The Inhul valley with steppe vegetation and silicate outcrops. The steppe vegetation is dominated by *Botriochloa ischaemum*, *Bromopsis inermis*, *Caragana frutex*, *Elytrigia intermedia*, *Elytrigia repens, Carex praecox*, *Festuca valesiaca*, *Galatella villosa*, *Poa angustifolia*, *Poa bulbosa* (in areas with intensive grazing), *Spiraea hypericifolia*, *Stipa capillata*, *Stipa lessingiana*, *Stipa pennata*, sometimes *Stipa dasyphylla*, *Stipa tirsa*. The most frequent species are *Eryngium campestre*, *Euphorbia seguierana*, *Festuca valesiaca*, *Koeleria cristata*, *Medicago falcata*, *Potentilla impolita*, *Teucrium chamaedrys*. Petrophytic steppes differ with presence of *Achillea ochroleuca*, *Ceratodon purpureus*, *Eremogone biebersteinii*, *Erophila verna*, *Minuartia setacea*, *Potentilla incana*, *Pulsatilla pratensis*, *Sedum acre*, *Sedum pallasii*, *Tortula ruralis*, *Stipa graniticola*, meadow steppes – with *Caragana frutex*, *Filipendula vulgaris*, *Fragaria viridis*, *Galium verum*, *Spiraea hypericifolia*, *Thalictrum minus*, true steppes - with *Herniaria besseri*, *Marrubium praecox*, *Phlomis pungens*, *Stipa lessingiana*, *Teucrium polium*. Differential species of overgrazed steppes are *Anthemis ruthenica*, *Chenopodium album*, *Grindelia squarrosa* (invasive), *Poa bulbosa*, *Salvia aethiopis*, *Sisymbrium altissimum*. In mesic grasslands, there prevail *Calamagrostis epigeios*, *Elytrigia repens*, *Poa angustifolia*, *Poa pratensis*. The shrub vegetation is represented mainly by communities of *Acer tataricum* and *Prunus spinosa* s.l.

Botanical significance. Important for conservation of steppe vegetation, silicious outcrops, endemic petrophytic species.

Criterion A

- *Dianthus hypanicus* Andrz.; A(i), A(ii), A(iii), abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Tulipa hypanica* Klokov et Zoz; A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- E1.11 Euro-siberian pioneer rock debris swards; area: 2 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 900 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 3 ha; trend: stable; area data quality: medium; trend data quality: medium.
- H3.1 Acid siliceous inland cliffs; area: 4 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Винокуров Д.С. Синтаксономія ксеротермної рослинності р. Інгул (клас Festuco-Broetea). Частина І. Петрофітно-степова рослинність. до флори Правобережного степу України // Укр. бот. журн. – 2014. – 71, № 2. – С. 148–160.
2. Винокуров Д.С. Синтаксономія ксеротермної рослинності долини р. Інгул (клас Festuco-Brometea). Частина 2. Лучно-степова, чагарниково-степова, справжньостепова рослинність // Укр. бот. журн. – 2014. – 71, № 5. – С. 538–549.
3. Винокуров Д. Созофіти долини р. Інгул і завдання їх охорони // Вісник Львівського університету. Сер. Біологічна. – 2014. – 65. – С. 135–150.
4. Винокуров Д.С. Синтаксономія вищої водної рослинності долини р. Інгул // Чорноморський бот. журн. – 2011. – 7, № 1. – С. 26–40.
5. Винокуров Д.С. Ключові території Інгульського регіонального екокоридору: характеристика, зв'язки, оптимізація // Чорноморський бот. журн. – 2011. – 7, № 4. – С. 329–346.
6. Екомережа степової зони України: принципи створення, структура, елементи / під ред. Д.В. Дубини і Я.І. Мовчана. – К., 2013. – 409 с.

Dolyna Mertvovodu

V.A. Onyshchenko

Ukrainian name: Долина Мертвоводу.
Transliteration/Translation variants: Mertvovod Valley, Mertvovod River Valley.
Area: 1571.0 ha.
Altitude: 23–100 m.
Latitude: 47°42’47” N (47.7130°).
Longitude: 31°27’21” E (31.4557°).
Administrative regions. Mykolaiv region: Arbuzynka raion, Bratske raion, Voznesensk raion.
Ownership: state, unknown.
Biogeographic regions: steppic.
Habitats. Level 1. C – 2.1%; D – 0.6%; E – 61.5%; F – 2.0%; G – 30.6%; H – 3.2% , J – 0.0%.
Habitats. Level 2. C1 Surface standing waters – 0.9%; C2 Surface running waters – 0.4%; C3 Littoral zone of inland surface waterbodies – 0.8%; D5 Sedge and reedbeds, normally without free-standing water – 0.6%; E1 Dry grasslands – 61.2%; E2 Mesic grasslands – 0.3%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 30.6%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 2.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2% .
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.3 Permanent eutrophic lakes, ponds and pools; C2.2 Permanent non-tidal, fast, turbulent watercourses; C2.3 Permanent non-tidal, smooth-flowing watercourses; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H3.1 Acid silicious inland cliffs.
Land use: agriculture (animals) – major; forestry – 20%; nature conservation and research

– 100%.
Protected areas: included in Buzkyi Hard National Nature Park and Emerald Site “Bugzkyi Gard National Nature Park”.
Threats: development (recreation/tourism) – low; forestry (afforestation) – medium; habitat fragmentation/isolation – low.
General description. The Mertvovod valley with high (10–60 m) steep slopes and ganite cliffs. Large areas are covered by the steppe vegetation, natural *Quercus robur* termophilous woods, artificial *Quercus robur*, *Robinia pseudoacacia* woods, steppic and floodplain scrub. Natural deciduous termophilous woods. Dominants: *Quercus robur* (major), *Acer campestre*, *Fraxinus excelsior*, *Tilia cordata*, *Ulmus minor*; *Acer tataricum*, *Cotinus coggygria*, *Crataegus*

fallacina, *Euonymus europaeus*, *Eunymus verrucosus*, *Swida sanguinea* (Cornus sanguinea). Typical species: *Malus sylvestris*, *Pyrus communis*; *Chelidonium major*, *Galium aparine*, *Geum urbanum*, *Urtica dioica*.
Shrubs. Dominant: *Crataegus praearmata*, *Spiraea crenata*, *Prunus stepposa*.
Dry grasslands (steppes). Dominants: *Stipa capillata*, *Stipa lessingiana*, *Festuca valesiaca*, *Botriochloa ischaemum*
Silicious outcrops and screes. Typical species: *Achillea ochroleuca*, *Alyssum murale*, *Aurinia saxatilis*, *Rumex fascilobus*, *Sedum acre*, *Sedum borissovae*, *Sempervivum ruthenicum*, *Thymus dimorphus*.
Botanical significance. Important for conservation of silicious outcrops with endemic species (*Dianthus hypanicus* Andrz., *Moehringia hypanica* Grynj et Klokov, *Sedum borissovae* Balk., *Silene sytnikii* Krytzka, Novosad et Protopopova, *Tulipa hypanica* Klokov et Zoz), termophilous oak woods and steppic scrub.
Criterion A
- *Delphinium sergii* Wissjul.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Dianthus hypanicus* Andrz.; A(i), A(ii), A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Moehringia hypanica* Grynj et Klokov; A(i); abundance: rare (one locality); trend: decreasing; species data quality: good; trend data quality: medium.
- *Silene sytnikii* Krytzka, Novosad et Protopopova; A(iii); abundance: occasional; trend: stable; species data quality: good; trend data quality: medium.

Criterion C
- E1.11 Euro-siberian pioneer rock debris swards; area: 1 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 970 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 15 ha; trend: stable; area data quality: poor; trend data quality: poor.
- H3.1 Acid siliceous inland cliffs; area: 45 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Гревцова Г.Т. Кизильники гранітно-степового Побужжя // Збірник наукових праць Полтавського пед. ун-ту. – 2003. – Вип.4 (31). – С. 54–61.
2. Драбинюк Г.В. НПП Бузький Гард // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 49–60.
3. Новосад В.В., Крицкая Л.И., Протопопова В.В. Новий для науки ендемічний вид Гранітно-степового Побужжя смілка Ситника (*Silene sytnikii* Krytzka, Novosad et Protopopova), його таксономічні, еколого-ценотичні, хорологічні, генезисні та созологічні особливості // Укр. бот. журн. – 1996. – 53, № 5. – С. 578–585.
4. Партика Л.Я., Вірченко В.М., Нипорко С.О. До бріофлори регіонального ландшафтного парку "Гранітно-степове Побужжя" // Чорномор. ботан. журн. – 2006. – 2, № 1. – С. 116–122.
5. Соломаха В.А., Драбинюк Г.В., Вініченко Т.С., Мойсієнко І.І., Деркач О.М. Адаптивні особливості південнобузьких ендемів *Dianthus hypanicus* Andrz. та *Moehringia hypanica* Grynj et Klok. // Укр. фітоцен. зб. – Сер. С. – 2006. – Вип. 24. – С. 70–86.
6. Соломаха В.А., Соломаха Т.Д., Драбинюк Г.В., Мойсієнко І.І. Знахідка *Asplenium* x *alternifolium* Wulfen у степовій зоні України // Укр. бот. журн. – 2006. – 63, № 9. – С. 515–517.
7. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
8. Щербакова О.Ф., Новосад В.В., Крицька Л.І. Раритетний флорофонд Кодимо-Єланецького Побужжя (ЧКУ, 2009): популяційні та флоросозологічні аспекти. Рослинний світ у Червоній книзі України: впровадження Глобальної стратегії збереження рослин. Мат-ли міжнар. конф. (11–15 жовтня 2010 р., м.Київ). – Київ: Альтерпрес, 2010. – С. 210–214.

Dolyna Nartsysiv

V.A. Onyshchenko

Ukrainian name: Долина Нарцисів.
Transliteration/Translation variants: Narcissus Valley.
Area: 257.6 ha.
Altitude: 169–180 m.
Latitude: 48°10'57" N (48.1823°).
Longitude: 23°21'28" E (23.3575°).
Administrative regions. Zakarpatska region: Khust raion.
Ownership: state.
Biogeographic regions: pannonian.
Habitats. Level 1. C – 0.4%; D – 12.0%; E – 79.3%; F – 6.0%; G – 2.0%; J – 0.3%.
Habitats. Level 2. C2 Surface running waters – 0.4%; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D2 Valley mires, poor fens and transition mires – 9.0%; D5 Sedge and reedbeds, normally without free-standing water – 3.0%; E1 Dry grasslands – 4.0%; E2 Mesic grasslands – 27.0%; E3 Seasonally wet and wet grasslands – 48.0%; E5 Woodland fringes and clearings and tall forb stands – 0.3%; F3 Temperate and mediterranean-montane scrub – 0.2%; F9 Riverine and fen scrubs – 5.8%; G1 Broadleaved deciduous woodland – 2.0%; J4 Transport networks and other constructed hard-surfaced areas – 0.3%.
Futher habitat description. C2.3 Permanent non-tidal, smooth-flowing watercourses; D5.1 Reedbeds normally without free-standing water; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E3.5 Moist or wet oligotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F3.1 Temperate thickets and scrub; F9.1 Riverine scrub; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; J4.2 Road networks.
Land use: mowing/hay making – major, nature conservation and research – major, tourism/recreation – minor.
Protected areas: included in Karpatskyi (Carpathian) biosphere reserve (national category), included in Carpathian biosphere reserve (UNESCO), included in Emerald Site "Carpathian Biosphere Reserve ".
Threats: –.
General description. Floodplain of the river Khustets. The main vegetation type is

meadows dominated by *Molinia caerulea*, *Deschampsia cespitosa*, *Narcissus angustifolius*, *Anthoxanthum odotatum*, *Festuca ovina*, *Festuca rubra*, *Agrostis capillaris*, with presence of *Betonica officinalis*, *Centaurea jacea*, *Filipendula vulgaris*, *Poa pratensis*, *Potentilla erecta*, *Ranunculus acris*, *Ranunculus repens*, *Sanguisorba officinalis*, *Leucanthemum vulgare*. Besides there are communnities of *Phragmites australis*, *Iris pseudacorus*, *Juncus effusus*. Along watercourses, there prevail *Salix alba*, *Salix capraea*, *Salix cinerea*, *Salix viminalis*.

Botanical significance. The area includes the largest population of *Narcissus angustifolius* in Ukraine. *Narcissus angustifolius* dominates in the area of 30 ha.

Criterion A

- *Narcissus angustifolius* Curtis; A(ii); abundance: abundant; trend: stable; species data quality: good; trend data quality: medium.

Literature

1.Біорізноманіття Карпатського біосферного заповідника / Кол. авт., Ред. рада: Я.І. Мовчан, Ф.Д. Гамор та ін. – К.: Інтерекоцентр, 1997. – 711 с.

2.Стойко С.М., Тасенкевич Л.О., Мілкіна Л.І. та ін. Флора і рослинність Карпатського заповідника. – Київ : Наукова думка, 1982 . – 219 с.

3.Устименко П.М., Дубина Д.В., Гамор Ф.Д. Рослинність заповідного масиву "Долина Нарцисів": сучасний стан та динамічні тенденції // Укр. бот. журн. – 2007. – 64, № 2. – С. 195–205.

Dubovetski Skhyly

I.M. Danylyk

Ukrainian name: Дубовецькі схили.
Transliteration/Translation variants: Dubovetski Slopes.
Area: 4.4 ha.
Altitude: 265–315 m.
Latitude: 49°05'07" N (49.0854°).
Longitude: 24°48'37" E (24.8103°).
Subnational regions. Ivano-Frankivsk region: Halych raion.
Ownership: state.

Biogeographic regions: continental.
Habitats. Level 1. E – 86.0%; F – 10.0%; G – 4.0%.
Habitats. Level 2. E1 Dry grasslands –81.0%; E7 Sparsely wooded grasslands – 5.0%; F3 Temperate and mediterranean-montane scrub – 10.0%; G1 Broadleaved deciduous woodland – 4.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.1

Temperate thickets and scrub.
Land use: mowing/hay making (major), forestry – minor.
Protected areas: same as proposed state botanical reserve “Ofrys”
Threats: abandonment/reduction of land management – high, forestry (afforestation) – low.
General description. Semi-dry grasslands, natural deciduous woods and shrubs (*Frangula alnus*, *Prunus spinosa*, *Crataegus* spp.). Grasslands are dominated by *Inula ensifolia*, *Carex humilis*, *Peucedanum cervaria*, *Brachypodium pinnatum*. Other frequent species: *Geranium sanguineum*, *Salvia pratensis*, *Filipendula vulgaris*, *Carex montana*, *Stachis recta*, *Trifolium medium*, *Cirsium pannonicum*, *Eryngium planum*, *Prunella grandiflora*, *Thalictrum minus*, *Agrimonia eupatoria*, *Asperula cynanchica*, *Campanula sibirica*, *Teucrium chamaedrys*.
Botanical significance. The only population of *Ophrys apifera* in Ukraine outside the Crimea.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes (6210, *Important orchid site); area: 3.5 ha; trend: decreasing; area data quality: good; trend data quality: good. Size of population of *Ophrys apifera*: 30–100 individuals.

Conservation proposals. Do not allow expansion of trees and shrubs, mow grasslands, non-intensive grazing. Create a state botanical reserve. Include in Halytskyi national nature park and Emerald Site “Halytskyi National Nature Park”.
Literature

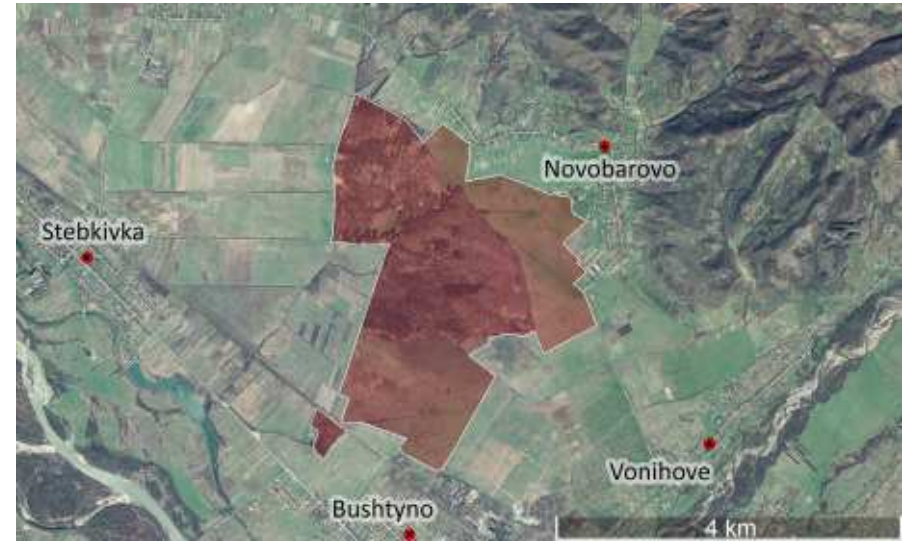
1. Данилик І.М., Борсукевич Л.М. Нове місцезнаходження *Ophrys apifera* Huds. (*Orchidaceae*) в Україні // Укр. ботан. журн. – 2011. – 68, № 1. – С. 58-64.
2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 912 с.

Dubrova

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Дуброва.
Area: 762.0 ha.
Altitude: 202–219 m.
Latitude: 48°05’13” N (48.0869°).
Longitude: 23°28’48” E (23.4800°).
Administrative regions. Zakarpatska region: Tiachiv raion.
Ownership: state, private (minor).
Biogeographic regions: pannonian.
Habitats. Level 1. C – 0.1%; D – 1.0%; E – 51.3%; G – 47.1%; H – 0.5%.
Habitats. Level 2. C2 Surface running waters – 0.1%, D2 – Valley mires, poor fens and transition mires – 0.0%; D5 Sedge and reedbeds, normally without free-standing water – 1.0%; E3 Seasonally wet and wet grasslands – 51.3%; G1 Broadleaved deciduous woodland – 47.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.
Futher habitat description. D2.3 Transition mires and quaking bogs; D5.2 Beds of large sedges normally without free-standing water; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.7 Thermophilous deciduous woodland; G1.8 Acidophilous *Quercus*-dominated woodland; H5.6 Trampled areas.
Land use: forestry – minor, agriculture (animals) – minor; mowing/hay making – minor.

Protected areas: includes regional preserve (zapovidne urochyshche) “Dubrovy” (10.0 ha), includes regional preserve (zapovidne urochyshche) “Mochar” (8.0 ha), includes proposed regional botanical reserve “Bushtynskyi Park Liodovykovoho Periodu”.
Threats: water (drainage) – medium.
General description. A complex of deciduous forests, swamps and wet meadows. Woods



are represented by moist acidophilous *Quercus robur* forests (with *Agrostis canina*, *Betonica officinalis*, *Betula pubescens*, *Carex brizoides* (dom.), *Crataegus monogyna* s. l., *Deschampsia cespitosa*, *Euonymus europaeus*, *Frangula alnus*, *Molinia caerulea* (dom.), *Malus sylvestris*, *Populus tremula*, *Swida sanguinea* (Cornus sanguinea) and hygrophylous species that are typical of alder swamps), mesic species rich *Quercus robur* forests (with *Anemone nemorosa*, *Anemone ranunculoides*, *Carex curvata*, *Clematis recta*, *Corylus avellana*, *Frangula alnus*, *Fraxinus excelsior*, *Lathyrus niger*, *Malus sylvestris*, *Melica uniflora*, *Populus nigra*, *Potentilla alba*, *Prunus spinosa*, *Polygonatum multiflorum*, *Pulmonaria officinalis*, *Ranunculus polyanthemos*, *Serratula tinctoria*, *Vicia cassubica*, *Vinca minor* and less often *Crocus banaticus*, *Pilosella aurantiaca* (*Hieracium aurantiacum*), *Muscari transsilvanicum*, *Phyteuma vagneri*, *Rosa gallica*, *Veratrum album*), wet *Alnus glutinosa* woods (with *Carex elongata*, *Carex riparia*, *Carex vesicaria*, *Galium palustre*, *Glyceria maxima*, *Iris pseudacorus*, *Lycopus europaeus*, *Lythrum salicaria*, *Rubus caesius*, *Salix cinerea*, *Solanum dulcamara*, *Stachys palustris*). Former fens and bogs are replaced by *Molinia caerulea* abandoned pastures (predominantly) and *Alopecurus pratensis* hay meadows.
Botanical significance. The area is important for conservation of termophilous oak forests and hygrophilous deciduous forests.
Criterion C

- E3.5 Moist or wet oligotrophic grassland; area: 350 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.21 Riverine *Fraxinus* – *Alnus* woodland (*91E0), wet at high but not at low water; area: 100 ha; trend: stable; area data quality: medium; trend data quality: medium.

- G1.7 Thermophilous deciduous woodland (*91I0); area: 50 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Raise the groundwater table. Create a botanical reserve and an Emerald Site.

Dunaiski Plavni

V.A. Onyshchenko

Ukrainian name: Дунайські плавні.
Transliteration/Translation variants: Danube Wetlands.
Area: 43601.0 ha.
Altitude: 0–13 m.
Latitude: 45°23’40” N (45.3945°).
Longitude: 29°41’00” E (29.6833°).
Administrative regions. Odesa region: Kiliya raion; Territorial waters of Ukraine .
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 11.2%; C – 10.7%; D – 71.1%; E – 5.0%; F – 0.4%; G – 1.6%.
Habitats. Level 2. A2 Littoral sediment – 0.1%; A5 Sublittoral sediment – 11.1%; C1 Surface standing waters – 3.6%; C2 Surface running waters – 2.3%; C3 Littoral zone of inland surface waterbodies – 4.8%; D5 Sedge and reedbeds, normally without free-standing water – 70.9%; D6 Inland saline and brackish marshes and reedbeds – 0.2%; E1 Dry grasslands – 0.2%; E3 Seasonally wet and wet grasslands – 1.5%; E6 Inland salt steppes – 3.3%; F9 Riverine and fen scrubs – 0.4%; G1 Broadleaved deciduous woodland – 0.4% G3 Coniferous woodland – 1.2%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; D6.1 Inland saltmarshes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E3.4 Moist or wet eutrophic and mesotrophic grassland; E6.2 Continental inland salt steppes; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations.
Land use: fisheries/aquaculture – minor; forestry – 2%; nature conservation and research – 76%; mowing/hay making – minor; urban/industrial/transport – 1%.
Protected areas: overlaps (about 35747 ha) with Danube Delta transboundary biosphere reserve and Emerald Site “Danube Biosphere Reserve” (about 35747 ha).
Threats: forestry (afforestation) – medium.
General description. The Ukrainian part of the Danube delta. It includes branches of the river, large reed marsches, lakes, meadows, halophytic vegetation, 1 km strip of the Black Sea, a sand ridge with pine plantations and dry sand grasslands. The dominant vegetation type is freshwater marshes. The main dominant is *Phragmites australis* (a frequent co-dominant is *Schoenoplectus lacustris*), other important dominants are *Typha angustifolia*, *Carex acutiformis*, *Carex elata*, *Carex pseudocyperus*. Freshwater aquatic vegetation is usually dominanted by *Ceratophyllum demersum*, *Hydrocharis morsus-ranae*, *Lemna minor*, *Lemna trisulca*, *Myriophyllum verticillatum*, *Myriophllum spicatum*, *Potamogeton pectinatus* (*Stuckenia pectinata*), *Salvinia natans*, *Spirodela polyrrhiza*, *Trapa natans*. In brackish water

in the sea and lagoons, *Zostera marina*, *Zostera noltii* (*Nanozostera noltii*), *Ruppia maritima* predominate. Halophytic vegetation is represented by communities of annuals *Salicornia perennans*, *Suaeda prostrara*, *Halimione pedunculata* and perennials *Aeluropus littoralis*, *Bolboschoenus maritimus*, *Carex distans*, *Carex extensa*, *Juncus gerardii*, *Juncus maritimus*, *Puccinellia gigantea*. Broadleaved forests are represented mainly by riverine *Salix alba* woods, both natural and artificial. On the largest area of dry sands (about 640 ha), there are plantations of *Pinus pallasiana* and grasslands dominated by *Calamagrostis epigeios* and *Carex colchica*. On the sea beach sand ridges, dominants are *Artemisia arenaria*, *Leymus sabulosus*, *Secale sylvestre*. Psammophytic communities contain a narrow endemic species, *Dianthus bessarabicus*.

Botanical significance. This area is richest in aquatic vascular plant species in Ukraine.

Criterion A

- *Aldrovanda vesiculosa* L.; A(i), A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Carex secalina* Wahlenb.; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Dianthus bessarabicus* Klokov; A(iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.
- *Salvinia natans* (L.) All.; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.
- *Trapa natans* L.; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: medium.
- *Typha minima* Funk; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- C1.224 Floating *Utricularia australis* and *Utricularia vulgaris* colonies; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.225 Floating *Salvinia natans* mats; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.226 Floating *Aldrovanda vesiculosa* communities; area: 0.1 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C1.3411 *Ranunculus* communities in shallow water; area: 1 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C2.34 Eutrophic vegetation of slow-flowing rivers; area: 50 ha; trend: stable; area data quality: poor; trend data quality: medium.
- D5.2 Beds of large sedges normally without free-standing water; area: 400 ha; trend: unknown; area data quality: good; trend data quality: poor.
- E6.2 Continental inland salt steppes; area: 1400 ha; trend: stable; area data quality: poor; trend data quality: poor.

Conservation proposals. Restore sand grasslands on the areas occupied by *Pinus* plantations.

Literature

1. Біорізноманітність Дунайського біосферного заповідника, збереження та управління / Гол. ред. Ю.Р. Шеляг-Сосонко. – К.: Інтерекоцентр, 1999. – 702 с.
2. Дворецький Т.В. Вплив викошування на рослинність засолених луків Дунайського біосферного заповідника (ДБЗ) // Укр. фітоцен. зб. – К., 1999. – Сер. С, вип. 1 (15). – С. 68–78.
3. Дубина Д.В., Жмуд О.І. БЗ Дунайський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 31–44.
4. Дубына Д.В., Шеляг-Сосонко Ю.Р. Плавни Причерноморья. – К.: Наук. думка, 1989. – 272 с.
5. Дубина Д.В., Шеляг-Сосонко Ю.Р., Жмуд О.І., Жмуд М.Є., Дворецький Т.В., Дзюба Т.П., Тимошенко П.А. Дунайський біосферний заповідник. Рослинний світ. – К.: Фітосоціоцентр, 2003. – 459 с.
6. Зеров К.К. Водная растительность Килийской дельты Дуная // Дунай и придунайские водоемы в пределах СССР. – Тр. Ин-та гидробиологии АН УССР. – 36. – С. 37–48.
7. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
8. Шеляг-Сосонко Ю.Р., Дубына Д.В. Государственный заповедник “Дунайские плавни”. – К.: Наук. думка, 1984. – 286 с.

Dzharylhach

V.A. Onyshchenko, V.P. Kolomiychuk

Ukrainian name: Джарилгач.
Area: 10555.0 ha.
Altitude: 0–3 m.
Latitude: 46°02’09” N (46.0358°).
Longitude: 32°52’48” E (32.8800°).
Administrative regions. Kherson region: Skadovsk raion; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 63.0%; B – 0.8%; C – 1.0%; E – 34.5%; G – 0.4%; H – 0.3%.

Habitats. Level 2. A2 Littoral sediment – 20.0%; A5 Sublittoral sediment – 43.0%; B1 Coastal dunes and sandy shores – 0.6%; B2 Coastal shingle – 0.2%; C1 Surface standing waters – 1.0%; E1 Dry grasslands – 31.5%; E2 Mesic grasslands – 1.0%; E6 – Inland salt steppes – 2.0%; G1 Broadleaved deciduous woodland – 0.4%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.3%.

Futher habitat description. A2.5 Coastal saltmarshes and saline reedbeds; A5.2 Sublittoral sand; A5.4 Sublittoral mixed sediments; A5.5 Sublittoral macrophyte-dominated sediment; B1.1 Sand beach driftlines; B1.2 Sand beaches above the driftline; B1.3 Shifting coastal dunes; B1.4 Coastal stable dune grassland (grey dunes); B1.8 Moist and wet dune slacks; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; C1.5 Permanent inland saline and brackish lakes, ponds and pools; D6.2 Inland saline or

brackish species-poor helophyte beds normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E6.2 Continental inland salt steppes; G1.C Highly artificial broadleaved deciduous forestry plantations; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.

Land use: nature conservation and research – 95%; forestry – minor, tourism/recreation – minor.

Protected areas: includes Dzharylhatskyi National Nature Park (10000 ha) and Emerald Site "Dzharylhatskyi National Nature Park" (10000 ha), included in Ramsar Site "Karkinitska and Dzharylgatska Bays".

Threats: climate change/sea level rise – low, forestry (afforestation) – medium, natural events (spit erosion) – low.

General description. The IPA includes Dzharylhach accumulative island with adjacent areas of the Black Sea. The island is composed of sand and shells. Its southern bank is steeper, with low dunes (1–2 m). The nothern bank is very low, with numerous lagoons. A large part of the island is occupied by dry grasslands in complex with saltmarshes and saline lakes.

Aquatic vegetation. Dominants: *Zostera noltii* (*Nanozostera noltii*), *Zostera marina*, *Ruppia cirrhoza*, *Zannichellia palustris*, *Zannicelia pedunculata*, *Potamogeton pectinatus* (*Stuckenia pectinata*).

Tall helophytes communities. Dominants: *Phragmites australis*, *Cladium mariscus*.

Sand beach driftline vegetation. Dominants: *Cakile maritima*, *Euphorbia peplis*, *Salsola soda* (*Soda inermis*), *Polygonum maritimum*.

Sand dunes vegetation. Dominants: *Leymus sabulosus*, *Crambe pontica*. Typical species: *Argusia sibirica*, *Artemisia arenaria*, *Asperula graveolens*, *Carex colchica*, *Centaurea majorovii*, *Centaurea odessana*, *Cynanchum acutum*, *Eryngium maritimum*, *Euphorbia seguierana*, *Lactuca tatarica*, *Polygonum mesembricum*, *Secale sylvestre*.

Halophytic vegetation. Dominants: *Aeluropus littoralis*, *Bolbochoenus maritimus*, *Elytrigia elongata*, *Juncus gerardii*, *Juncus maritimus*, *Limonium caspium*, *Limonium meyeri*, *Puccinellia distans*, *Puccinellia fominii*, *Salicornia perennans*, *Suaeda prostrata*.

Dry grasslands on sands and shells. Dominants: *Carex colchica*, *Carex praecox*, *Centaurea majorovii*, *Cynodon dactylon*, *Ephedra distachya*, *Euphorbia seguierana*, *Festuca beckeri*, *Festuca valesiaca*, *Poa angustifolia*, *Poa bulbosa*, *Secale sylvestre*, *Stipa borysthenica*, *Stipa capillata*. Typical species: *Artemisia arenaria*, *Asperula setulosa*, *Centaurea odessana*.

Mesic grasslands. Dominants: *Calamagrosts epigeios*, *Elytrigia repens*, *Festuca pratensis*, *Poa pratensis*.

Botanical significance. Important area for conservation of sand grasslands, littoral vegetation, mesic and wet halophytic vegetation, vegetation of salt waters.

Criterion C

- A2.5 Coastal saltmarshes and saline reedbeds; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- A5 Sublittoral sediment; area: 4500 ha; trend: stable; area data quality: good; trend data quality: good.
- B1.3 Shifting coastal dunes; area: 20 ha; trend: stable; area data quality: medium; trend data quality: medium.
- B1.4 Coastal stable dune grassland (grey dunes); area: 20 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E1.2 Perennial calcareous grassland and basic steppes; area: 1000 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Биоразнообразие Джарылгача: современное состояние и пути сохранения / Котенко Т.И., Ардамацкая Т.Б., Дубына Д.В. и др. / Науч. ред. Т.И. Котенко, Ю.Р. Шеляг-Сосонко. – Вестн. зоологии. – 2000. – Спец. выпуск. – 240 с.

2. Дубина Д.В., Дзюба Т.П., Ємельянова С.М. НПП Джарилгацький // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 230–239.

3. Дубина Д.В., Дзюба Т.П. Фітоценотична різноманітність острова Джарилгач (Херсонська обл.) // Укр. ботан. журн. – 2005. – 62, № 2. – С. 128–142.

4. Дубина Д.В., Тимошенко П.А. Особливості флористичного різноманіття острова Джарилгач // Укр. ботан. журн. – 2004. – 61. № 3. – С. 61–72.

Dzhohul

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Джогуль.

Area: 263 ha.

Altitude: 944–1185 m.

Latitude: 47°48'35" N (47.8096°).

Longitude: 25°06'14" E (25.1038°).

Administrative regions. Chernivtsi region: Putyla raion.

Ownership: state (major), private.

Biogeographic regions: alpine.

Habitats. Level 1: C – 0.1%, E – 74.4%, G – 25.0%, H – 0.5%.

Habitats. Level 2: C2 Surface running waters – 0.1%, E1 Dry grasslands – 29.0%; E2 Mesic grasslands – 41.4%, E3 Seasonally wet and wet grasslands – 1.0%; E7 Sparsely wooded grasslands – 3.0%; G1 Broadleaved deciduous woodland – 10.0%; G3 Coniferous woodland – 15.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.

Futher habitat description: C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland; E2.1 Permanent mesotrophic pastures and aftermath-grazed meadows; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; H5.6 Trampled areas.

Land use: agriculture (animals) – minor; forestry – minor; mowing/hay making – major.

Protected areas: –.

Threats: abandonment/reduction of land management – medium; agricultural intensification/expansion (grazing) – low.

General description. A complex of grasslands with small *Picea abies* woods, *Fagus sylvatica* woods and sparse trees. Grasslands are dominated by *Helictotrichon praeustum*, *Agrostis tenuis*, *Anthoxanthum odoratum*, *Luzula luzuloides*, *Sieglingia decumbens*, *Lerchenfeldia flexuosa* with some presence of *Arnica montana*, *Astrantia major*, *Botrychium lunaria*, *Campanula serrata*, *Arabidopsis arenosa* (*Cardaminopsis arenosa*), *Carex umbrosa*, *Carlina acaulis*, *Coeloglossum viride*, *Dianthus compactus*, *Euphorbia carniolica*, *Festuca pratensis*, *Gentiana asclepiadea*, *Gymnadenia conopsea*, *Hypochaeris uniflora* (*Achyrophorus uniflorus*), *Leucorchis albida*, *Lilium martagon*, *Listera ovata* (*Neottia ovata*), *Luzula*

multiflora, *Melampyrum saxosum*, *Potentilla aurea*, *Potentilla erecta*, *Pyrethrum clusii*, *Scorzonera rosea*, *Soldanella montana*, *Thesium alpinum*, *Thymus pulegioides*, *Traunsteinera globosa*, *Trifolium montanum*, *Trollius europaeus*, *Vaccinium myrtillus*, *Vaccinium vitis-idaea*, *Viola declinata.*

Botanical significance. The area includes about 5% of national population of narrow endemic species *Nigritella carpatica* (*Gymnadenia carpatica*). Another Criterion A species *Campanula serrata* is frequent here. A good example of species rich mountain meadows with significant constancies of several *Orchidaceae* species.

Criterion A

- *Nigritella carpatica* (Zapał.) Teppner, Klein et Zagulski (*Gymnadenia carpatica* (Zapał.) Teppner et Klein); A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Campanula serrata* (Kit. ex Schult.) Hendrych; A(ii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Maintain mowing of the meadows. Create a state botanical reserve and an Emerald Site.

Literature

1. Teppner H., Klein E., Drescher A., Zahulskij M. *Nigritella carpatica* (*Orchidaceae*) – ein Reliktendemit der Ost-Karpaten // Phyton. Annales rei botanicae. – 1994. – 34, № 2. – P. 169–187.

2. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.

Dziurkach

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Дзюркач.
Area: 25.3 ha.
Altitude: 398–448 m.
Latitude: 48°18’03” N (48.3008°).
Longitude: 25°46’30” E (25.7748°).
Administrative regions. Chernivtsi region: Kitsman raion.
Ownership: state, private.
Biogeographic regions: alpine, continental.
Habitats. Level 1: E – 59.0%, G – 39.5%, H – 1.5%.
Habitats. Level 2: E2 Mesic grasslands – 56.0%; G1 Broadleaved deciduous woodland – 39.5%; E7 Sparsely wooded grasslands – 3.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.5%.

Futher habitat description: E2.2 Low and medium altitude hay meadows; G1.6 *Fagus* woodland; H5.6 Trampled areas.
Land use: forestry – minor; mowing/hay making – major.
Protected areas: included in Chernivetskyi regional landscape park and Emerald Site

"Chernivetskyi regional landscape park".
Threats: –.
General description. Complex of species-rich hay meadows with small areas of broadleaved woods and sparse trees. Meadows are dominated by *Arrhenatherum elatior*, *Anthoxanthum odoratum*, *Brachypodium pinnatum*, *Briza media*, *Dactylis glomerata*, *Cynosurus cristatus*, *Festuca pratensis*, *Festuca rubra*, *Molinia caerulea agg*, *Trisetum flavescens*. Other frequent species: *Adenophora liliifolia*, *Centaurea jacea*, *Crepis sibirica*, *Ferulago sylvatica*, *Filipendula vulgaris*, *Galium verum*, *Laserpitium latifolium*, *Leucanthemum vulgare*, *Pedicularis exaltata*, *Peucedanum oreoselinum*, *Pteridium aquilinum*, *Pyrethrum corymbosum*, *Serratula tinctoria*, *Trifolium montanum*, *Trifolium pannonicum*, *Veratrum nigrum*.
Botanical significance. Important area for *Adenophora liliifolia*. Extreme species rich grassland.
Criterion A

- *Adenophora liliifolia*; A(ii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Literature

1. Roleček J., Čornej I.I., Tokarjuk A.I. Understanding the extreme species richness of semi-dry grasslands in east-central Europe: a comparative approach // Preslia. – 2014. – 86: 1–XX. – P. 13–34.

Gorgany

V.A. Onyshchenko

Ukrainian name: Горгани.
Transliteration/Translation variants: Horhany mountains.
Area: 9217.0 ha.
Altitude: 690–1755 m.
Latitude: 48°24'11" N (48.4030°).
Longitude: 24°25'03" E (24.4176°).
Administrative regions. Ivano-Frankivsk region: Nadvirna raion, Yaremche city.
Ownership: state (major), private.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.2%; E – 1.3%; F – 5.3%; G – 89.7%; H – 3.5%.
Habitats. Level 2. C2 Surface running waters – 0.2%; E1 Dry grasslands – 0.4%; E2 Mesic grasslands – 0.3%; E4 Alpine and subalpine grasslands stands – 0.5%; E5 Woodland fringes and clearings and tall forb stands – 0.1%; F2 Arctic, alpine and subalpine scrub – 5.3%; G1 Broadleaved deciduous woodland – 2.0%; G3 Coniferous woodland – 62.7%; G4 Mixed deciduous and coniferous woodland – 25.0%; H2 Screes – 3.3%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E4.2 Moss and lichen dominated mountain summits, ridges and exposed slopes; E4.3 Acid alpine and subalpine grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2

Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies – Picea – Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.
Land use: forestry – minor, mowing/hay making – minor, nature conservation and research – major.
Protected areas: includes Gorgany nature reserve (5344.2 ha), overlaps (about 3429 ha) with Karparskyi national nature park, includes Emerald Site "Gorgany Nature Reserve" (5344.2 ha), overlaps (about 3429 ha) with Emerald Site "Carpathian National Nature Park".
Threats: climate change/sea level rise – low, development (recreation/tourism) – low

General description. The major vegetation type is *Picea abies* forest (pure or co-dominated by *Abies alba*, *Pinus cembra* or *Pinus sylvestris*). Dominants of the herb layer are *Calamagrostis villosa*, *Luzula luzuloides*, *Vaccinium myrtillus*. Typical species of the herb layer are *Dryopteris dilatata*, *Homogyne alpina*, *Luzula sylvatica*, *Oxalis acetosella*, *Vaccinium vitis-idaea*. The moss layer is formed by *Polytrichum formosum*, *Pleurozium schreberi*, *Dicranum scoparium*, *Bazzania trilobata*, *Leucobryum juniperoides*. 10–15% of the coniferous forest is the primeval forest. A large area is covered by mixed *Fagus sylvatica – Abies alba – Picea abies* forests. Its herb layer consists of *Anemone nemorosa*, *Dentaria glandulosa*, *Dryopteris filix-mas*, *Euphorbia amygdaloides*, *Galium odoratum*, *Glechoma hirsuta*, *Mercurialis perennis*,

Oxalis acetosella, *Polygonatum verticillatum*, *Senecio ovatus*, *Symphytum cordatum*, *Viola reichenbachiana*. On the mountain tops, there are large areas of unvegetated coarse sandstone screes and *Pinus mugo* thickets. Besides there are communities of *Duschekia alnobetula* (*Alnus alnobetula*) and *Juniperus sibirica*.

Botanical significance. Important area for mountain *Picea abies* forests and Carpathian *Pinus cembra* forests.

Criterion C

- F2.46 (*4070) Carpathian *Pinus mugo* scrub; area: 400 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G3.1B Alpine and Carpathian subalpine *Picea* forests; area: 5800 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G3.25 Carpathian *Larix* and *Pinus cembra* forests; area: 90 ha; trend: decreasing; area data quality: medium; trend data quality: medium.
- H2.3 Temperate-montane acid siliceous screes; area: 300 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1.Берко Й.М. Фітоценотичний нарис смерекових лісів (Piceeta abietis) на Горганах // Укр. ботан. журн. – 1970. – 28, № 5. – С. 608–613.

2.Клімук Ю.В., Міскевич У.Д., Якушенко Д.М., Чорней І.І., Буджак В.В., Нипорко С.О., Шпільчак М.Б., Чернявський М.В., Токарюк А.І. та ін. Природний заповідник “Горгани”. Рослинний світ. – Природно-заповідні території України. Рослинний світ. Вип. 6. – К.: Фітосоціоцентр, 2006. – 400 с.

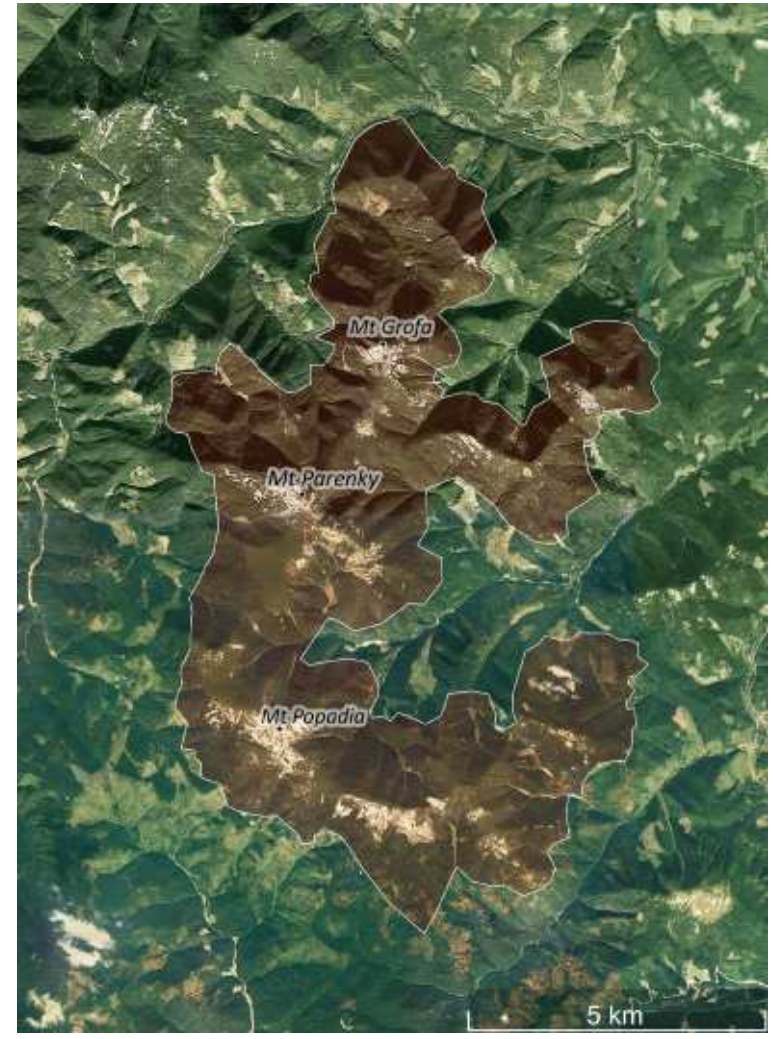
3.Стойко С.М., Третяк П.Р., Бойчук І.І. Сосна кедрова (*Pinus cembra* L.) на верхній межі лісу у Ґорґанах: хорологія, екологія, фенологія // Науковий вісник ДЛГУ: Дослідження, охорона та збагачення біорізноманіття. – Львів: Вид-во ЛДГУ, 1999. – Вип. 99. – С. 173–179.

4.Чорней І.І., Токарюк І.І., Буджак В.В. ПЗ Горгани // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 94–101.

Grofa

V.A. Onyshchenko

Ukrainian name: Грофа.
Transliteration/Translation variants: Hrofa Mount.
Area: 5610.0 ha.
Altitude: 815–1748 m.
Latitude: 48°35’19” N (48.5885°).
Longitude: 23°55’46” E (23.9293°).
Administrative regions. Ivano-Frankivsk region: Rozhniativ raion (major); Zakarpatska region: Tiachiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.1%; E – 0.3%; F – 16.0%; G – 79.3%; H – 4.3%.
Habitats. Level 2. C2 Surface running waters – 0.1%; E1 Dry grasslands – 0.3%; F2 Arctic, alpine and subalpine scrub – 16.0%; G1 Broadleaved deciduous woodland – 0.3%; G3 Coniferous woodland – 78.9%; G4 Mixed deciduous and coniferous woodland – 0.1%; H2 Screes – 4.0%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.



Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.6 *Fagus* woodland; G3.1 *Abies* and

Picea woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – major, tourism/recreation – minor.
Protected areas: overlaps (about 2450 ha) with Grofa state landscape reserve, overlaps (5375 ha) with Emerald Site "Dolynsko-Rozhniatynskyi".
Threats: forestry (intensified forest management) – low.
General description. The major vegetation type is the mountain *Picea abies* forest on acid soil. A part of spruce forests (>500 ha) has some admixture of *Pinus cembra*. Besides there are large areas of *Pinus mugo* scrub and coarse sandtone screes in the subalpine belt.
Botanical significance. Important area for mountain *Picea abies* forests.
Criterion C

- F2.46 (*4070) Carpathian *Pinus mugo* scrub; area: 850 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G3.1B Alpine and Carpathian subalpine *Picea* forests; area: 4450 ha; trend: stable; area data quality: good; trend data quality: poor.

Literature

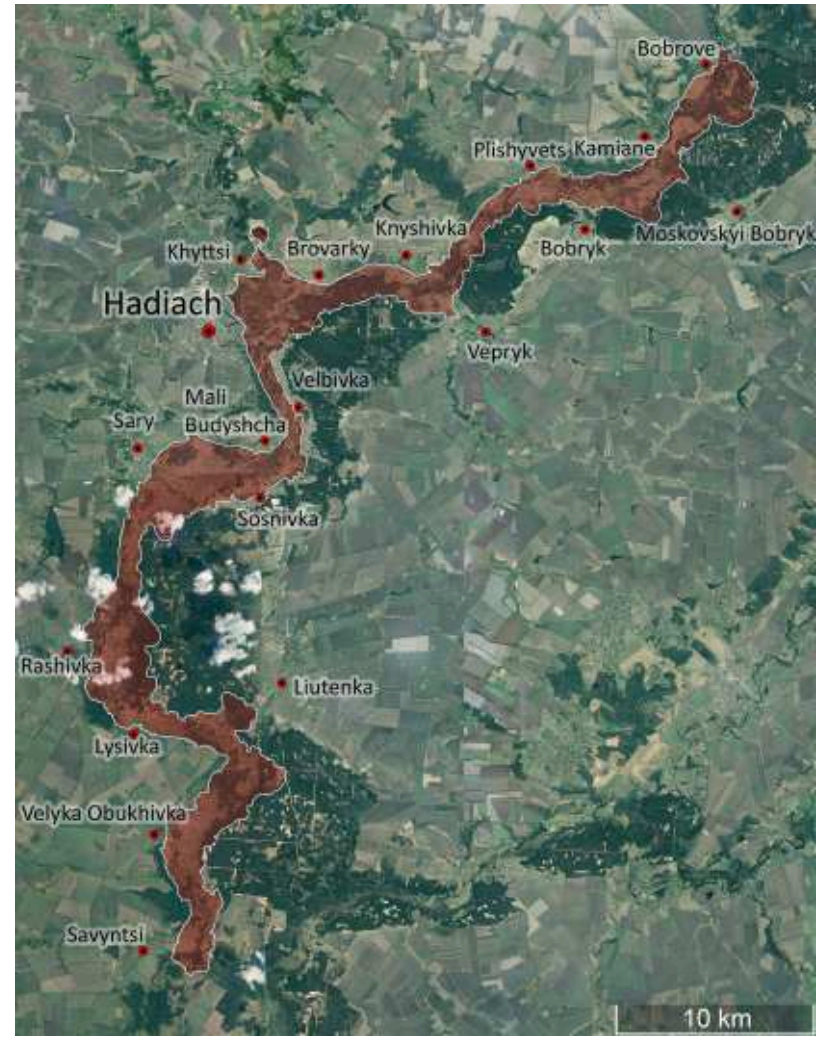
1. Природно-заповідні території та об'єкти Івано-Франківщини. – Івано-Франківськ, 2000. – 272 с.

Hadiatski Luky

N.O. Stetsiuk, V.A. Onyshchenko

Ukrainian name: Гадяцькі луки.
Transliteration/Translation variants: Hadiatski Meadows, Hadiach Meadows, Gadiach Meadows.
Area: 15123 ha.
Altitude: 93–108 m.
Latitude: 50°18'40" N (50.3111°).
Longitude: 34°02'04" E (34.0343°).
Administrative regions. Poltava region: Hadiach raion (major), Myrhorod raion; Sumy region: Lebedyn raion.
Ownership: state (major), private.
Biogeographic regions: continental.
Habitats. Level 1. C – 2.5%; D – 5.0%; E – 65.6%; F – 0.2%; G – 26.7%.
Habitats. Level 2. C1 Surface standing waters – 0.5%; C2 Surface running waters – 1.9%; C3 Littoral zone of inland surface waterbodies – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 5.0%; E1 Dry grasslands – 1.0%; E2 Mesic grasslands – 46.5%; E3 Seasonally wet and wet grasslands – 16.1%; E6 Salt steppes – 2.0%; F9 Riverine and fen scrubs – 0.2%; G1 Broadleaved deciduous woodland – 25.7%; G3 Coniferous woodland – 0.7%; G4 Mixed deciduous and coniferous woodland – 0.3%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.5 Periodically inundated shores with pioneer and ephemeral vegetation; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.2

Perennial calcareous grassland and basic steppes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E2.2 Low and medium altitude



hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E6.2 Continental inland salt steppes; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.3 Mediterranean riparian woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* –

acidophilous *Quercus* woodland.
Land use: forestry – 30%; mowing/hay making – major, nature conservation and research – major.
Protected areas: overlaps (about 9437 ha) with Hadiatskyi regional landscape park, includes Pisotsko-Konkove regional landscape reserve (204 ha), includes Ternovyi Kushch regional reserve (303 ha), includes Velyky Lis regional botanical reserve (182 ha), includes Zozulyntsevi Luky regional botanical reserve (45 ha), overlaps (about 9437 ha) with Emerald Site "Hadiatskyi Regional Landscape Park".
Threats: abandonment/reduction of land management – low; agricultural intensification/ expansion (general) – low; forestry (intensified forest management) – low; development (recreation/tourism) – low.
General description. A part of the floodplain of the Psel river. The pastures are dominated by *Poa pratensis*, *Festuca pratensis*, *Dactylis glomerata*, *Elytrigia repens*, *Phleum pretense*, *Bromopsis inermis*, *Agrostis gigantea*, *Lolium perrene*, *Calamogrostis epigeios*. Their constant species are *Trifolium repens*, *T. pratens*, *Medicago lupulina*, *M. falcata*, *Vicia cracca*, *V. villosa*, *V. tetrasperma*, *V. grandiflora*, *Plantago media*, *Ranunculus polyanthemos*, *R. acris*, *Rumex thyrsiflorus*, *Equisetum pratense*, *Glechoma hederacea*, *Lysimachia nummulara*, *Prunella vulgaris*, *Potentilla anserina*. The largest area is occupied by mesic hay meadows. They are dominated by *Poa pratensis*, *Festuca pratensis*, *Alopecurus pratensis*, *Dactylis glomerata*, *Elytrigia repens*, *Arhrenantherum elatius*. Other species of high constancy are *Bromopsis inermis*, *Plantago lanceolata*, *Potentilla argentea*, *Galium ruthenicum*, *Cerastium holosteoides*, *Medicago falcata*, *Psammophiliella muralis*, *Achillea submillefolium*, *Echium vulgare*, *Verbascum lychnitis*, *Veronica spicata*, *Hypericum perforatum*, *Centaurium erythraea*, *Silene viscaria* (*Steris viscaria, Viscaria viscosa*), *Trifolium alpestre*, *Fragaria viridis*. In drier habitats, there dominate *Festuca rubra*, *Festuca pseudovinae*, *Festuca beckeri*, *Festuca valesiaca*, *Poa angustifolia*, *Anthoxanthum odoratum*. In the moist grasslands, there prevail *Poa palustris*, *Beckmannia eruciformis*, *Agrostis stolonifera*, in saline grasslands – *Festuca orientalis*, *Alopecurus arundinaceae*, *Carex distans*, *Juncus gerardii*, *Eleocharis uniglumis*, *Plantago salsa*, *Boulboschoenus maritimus*. Sedge and reedbeds are dominated by *Phragmites australis*, *Typha angustifolia*, *T. latifolia*, *Glyceria maxima*, *G. fluitans*, *Carex acuta*, *C. acutiformis*, *C. riparia*, *C. elata*, *Schoenoplectus lacustris*, *Phalaroides arundinacea*, *Sium latifolium*. Main aquatic dominants are *Hydrocharis morsus-ranae*, *Spirodella polyrhyza*, *Lemna minor*, *L. trisulca*, *Batrachium aquatile* (*Ranunculus aquatilis*), *B. rionii* (*Ranunculus rionii*), *Nuphar lutea*, *Ceratophyllum demersum*, *Potamogeton natans*, *P. crispus*, *P. perfoliatus*, *P. pectinatum* (*Stuckenia pectinata*), *P. lucens*. Mesic deciduous forests on the slopes of the valley and in the floodplain are dominated by *Quercus robur*, *Tilia cordata*, *Acer platanoides*, *Acer campestre*. Dominants of the shrub layer are *Corylus avellana* (major), *Euonymus europaeus*, *E. verrucosus*, *Frangula alnus* (in moist places), dominants of the herb layer – *Stellaria holostea*, *Aegopodium podagraria*, *Convallaria majalis*. Forests dominanted by *Alnus glutinosa* have the herb layer consisting mainly of *Urtica galeopsifolia*, *Eupatorium cannabinum*, *Galium aparine*, *Carex acutiformis*. Besides there are forests dominated by *Populus nigra*, *P. tremula*, *P. alba*. Their typical species are *Aegopodium podagraria*, *Convallaria majalis*, *Frangula alnus*, *Glechoma hederacea*, *Poa palustris*, *Rubus caesius*, *Sambucus nigra*, *Urtica dioica*.
Botanical significance. Important area for mesic floodplain hay meadows.
Criterion C
- E2.2 Low and medium altitude hay meadows; area: 6000 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature
1. Стецюк Н.А., Ханнанова О.Р. Флоросозологическая характеристика проектированного регионального ландшафтного парка "Гадячский" (Украина, Полтавская область) // Структурно-функциональная организация и динамика растительного покрова: материалы Всероссийской науч.-практ. конф. с международным участием. – Самара, 2011. – С. 56–59.
2. Ханнанова О.Р. Раритетна флора регіонального ландшафтного парку "Гадяцький" (Полтавська область)" // Актуальні проблеми ботаніки та екології: мат-ли Міжнарод. конф. молодих учених. – Умань, 2014. – С. 68–69.

Halitsynove

V.P. Kolomiychuk

Ukrainian name: Галіцинове.
Area: 7.4 ha.
Altitude: 8–13 m.
Latitude: 46°48'10" N (46.8028°).
Longitude: 31°57'25" E (31.9569°).
Administrative regions. Mykolaiv region: Vitovka (Zhovtnevyi) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 97.0%; H – 2.0%; J – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 97.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%; J4 Transport networks & other contructed hard-surfaced areas – 1.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; H5.6 Trampled areas.
Land use: nature conservation and research – major.
Protected areas: overlaps (about 7 ha) with Starohalicynivska regional botanical nature monument.
Threats: abandonment/reduction of land management – low, burning of vegetation – low.
General description. Grassland on the sand terrace of the Southern Bug (Buh) river. Dominant species are *Artemisia marschalliana, Thymus pallasianum*, *Secale sylvestre*. Other frequent species are *Carex colchica, Chondrilla juncea, Euphorbia seguieriana, Rumex acetosella, Jacobaea borysthenica* (*Senecio borysthenicus*), *Seseli tortuosum*. Population of *Centaurea protomargaritacea* occupies minimum 4 ha. Density of the species is between 2 and 30 specimens per 100 m^2.
Botanical significance. Important area for the narrow endemic species *Centaurea protomargaritacea* (one of two localities).
Criterion A
- *Centaurea protomargaritacea* Klokov; A(iii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals: Do not allow afforestation. Change the status of regional botanical nature monument to state botanical nature monument.
Literature
1.Коломієць Г.В. Перлинні волошки секції *Pseudophalolepis* Klok. ряду *Margaritacea*

Klok. Питання систематики та охорони // Укр. фітоценологічний зб. – Вип. 1–2 (12–13). – К.: Фітосоціоцентр, 1999. – С. 165–169.

2.Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok. (*Centaurea* L.) // Укр. ботан. журн. – 1991. – 48, № 3. – С. 78 – 80.

3.Крицька Л.І., Деркач О.М. Волошка первиннoперлинна *Centaurea protomargaritacea* Klokov (*C. margaritacea* Ten. subsp. *protomargaritacea* (Klokov) Dostál) / Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 308.

4.Перлини піщаної флори у пониззях Південного Бугу та Інгулу. Серія: Збереження біорізноманіття в Приморсько-степовому екокоридорі / Під ред. Г.В. Коломієць. – К.: Громадська організація “Веселий Дельфін”, 2008. – 60 с.

Holohirskyi Lis

V.A. Onyshchenko

Ukrainian name: Гологірський ліс.
Transliteration/Translation variants: Holohirsky Forest, Gologirskyi Forest.
Area: 609.0 ha.

Altitude: 277–461 m.
Latitude: 49°46'10" N (49.7693°).
Longitude: 24°39'40" E (24.6610°).
Administrative regions. Lviv region: Zolochiv raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 0.2%; G – 98.8%; H – 1.0%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 94.5%; G4 Mixed deciduous and coniferous woodland – 4.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. G1.6 *Fagus* woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – minor, nature conservation and research – 100%.
Protected areas: included in Pivnichne Podillia national nature park, includes state complex nature monument "Hora Vapniarka" (309.8 ha), includes regional preserve "Lis Pid Trudovachem" (33 ha), includes regional geological nature monument "Velykyi Kamin" (0.03 ha), included in Emerald Site "Pivnichne Podillia".

Threats: –.
General description. Hills covered by broadleaved forest. A large area is occupied by a species-rich *Fagus sylvatica* forest on calcium rich soil.
Botanical significance. Important area for limestone beech forest.
Criterion C

- G1.66 Medio-European limestone *Fagus* forests (*9150); area: 200 ha; trend: stable; area data quality: poor; trend data quality: medium.

Homilshanskyi Lis

V.A. Onyshchenko

Ukrainian name: Гомільшанський ліс.
Transliteration/Translation variants: Homilshansky Forest, Gomil'shansky Forest.

Area: 5450.0 ha.
Altitude: 80–200 m.
Latitude: 49°35'14" N (49.5872°).
Longitude: 36°18'28" E (36.3076°).

Administrative regions. Kharkiv region: Zmiiv raion.
Ownership: state .
Biogeographic regions: steppic.
Habitats. Level 1. C – 1.0%; E – 0.7%; G – 97.3%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.3%; C2 Surface running waters – 0.7%; E2 Mesic grasslands – 0.5%; E3 Seasonally wet and wet grasslands – 0.2%; G1 Broadleaved deciduous woodland – 97.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: mowing/hay making – minor; forestry – 98%; nature conservation and research – 100%; tourism/recreation – minor.
Protected areas: included in Homilshanski Lisy national nature park and Emerald Site "Gomilshanski Lisy National Nature Park".
Threats: forestry (intensified forest management) – low.
General description. The major vegetation type is the mesic broadleaved forest dominated by *Quercus robur*. Other important species of the tree layer are *Fraxinus excelsior*, *Tilia cordata*, *Acer campestre*, *Acer platanoides*. In the herb layer, there prevail *Carex pilosa*, *Stellaria holostea*, *Aegopodium podagraria*, sometimes *Asarum europaeum*, *Mercurialis perennis*, *Convallaria majalis*, *Galium odoratum*. In spring there dominate *Corydalis marschalliana*, *Corydalis solida*, *Anemone ranunculoides*, *Ficaria verna*, *Scilla siberica*, sometimes *Allium ursinum*, *Tulipa quercetorum*. Other species of high constancy are *Corylus avellana*, *Euonymus europaeus*, *Euonymus verrucosus*, *Gagea lutea*, *Lathyrus vernus*, *Polygonatum multiflorum*, *Pulmonaria obscura*, *Ulmus glabra*, *Viola mirabilis*, *Viola odorata*. The forest belongs to the zones of strict protection and regulated recreation of the national nature park "Homilshanski Lisy". The western part of the IPA is the floodplain of the Siverskyi Donets river. Vegetation of this area is *Quercus robur* forests, *Alnus glutinosa* forests, meadows and aquatic vegetation.
Botanical significance. Important for conservation of mesic deciduous forests.
Criterion C

- G1.A1 *Quercus* – *Fraxinus* – *Carpinus betulus* woodland on eutrophic and mesotrophic soils; area: 5300 ha; trend: stable; area data quality: good; trend data quality: good.

Literature

1. Байрак О.М. Лишайники Гомольшанського державного природного парку // Укр. ботан. журн. – 1987. – 44, № 4. – С. 38–42.

2. Вовк О.Г., Клімов О.В., Філатова О.В., Тверетінова В.В. Ботанічна характеристика проектованого національного природного парку "Гомільшанські ліси" // Біологія та валеологія: Зб. наук. праць. – Харків: ХДПУ, 2000. – Вип. 2. – С. 167–178.

3. Горелова Л.Н. Национальный природный парк "Гомольшанский" // Характеристика основних заповідних територій Харківської області. – Харків: Мін-во освіти і науки України, 2004. – С. 14–23.

4. Горелова Л.Н., Алехин А.А., Друлева И.В., Гамуля Ю.Г. Редкие и исчезающие растения национального природного парка "Гомольшанские леса". – Харьков: Видавничий центр ХНУ ім. В.Н. Каразіна, 2007. – 137 с.

5. Горєлова Л.М., Альохін О.О., Комариста В.П., Гамуля Ю.Г. Лікарські рослини Національного природного парку "Гомільшанські ліси". – Харків: Видавничий центр ХНУ ім. В.Н. Каразіна, 2006. – 122 с.

6. Леонтьев Д.В. Видовой состав миксомицетов (*Myxomycota*) национального природного парка "Гомольшанские леса" (Украина) // Микол. и фитопатол. – 2006. – 40, вып. 2. – С. 101–107.

7. Леонтьев Д.В. Фитоценотические связи миксомицетов (*Myxomycetes*) в Национальном природном парке "Гомольшанские леса" (Украина) // Экология. – 2007. – № 2. – С. 1–3.

8. Перспективная сеть заповедных объектов Украины / Ю.Р. Шеляг-Сосонко, С.М. Стойко, Я.П. Дидух и др. – К.: Наук. думка, 1987. – С. 128–132.

9. Саідахмедова Н.Б. Проблеми збереження фіторізноманіття в НПП "Гомільшанські ліси" та шляхи їх вирішення // Каразінські природодознавчі студії: Мат-ли наук. конф. з міжнар. участю, присвяченої 100-річчю з дня народження Ю.М. Прокудіна і О.М. Матвієнко – професорів Харківського університету. – Харків: Харк. нац. ун-т ім. В.Н. Каразіна, 2011. – С. 68–71.

10. Саідахмедова Н.Б., Філатова О.В., Клімов О.В., Прилуцький О.В., Акулов О.Ю., Біатов А.П. НПП Гомільшанські ліси // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 152–175.

11. Сивоконь О.В. Гастероїдні базидіоміцети Національного природного парку "Гомільшанські ліси" // Заповідна справа в Україні. – 2008. – Т. 14, № 2. – С. 56–62.

Horaivka

L.H. Lubinska, L.T. Horbnyak

Ukrainian name: Гораївка.
Area: 11.4 ha.
Altitude: 122–244 m.
Latitude: 48°34'57" N (48.5825°).
Longitude: 26°59'55" E (26.9985°).
Administrative regions. Kmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state (major), private.
Biogeographic regions: continental.
Habitats. Level 1. E – 22.0%; F – 4.5%; G – 68.2%; H – 5.3%.
Habitats. Level 2. E1 Dry grasslands – 22.0%; F3 Temperate and mediterranean-montane scrub – 4.5%; G1 Broadleaved deciduous woodland – 68.2%; H2 Screes – 4.0%; H3 Inland cliffs, rock pavements and outcrops – 1.3%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs.
Land use: agriculture (animals) – minor, forestry – minor, nature conservation and research – major, tourism/recreation – minor.
Protected areas: included in Podilski Tovtry national nature park, included in Emerald Site "Podilski Tovtry National Nature Park".
Threats: agricultural intensification/expansion (grazing) – low, development (recreation/tourism) – low.

General description. The steep slope of the Dnister valley with deciduous forests, dry grasslands, shrub vegetation, calcareous rocks and screes. Steppes are dominated by *Stipa capillata*, *Festuca valesiaca*, *Elytrigia intermedia*, *Sesleria heufleriana*. Typical species are *Leontodon hispidus*, *Pulsatilla grandis*, *Pulsatilla pratenis*, *Verbascum nigrum*. On rocks there are *Allium podolicum*, *Asperula cynanchica*, *Aurinia saxatilis*, *Melica transsylvanica*, *Potentilla arenaria*, *Salvia verticillata*, *Sempervivum ruthenicum*, *Teucrium chamaedrys*, *Thymus moldavicus*, *Veronica incana*. The area belongs to the zone of strict protection of national nature park "Podiliski Tovtry".
Botanical significance. One of the best populations of *Pulsatilla grandis* in Ukraine.
Criterion A

- *Pulsatilla grandis* Wend.; A(ii); abundance: occasional (1000 individuals, including 300 generative ones); trend: unknown; species data quality: good; trend data quality: poor.

Horodnytski Tovtry

H.I. Oliiar

Ukrainian name: Городницькі товтри.
Transliteration/Translation variants: Gorodnytski Tovtry.
Area: 54.0 ha.
Altitude: 343–389 m.
Latitude: 49°24'12" N (49.4032°).
Longitude: 26°04'09" E (26.0691°).

Administrative regions. Ternopil region: Pidvolochysk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 98.8%; F – 1.0%; H – 0.2%.
Habitats. Level 2. E1 Dry grasslands – 90.0%; E2 Mesic grasslands – 8.8%; F3 Temperate and mediterranean-montane scrub – 1.0%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.1%
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.2 Low and medium altitude hay meadows; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: nature conservation and research – 100%.
Protected areas: included in Medobory nature reserve, included in Emerald Site "Medobory Nature Reserve".
Threats: abandonment/reduction of land management – medium, burning of vegetation – low.
General description. Three hills with limestone outcrops. The major vegetation type is the meadow steppe dominated by *Poa angustifolia*, *Festuca valesiaca* s.l., *Carex humilis*. Sometimes there dominate *Calamagrostis epigeios*, *Brachypodium pinnatum*, *Festuca pratensis*. Species of high constancy are *Achillea millefolium* s.l., *Acinos arvensis*, *Artemisia absinthium*, *Cerastium arvense*, *Eryngium planum*, *Filipendula vulgaris*, *Fragaria viridis*, *Galium verum*, *Hypericum perforatum*, *Koeleria cristata*, *Pedicularis kaufmannii*, *Plantago media*, *Pimpinella saxifraga*, *Primula veris*, *Polygala comosa*, *Potentilla argentea*, *Ranunculus polyanthemos*, *Salvia pratensis* s.l. (*Salvia dumetorum*), *Salvia verticillata*, *Scabiosa ochroleuca*, *Jacobaea vulgaris* (*Senecio jacobaea*), *Seseli annuum*, *Thymus marschallianus*, *Veronica incana*, *Viola hirta*. Typical species on the outcrops are *Asperula cynanchica*, *Allium lusitanicum* s.l. (*Allium montanum* auct.), *Aurinia saxatilis*, *Arabidopsis arenosa* (*Cardaminopsis arenosa*), *Galium campanulatum*, *Poa compressa*, *Potentilla incana*, *Sedum acre*, *Torella tortuosa*, *Tortula ruralis*.
Botanical significance. The largest population of *Dracocephalum austriacum* in Ukraine, probably one of two largest populations of *Pulsatilla grandis* in Ukraine. Important area for conservation of *Carlina cirsioides*.
Criterion A

- *Carlina cirsioides* Klokov; A(iv); abundance: occasional (500 individuals); trend: stable; species data quality: good; trend data quality: medium.
- *Dracocephalum austriacum* L.; A(ii); abundance: frequent (3500 individuals); trend: stable; species data quality: good; trend data quality: medium.
- *Pulsatilla grandis* Wender.; A(ii); abundance: frequent (15000 individuals); trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals: Mow a part of the grasslands.
Literature

1. Szafer W. Geobotaniczne stosunki Miodoborów Galicyjskich // Rozpr. Wydz. Matemat.-Przyrod. Akad. Umiejętności. – 1910. – Ser. 3, Dz. B, T. 10. – S. 63–172.
2. Данилків І.С., Рабик І.В. Мохоподібні (*Bryophytes*) природного заповідника "Медобори" // Чорноморський ботан. журн. – 2007. – 3, № 1. – С. 85–99.
3. Кондратюк С.Я. Лишайники заповідника "Медобори" // Укр. ботан. журн. – 1995. – 52, № 1. – С. 141–144.
4. Кондратюк С.Я., Коломієць І.В. Нові для України види лишайників та ліхенофільних грибів заповідника "Медобори" // Укр. ботан. журн. – 1997. – 54, № 1. – С. 42–47.
5. Оліяр Г. І. Рослини Червоної книги України в природному заповіднику "Медобори" // Заповідна справа в Україні. – 1995. – Т. 1. – С. 11–12.
6. Оліяр Г. І. Фіторариетети природного заповідника "Медобори" з філією "Кременецькі гори" в міжнародних червоних списках // Природно-заповідний фонд України – минуле, сьогодення, майбутнє. Матеріали міжнародної науково-практичної конференції, присвяченої 20-річчю природного заповідника "Медобори" (смт. Гримайлів, 26–28 травня 2010 р.) – Тернопіль: Підручники і посібники, 2010. – С. 460–464.

7. Онищенко В.А. Рослинність карбонатних відслонень природного заповідника "Медобори" // Укр. фітоцен. зб. – Сер. А. – 2001. – 1 (17). – С. 86–104.

8. Онищенко В.А., Оліяр Г.І. ПЗ Медобори // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 254–276.

9. Смеречинская Т. А. Закономерности распространения лишайников по фитоценозам природного заповедника "Медоборы" // Заповідна справа в Україні. – 2005. – Т. 11, Випуск 1. – С. 9–15.

Horodnytskyi Lis

V.A. Onyshchenko

Ukrainian name: Городницький ліс.
Transliteration/Translation variants: Horodnytskyi Forest, Gorodnytskiy Forest.

Area: 343 ha.
Altitude: 195–202 m.

Latitude: 50°50'45" N (50.8460°).
Longitude: 27°18'19" E (27.3051°).
Administrative regions. Zhytomyr region: Novohrad-Volynskyi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 0.1%; E – 0.2%; G – 99.2%; H – 0.5%.
Habitats. Level 2. D2 Valley mires, poor fens and transition mires – 0.1%; E3 Seasonally wet and wet grasslands – 0.1%; G1 Broadleaved deciduous woodland – 28%; G3 Coniferous woodland – 10.0%; G4 Mixed deciduous and coniferous woodland – 61.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.
Futher habitat description. D2.3 Transition mires and quaking bogs; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: nature conservation and research – 100%; forestry – major.
Protected areas: same as Horodnytskyi state botanical reserve, included in Emerald Site "Horodnytskyi".
Threats: –
General description. Major vegetation types are mixed *Pinus sylvestris* – *Quercus robur* forest, acidophilous *Quercus robur* forest, acidophilous *Pinus sylvestris* forest. The largest area is occupied by mixed pine-oak forest with dominance of *Rhododendron luteum* in the shrub layer and *Vaccinium myrtillus* in the layer of dwarf shrubs and herbs. In the lower layers of oak forest, there dominate *Corylus avellana*, *Rhododendron luteum*, *Carex brizoides*, *Vaccinium myrillus*. Pine forest is dominated by *Vaccinium myrtillus* and *Pleurozium schreberi*. Besides there are small areas of swamped pine woods with *Eriophorum vaginatum*, *Vaccinium uliginosum*, *Sphagnum* sp. and transition mires dominated by *Carex lasiocarpa*, *Carex rostrata*, *Sphagnum* sp.
Botanical significance. A good example of oak and mixed pine-oak acidophilous forests with *Rhododendron luteum*.
Criterion C

- G1.8 Acidophilous *Quercus*-dominated woodland; area: 90 ha (together with mixed oak-pine forests – 300 ha); trend: stable; area data quality: good; trend data quality: medium.

Literature

1. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 215 с.

2. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Hostra Skelia

H.I. Oliiar

Ukrainian name: Гостра скеля.
Transliteration/Translation variants: Gostra Skelya, Sharp Cliff, Sharp Rock.
Area: 8.0 ha.
Altitude: 319–356 m.
Latitude: 49°21'24" N (49.3565°).
Longitude: 26°04'39" E (26.0774°).
Administrative regions. Ternopil region: Husiatyn raion.
Ownership: state.
Biogeographic regions: continental.

Habitats. Level 1. E – 5.0%; F – 75.5%; G – 19.0%; H – 0.5%.
Habitats. Level 2. E1 Dry grasslands – 5.0%; F3 Temperate and mediterranean-montane scrub – 75.5%; G1 Broadleaved deciduous woodland – 19.0%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.4%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: nature conservation and research – 100%; tourism/recreation – minor.
Protected areas: included in Medobory nature reserve, included in Emerald Site "Medobory Nature Reserve".

Threats: abandonment/reduction of land management – medium.
General description. A hill with limestone outcrops. Major vegetation type is the shrubs dominated by *Crataegus leiomonogyna*, *Euonymus europaeus*, *Swida sanguinea* (*Cornus sanguinea*). On the northern slope, there is a small area of the broadleaved wood with a dense shrub layer. On the ridge and in upper part of the southern slope, there is the steppe vegetation in complex with limestone outcrops. The stepe vegetation is dominated by *Carex humilis*, *Dictamnus albus*, *Anthericum ramosum*, *Stipa pennata*. Typical species on the outcrops are *Asperula cynanchica*, *Aurinia saxatilis*, *Centaurea stoebe*, *Festuca valesiaca*, *Galium campanulatum*, *Koeleria cristata*, *Melica transsilvanica*, *Potentilla incana*, *Sedum acre*, *Seseli libanotis*, *Thymus dimorphus*, *Veronica incana*. Main threat is overgrowing by shrubs and trees. Management includes clearing of shrubs and trees on a part of the area.
Botanical significance. Important area for conservation of *Dracocephalum austriacum* and *Schivereckia podolica* (*Draba podolica*).
Criterion A

- *Dracocephalum austriacum* L.; A(ii); abundance: occasional (230 individuals); trend: fluctuating; species data quality: good; trend data quality: good.
- *Schivereckia podolica* (Besser) Andrz. ex DC. (*Draba podolica* (Besser) Rupr.); A(ii); abundance: frequent (3000 individuals); trend: decreasing; species data quality: good; trend data quality: medium.

Conservation proposals: Do not allow natural afforestation.
Literature

1. Szafer W. Geobotaniczne stosunki Miodoborów Galicyjskich // Rozpr. Wydz. Matemat.-Przyrod. Akad. Umiejętności. – 1910. – Ser. 3, Dz. B, T. 10. – S. 63–172.
2. Данилків І.С., Рабик І.В. Мохоподібні (*Bryophytes*) природного заповідника "Медобори" // Чорноморський ботан. журн. – 2007. – 3, № 1. – С. 85–99.
3. Кондратюк С.Я. Лишайники заповідника "Медобори" // Укр. ботан. журн. – 1995. – 52, № 1. – С. 141–144.
4. Кондратюк С.Я., Коломієць І.В. Нові для України види лишайників та ліхенофільних грибів заповідника "Медобори" // Укр. ботан. журн. – 1997. – 54, № 1. – С. 42–47.
5. Оліяр Г.І. Зміни у флорі природного заповідника "Медобори" за минуле сторіччя // Роль природно-заповідних територій Західного Поділля та Юри Ойцовської у збереженні біологічного та ландшафтного різноманіття, – Гримайлів, 2003. – С. 333–338.
6. Оліяр Г.І. Фіторариетети природного заповідника "Медобори" з філією "Кременецькі гори" в міжнародних червоних списках // Природно-заповідний фонд України – минуле, сьогодення, майбутнє. Матеріали міжнародної науково-практичної конференції, присвяченої 20-річчю природного заповідника "Медобори" (смт. Гримайлів, 26–28 травня 2010 р.) – Тернопіль: Підручники і посібники, 2010. – С. 460–464.
7. Онищенко В.А. Рослинність карбонатних відслонень природного заповідника "Медобори" // Укр. фітоцен. зб. – Сер. А. – 2001. – 1 (17). – С. 86–104.
8. Онищенко В.А., Оліяр Г.І. ПЗ Медобори // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 254–276.
9. Смеречинская Т. А. Закономерности распространения лишайников по фитоценозам природного заповедника "Медоборы" // Заповідна справа в Україні. – 2005. – Т. 11, Вип. 1. – С. 9–15.

Hrakove

N.O. Stetsiuk

Ukrainian name: Гракове.
Transliteration/Translation variants: Grakove.
Area: 768 ha.
Altitude: 80–85 m.
Latitude: 49°34′32″ N (49.5757°).
Longitude: 32°54′57″ E (32.9157°).
Administrative regions. Poltava region: Semenivka raion.
Ownership: state, municipal.
Biogeographic regions: continental.
Habitats. Level 1. C – 7.8%; D – 23.4%; E – 68.1%; G – 0.7%.
Habitats. Level 2. C1 Surface standing waters – 1.3%; C3 Littoral zone of inland surface waterbodies – 6.5%; D6 Inland saline and brackish marshes and reedbeds – 23.4%; E6 Salt steppes – 68.1%; G1 Broadleaved deciduous woodland – 0.7%.

Futher habitat description. C1.5 Permanent inland saline and brackish lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D6.1 Inland saltmarshes; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E6.2 Continental inland salt steppes .

Land use: mowing/hay making – major, nature conservation and research – major.
Protected areas: includes Hrakove state hydrological reserve (500 ha).
Threats: abandonment/reduction of land management – low; agricultural intensification/expansion (general) – low.
General description. Major vegetation types are the halophytic wet and mesic grasslands dominated by *Alopecurus arundinaceus*, *Beckmannia eruciformis*, *Carex distans*, *Juncus gerardii*, *Festuca regeliana*, *Puccinellia distans* with presence of *Carex secalina*, *Glaux maritima*, *Limonium alutaceum*, *Plantago salsa*, *Taraxacum bessarabicum*, *Triglochin maritima*, *Triglochin palustris*. Large areas are covered by halophytic non-inundated *Phragmites australis* beds. There are marshes dominated by *Bolboschoenus maritimus*, *Schoenoplectus tabernaemontani*. On the most saline soils, there are communities of *Lepidium crassifolium* with *Salicornia herbacea*, *Halimione pedunculata*, *Halimione verrucifera*. Brackish lakes are overgrown with *Phragmites australis* and *Typha angustifolia*.
Botanical significance. One of the best sites with halophytic vegetation in the continental biogeographic region of Ukraine.
Criterion A

- *Carex secalina* Wahlenb.; A(ii); abundance: abundant; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- E6.2 Continental inland salt steppes; area: 500 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Байрак О.М., Проскурня М.І., Стецюк Н.О., Слюсар М.В., Томін Є.М., Гостудим О.М. Еталони природи Полтавщини. Розповідні про заповідні території Полтавщини. Науково-популярне видання. – Полтава: Верстка, 2003. – 212 с.

Hranitno-Stepove Pobuzhia

V.A. Onyshchenko

Ukrainian name: Гранітно-степове Побужжя.
Transliteration/Translation variants: Granitno-Stepove Pobuzhzhya, Granite-Steppe Southern Buh Area.
Area: 3815.0 ha.
Altitude: 17–120 m.
Latitude: 47°53′25″ N (47.8903°).
Longitude: 31°06′19″ E (31.1053°).
Administrative regions. Mykolaiv region: Arbuzynka raion, Domanivka raion, Pervomaisk raion, Voznesensk raion.
Ownership: state, unknown.
Biogeographic regions: steppic.
Habitats. Level 1. C – 21.6%; D – 0.5%; E – 48.8%; F – 2.0%; G – 22.7%; H – 4.4% .
Habitats. Level 2. C1 Surface standing waters – 5.0%; C2 Surface running waters – 16.5%; C3 Littoral zone of inland surface waterbodies – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.5%; E1 Dry grasslands – 48.6%; E2 Mesic grasslands – 0.1%; E3 Seasonally wet and wet grasslands – 0.1%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 22.7%; H2 Screes – 0.2; H3 Inland

cliffs, rock pavements and outcrops – 4.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.3 Permanent eutrophic lakes, ponds and pools; C2.2 Permanent non-tidal, fast, turbulent watercourses; C2.3 Permanent non-tidal, smooth-flowing watercourses; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry

plantations; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.

Land use: agriculture (animals) – 15%; agriculture (arable) – minor; forestry – 15%; nature conservation and research – 100%; water management – 7%.

Protected areas: included in Buzkyi Hard national nature park and Emerald Site "Bugzkyi Gard National Nature Park".

Threats: construction/impact of dyke/dam/barrage – low; development (recreation/ tourism) – low; forestry (afforestation) – low.

General description. The Southern Bug valley with high (10–60 m) steep slopes and cliffs of granite and gneiss. Large areas are covered by the steppe vegetation, natural *Quercus robur* termophilous woods, artificial *Quercus robur* woods, steppic and floodplain scrub, floodplain decidous woods.

Natural deciduous termophilous woods. Dominants: *Quercus robur* (major), *Acer campestre*, *Fraxinus excelsior*, *Tilia cordata*, *Ulmus minor*; *Acer tataricum*, *Cotinus coggygria*, *Crataegus fallacina*, *Euonymus europaeus*, *Eunymus verrucosus*, *Swida sanguinea*. Typical species: *Malus sylvestris*, *Pyrus communis*; *Chelidonium major*, *Galium aparine*, *Geum urbanum*, *Urtica dioica*.

Floodplain woods. Dominants: *Alnus glutinosa*, *Populus alba*, *Populus nigra*, *Salix alba*, *Salix fragilis*.

Shrubs. Dominant: *Crataegus praearmata*, *Spiraea crenata*, *Prunus stepposa*.

Dry grasslands (steppes). Dominants: *Stipa capillata*, *Stipa lessingiana*, *Festuca valesiaca*, *Botriochloa ischaemum*, *Koelerua cristata*, *Galatella villosa*. Typical species: *Artemisia marschalliana*, *Chamaecytisus austriacus*, *Galium verum*, *Medicago romanica*, *Poa angustifolia*, *Potentilla incana*, *Salvia nemorosa*, *Salvia nutans*. Dominants in shrub steppes: *Amygdalus nana*, *Caragana frutex*. In steppes on shallow stony soils, typical species are *Allium podolicum*, *Asperula rumelica*, *Genista tinctoria*, *Pilosella officinarum*, *Poa bulbosa*, *Seseli pallasii*, *Teucrium polium*, *Verbascum phoeniceum*.

Open silicious outcrops. Typical species: *Achillea ochroleuca*, *Alyssum murale*, *Aurinia saxatilis*, *Rumex fascilobus*, *Sedum acre*, *Sedum borissovae*, *Sempervivum ruthenicum*, *Thymus dimorphus*; *Ceratodon purpureus*, *Grimmia laevigata*, *Grimmia ovalis*, *Grimmia pulvinata*, *Polytrichum piliferum*, *Polytrichum juniperinum*, *Syntrichia ruralis*, *Tortula muralis*.

Shaded silicious outcrops. Dominants: *Hypnum cupressiforme*, *Hedwigia ciliata*, *Homalothecium sericeum*, *Leucodon sciuroides*. Typical species: *Bryum capillare*, *Amblystegium serpens*, *Leskea polycarpa*, *Radula complanata*.

Littoral and mire vegetation. Dominants: *Agrostis stolonifera*, *Bolboschienus maritimus*, *Carex riparia*, *Glyceria maxima*, *Phalaroides arundinacea*, *Phragmites australis*.

Aquatic vegetation. Dominants: *Ceratophyllum demersum*, *Myriophyllum spicatum*, *Nuphar lutea*, *Potamogeton nodosus*, *Vallisneria spiralis*.

Botanical significance. Important for conservation of endemic species of silicious outcrops (*Dianthus hypanicus* Andrz., *Moehringia hypanica* Grynj et Klokov, *Cerasus klokovii* Sobko, *Sedum borissovae* Balk., *Silene hypanica* Klokov, *Silene sytnikii* Krytzka, Novosad et Protopopova, *Tulipa hypanica* Klokov et Zoz, *Onosma graniticola* Klokov), dry grasslands, termophilous oak woods and steppic scrub.

Criterion A

- *Cerasus klokovii* Sobko; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Dianthus hypanicus* Andrz.; A(i), A(ii), A(iii), abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Gymnospermium odessanum* (DC.) Takht.; A(iv); abundance: unknown; trend: unknown;

species data quality: poor; trend data quality: poor.

- *Moehringia hypanica* Grynj et Klokov; A(i), A(ii); abundance: rare (one locality); trend: decreasing; species data quality: good; trend data quality: medium.
- *Onosma graniticola* Klokov; A(iv); abundance: 400–500 individuals (one locality, 1.5–2.0 ha); trend: fluctuating; species data quality: good; trend data quality: medium.
- *Silene hypanica* Klokov; A(iii); abundance: rare; trend: fluctuating; species data quality: good; trend data quality: medium.
- *Silene sytnikii* Krytzka, Novosad et Protopopova; A(iii); abundance: occasional; trend: stable; species data quality: good; trend data quality: medium.
- *Tulipa hypanica* Klokov et Zoz; A(iii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- E1.11 Euro-siberian pioneer rock debris swards; area: 10 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 1500 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 75 ha; trend: stable; area data quality: medium; trend data quality: medium.
- H3.1 Acid siliceous inland cliffs; area: 150 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Mikhailyuk T.I., Demchenko E.M., Kondratyuk S.Ya. Algae of granite outcrops from the left bank of Pivdennyi Bug river (Ukraine) // Biologia. – Bratislava, 2003. – 58 (4). – P. 589–601.
2. Гревцова Г.Т. Кизильники гранітно-степового Побужжя // Збірник наукових праць Полтавського пед. ун-ту. – 2003. – Вип. 4 (31). – С. 54–61.
3. Гринь Ф.О., Клоков М.В. Новий вид меринґії з гранітів р. Південного Бугу // Бот. журн. АН УРСР. – 1950. – 7, № 4 – С. 55–60.
4. Деркач О.М. Доповнення до флори Правобережного степу України // Укр. бот. журн. – 1990. – 47, № 6. – С. 84–85.
5. Драбинюк Г.В. НПП Бузький Гард // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 49–60.
6. Коломієць Г.В., Таращук С.В. Бузькі брояки // Водно-болотні угіддя України. Довідник / під ред. Марушевського Г.Б., Жарук І.С. – К.: Чорноморська програма Ветландс Интернешнл. – 2006. – С. 188–193.
7. Михайлюк Т.И., Дариенко Т.М., Демченко Э.Н. Водоросли гранитных обнажений регионального ландшафтного парка “Гранитно-степное Побужье” (Николаевская обл., Украина) // Новости систематики низших растений. – 2003. – 37. – С. 53–71.
8. Новосад В.В., Крицкая Л.И., Протопопова В.В. Новий для науки ендемічний вид Гранітно-степового Побужжя смілка Ситника (*Silene sytnikii* Krytzka, Novosad et Protopopova), його таксономічні, еколого-ценотичні, хорологічні, генезисні та созологічні особливості // Укр. бот. журн. – 1996. – 53, № 5. – С. 578–585.
9. Партика Л.Я., Вірченко В.М., Нипорко С.О. 2006. До бріофлори регіонального ландшафтного парку “Гранітно-степове Побужжя” // Чорномор. ботан. журн. – 2006. – 2, № 1. – С. 116–122.
10. Собко В.Г. Ендемічні та реліктові елементи флори гранітних відслонень Придніпровської височини // Укр. бот. журн. – 1972. – 29, № 5. – С. 624–630.

11. Соломаха В.А., Драбинюк Г.В., Вініченко Т.С., Мойсієнко І.І., Деркач О.М. Адаптивні особливості південнобузьких ендемів *Dianthus hypanicus* Andrz. та *Moehringia hypanica* Grynj et Klok. // Укр. фітоцен. зб. – Сер. С. – 2006. – Вип. 24. – С. 70–86.
12. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
13. Щербакова О.Ф. Особливості популяційної структури чистецю вузьколистого *Stachys angustifolia* M. Bieb в Гранітно-Степовому Побужжі та проблеми його охорони // Актуальні проблеми ботаніки та екології. Збірн. наук. праць. – 2005. – Вип. 1. – С. 96–104.
14. Щербакова О.Ф., Новосад В.В., Крицька Л.І. Раритетний флорофонд Кодимо-Єланецького Побужжя (ЧКУ, 2009): популяційні та флоросозологічні аспекти. Рослинний світ у Червоній книзі України: впровадження Глобальної стратегії збереження рослин. Мат-ли міжнар. конф. (11–15 жовтня 2010 р., м.Київ). – Київ: Альтерпрес, 2010. – С. 210–214.

Ihrovets – Tavpishyrka

V.A. Onyshchenko, R.Ya. Kish

Ukrainian name: Ігровець – Тавпіширка.
Area: 6538.0 ha.
Altitude: 1062–1836 m.
Latitude: 48°32’36” N (48.5433°).
Longitude: 24°07’15” E (24.1207°).
Administrative regions. Ivano-Frankivsk region: Bohorodchany, Nadvirna raion, Rozhniativ; Zakarpatska region: Tiachiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. E – 0.6%; F – 16.8%; G – 78.6%; H – 4.0%.
Habitats. Level 2. F2 Arctic, alpine and subalpine scrub – 16.8%; G1 Broadleaved deciduous woodland – 0.4%; G3 Coniferous woodland – 77.7%; G4 Mixed deciduous and coniferous woodland – 0.5%; H2 Screes – 3.8%; H3 Inland cliffs, rock pavements and outcrops – 0.2%.
Futher habitat description. F2.4 Conifer scrub close to the tree limit; G1.6 Fagus woodland; G3.1 Abies and Picea woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid silicious inland cliffs.
Land use: forestry – minor; nature conservation and research – minor.
Protected areas: overlaps with Tavpyshyrkivskyi state botanical reserve (about 390 ha), includes state botanical reserve “Gorgany i Tavpishyrka” (248 ha), includes Syvulia regional nature preserve (17 ha), includes Tavpishyrka regional nature preserve (33 ha), overlaps with regional nature preserve “Urochyshche Salatruk” (about 100 ha), overlaps (1476 ha) with Emerald Site “Dolynsko-Rozhniatynskyi”.
Threats: climate change/sea level rise – low, forestry (intensified forest management) – low.
General description. Forests dominated by *Picea abies*, *Pinus mugo* shrub, coarse sandstone. Dominants of the lower layers of the spruce woods areLower layers are dominated by *Vaccinium myrtillus*, *Homogyne alpina*, *Oxalis acetosella*, *Calamagrostis arundinacea*. Small areas are occupied by *Pinus cembra* woods.

Botanical significance. Important area for communities of *Pinus mugo*, Carpathian *Pinus*

cembra forests and subspecies *Larix decidua* ssp. *polonica*.

Criterion C

- F2.46 (*4070) Carpathian *Pinus mugo* scrub; area: 1100 ha; trend: stable; area data quality: good; trend data quality: poor.
- G3.25 Carpathian *Larix* and *Pinus cembra* forests; area: 15 ha; trend: decreasing; area data quality: medium; trend data quality: medium.

Irpinskyi Lis

V.A. Onyshchenko, O.I. Pryadko

Ukrainian name: Ірпінський ліс.
Transliteration/Translation variants: Irpin' Forest.
Area: 307.0 ha
Altitude: 112-165 m.
Latitude: 50°30'42" N (50.5115°).
Longitude: 30°16'37" E (30.2769°).
Administrative regions. Kyiv city: Sviatoshyn raion.
Ownership: state.
Biogeographic regions: continental.

Habitats. Level 1. G – 98.0%; H – 2.0%
Habitats. Level 2. G1 Broadleaved deciduous woodland – 42.0%; G3 Coniferous woodland – 2.0%; G4 Mixed deciduous and coniferous woodland – 50.0%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 4.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%.
Futher habitat description. G1.7 Thermophilous deciduous woodland; G3.4 *Pinus sylvestris* woodland south of the taiga, G4.C Mixed *Pinus sylvestris* – thermophilous *Quercus* woodland, H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – major.
Protected areas: included in Holosiivskyi national nature park, included in Emerald Site

"Holosiivskyi National Nature Park".
Threats: unsustainable plant exploitation – low.
General description. A part of the terrace of the Irpin river over the floodplain. *Quercus robur* and mixed *Quercus robur - Pinus sylvestris* forest with the herb layer dominated by *Carex michelii*, *Clematis recta*, *Convallaria majalis*. Constant species: *Agrostis capillaris*, *Convallaria majalis*, *Campanula bononiensis*, *Cruciata glabra*, *Euphorbia cyparissias*, *Fallopia dumetorum*, *Festuca rubra*, *Fragaria vesca*, *Frangula alnus*, *Galeopsis bifida*, *Galium mollugo*, *Geranium robertianum*, *Geranium sanguineum*, *Geum urbanum*, *Hylotelephium polonicum*, *Hypericum perforatum*, *Impatiens parviflora*, *Malus sylvestris*, *Melampyrum nemorosum*, *Moehringia trinervia*, *Peucedanum oreoselinum*, *Pinus sylvestris*, *Polygonatum odoratum*, *Populus tremula*, *Potentilla alba*, *Pteridium aquilinum*, *Pyrus communis*, *Quercus robur*, *Stachys officinalis*, *Solidago virgaurea*, *Sorbus aucuparia*, *Torilis japonica*.
Botanical significance. One of the largest populations of *Iris hungarica* in Ukraine.
Criterion A
- *Iris hungarica* Waldst. & Kit.; A(ii); abundance: frequent (~1000 clones); trend: stable; species data quality: medium; trend data quality: poor.

Conservation proposals: include in the zone of strict protection of the Holosiivskyi national nature park.
Literature
1. Онищенко В.А., Прядко О.І., Арап Р.Я., Дацюк В.В. Світлі дубові ліси Святошинсько-Біличанського відділення НПП "Голосіївський" // Природоохороні території в минулому, сучасному й майбутньому світі (до 130-річчя створення "Пам'ятки Пеняцької" – першої природоохоронної території у Європі): Мат-ли Другої міжнародної конференції (Львів – Броди – Пеняки, 26–27 жовтня 2016 року). – Львів: Ліга-Прес, 2016. – С. 189–192.

Kadubivska Stinka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Кадубівська стінка.
Transliteration/Translation variants: Kadubivska Wall, Kadubivska Cliff.
Area: 27.0 ha.
Altitude: 226-270 m.
Latitude: 48°34'02" N (48.5672°).
Longitude: 25°45'55" E (25.7653°).
Administrative regions. Chernivtsi region: Zastavna raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 99.0%; F – 0.7%; H – 0.3%
Habitats. Level 2. E1 Dry grasslands – 99.0%; F3 Temperate and mediterranean-montane scrubs – 0.7%; H3 Inland cliffs, rock pavements and outcrops – 0.3%.
Futherhabitat description: E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; H3.2 Basic and ultra-basic inland cliffs.
Landuse: agriculture (animals) – major; nature conservation and research – major.
Protected areas: includes Kadubivska Stinka state landscape reserve (22.8 ha).
Threats: agricultural intensification/expansion (grazing) – low.
General description. Slopes with grasslands and gypsum outcrops. Grasslands are

dominated by *Bothriochloa ischaemum, Carex humilis, Elytrigia intermedia, Festuca valesiaca, Koeleria cristata, Poa angustifolia, Stipa capillata*. Other frequent species are *Achillea submillefolium, Agrimonia eupatoria, Asperula cynanchica, Astragalus austriacus, A. onobrychis, Chamaecytisus podolicus, Filipendula vulgaris, Fragaria viridis, Galium verum, Gypsophila thyraica, Inula ensifolia, Knautia arvensis, Onobrychis arenaria, Pimpinella saxifraga, Potentilla arenaria, Poterium sanguisorba, Ranunculus polyanthemos, Salvia pratensis, S. verticillata, Securigera varia, Teucrium chamaedrys, T. pannonicum, Thalictrum minus, Thymus marschallianus, Trifolium montanum, Viola hirta*.

Botanical significance. One of the largest populations of *Chamaecytisus podolicus*, locus classucus of this species. The area is important also for *Gypsophila thyraica* and *Iris hungarica*.
Criterion A
- *Chamaecytisus podolicus* (Błocki) Klásk. A(iv); abundance: frequent; trend: unknown;

species data quality: good; trend data quality: poor.

- *Gypsophila thyraica* A.Krasnova A(iii); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.
- *Iris hungarica* Waldst. & Kit.; A(ii); abundance: rare; trend: unknown; species data quality: good; trend data quality: poor.

Literature

1. Коротченко І.А., Токарюк А.І. Флора та рослинність степів ландшафтного заказника "Кадубівська стінка" (Чернівецька область) // Наук. вісник Чернівецкого ун-ту: Зб. наук. праць. – Чернівці: Рута, 2004. – Вип. 194. – С. 117–127.

2. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.

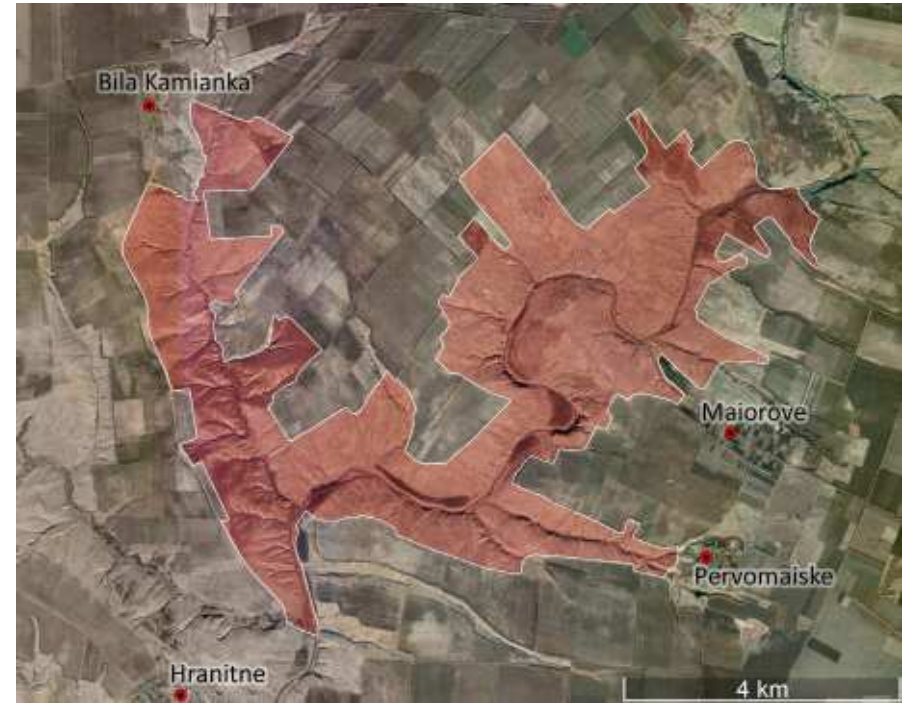
3. Чорней І.І., Скільський І.В., Коржик В.П., Буджак В.В. Заповідні об'єкти Буковини загальнодержавного значення як основа регіональної екологічної мережі // Заповідна справа в Україні. – 2001. – Т. 7, вип. 2. – С. 73–98.

Kalmiuskyi Step

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Кальміуський степ
Transliteration/Translation variants: Kal'mius Steppe.
Area: 2994.0 ha.
Altitude: 40–130 m.
Latitude: 47°30'39" N (47.5107°).
Longitude: 37°55'33" E (37.9257°)
Administrative regions. Donetsk region: Boikivske (Telmanove) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.8%; E – 96.0%; F – 0.5%; G – 1.7%; H – 1.0%.
Habitats. Level 2. C2 Surface running waters – 0.6%; C3 Littoral zone of inland surface waterbodies – 0.1%; E1 Dry grasslands – 94.0%; E2 Mesic grasslands – 2.0%; F3 Temperate and mediterranean-montane scrub – 0.5%; G1 Broadleaved deciduous woodland – 0.1%; G3 Coniferous woodland – 1.6%; H2 Screes – 0.2%; H3 Inland cliffs, rock pavements and outcrops – 0.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; G3.F Highly artificial coniferous plantations; H2.5 Acid siliceous screes of warm exposures, H3.1 Acid silicious inland cliffs.
Land use: agriculture (animals) – major; nature conservation and research – major.
Protected areas: overlaps (579.6 ha) with Ukrainskyi Stepovyi nature reserve (includes division "Kalmiuske" of the reserve), overlaps (579.6 ha) with Emerald Site "Ukrainskyi Stepovyi Nature Reserve".
Threats: agricultural intensification/expansion (arable) – low, agricultural intensification/expansion (grazing) – low, extraction (minerals/quarries) – low.
General description. The valleys of the Kalmius river and its tributary with the steppe vegetation and granite outcrops. The steppe vegetation occupies the largest area. Its

major dominants are *Festuca valesiaca* and *Stipa capillata*. Typical species are *Euphorbia seguierana*, *Herniaria kotovii*, *Artemisia austriaca*. On stony soils, there dominates *Stipa gratiticola* and *Thymus graniticus*. On rocks, there are *Erodium beketowii*, *Asperula graniticola*, *Rumex fascilobus*, *Jurinea graniticola*, *Hedysarum grandiflorum*, *Scophularia granitica*.
Botanical significance. Important area for conservation of the steppe vegetation.



Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 2500 ha; trend: stable; area data quality: good; trend data quality: good

Literature

1. Коломійчук В.П., Остапко В.М., Яровий С.С. П3 Український степовий // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 336–378.

2. Ткаченко В.С., Генов А.П. Флороценотична характеристика запропонованого Кальміуського державного заказника // Укр. ботан. журн. – 1986. – 43, № 5. – С. 92–96.

Kamiani Mohyly

V.A. Onyshchenko, V.P. Kolomiychuk

Ukrainian name: Кам'яні могили.
Transliteration/Translation variants: Kam'yani Mogyly, Rocky Hills.
Area: 438.0 ha.
Altitude: 123–206 m.
Latitude: 47°18'23" N (47.3065°).
Longitude: 37°04'48" E (37.0800°).
Administrative regions. Donetsk region: Volodarske raion. Zaporizhia region: Rozivka raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. C – 0.4%; D – 0.4%; E – 83.7%; F – 5.0%; G – 0.5%; H – 10.0%.
Habitats. Level 2. C3 Littoral zone of inland surface waterbodies – 0.4%; D5 Sedge and reedbeds, normally without free-standing water – 0.4%; E1 Dry grasslands – 81.1%; E2 Mesic grasslands – 2.6%; F3 Temperate and mediterranean-montane scrub – 5.0%; G1 Broadleaved deciduous woodland – 0.5%; H3 Inland cliffs, rock pavements and outcrops – 2.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; H2.5 Acid siliceous screes of warm exposures, H3.1 Acid silicious inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: agriculture (animals) – minor; nature conservation and research – major.
Protected areas: includes division "Kamiani Mohyly " of Ukrainskyi Stepovyi nature reserve (389.2 ha), overlaps (389.2 ha) with Emerald Site "Ukrainskyi Stepovyi Nature Reserve".
Threats: –.
General description. Protected area with the steppe vegetation and hills with outcrops of granite. Main dominants are *Poa angustifolia* and *Elytrigia trichophora*. Species of high constancy are *Achillea setacea*, *Artemisia absinthium*, *Euphorbia stepposa*, *Falcaria vulgaris*, *Festuca valesiaca*, *Galatella villosa*, *Medicago falcata*, *Phlomoides tuberosa* (*Phlomis tuberosa*), *Salvia nemorosa*, *Stipa capillata*, *Teucrium polium*, *Thalictrum minus*, *Verbascum austriacum*. On more stony solils, there are plant communities dominates by *Festuca valesiaca*, *Stipa capillata*, *Stipa lessingiana* with presence of *Achillea setacea*, *Cota tinctoria* (*Anthemis tinctoria*), *Artemisia austriaca*, *Bromopsis riparia*, *Centaurea trinervia*, *Filipendula vulgaris*, *Galatella villosa*, *Hypericum perforatum*, *Marrubium praecox*, *Odontites luteus*, *Potentilla argentea*, *Salvia nutans*, *Scabiosa ochroleuca*, *Securigera varia*, *Stachys recta*, *Thymus dimorphus*, *Thymus marschallianus*. Prevailng dominant of the shrub vegetation is *Prunus stepposa*. On granite rocks, there are *Allium decipiens*, *Allium flavescens*, *Asplenium septentrionale*, *Asplenium trichomanis*, *Aurinia saxatilis*, *Centaurea pseodoleucolepis*, *Festuca valesiaca*, *Otites hellmannii*, *Rosa subpygmaea*, *Spiraea hypericifolia*.
Botanical significance. Two species have all their natural range inside this area: *Achillea glaberrima*, *Centaurea pseudoleucolepis*. Important area for conservation of steppe thickets and siliceus outcrops.
Criterion A

- *Achillea glaberrima* Klokov; A(ii); abundance: frequent (8 000 000 individuals); trend: stable; species data quality: good; trend data quality: good.
- *Astragalus tanaiticus* K. Koch.; A(i), A(ii); abundance: rare; trend: fluctuating; species data quality: medium; trend data quality: poor.
- *Centaurea pseudoleucolepis* Kleopow.; A(i), A(ii); abundance: frequent (150 000 individuals); trend: decreasing; species data quality: good; trend data quality: good.

Criterion C

- F3.247 Ponto-Sarmatic deciduous thickets; area: 20 ha; trend: increasing; area data quality: good; trend data quality: good.
- H3.1 Acid siliceous inland cliffs; area: 1 ha; trend: stable; area data quality: medium; trend data quality: good. Note: On the site, there prevail horizontal granite outcrops (about 30 ha) that are not meet the habitat type H3.1 including only vertical outcrops.

Literature

1. Білик Г.І., Панова Л.С. Поновлення степової рослинності в заповіднику Кам'яні Могили після припинення випасання // Укр. ботан. журн. – 1970. – 27, № 6. – С. 711–715.
2. Бойко М.Ф. Участь мохоподібних у формуванні фітоценозів заповідника "Кам'яні Могили" // Укр. ботан. журн. – 1979. – 36, № 5. – С. 478–483.
3. Коломійчук В.П., Остапко В.М., Яровий С.С. ПЗ Український степовий // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 336–378.
4. Лисенко Г.М. Моніторинг фітосистем заповідного степу "Кам'яні Могили" // Чорноморський ботанічний журнал. – 2008. – 65, № 1 – С. 89–97.
5. Осычнюк В.В., Генов А.П., Генова Л.Ф. Флора Украинского степного заповедника

(аннотированный список сосудистых растений). – М., 1988. – 44 с.

6. Ткаченко В.С. Резерватні сукцесії та охоронний режим степової рослинності в заповіднику “Кам’яні Могили” // Укр. ботан. журн. – 1992. – 49, № 6. – С. 18–22.

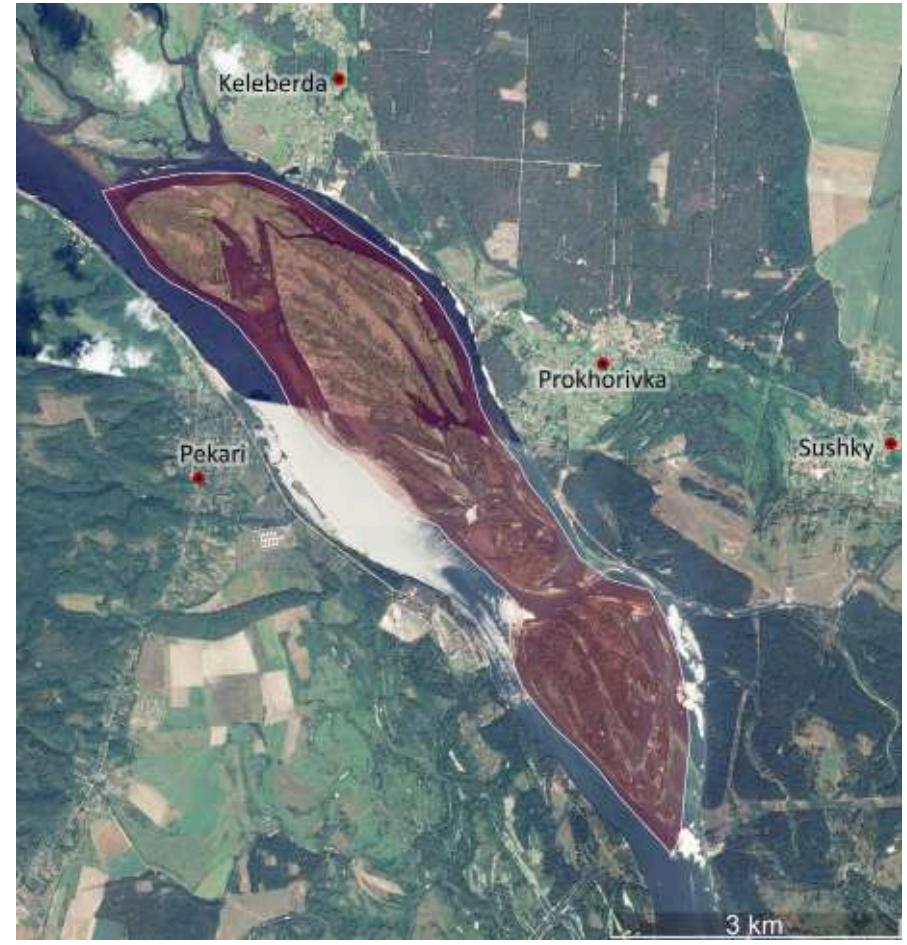
7. Ткаченко В.С., Генов А.П., Сіренко В.О. Саморозвиток фітосистем заповідного степу “Кам’яні Могили” (Донецька область) // Український ботанічний журнал. – 2003. – 60, № 3. – С. 248–255.

8. Ткаченко В.С., Дідух Я.П., Генов А.П. та ін. Український природний степовий заповідник. Рослинний світ. – К.: Фітосоціоцентр, 1998. – 280 с.

Kanivski Ostrovy

V.A. Onyshchenko

Ukrainian name: Канівські острови.
Transliteration/Translation variants: Kaniv Islands.
Area: 1136 ha.
Altitude: 81–89 m.
Latitude: 49°42’16” N (49.7045°).
Longitude: 31°55’14” E (31.5873°).
Administrative regions. Cherkasy region: Kaniv raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 40%; D – 2%; E – 16%; F – 17%; G – 25%.
Habitats. Level 2. C1 Surface standing waters – 10%; C2 Surface running waters – 28%; C3 Littoral zone of inland surface waterbodies – 2%; D5 Sedge and reedbeds, normally without free-standing water – 2%; E1 Dry grasslands – 5%; E3 Seasonally wet and wet grasslands – 8%; E5 Woodland fringes and clearings and tall forb stands – 3%; F9 Riverine and fen scrubs – 17%; G1 Broadleaved deciduous woodland – 25%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; C3.5 Periodically inundated shores with pioneer and ephemeral vegetation; C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.3 Mediterranean riparian woodland.
Land use: conservation and research – 44%.
Protected areas: overlaps (686 ha) with Kanivskyi nature reserve, overlaps (686 ha) with Emerald Site “Kanivskyi Nature Reserve”.
Threats: abandonment/reduction of land management – low.
General description. Several floodplain islands of variable configuration in the valley of the Dnipro. A big area is occupied by riverine woods and shrubs. Tree layer of the woods is dominated by *Populus alba*, *Populus nigra*, *Salix alba*. Species of high constancy: *Acer negundo*, *Aristolochia clematitis*, *Galium verum*, *Myosotis palustris*, *Poa nemoralis*, *Polygonum hydropiper*, *Rubus caesius*, *Symphytum officinale*. Main dominants of shrub communities are *Amorpha fruticosa* and *Salix acutifolia*. Psammophytic communities dominated by *Koeleria glauca* s.l., *Festuca beckeri*, *Secale sylvestre*, *Calamagrostis epigeios*, *Carex colchica*, *Sedum sexangulare* and unmanaged mesic and wet grasslands dominated by *Alopecurus pratensis*, *Arrhenatherum elatius*, *Carex praecox*, *Elytrigia repens*, *Festuca pratensis*, *Gratiola officinalis*, *Lycopus exaltatus*, *Lysimachia vulgaris*, *Lythrum salicaria*, *Lythrum virgatum*, *Poa palustris* occupy about 200 ha.



Botanical significance. The area is noted for conservation of comlexes of a big river (forests, shrubs, littoral and aquatic vegetation).
Criterion C

- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; area: 1 ha; trend: fluctuating; area data quality: poor; trend data quality: medium

- C3.51 Euro-Siberian dwarf annual amphibious swards; area: 3 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E5.4 Moist or wet tall-herb and fern fringes and meadows; area: 30 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- F9.1 Riverine scrub; area: 180 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.11 Riverine *Salix* woodland; area: 80 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.3 Mediterranean riparian woodland; area: 200 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

1. Шевчик В.Л. ПЗ Канівський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 151–169.

2. Шевчик В.Л., Соломаха В.А. Синтаксономія рослинності островів Круглик та Шелестів Канівського природного заповідника // Укр. фітоцен. зб., 1997. – Сер. А, Вип. 1. – С. 12–27.

3. Шевчик В.Л., Соломаха В.А., Войтюк Ю.О. Синтаксономія рослинності та список флори Канівського природного заповідника // Укр. фітоцен. зб, 1996. – Сер В., Вип. 1. – С. 1–119.

Kaplivka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Каплівка.
Area: 32.8 ha.
Altitude: 192-232 m.
Latitude: 48°25’33” N (48.4258°).
Longitude: 26°33’16” E (26.5545°).
Administrative regions: Chernivtsi region: Khotyn raion.
Ownership: state.
Biogeographiczones: continental.
Habitats. Level 1. G1 – 100.0%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 100.0 %;
Futher habitat description: G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.
Landuse: forestry – major.
Protected areas: –.
Threats: forestry (intensified forest management) – medium.
General description. Broadleaved forest with dominance of *Quercus robur* and significant admixture of *Tilia cordata*, *Carpinus betulus*, *Fraxinus excelsior*, *Acer campeste*, *Acer pseudoplatanus*, *Acer platanoides*, *Cerasus avium*. The shrub layer consists of *Acer tataricum*, *Swida sanguinea* (*Cornus sanguinea*), *Corylusa avellana*, *Sambucus nigra, Euonymus europaeus*, *Euonymus verrucosus*, *Viburnum lantana*. Typical species of the herb layer are: *Isopyrum thalictroides, Ficaria verna, Corydalis cava*, *Corydalis solida*, *Arum besserianum*, *Polygonatum hirtum, Pulmonaria obscura, Aegopodium podagraria, Asarum europaeum*,

Brachypodium sylvaticum, *Viola mirabilis, Lathyrus vernus*, *Hedera helix*, *Hepatica nobilis*.
Botanical significance. One of the best populations of *Fritillaria montana* in Ukraine.

Criterion A

- *Fritillaria montana* Hoppe; A (ii); abundance: rare; trend: stable; species dataquality: good; trend data quality: poor.

Conservation proposals. Create a state botanical reserve and an Emerald Site.
Literature

1. Каземірська М.А., Чорней І.І. Вікова та просторова структури популяцій *Fritillaria montana* Норре у Прут-Дністровському межиріччі // Біологічні системи. – 2010. – Т. 2., Вип. 2. – С. 62-66.

2. Каземірська М.А., Токарюк А.І., Чорней І.І. Насіннєва продуктивність *Fritillaria montana* Норре (*Liliaceae*) в популяціях на північно-східній межі ареалу (середнє Прут-Дністров’я) // Заповідна справа в Україні. – 2010. – Т. 16, вип. 2.. – С. 9-14.

3. Каземірська М.А., Чорней І.І. *Fritillaria montana*Норре (*Liliaceae*): географічна характеристика, поширення в Україні // Науковий вісник Чернівецького університету. Біологія (Біологічні системи). – 2010. – Т. 2, Вип. 3. – С. 63-68.

4. Каземірська М.А., Чорней І.І. Стан популяцій *Fritillaria montana* Норре (*Liliaceae*) на крайній північно-східній межі ареалу // Ботаніка та мікологія: проблеми і перспективи на 2011-2020 роки (Матеріали Всеукраїнської наукової конференції, Київ, 6-8 квітня 2011 року) / Під. ред. І.О. Дудки та С.Я. Кондратюка. – К.: Інститут ботанікиім. М.Г. Холодного, 2011. – С. 65-67.

5. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.

Karadah

V.A. Onyshchenko

Ukrainian name: Карадаг.
Transliteration/Translation variants: Karadag, Kara Dag, Kara Dağ.
Area: 3001.0 ha.
Altitude: 0–577 m.
Latitude: 44°55’56” N (44.9323°).
Longitude: 35°13’25” E (35.2236°).
Administrative regions. Autonomous Republic of Crimea: Feodosia city; Territorial waters of Ukraine.
Ownership: state.

Biogeographic regions: steppic.
Habitats. Level 1. A – 24.0%; B – 0.2%; E – 17.5%; F – 3.3%; G – 47.0%; H – 8.0%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.1%; A2 Littoral sediment – 0.1%; A3 Infralittoral rock and other hard substrata – 15.5%; A5 Sublittoral sediment – 8.3%;

B2 Coastal shingle – 0.1%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.1%; E1 Dry grasslands – 17.5%; F3 Temperate and mediterranean-montane scrub – 1.3%; F7 Spiny Mediterranean heaths – 2.0%; F9 Riverine and fen scrubs – 0.0%; G1 Broadleaved deciduous woodland – 36.4%; G3 Coniferous woodland – 10.6%; H2 Screes – 1.0%; H3 Inland cliffs, rock pavements and outcrops – 6.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.5 Coastal saltmarshes and saline reedbeds; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.5 Sublittoral macrophyte-dominated sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E1.3 Mediterranean xeric grassland; F3.2 Submediterranean deciduous thickets and brushes; F7.4 Hedgehog-heaths; F9.3 Southern riparian galleries and thickets; G1.7 Thermophilous deciduous woodland; G1.A1 *Quercus – Fraxinus – Carpinus betulus* woodland on eutrophic and mesotrophic soils; G3.9 Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*; G3.F Highly artificial coniferous forestry plantations; G5.61 Deciduous shrub woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: nature conservation and research – 95%; tourism/recreation – minor.
Protected areas: overlaps (2860 ha) with Karadazkyi nature reserve, overlaps (2860 ha) with Emerald Site “Karadazkyi Nature Reserve”.
Threats: development (recreation/tourism) – low, eutrophication – low.
General description. IPA is located in the eastern part of the Crimean mounains and includes 809 ha of the Black Sea. A part of the area are typical of Crimea. Mountains of this territory are composed of limestone. Closer to the sea, there prevail volcanic rocks (tuffs, liparites). The largest area (about 600 ha) is occupied by mesic *Quercus pubescens* forests with the shrub layer dominated by *Cornus mas*. *Aegonychon purpureo-caeruleum* prevails in the herb layer. Constant species are *Acer campestre*, *Asparagus verticillatus*, *Carex hallerana*, *Dictamnus gymnostylis*, *Laser trilobum*, *Mercurialis perennis*, *Paeonia daurica*, *Physospermum cornubiense*, *Polygonatum hirtum*. Besides there are about 200 ha of dry open *Quercus pubescens* woods with *Paliurus spina-christi*, *Juniperus oxycedrus*, *Pyrus eleagnifolia*, *Jasminum fruticans*, *Cotinus coggygria*, *Rosa canina* s.l., *Festuca rupicola*, *Festuca callieri*, *Elytrigia nodosa*. At higer altitudes, there are *Quercus petraea* woods with dominance or co-dominance of *Carpinus betulus*, *Physospermum cornubiense*, *Mercurialis perennis*, *Galanthus plicatus*, *Corydalis marschalliana* and *Fraxinus excelsior* woods with dominance of *Physospermum cornubiense* and *Ranunculus constantinopolitanus* in the herb layer. Open woods of *Juniperus excelsa* occupy about 37 ha. Steppe vegetation covers about 400 ha. Typical dominants of the steppe vegetation are *Festuca valesiaca*, *Festuca callieri*, *Stipa pontica*; species of high constancy: *Achillea nobilis*, *Aegilops triuncialis*, *Botriochloa ischaemum*, *Centaurea diffusa*, *Filipendula vulgaris*, *Galatella villosa*, *Helianthemum salicifolium*, *Inula oculus-christi*, *Jurinea sordida*, *Koeleria cristata*, *Thesium arvense*, *Teucrium polium*, *Veronica capsellicarpa*, *Velezia rigida*. Steppes dominated by *Bromopsis cappadocica* or *Stipa brauneri* occur on stony soils. Steppes dominated by *Elytrigia nodosa*, *Agropyron ponticum*, *A. pectinatum* have high constacies of *Alyssum*

hirsutum, *Alyssum umbellatum*, *Bromus squarrosus*, *Crupina vulgaris*, *Eryngium campestre*, *Jurinea stoechadifolia*, *Poa sterilis*. Ephemeral grasslands dominated by *Aegilops triuncialis*, *Anisantha sterilis*, *Anisantha tectorum* occupy about 40 ha. In summer *Cynodon dactylon* and *Elytrigia repens* dominate in these places. Major dominants of marine vegetation on sublittoral rock, boulders and pebble are *Cladophora dalmatica*, *Cladostephus verticillatus*, *Corallina mediterranea*, *Cystoseira crinita*, *Cystosera barbata*, *Phyllophora nervosa*. At oligotrophic sites at depth 1–5 m, there occur communities co-dominated by *Dilophus fasciola* f. *repens*, *Polysiphonia opaca*, *Ceramium ciliatum*, *Enteromorpha compressa*. *Polysiphonia elongata* and *Zanardinia prototypus* dominate on sand at depth more than 15 m. *Nemalion helminthoides* and *Laurencia papillosa* dominates on littoral rocks, *Enteromorpha linza* and *Ulva rigida* – on stones at the water's edge at eutrophic sites. Decreasing trend in biomass of algae and in area of oligotrophic communities exists because of eutrophication of the sea.

Botanical significance. This area is the richest in narrow endemic species part of Ukraine. Flora of Karadah includes two narrow endemic species: *Cerastium stevenii*, *Crataegus pojarkovae*. Important area for conservation of deciduous woods, *Juniperus excelsa* woodlands, dry grasslands, tomillares and marine vegetation.

Criterion A

- *Astracantha arnacantha* (M.Bieb.) Podlech; A(iv); abundance: frequent, 5000 individuals; trend: stable; species data quality: good; trend data quality: poor.
- *Centaurea sarandinakiae* Illar.; A(iv); abundance: occasional, >500 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Cephalaria demetrii* Bobrov; A(iii); abundance: rare, 150 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Crambe aspera* M. Bieb.; A(iv); abundance: rare, 100 individuals in 2 localities; trend: unknown; species data quality: good; trend data quality: poor.
- *Crambe koktebelica* (Junge) N.Busch; A(ii); abundance: >100 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Crambe pinnatifida* W.T.Aiton.; A(iv); abundance: rare; trend: unknown; species data quality: good; trend data quality: poor.
- *Crambe steveniana* Rupr.; A(iv); abundance: rare; trend: unknown; species data quality: good; trend data quality: poor.
- *Crataegus pojarkovae* Kossych; A(iii); abundance: rare, 100 individuals; trend: stable; species data quality: good; trend data quality: poor.
- *Eremurus tauricus* Steven; A(iv); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.
- *Himantoglossum caprinum* (Bieb.) C.Koch.; A(ii), A(iv); abundance: frequent, >8000 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Onobrychis pallasii* (Willd.) M.Bieb.; A(iii); abundance: rare, 150 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Onosma polyphylla* Ledeb.; A(ii), A(iv); abundance: occasional, 3000 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Ophrys oestrifera* Bieb.; A(ii); abundance: rare, 120 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Orchis punctulata* Steven ex Lindl.; A(ii); abundance: rare, 40 individuals; trend: unknown; species data quality: good; trend data quality: poor.
- *Rhus coriaria* L.; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: medium.
- *Stipa poëtica* Klokov; A(iv); abundance: occasional; trend: unknown; species data quality: poor; trend data quality: poor.
- *Stipa syreistschikowii* P.Smirn.; A(ii), A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Tilia dasystyla* Stev.; A(iv); abundance: rare, 70 generative individuals; trend: unknown; species data quality: good; trend data quality: poor.

Criterion B

- G1 deciduous broadleaved woodland; area 1090 ha; % of indicator species: 30.0%; No of indicator species: 20; trend: increasing; species data quality: good; area data quality: good; trend data quality: medium.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 300 ha; trend: stable; area data quality: medium; trend data quality: medium .
- F7 Spiny Mediterranean heaths; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G3.9 Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*; area: 37 ha; trend: stable; area data quality: medium; trend data quality: medium.
- H3.2 Basic and ultra-basic inland cliffs; area: 200 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Безнис Н.Г., Копачевская Е.Г. Лишайники Карадагского государственного заповедника // V съезд Украин. ботан. о-ва (Ялта, апрель 1982 г.). – Киев: Наукова думка. – 1982. – С. 333.
2. Вассер С.П., Бухтіярова Л.Н. Прісноводні діатомові водорості (*Baccilariophyta*) Ялтинського та Карадазького заповідників // Укр. ботан. журн. – 1990. – 47. – № 6. – С. 28–30.
3. Виноградова О.М. Синьозелені водорості грунтів Карадазького державного заповідника // Укр. ботан. журн. – 1989. – 46, № 1. – С. 40–45.
4. Виноградова О.Н. *Cyanophyta* водоемов Карадагского государственного заповедника (Крым, Украина) // Альгология. – 1995 . – 5. – № 3. – С. 276–286.
5. Войцехович А.А. Фотобионты и водоросли-эпифиты литофильных лишайников Берегового хребта Карадагского природного заповедника (Крым, Украина) // Актуальні проблеми ботаніки та екології. Вип. 2. – Київ: Фітосоціоцентр. – 2008. – С. 46–51.
6. Войцехович А.О., Димитрова Л.В. Нові та цікаві знахідки представників родів *Printzina* R.H.Thomps. et Wujek. і *Trentepohlia* C.F.P. Maretius (*Trentepohliaceae*, *Chlopophyta*) // Укр. ботан. журн. – 2011. – 68, № 5. – С. 739–752.
7. Гелюта В.П., Андріанова Т.В. Фітопатогенні філофільні та гербофільні гриби Карадагського державного заповідника // Укр. ботан. журн. – 1984. – 41. – № 4. – С. 33–37.
8. Гелюта В.П. Видовий склад борошнисто-росяних грибів (*Erysiphaceae*) Карадагського державного заповідника // Укр. ботан. журн. – 1985. – 42. – № 5. – С. 36–39.
9. Гелюта В.П. Розподіл борошнисто-росяних грибів (*Erysiphaceae*) за рослинними угрупованнями Карадазького державного заповідника // Укр. ботан. журн. – 1986. – 43. – № 6. – С. 12–15.
10. Генералова В.Н. Водоросли Черного моря района Карадагской биологической станции // Труды Карадагской биологической станции. – 1950. – Вып. 10. – С. 106–147.
11. Дарієнко Т.М. Почвенные водоросли заповедников Горного Крыма (Украина) // Альгология. – 2000. – 10, №1. – С. 54–62.

12. Дидух Я.П., Вакаренко Л.П., Шеляг-Сосонко Ю.Р. Геоботаническая карта Карадага (Крым) как основа для изучения антропогенных сукцессий растительности // Геоботаническое картографирование. – Л.: Наука, Ленинградское отделение. – 1981. – С. 25–33.
13. Дидух Я.П., Шеляг-Сосонко Ю.Р. Карадагский государственный заповедник. Растительный мир. – Киев: Наук. думка, 1982. – 152 с.
14. Дикий Є.О. Сукцесії донної рослинності шельфу південно-східного Криму. Автореферат дисс... канд. біол. наук. – Київ, 2007. – 23 с.
15. Згуровская Л.Н. Сравнение таксономического состава диатомовых водорослей в планктоне и в донных осадках у берегов Карадага // Океанология. – 1979. – 9. – Вып. 6. – С. 1087–1093.
16. Ісіков В.П. Ксилотрофні мікроміцети Криму // Укр. ботан. журн. – 2003. – 60, № 4. – С. 447–463.
17. Калугина-Гутник А.А. Донная растительность района Карадага Черного моря и ее изменения за последние 20 лет // Биология моря. – Киев. – 1976. – Вып. 36. – С. 3–17.
18. Калугина-Гутник А.А. Изменение донной растительности района Карадага за период 1970–1980 гг. // Многолетняя динамика структуры прибрежных экосистем Черного моря. – Краснодар: Кубанский госуниверситет. – 1984. – С. 85–96.
19. Карадаг. Гидробиологические исследования (Сборник научных трудов, посвящённый 90-летию Карадагской научной станции им. Т.И. Вяземского и 25-летию Карадагского природного заповедника НАН Украины). Книга 2-я. / Под ред. А.Л. Морозовой, В.Ф. Гнюбкина. – Симферополь: СОНАТ, 2004. – 500 с.
20. Карадаг. История, биология, археология (Сборник научных трудов, посвящённый 85-летию Карадагской биологической станции им. Т.И. Вяземского) / Под ред. А.Л. Морозовой, В.Ф. Гнюбкина. – Симферополь: СОНАТ, 2001. – 304 с.
21. Карадаг – 2009: Сборник научных трудов, посвящённый 95-летию Карадагской научной станции и 30-летию Карадагского природного заповедника Национальной академии наук Украины / Ред. А.В. Гаевская, А.Л. Морозова. – Севастополь: ЭКОСИ-Гидрофизика, 2009. – 575 с
22. Клюкин А.А., Костенко Н.С. Воздействие экстремальных штормов на рельеф и прибрежные сообщества эпибентоса Крыма // Гидробиологические исследования в заповедниках. – Вып. 8. – М. – 1996. – С. 140–150.
23. Костенко Н.С. Картирование фитобентоса акватории Карадагского государственного заповедника АН УССР (Черное море) // Ботан. журн. – 1988. – 73, №11. – С. 1590–1596.
24. Костенко Н.С. Антропогенные изменения донной растительности Карадагского заповедника // Научные доклады высшей школы. Биологические науки. – М.: Высшая школа. – 1990. – № 9 (321). – С. 101–110.
25. Костенко Н.С. 100-летие гидробиологических исследований на Карадаге: итоги и перспективы // Заповедники Крыма. Биоразнообразие и охрана природы в Азово-Черноморском регионе. Материалы VI Международной научно-практической конференции (Симферополь, 20–22 октября 2011 г.). – Симферополь. – 2011. – С. 63–68.
26. Костенко Н.С., Дикий Є.О., Заклецький О.А. Просторовий розподіл та зміни донної рослинності Карадазького природного заповідника // Укр. бот. журн. – 2006. – 63, № 2. – С. 243–251.
27. Костенко Н.С., Дикий Е.А., Заклецкий А.А., Марченко В.С. Многолетние изменения в сообществах макрофитобентоса района Карадага (Крым, Черное море) // Морской экологический журнал. Отдельный выпуск. – 2005. – № 1. – С. 48–60.
28. Миронова Л.П., Каменских Л.Н. Сосудистые растения Карадагского заповедника (аннотированный список видов) / Флора и фауна заповедников. – М., ЦНИИТЭИлегпрома, 1995. – Вып. 58. – 102 с.
29. Миронова Л.П., Костенко Н.С., Дідух Я.П., Онищенко В.А., Войцехович А.О. ПЗ Карадазький // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 170–197.
30. Миронова Л.П., Таран Т.А. Состояние раритетного генофонда высших сосудистых растений Карадагского природного заповедника НАН Украины // Флорологія та фітосозологія. Т.1. Збірник наукових праць, присвячених 30-річчю Всеукраїнської секції охорони рослинного світу ім. Б.В. Заверухи Українського товариства охорони природи. – Київ: Фітон. – 2011. – С. 89–102.
31. Миронова Л.П., Шатко В.Г. Популяционное изучение редких растений в Карадагском заповеднике // Редкие виды растений в заповедниках. Сб. науч. тр. ЦНИЛ Главохоты РСФСР. – М., 1987. – С. 95–108.
32. Партика Л.Я. Бріофлора Карадазького заповідника // Укр. ботан. журн. – 1986. – 43, № 3. – С. 26–30.
33. Природа Карадага / М.М. Бескаравайный, Н.С. Костенко, Л.П. Миронова; под ред.: А. Л. Морозова, А. А. Вронский; АН Украинской ССР, Ин-т биологии Южных морей им. А.О. Ковалевского, Карадагский филиал. – Киев: Наукова думка, 1989 . – 286 с.
34. Флора и фауна заповедников. Водоросли, грибы, мохообразные Карадагского заповедника / ред.: В. Е. Соколов, Т. М. Корнеева. – М., 1992. – 65 с.
35. Ходосовцев О.Є. Анотований список лишайників Карадазького природного заповідника // Вісті біосферного заповідника “Асканія-Нова”. – 2003. – Т. 5. – С. 33–45.
36. Шатко В.Г., Миронова Л.П. Состояние популяций некоторых редких растений в Карадагском государственном заповеднике // Бюл. Гл. ботан. сада. – 1986. – Вып. 141. – С. 61–67.

Karalarskyi Step

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Караларський степ.
Transliteration/Translation variants: Karalar Steppe.
Area: 10096.0 ha.
Altitude: 0–156 m.
Latitude: 45°27’07” N (45.4519°).
Longitude: 36°12’49” E (36.2135°).
Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 2.1%; C – 7.8%; B – 0.4%; D – 0.1%; E – 84.4%; F – 0.2%; H – 4.0%; I – 1.0%.

Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.1%; A2 Littoral sediment – 0.1%; A3 Infralittoral rock and other hard substrata – 0.2%; A5 Sublittoral sediment – 1.7%; B1 Coastal dunes and sandy shores – 0.1%; B2 Coastal shingle – 0.2%; B3 Rock cliffs, ledges

and shores, including the supralittoral – 0.1%; D6 Inland saline and brackish marshes and reedbeds – 0.1%; E1 Dry grasslands – 84.3%; E6 Salt steppes – 0.1%; F3 Temperate and mediterranean-montane scrub – 0.2%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 3.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.3%; I1 Arable land and market gardens – 1.0%.

Futher habitat description. A2.1 Littoral coarse sediment; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.4 Sublittoral mixed sediments; B1.2 Sand beaches above the driftline; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; D6.1 Inland saltmarshes; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes (80% of the IPA); E6.2 Continental inland salt steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas, I1.5 Bare tilled, fallow or recently abandoned arable land.

Land use: agriculture (animals) – minor, mowing/hay making – minor, nature conservation and research – major, tourism/recreation – minor.

Protected areas: overlaps (about 6440 ha) with Karalarskyi regional landscape park, includes “Ozero Chokrak” (1000 ha) regional hydrological reserve, overlaps (9885 ha) with Emerald Site (“Karalarskyi”).

Threats: development (recreation/tourism) – low.

General description. Major habitat type is the steppe. Dominant species are *Stipa brauneri*,

Stipa pulcherrima, *Stipa capillata*, *Festuca rupicola*, *Festuca valesiaca*, *Festuca pseudovina*, *Bromopsis cappadocica*. The largest area is dominated by *Stipa brauneri*. Typical species are *Aegilops cylindrica, Cerastium tauricum*, *Koeleria cristata, Festuca rupicola, Galatella villosa, Poa bulbosa*. On the tops of the ridges, there is the steppe vegetation dominated by *Stipa capillata* and co-dominated by *Artemisia taurica* and *Galatella villosa*. On the gentle slopes near the inlets, there are the sandy steppes. They are formed by *Stipa boryshenica*, *Carex colchica*, *Festuca beckeri*, *Jurinea longifolia*. On the calcareous outcrops and screes, there prevail *Anisantha tectorum*, *Alyssum calycocarpum*, *Ephedra distachya*, *Euphorbia petrophilla*, *Poa bulbosa*, *Pimpinella lithophila*. On clay outcrops, there dominate *Elytrigia repens*, *Bromopsis cappadocica, Dactylis glomerata, Poa bulbosa*, *Medicago minima*. On calcareous rocks by the sea, there are *Puccinellia distans*, *Kochia prostrata*, *Halimione verrucifera*, *Holosteum umbellatum*, *Anisantha tectorum, Elytrigia bessarabica*. Prevailing species on the sand and shell beach are *Leymus sabulosus*, *Cakile euxina*, *Crambe pontica*. Other typical species of this habitat are *Euphorbia peplis*, *Lactuca tatarica*, *Pleconax subconica*, *Salsola kali*. subsp. *pontica*, *Xanthium albinum*. On the slopes of northern aspects, there is the shrub vegetation dominated by *Crataegus dipyrena*, *C. monogyna*, *C. taurica*, *Prunus spinosa*, *Rosa spinosissima*, *Sambucus nigra*. There occur *Swida australis* (*Cornus australis*), *Ligustrum vulgare*, *Celtis glabrata*. The herb layer is composed of *Arum elongatum*, *Anthriscus longirostris*, *Cerastium tauricum, Galium aparine*, *Rumex euxinus*. The IPA includes salt Lake Chokrak (850 ha). The lake is shallow (average 0.85 m). In its littoral, there are communities of *Salicornia perennans*, *Suaeda prostrata*, *Spergularia media*, *Halocnemum strobilaceum*, *Halimione verrucifera*.

Botanical significance. One of the largest areas of the steppe vegetation in Ukraine. Important for two threatned species of *Crambe* and seaside endemic species *Thymus littoralis*.

Criterion A

- *Crambe grandiflora* DC.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Crambe mitridatis* Juz.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Thymus littoralis* Klokov et Shost.; A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 8000 ha; trend: stable; area data quality: medium; trend data quality: medium
- F3.247 Ponto-Sarmatic deciduous thickets; area: 15 ha; trend: unknown; area data quality: medium; trend data quality: poor.

Literature

1. Дідух Я.П., Шеляг-Сосонко Ю.Р. Ковиловий степ Чигини (Крим) // Укр. ботан. журн. – 1980. – 37, № 4. – С. 79–84.

2. Коломійчук В.П. Флора Караларського регіонального ландшафтного парку (АР Крим) // Укр. ботан. журн. – 2013. – 70, № 3. – С. 326–329.

3. Корженевский В. В., Клюкин А. А. Растительность абразионных и аккумулятивных форм рельефа морских побережий и озер Крыма. – Ялта: ГНБС, 1990. – 108 с. – Деп. в ВИНИТИ 10.07.90, № 3822-В90.

4. Котова И.Н. Флора и растительность Керченского полуострова // Тр. Никит. ботан. сада. Материалы по флоре и растительности Крыма. – 1961. – Т. 35. – С. 64–168.

5. Новосад В.В. Флора Керченско-Таманского региона. – Киев: Наукова думка. –

1992. – 280 с.

6. Парнікоза І.Ю., Годлевська О.В., Зімнухов Р.О. Шляхи збереження унікальних степових біотопів та археологічної спадщини у Караларському Приазов'ї // Заповідна справа в Україні. – 2010. – Т. 16, вип. 2. – С. 99–104.

Kasova Hora

V.A. Onyshchenko, N.V. Shumska

Ukrainian name: Касова гора.
Transliteration/Translation variants: Kasova Gora, Kasova Mount, Kasova Hill.
Area: 149.7 ha.
Altitude: 250–335 m.
Latitude: 49°13'17" N (49.2214°).
Longitude: 24°42'18" E (24.7048°).
Administrative regions. Ivano-Frankivsk region: Halych raion.
Ownership: state, private.
Biogeographic regions: continental

Habitats. Level 1. E – 96.0%; F – 3.8%; G – 0.2%.
Habitats. Level 2. E1 Dry grasslands – 96.0%; F3 Temperate and mediterranean-montane scrub – 3.8%; G1 Broadleaved deciduous woodland – 0.2%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub .
Land use: nature conservation and research – major.
Protected areas: overlaps (65 ha) with Halytskyi national nature park, overlaps (65 ha) with Emerald Site "Halytskyi National Nature Park".
Threats: abandonment/reduction of land management – medium, agricultural intensification/expansion (grazing) – low, burning of vegetation – low, development (recreation/tourism) – low.
General description. A hill with the steppe vegetation. Dominant species are *Brachypodium pinnatum*, *Carex humilis*, *Elytigia intermedia*, *Festuca valesiaca*, *Stipa capillata*, *Salvia pratensis*, *Trifolium montanum*, *Teucrium chamaedrys*. Other typical species are *Adonis vernalis*, *Anemone sylvestris*, *Anthericum ramosum*, *Asperula cynanchica*, *Aster amellus*, *Bupleurum falcatum*, *Campanula glomerata*, *Campanula sibirica*, *Centaurea scabiosa*, *Chamaecytisus ruthenicus*, *Filipendula vulgaris*, *Galium verum*, *Geranium sanguineum*, *Inula ensifolia*, *Inula hirta*, *Peucedanum cervaria*, *Prunella grandiflora*, *Salvia pratensis*, *Salvia verticillata*, *Thalictrum minus*, *Veronica spicata*. There are gypsum outcrops. A part of the area belongs to the zone of strict protection of national park "Halytskyi".
Botanical significance. The largest meadow steppe in Western Ukraine. Important for *Carlina cirsioides, Pulsatilla grandis* and other species of meadow steppes.
Criterion A

- *Carlina cirsioides* Klokov; A(iv); abundance: occasional (967 individuals); trend: decreasing; species data quality: good; trend data quality: poor.
- *Pulsatilla grandis* Wend.; A(ii); abundance: frequent (10 000 individuals); trend: stable; species data quality: good; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 140 ha; trend: stable; area data quality: good; trend data quality: medium.

Literature

1. Куковиця Г.С. Найбільша ділянка ковилового степу на Поділлі // Укр. ботан. журн. – 1970. – 27, № 1. – С. 111–113.

2. Куковиця Г.С., Мовчан Я.І., Соломаха В.А., Шеляг-Сосонко Ю.Р. Синтаксономія лучних степів Західного Поділля // Укр. ботан. журн. – 1994. – 51, № 2–3. – С. 35–48.

3. Куковиця Г.С., Дідух Я.П., Шеляг-Сосонко Ю.Р., Абдулоєва О.С. Синтаксономія лучних степів пам'яток природи республіканського значення гг. Касова та Чортова // Укр. фітоцен. збірн. Серія А. Фітосоціологія. – 1998. – Вип. 2 (11). – С. 42–61.

4. Скоропляс І.О. Сучасний стан популяцій *Carlina cirsioides* га горі Касова // Вісник Дніпропетровського державного аграрно-економічного університету. – 2014. – 33, № 1. – С. 143–145.

5. Чуй О.В., Шумська Н.В. Поширення видів роду *Pulsatilla* Mill. у Галицькому національному природному парку та на прилеглих територіях // Рослинний світ у Червоній книзі України: впровадження глобальної стратегії збереження рослин. Матер. Міжнар. наук. конф. (м. Київ, 11–15 жовтня 2010 р.). – К.: Альтерпрес, 2010. – С. 205–209.

6. Шеляг-Сосонко Ю.Р., Дідух Я.П., Єременко Л.П. та ін. Рослинність Касової гори (Опілля) // Укр. ботан. журн. – 1981. – 38, № 3. – С. 60–66.

7. Шумська Н.В., Онищенко В.А., Маланюк В.Б. НПП Галицький // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 105–123.

Kazantyp

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Казантип.
Area: 522.5 ha.
Altitude: 0–107 m.
Latitude: 45°28′16″ N (45.4711°).
Longitude: 35°50′36″ E (35.8433°).
Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 22.0%; B – 1.4%; E – 67.1%; H – 9.5%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.6%; A2 Littoral sediment – 0.1%; A3 Infralittoral rock and other hard substrata – 8.0%; A5 Sublittoral sediment – 13.3%; B1 Coastal dunes and sandy shores – 0.1%; B2 Coastal shingle – 0.1%; B3 Rock cliffs, ledges and shores, including the supralittoral – 1.2%; E1 Dry grasslands – 67.1%; H2 Screes – 0.3%; H3 Inland cliffs, rock pavements and outcrops – 9.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.

Futher habitat description. A2.1 Littoral coarse sediment; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.4 Sublittoral mixed sediments; A5.5 Sublittoral macrophyte-dominated sediment; B1.2 Sand beaches above the driftline; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: nature conservation and research – major.
Protected areas: includes Kazantypskyi nature reserve (450.1 ha), includes Ramsar Site “Aquatic-cliff complex of cape Kazantyp” (251 ha), overlaps (410 ha) with Emerald Site “Kazantypskyi Nature Reserve”.
Threats: –.
General description. Major habitat type is the stony steppe. It is dominated by *Bromopsis cappadocica*, *Crinitaria villosa*, *Festuca pseudodalmatica, Festuca pseudovina*, *Festuca rupicola*, *Koeleria cristata*, *Medicago falcata*, *Stipa capillata*, *Stipa lessingiana*, *Stipa ucrainica*, *Teucrium polium*. On the calcareous outcrops, there prevail *Anisantha tectorum*, *Alyssum calycocarpum*, *Asperula stevenii*, *Cerastium tauricum*, *Clypeola jonthlaspi*, *Ephedra distachya*, *Euphorbia petrophila*, *Pimpinella lithophila*, *Poa bulbosa*. On the supralittoral rocks, there is halophytoc vegetation with dominance of *Puccinellia distans*, *Kochia prostrata*, *Halimione verrucifera*, *Holosteum umbellatum*, *Anisantha tectorum, Elytrigia bessarabica*. Major species of the marine vegetation are *Cladophora albida*, *Cystoseira barbata*, *Enteromorpha prolifera*, *Zannichellia major*, *Zostera noltii* (*Nanozostera noltii*).
Botanical significance. Important area for some steppe species, in particular *Allium pervestitum*, *Crambe grandiflora*, *Crambe grandiflora*, *Crambe mitridatis*, *Crambe pinnatifida*. It harbours a small population of *Ophrys oestrifera* outside its main range. One of the most important areas for conservation of sea-cliffs in Ukraine. The best site of the marine vegetation in the Sea of Azov.
Criterion A

- *Agropyron cimmericum* Nevski; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Allium pervestitum* Klokov.; A(i), A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Crambe grandiflora* DC.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe mitridatis* Juz.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Crambe pinnatifida* W.T.Aiton.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Ophrys oestrifera* M. Bieb.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- B3.3 Rock cliffs, ledges and shores, with angiosperms; area: 2 ha; trend: stable; area

data quality: poor; trend data quality: good.

- H3.511 Limestone pavements; area: 60 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Исиков В.П., Корнилова Н.В. Казантипский природный заповедник // Сборник тр. Никит. ботан. сада. – 2001. – С. 27–40.

2. Корженевський В.В., Квітницька О.А., Садогурський С.Ю. ПЗ Казантипський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 139–150.

3. Садогурская С.А., Садогурский С.Е., Белич Т.В. Аннотированный список фитобентоса Казантипского природного заповедника Труды Никит. ботан. сада. – 2006. – Т. 126. – С. 190–208.

4. Садогурский С.Е., Белич Т.В. Современное состояние макрофитобентоса Казантипского природного заповедника (Азовское море) // Заповідна справа в Україні. – 2003. – Т. 9, вип 1. – С. 10–15.

5. Ходосовцев А.Е. Аннотированный список лишайников Казантипского природного заповедника // Тр. Никит. ботан. сада. – 2006. – Т. 126. – С. 216–221.

Kedryn

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Кедрин.
Area: 225.0 ha.
Altitude: 780–1464 m.
Latitude: 48°25’09” N (48.4191°).
Longitude: 24°01’07” E (24.0187°).
Administrative regions. Zakarpatska region: Tiachiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.2%; E – 0.3%; G – 98.6%; H – 0.9%.
Habitats. Level 2. C2 Surface running waters – 0.2%; E1 Dry grasslands – 0.3%; G3 Coniferous woodland – 95.6%; G4 Mixed deciduous and coniferous woodland – 3.0%; H2 Screes – 0.5%; H3 Inland cliffs, rock pavements and outcrops – 0.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.
Land use: forestry – minor, nature conservation and research – major.
Protected areas: includes Kedrynskyi state botanical reserve (166 ha).
Threats: climate change/sea level rise – low, forestry (intensified forest management)) – low.
General description. *Picea abies* (predominantly) and *Pinus cembra* forests with prevailing of *Vaccinium myrtillus*, *Vaccinium vitis-idaea*, *Calamagrostis villosa*, *Rubus hirtus* in the herb layer and presence of *Betula pendula*, *Dryopteris dilatata*, *Fagus sylvatica*, *Luzula luzuloides*, *Sorbus aucuparia*. The moss layer consists of *Polytrichum formosum*, *Pleurozium schreberi*, *Dicranum scoparium*, *Bazzania trilobata*, *Leucobryum juniperoides, Sphagnum* spp.
Botanical significance. Important area for *Pinus cembra* forests with *Larix polonica*.

Criterion A

- *Larix decidua* Mill. subsp. *polonica*; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- G3.25 Carpathian *Larix* and *Pinus cembra* forests; area: 28 ha; trend: decreasing; area data quality: medium; trend data quality: medium.

Conservation proposals. Do not allow clear fellings including sanitary ones. Create an Emerald Site. Expand Kedrynskyi state botanical reserve.

Literature

1. Природно-заповідний фонд Закарпатської област. – Ужгород: Карпати, 2011. – 256 с.

2. Стойко С.М., Третяк П.Р., Бойчук І.І. Сосна кедрова (*Pinus cembra* L.) на верхній межі лісу у Ґорґанах: хорологія, екологія, фенологія // Науковий вісник ДЛГУ: Дослідження, охорона та збагачення біорізноманіття. – Львів: Вид-во ЛДГУ, 1999. – Вип. 99. – С. 173–179.

Khomutovskyi Step

V.A. Onyshchenko, V.P. Kolomiychuk

Ukrainian name: Хомутовський степ.
Transliteration/Translation variants: Khomutovskyi Steppe, Homutovsky Steppe.
Area: 1059.0 ha.
Altitude: 19–71 m.
Latitude: 47°17′09″ N (47.2857°).
Longitude: 38°11′02″ E (38.1839°).
Administrative regions. Donetsk region: Novoazovsk raion.
Ownership: state.

Biogeographic regions: steppic.
Habitats. Level 1. C – 0.7%; E – 97.2%; F – 2.0%; G – 0.1%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; C2 Surface running waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.5%; E1 Dry grasslands – 96.0%; E2 Mesic grasslands – 1.2%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 0.1%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; F3.2 Submediterranean deciduous thickets and brushes.

Land use: agriculture (animals) – minor; mowing/hay making – minor; nature conservation and research – major.
Protected areas: includes division "Khomutovskyi Step" of Ukrainskyi Stepovyi nature reserve (1030.4 ha), overlaps (1030.4 ha) with Emerald Site "Ukrainskyi Stepovyi Nature Reserve".
Threats: abandonment/reduction of land management – low.
General description. The area is protected since 1926. Major vegetation type is the steppe. Dominant species are *Poa angustifolia*, *Elytrigia repens*, *Elytrigia trichophora, Inula germanica*, *Vicia tenuifolia*, *Thalictrum minus*, *Galatella rossica.* Due to the small biomass of herbivores the vegetation is dominated by bunch grasses (*Festuca valesiaca* s.l., *Stipa capillata*, *Stipa lessingiana*) occupies a lesser area. Typical species are *Artemisia austriaca*, *Artemisia pontica*, *Caragana frutex*, *Centaurea adpressa*, *Euphorbia stepposa*, *Galium octonarium*, *Hypericum elegans*, *Limonium platyphyllum*, *Linaria vulgaris*, *Marrubium praecox*, *Nepeta parviflora*, *Phlomis pungens*, *Salvia nutans*, *Securigera varia*, *Stachys transsilvanica*. Major species of the shrub vegetation are *Rhamnus cathartica*, *Prunus stepposa*, *Caragana frutex*, *Genista scythica*.
Botanical significance. Important area for conservation of the steppe vegetation.
Criterion A

- *Crambe tataria* Sebeok.; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Paeonia tenuifolia* L.; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 1000 ha; trend: stable; area data quality: good; trend data quality: good.

Literature

1. Білик Г.І., Осичнюк В.В., Ткаченко В.С. Рослинний покрив Хомутовського степу за даними крупномасштабного картування // Укр. ботан. журн. – 1975. – 32, № 6. – С. 747–752.

2. Білик Г.І., Ткаченко В.С. Рослинний покрив абсолютно заповідної ділянки Хомутовського степу // Укр. ботан. журн. – 1971. – 28, № 3. – С. 337–342.

3. Гелюта В. П., Генов А. П., Ткаченко В. С., Минтер Д. В. Заповедник "Хомутовская степь". План управления / Под редакцией В. П. Гелюты. – Киев: Академпериодика, 2002. – 40 с.

4. Гринь Ф.О. Заповідник Хомутовський степ // Укр. ботан. журн. – 1956. – 13, № 2. – С. 15–30.

5. Коломійчук В.П., Остапко В.М., Яровий С.С. ПЗ Український степовий // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 336–378.

6. Осичнюк В.В. Зміни рослинності заповідника Хомутовський степ за 40 років // Укр. ботан. журн. – 1966. – 23, № 4. – С. 50–56.

7. Ткаченко В.С. Графічна модель автогенної сукцесії Хомутовського степу // Укр. ботан. журн. – 1992. – 49, № 2. – С. 16–21.

8. Ткаченко В.С. Фітоценотичний моніторинг резерватних сукцесій в Українському степовому природному заповіднику. – К.: Фітосоціоцентр, 2004. – 184 с.

9. Ткаченко В.С., Дідух Я.П., Генов А.П. та ін. Український природний степовий заповідник. Рослинний світ. – К.: Фітосоціоцентр, 1998. – 280 с.

Kniazhpilskyi Lis

V.A. Onyshchenko

Ukrainian name: Княжпільський ліс.
Transliteration/Translation variants: Knyazhpil'skyi Forest.
Area: 1032.0 ha.
Altitude: 150–312 m.
Latitude: 48°42'31" N (48.7087°).
Longitude: 26°47'15" E (26.7874°).
Administrative regions. Khmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state.

Biogeographic regions: continental.
Habitats. Level 1. C – 0.5%; E – 0.8%; G – 97.7%; H – 1.0%.
Habitats. Level 2. C2 Surface running waters – 0.5%; E2 – Mesic grasslands – 0.8%; G1 Broadleaved deciduous woodland – 96.9%; G3 Coniferous woodland – 0.1%; G4 Mixed deciduous and coniferous woodland – 0.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – major
Protected areas: includes Kniazhpilskyi state botanical reserve (821 ha), included in Podilski Tovtry national nature park, included in Emerald Site "Podilski Tovtry National Nature Park".
Threats: –.
General description. A wood with the dominance of *Quercus robur* and *Carpinus betulus* in the tree layer. In the herb layer, there prevail *Carex pilosa*, *Aegopodium podagraria*, *Corydalis solida*, *Anemone ranunculoides*.
Botanical significance. Important for endemic species *Aconitum besserianum*.
Criterion A

- *Aconitum besserianum* Andrz. ex Trautv.; A(iii); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.

Literature

1. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Kolodiazne

V.A. Onyshchenko, M.V. Banik, O.V. Bezrodnova, V.V. Rasevich

Ukrainian name: Колодязне.
Area: 25.7 ha.
Altitude: 119–181 m
Latitude: 50°00'57" N (50.0159°).
Longitude: 37°39'33" E (37.6592°).
Administrative regions. Kharkiv region: Dvorichna raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 58.0%; F – 2.0%; G – 33.0%; H – 7.0%.
Habitats. Level 2. E1 Dry grasslands – 58.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 33.0%; H2 Screes – 7.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures .
Land use: agriculture (animals) – major; forestry – major.
Protected areas: –.
Threats: burning of vegetation – low, extraction (minerals/quarries) – low, forestry (afforestation) – medium, natural events – low.
General description. Slopes of the valley of the Verkhnia Dvorichna river. The broadleaved forest and the steppe vegetation occupy the largest areas. Besides there are chalk outcrops that are rich in endemic species.
Botanical significance. The largest population of *Daphne sophia* in Ukraine.
Criterion A

- *Daphne sophia* Kalen.; A(i); A(iv); abundance: 1500 individuals (70% of recorded

individuals in Ukraine); trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals: Create a state botanical reserve.

Literature

1. Banik M. Daphne'04. Final report. – Kharkiv, 2006. – 20 p. (http://www.rufford.org/files/127.01.04%20Detailed%Final%20Report.pdf).

2. Банік М.В., Тверетинова В.В., Волкова Р.Є., Атемасова Т.А., Атемасов А.А., Брезгунова О.О., Влащенко А.С., Гончаров Г.Л., Коноваленко С.В., Скоробогатов В.М., Скоробогатов Є.В., Целіщев О.Г. Нові місцезнаходження *Daphne sophiae* Kalen., (*Thymeleaceae*) в Україні // Укр. ботан. журн. – 2007. – 64, № 4. – С. 565–569.

3. Расевич В.В. Еколого-ценотичні особливості популяцій *Daphne sophia* Kalen. у природній флорі України // Укр. ботан. журн. – 2008. – 65, № 1. – С. 90–103.

4. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Koltivska Ulohovyna

V.A.Onyshchenko

Ukrainian name: Колтівська улоговина.
Area: 324.0 ha.
Altitude: 286–323 m.

Latitude: 49°51'20" N (49.8555°).
Longitude: 25°06'09" E (25.1026°).
Administrative regions. Lviv region: Zolochiv raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 48.0%; E – 40.0%; F – 2.0%; G – 10.0%.
Habitats. Level 2. D4 Base-rich fens and calcareous spring mires – 12.0%; D5 Sedge and reedbeds, normally without free-standing water – 36.0%; E3 Seasonally wet and wet grasslands – 39.0%; E5 Woodland fringes and clearings and tall forb stands – 1.0%; F9 Riverine and fen scrubs – 2.0%; G1 Broadleaved deciduous woodland – 10.0%.
Futher habitat description. D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of

large sedges normally without free-standing water; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.2 *Salix* carr and fen scrub.
Land use: mowing/hay making – minor, nature conservation and research – major.
Protected areas: same as Verkhniobuzkyi regional landscape reserve, overlaps (about 316 ha) with Pivnichne Podillia national nature park and Emerald Site "Pivnichne Podillia".
Threats: abandonment/reduction of land management – low.
General description.
Partially drained mire. It comprises eutrophic reed and sedge communities, rich fens, wet meadows. The most frequent dominants are *Carex appropinquata*, *Phragmites australis*, *Carex nigra*, *Carex flava*, *Deschampsia cespitosa*, *Molinia caerulea*, *Carex rostrata*, significant area is occupied by communities of *Schoenus ferrugineus* and *Carex davalliana*.

In some places there dominate *Agrostis stolonifera*, *Anthoxanthum odoratum*, *Briza media*, *Dactylis glomerata*, *Cladium mariscus*, *Carex paniculata*, *Festuca arundinacea*, *Festuca rubra*, *Filipendula ulmaria*, *Scirpus sylvaticus*. Other frequent species are *Eupatorium cannabinum*, *Lysimachia vulgaris*, *Lythrum salicaria*, *Mentha arvensis*, *Potentilla erecta*. On low elevations consisting of calcareous sand, there are mesic grasslands dominated by *Molinia caerulea*, *Festuca ovina*, *Calluna vulgaris* with *Astrantia major*, *Carlina cirsioides*, *Dracocephalum ruyschiana*, *Filipendula vulgaris*, *Genthiane pneumonanthe*, *Leucanthemum vulgare*, *Peucedanum oreoselinum*, *Pimpinella major*, *Polygonatum odoratum*, *Prunella grandiflora*, *Pulsatilla patens*, *Serratula tinctoria*, *Stachys officinalis*, *Thalictrum minus*, *Trifolium montanum*, *Trollius europaeus.* Dominants of shrub vegetation area *Salix cinerea* and *Betula humilis*. The tree layer of woods is formed mainly by *Betula pubescens*.

Botanical significance. Important area for *Cochlearia polonica*, *Dracocephalum ruyschiana*, *Pinguicula bicolor*.

Criterion A

- *Cochlearia polonica* Frohl.; A(i); A(ii); A(iii); abundance: about 300 individuals (100% of recorded individuals in Ukraine); trend: fluctuating; species data quality: good; trend data quality: good.
- *Dracocephalum ruyschiana* L.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Pinguicula bicolor* Woł.; A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Кагало О.О. Фітосозологічна характеристика болотного масиву у верхів'ї р. Західний Буг // Укр. ботан. журн. – 1990. – 47, № 1. – С. 80–84.

2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Koncha-Zaspivskyi Lis

V.A. Onyshchenko

Ukrainian name: Конча-Заспівський ліс.
Transliteration/Translation variants: Koncha-Zaspa Forest.
Area: 2376.0 ha.
Altitude: 93–123 m.
Latitude: 50°16′57″ N (50.2826°).
Longitude: 30°34′51″ E (30.5809°).
Administrative regions. Kyiv city: Holosiyivskyi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 1.7%; D – 0.5%; E – 0.6%; F – 2.0%; G – 94.2%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.9%; C2 Surface running waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.7%; D5 – sedge and reedbeds, normally without free-standing water – 0.8%; E1 Dry grasslands – 0.3%; E2 Mesic grasslands – 0.3%; E3 Seasonally wet and wet grasslands – 0.0%; F9 Riverine and fen scrubs – 2.0%; G1 Broadleaved deciduous woodland – 25.0%; G3 Coniferous woodland – 66.0%; G4 Mixed deciduous and coniferous woodland – 3.2%; H5 Miscellaneous inland habitats with very

sparse or no vegetation– 1%.

Futher habitat description. E1.1 Inland sand and rock with open vegetation, F9.2 *Salix* carr and fen scrub, G1.2 Mixed riparian floodplain and gallery woodland, G1.4 Broadleaved swamp woodland not on acid peat, G1.7 Thermophilous deciduous woodland, G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland, G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga, G4.C Mixed *Pinus sylvestris* – thermophilous *Quercus* woodland, H5.3 Sparsely- or un-vegetated

habitats on mineral substrates not resulting from recent ice activity, H5.6 Trampled areas.
Land use: forestry – minor, nature conservation and research – major, tourism/recreation – major.
Protected areas: includes Lisnyky Botanical Reserve (1110 ha), included in Holosiivskyi national nature park and Emerald Site "Holosiivskyi National Nature Park";
Threats: development (recreation/tourism) – low, water (drainage) – medium (urbanization and drainage of adjacent areas).
Building cottages on a former mire near the IPA.
General description. Forest area in the southern part of Kyiv. The largest portion of this territory is the sand terrace above the floodplain of the Dnipro river with *Pinus sylvestris*, rarely *Quercus robur*, forests. The herb layer is dominated by *Calamagrostis epigeios*, *Calamagrostis arundinacea*, *Festuca ovina*, *Poa angustifolia*. Species of high constancy: *Carex ericetorum*, *Calamagrostis arundinacea*, *Calamagrostis epigeios*, *Chamaecytisus ruthenicus*, *Convallaria majalis*, *Dicranum polysetum*, *Euphorbia cyparissias*, *Festuca ovina*, *Frangula alnus*, *Galium verum*, *Melampyrum pratense*, *Melica nutans*, *Peucedanum oreoselinum*, *Polygonatum odoratum*, *Pyrus communis*, *Pleurozium schreberi*, *Poa angustifolia*, *Rubus saxatilis*, *Silene nutans*, *Sorbus aucuparia*, *Veronica officinalis*. Non-forest vegetation is represented by sands with vegetation dominated by *Calamagrostis epigeios*, *Corynephorus canescens*, *Festuca beckeri*, *Cladonia mitis*.
In the northwestern part of the site, there is a wide (2 km) valley of a small river. Main vegetation here is mesic and wet forests dominated by *Alnus glutinosa*, *Fraxinus excelsior*, *Quercus robur*, *Acer campeste*, *Tilia cordata*, *Ulmus minor*; *Alnus glutinosa* and *Salix cinerea* swamps; eutrophic mires with dominance of *Carex riparia*, *Carex acutiformis*, *Phragmites australis*.
Botanical significance. This area contains good examples of different forest types.
Criterion C

- G3.4232 Sarmatic steppe *Pinus sylvestris* forests; area: 1800 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.21 Riverine *Fraxinus* – *Alnus* woodland, wet at high but not at low water; area: 40 ha; trend: stable; area data quality: poor; trend data quality: poor.

Conservation proposals: Do not allow clearcuttings including continuous sanitary fellings.
Literature

1. Вірченко В.М. Матеріали до бріофлори НПП "Голосіївський" // Проблеми відтворення і охорони біорізноманіття України. Мат-ли всеукр. наук.-практ. конф. (21–22 квітня, 2011 р., м. Полтава). – Полтава: Астрая, 2011. – С. 86–88.

2. Дідух Я., Андрієнко Т., Серебряков В., Вольвач Ф., Філенко А., Лопарьов С., Чумак К. Заказник "Лісники" та його проблеми // Ойкумена. – 1994. № 1–2. – С. 116–127.

3. Дідух Я.П., Чумак К.В., Геоботанічна характеристика заказника "Лісники" (м. Київ) // Укр. ботан. журн. – 1992. – 49. № 3. – С. 22–27.

4. Онищенко В.А., Прядко О.І., Арап Р.Я. НПП "Голосіївський" // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 139–151.

5. Прядко О.І., Арап Р.Я. Поширення та сучасний стан популяцій видів рослин із Червоної книги України на території НПП "Голосіївський" // Мат-ли Міжнародної наукової конференції "Рослинний світ у Червоній книзі України: впровадження Глобальної стратегії збереження рослин". – Київ, 2010. – С. 297–300.

Korsak Mohyla

V.A. Onyshchenko, V.P. Kolomiychuk

Ukrainian name: Корсак-Могила.
Transliteration/Translation variants: Korsak Hill.
Area: 72.5 ha.
Altitude: 87–138 m.
Latitude: 46°53'30" N (46.8917°).
Longitude: 36°08'06" E (36.1350°).
Administrative regions. Zaporizhia region: Prymorsk raion .
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 94.4%; F – 0.5%; G – 2.0%; H – 3.1%.

Habitats. Level 2. E1 Dry grasslands – 94.4%; F3 Temperate and mediterranean-montane scrub – 0.5%; G1 Broadleaved deciduous woodland – 2.0%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.1%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; G1.C

Highly artificial broadleaved deciduous forestry plantations; H2.5 Acid siliceous screes of warm exposures, H3.1 Acid silicious inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements; H5.6 Trampled areas.
Land use: agriculture (animals) – minor; forestry – minor; nature conservation and research – major; tourism/recreation – minor.
Protected areas: included in regional landscape reserve "Korsak-Mohyla", included in Emerald Site "Korsak Mohyla".
Threats: abandonment/reduction of land management – low.
General description. Six hills with silicate outcrops. Major habitat type is the steppe dominated by *Festuca valesiaca* s.l., *Stipa capillata*, *Carex praecox*, *Caragana frutex*, *Poa angustifolia*, *Elytrigia repens*, *E. intermedia*, *Bromopsis riparia*. On the outcrops, there prevail *Achillea leptophylla, Carex praecox, C. stenophylla*, *Ephedra distachya*, *Teucrium polium*, *Thymus dimorphus*.
Botanical significance. Important area for *Caragana scythica* in the most transformed region of Ukraine.
Criterion A
- *Caragana scythica* (Kom.) Pojark.; A(iv); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Literature

1. Коломійчук В.П. Ботанічна характеристика Корсак-Могили (Запорізька область) // Заповідна справа в Україні. – 2003. – Т. 9, № 1. – С. 1–2.
2. Коломійчук В.П. *Psathyrosthachis juncea* (Fisch.) Nevski в Северном Приазовье // Вісник Запорізького національного університету: Зб. наук. статей. Фізико-математичні науки. Біологічні науки. – Запоріжжя: ЗДУ. – 2005. – № 1. – С. 100–102.
3. Коломійчук В.П. Ключові ботанічні території Північного Приазов'я // Заповідна справа в Україні. – 2008. – Т. 14, вип. 1. – С. 61–66.Тищенко О.В. Рослинність приморських кіс північного узбережжя Азовського моря. – Київ: Фітосоціоцентр, 2006. – 156 с.

Kovalivka

O.M. Derkach, H.V. Kolomiets

Ukrainian name: Ковалівка.
Area: 19.9 ha.
Altitude: 5–12 m.
Latitude: 47°18'26" N (47.3071°).
Longitude: 31°43'01" E (31.7169°).
Administrative regions. Mykolaiv region: Mykolaiv raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 59.0%; G – 40.0%; H – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 59.0%; G3 Coniferous woodland – 40.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: forestry – major.

Protected areas: included in regional preserve (zapovidne urochyshche) "Andriivske"
Threats: forestry (afforestation) – medium.
General description. A part of sand terrace above the floodplain of the Southern Bug river. Forest plantations of *Pinus pallasiana* and *Pinus sylvestris* in comlex with dry sand grasslands. Dominant species of the grasslands are *Carex colchica*, *Artemisia marschalliana*, *Festuca beckeri*, *Koeleria sabuletorum*, *Thymus pallasianus*, *Stipa borysthenica*. Other frequent species are *Scabiosa ucrainica*, *Achillea ochroleuca*, *Helichrysum corymbiforme*, *Astragalus varius*, *Anchusa gmelinii*, *Chamaecytisus borysthenicus*, *Allium savranicum*, *Jurinea charcoviensis*, *Tragopogon borysthenicus*, *Alyssum savranicum*. Denstity of *Centaurea margaritalba* is 3 to 30 individuals per 100 m^2.

Botanical significance. A locality of narrow endemic species *Centaurea margarita-alba* s. str.
Criterion A
- *Centaurea margarita-alba* Klokov; A(iii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals: Do not allow afforestation. Restore sand grasslands in adjacent area. Create a state botanical reserve.
Literature

1.Деркач О.М. Ключові ботанічні території Миколаївщини: сучасний стан та проблеми збереження // Теорія і практика заповідної справи в Україні. Зб. наук. праць. – К., 2005. – С. 167–173.
2.Деркач О.М. Андріївське // Південно-Бузький меридіональний екологічний коридор: стислий огляд біорізноманіття та найцінніші території / під ред. В. Костюшина. – К., 2007. – С. 49.
3.Коломієць Г.В. Перлинні волошки секції *Pseudophalolepis* Klok. ряду *Margaritacea* Klok. Питання систематики та охорони // Укр. фітоценологічний зб. – Вип. 1–2 (12–13). – К.: Фітосоціоцентр, 1999. – С. 165–169.
4.Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok.

(*Centaurea* L.) // Укр. ботан. журн. – 1991. – 48, № 3. – С. 78–80.

5.Крицька Л.І., Деркач О.М., Собко В.Г. Волошка білоперлинна *Centaurea margarita-alba* Klokov / Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 305.

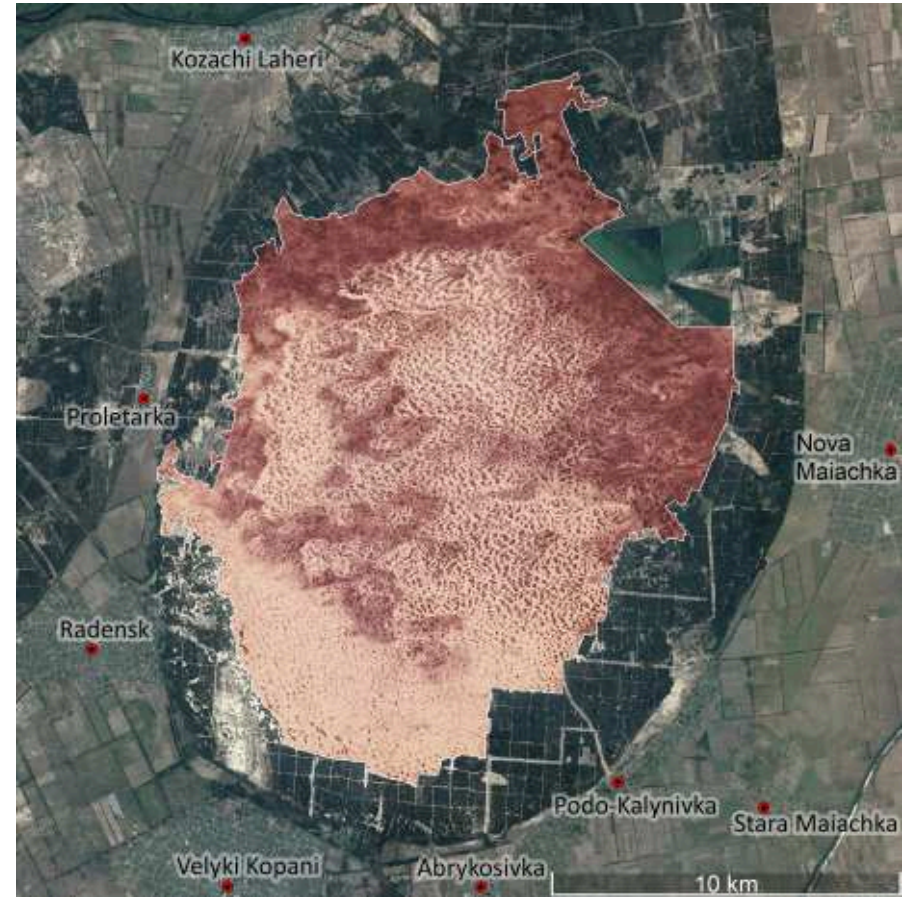
6.Перлини піщаної флори у пониззях Південного Бугу та Інгулу. Серія: Збереження біорізноманіття в Приморсько-степовому екокоридорі / Під ред. Г.В. Коломієць. – К.: Громадська організація "Веселий Дельфін", 2008. – 60 с.

Kozachelaherska Arena

V.A. Onyshchenko

Ukrainian name: Козачелагерська арена.
Transliteration/Translation variants: Kozachi Lageri Sands.
Area: 18974.0 ha.
Altitude: 4–25 m.
Latitude: 46°36′07″ N (46.6020°).
Longitude: 33°03′19″ E (33.0552°).
Administrative regions. Kherson region: Oleshky (Tsiurupynsk) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.02%; D – 0.07%; E – 25.0%; F – 1.0. G – 24.9%; H – 49.0%.
Habitats. Level 2. C1 Surface standing waters – 0.01%; C3 Littoral zone of inland surface waterbodies – 0.01%; D5 Sedge and reedbeds normally without free-standing water – 0.06%; D6 Inland saline and brackish marshes and reedbeds – 0.01%; E1 Dry grasslands – 12.5%; E2 Mesic grasslands – 10.0%; E3 Seasonally wet and wet grasslands – 2.5%; E6 Inland salt steppes – 0.01%; F3 Temperate and mediterranean-mountane scrub – 1.0%; G1 Broadleaved deciduous woodland – 20.9%; G3 Coniferous woodland – 4.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 49.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes, E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1), E2.5 Meadows of the steppe zone, E3.4 Moist or wet eutrophic and mesotrophic grassland, F3.1 Temperate thickets and scrub; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*, G3.F Highly artificial coniferous plantations, H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: agriculture (animals) – minor, nature conservation and research – 35%; tourism/ recreation – minor.
Protected areas: overlaps (about 6700 ha) with Oleshkivski Pisky national nature park, included in Emerald Site "Oleshkivski Pisky".
Threats: forestry (afforestation) – medium.
General description. The largest expanse of unwooded sand in Ukraine. This is a part of the Dnipro river terrace in the steppe zone. Sand dunes reach a height of 5 m. On a large part of the area vegetation is sparse, the most typical species are *Agropyron dasyanthum*, *Chamaecytisus borysthenicus*, *Linaria dulcis*, and non-native species *Corynephorus canescens*. More dense sand vegetation (sand steppe) is dominated by *Festuca beckeri*, *Koeleria sabuletorum*, *Agropyron lavrenkoanum*, *Stipa borysthenica*, *Carex colchica*. Its

typical species are *Alyssum minutum*, *Artemisia marschalliana*, *Calamagrostis epigeios*, *Centaurea breviceps*, *Cerastium schmalhausenii*, *Cerastium ucrainicum*, *Dianthus platyodon*, *Erophila verna*, *Euphorbia seguieriana*, *Genista sibirica*, *Helychrysum corymbiforme*, *Holosteum umbellatum*, *Inula sabuletorum*, *Jurinea laxa*, *Salix rosmarinifolia*, *Scabiosa ucrainiaca*, *Jacobaea borysthenica* (*Senecio borysthenicus*), *Thymus borysthenicus*, *Tragopogon borysthenicus*, *Veronica arvensis*, *Veronica dillenii*. The layer of mosses and lichens is formed by *Tortula ruraliformis*, *Ceratodon purpureus*, *Cladonia foliacea*, *Cladonia rangiformis*, *Cetraria aculeata*, *Neofuscelia pockornii*. Dominants of mesic grasslands are *Agrostis gigantea*, *Calamagrostis epigeios*, *Cynodon dactylon*, *Festuca rupicola*, *Scirpoides*



holoschoenus. Waterlogged habitats are occupied by *Carex acutiformis*, *Carex acuta*, *Carex riparia*, *Eupatorium cannabinum*, *Iris pseudacorus*, *Juncus conglomeratus*, *Phragmites australis*. Forest vegetation is represented by small (10–2500 m^2) natural groves of *Betula borysthenica*, *Populus tremula* and small plantations of *Pinus sylvestris* and *Pinus pallasiana*. The species composition of *Betula borysthenica* woods is heterogenous in respect of

requirements of species to soil moisture: *Agrostis gigantea*, *Calamagrostis epigeios*, *Carex elata*, *Frangula alnus*, *Genista sibirica*, *Hieracium umbellatum*, *Juncus conglomeratus*, *Phragmites australis*, *Rhamnus cathartica*, *Rubus caesius*, *Salix rosmarinifolia*, *Solidago virgaurea*. *Populus tremula* woods harbour mainly hygrophilous species

Botanical significance. The largest area of unwooded sands in Europe with endemic species.

Criterion A

- *Agropyron dasyanthum* Ledeb.; A(i); abundance: frequent; trend: stable; species data quality: medium; trend data quality: poor.
- *Alyssum savranicum* Andrz. (*Odontarrhena savranica* (Andrz. ex Besser) D.A.German); A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Centaurea breviceps* Iljin; A(iii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: good .
- X35 Inland sand dunes; area: 13500 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Котенко Т.И., Уманец О.Ю., Селюнина З.В. Природный комплекс Казачьелагерской арены Нижнеднепровских песков и проблемы его сохранения. Сообщение 1. Общая характеристика Казачьелагерской арены // Заповідна справа в Україні. – 1999. – Том 5. Вип. 1. – С. 61–72.

2. Мойсієнко І.І. НПП Олешківські піски // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 357–372.

3. Соломаха І.В., Воробйов Є.О., Мойсієнко І.І. Рослинний покрив лісів та чагарників Північного Причорномор'я. - К.: Фітосоціоцентр, 2015. – 387 с.

4. Уманец О.Ю. Природный комплекс Казачьелагерской арены Нижнеднепровских песков и проблемы его сохранения. Сообщение 2. Изменение флоры и растительности Казачьелагерской арены за 65 лет // Заповідна справа в Україні. – 1999. – Том 5. Вип. 2. – С. 9–15.

Kreidiana Flora

V.A. Onyshchenko

Ukrainian name: Крейдяна флора.
Transliteration/Translation variants: Chalk Flora.
Area: 1347.0 ha.
Altitude: 51–198 m.
Latitude: 48°52'07" N (48.8687°).
Longitude: 37°53'44" E (37.8956°).
Administrative regions. Donetsk region: Sloviansk raion, Lyman (Krasnyi Lyman) raion
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. E – 50.0%; F – 2.0%; G – 40.0%; H – 8.0%.
Habitats. Level 2. E1 Dry grasslands – 50.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 14.0%; G3 Coniferous woodland – 20.0%; G4 Mixed deciduous and coniferous woodland – 6.0%; H2 Screes – 8.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; H2.6 Calcareous and ultra-basic screes of warm exposures; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity.
Land use: agriculture (animals) – 15%; nature conservation and research – 85%.
Protected areas: overlaps (1134 ha) with Ukrainskyi Stepovyi nature reserve (same as its Kreidiana Flora division), overlaps (1134 ha) with Emerald Site "Ukrainian Steppe Nature Reserve".

Threats: abandonment/reduction of land management – low.
General description. Slopes with outcrops of chalk, tomillares, steppes, oak and pine forests. Chalk with very sparse vegetation occupies about 20 ha. Open vegetation on chalk occupies about 100 ha; dominants: *Thymus cretaceus*, *Carex humilis*, *Festuca valesiaca*, *Stipa capillata*, *Jurinea brachycephala*, *Artemisia salsoloides*, *Pimpinella titanophila*, *Botriochloa ischaemum*, *Koeleria cristata*, *Koeleria talievii*. Dominants of grasslands (about 600 ha): *Festuca valesiaca*, *Poa angustifolia*, *Stipa capillata*; other typical species: *Bromopsis riparia*, *Calamagrosties epigeios*, *Carex praecox*, *Elytrigia repens*, *Euphorbia stepposa*, *Medicago romanica*, *Salvia nutans*. Prevailing species of shrub vegetation (about 30 ha): *Cotinus coggygria*, *Crataegus curvisepala*, *Crataegus praearmata*, *Prunus spinosa*, *Rhamnus cathartica*, *Rosa corymbifera*, *Rosa tomentosa*, *Rosa villosa*, *Swida sanguinea* (*Cornus sanguinea*). Typical species of *Pinus sylvestris* woods (about 300 ha) are *Quercus robur*, *Swida sanguinea*, *Ligustrum vulgare*, *Cotinus coggygria*, *Rosa canina*, *Chamaecytisus*

ruthenicus, *Euonymus verrucosus*, *Polygonatum odoratum*, *Securigera varia*, *Seseli libanitis* subsp. *intermedia*. Natural broadleaved forests occupies about 150 ha. Their tree layer is dominated by *Acer campestre*, *Acer platanoides*, *Fraxinus excelsior*, *Quercus robur*, *Tilia cordata*, *Ulmus minor*. In the herb layer, there dominates *Aegonychon purpureo-coeruleum*, *Dactylis glomerata*, *Elytrigia intermedia*, *Melica picta*, *Stellaria holostea*. Area of broadleaved forest is increasing.

Botanical significance. Important area for conservation of chalk outcrops with endemic endemic species and termophilous broad-leaved forests.

Criterion A

- *Alyssum gymnopodum* P.Smirn. (*Odontarrhena gymnopoda* (P.A.Smirn.) D.A.German); A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Diplotaxis cretacea* Kotov; A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Linaria cretacea* Fisch. ex Spreng.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Silene cretacea* Fisch. ex Spreng.; A(ii), A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Stipa zalesskii* Wilensky; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Syrenia talievi* Klokov; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- E1.13 Continental dry rocky steppic grasslands and dwarf scrub on chalk outcrops; area: 200 ha; trend: increasing; area data quality: medium; trend data quality: good.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 36 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.7 Thermophilous deciduous woodland (*91I0); area: 200 ha; trend: increasing; area data quality: medium; trend data quality: good.

Literature

1. Ткаченко В.С., Генов А.П. Мовчан Я.І. Флористична характеристика Криволуцького кретофільного степу на Донбасі та необхідність його заповідання // Укр. ботан. журн. – 1987. – 44, № 4. – С. 70–75.
2. Ткаченко В.С., Дідух Я.П., Генов А.П. та ін. Український природний степовий заповідник. Рослинний світ. – К.: Фітосоціоцентр, 1998. – 280 с.
3. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Kreidiani Vidslonennia

V.A. Onyshchenko

Ukrainian name: Крейдяні відслонення.
Transliteration/Translation variants: Chalk Outcrops.
Area: 43.8 ha.
Altitude: 90–110 m.
Latitude: 49°19’00” N (49.3167°).

Longitude: 39°49’55” E (39.8320°).
Administrative regions. Luhansk region: Milove raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 84.0%; H – 16.0%.
Habitats. Level 2. E1 Dry grasslands – 83.0%; E6 Salt steppes – 1.0%; H2 Screes – 16.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E6.2 Continental inland salt steppes, H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; nature conservation and research – major.
Protected areas: includes Kreidiani Vidslonennia regional botanical reserve (30 ha), includes Emerald Site “Kreidiani Vidslonennia” (30 ha).
Threats: agricultural intensification/expansion (arable) – low, extraction (minerals/quarries) – low; forestry (afforestation) – low.

General description. Slope of the valley of the Komyshna river with the steppe vegetation and outcrops of chalk. Major dominants of the steppe vegetation are *Festuca valesiaca* and *Stipa capillata*. On the tops of the hills, there are psammophytic steppes dominated by *Festuca beckeri* and *Cleistogenes squarrosa*. Prevailing dominant on the chalk outcrops is *Thymus calcareus*. Minor dominants are *Artemisia hololeuca*, *Artemisia salsoloides*, *Hyssopus cretaceus*, *Linaria cretacea*, *Onosma tanaitica*, *Pimpinella titanophila*, *Scrophularia cretacea*.

Botanical significance. Important area for conservation of *Hedysarum cretaceum* and other endemic species of chalk outcrops.

Criterion A

- *Hedysarum cretaceum* J.Gay.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Literature

1. Природно-заповідний фонд Луганської області // О.А. Арапов (заг. ред.), Т.В. Сова, О.А. Савенко, В.Б. Фєрєнц, Н.У. Кравець, Л.Л. Зятьков, Л.О. Морозова. Довідник. – 3-е вид., доп. і перероб. – Луганськ: "Луганська правда", 2013. – 224 с.

Kremenchutski Plavni

V.A. Onyshchenko

Ukrainian name: Кременчуцькі плавні.
Transliteration/Translation variants: Kremenchuk Wetlands.
Area: 7231 ha.
Altitude: 64–70 m.
Latitude: 49°02'59" N (49.0496°).
Longitude: 33°26'49" E (33.4468°).
Administrative regions. Poltava region: Horishni Plavni (Komsomolsk) city, Kremenchuk city, Kremenchuk raion.
Ownership: state.
Biogeographic regions: continental
Habitats. Level 1. C – 20%; D – 10%; E – 31%; F – 4%; G – 35%.
Habitats. Level 2. C1 Surface standing waters – 5%; C2 Surface running waters – 10%; C3 Littoral zone of inland surface waterbodies – 5%; D5 Sedge and reedbeds, normally without free-standing water – 10%; E1 Dry grasslands – 1%; E2 Mesic grasslands – 15%; E3 Seasonally wet and wet grasslands – 14%; E5 Woodland fringes and clearings and tall forb stands – 1%; F9 Riverine and fen scrubs – 4%; G1 Broadleaved deciduous woodland – 34%; G3 Coniferous woodland – 1%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.5 Periodically inundated shores with pioneer and ephemeral vegetation; C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.3 Mediterranean riparian woodland; G1.4 Broadleaved swamp woodland not on acid peat.
Land use: agriculture (animals) – minor, conservation and research – major, forestry – 30%; mowing / hay making – major, urban/industrial/transport – minor.
Protected areas: includes Biletskivski Plavni state landscape reserve (2980 ha), includes Kremenchutski Plavni regional landscape park (5080 ha), includes Emerald Site "Kremenchutski Plavni Regional Landscape Park" (5080 ha), overlaps with Emerald Site "Dniprodzerzhynske Reservoir" (290 ha).
Threats: abandonment/reduction of land management – low; agricultural intensification/

expansion (grazing) – low.
General description. The area includes parts of the floodplains of the Dnipro and Psel rivers. A large area is covered by riverine *Populus alba*, *Populus nigra*, *Salix alba* woods, meadows with dominance of *Poa pratensis*, *Agrostis stolonifera*, *Elytrigia repens*, psammophytic grasslands dominated by *Koeleria glauca* s.l., *Festuca beckeri*, *Calamagrostis epigerios*, *Artemisia campestris* s.l., floodplain *Quercus robur* woods and swamped *Alnus glutinosa* woods with herb layer of *Carex riparia* and *Carex acutiformis.* Littoral communities are dominated by *Typha angustifolia*, *Typha latifolia*, *Phragmites australis*. Major dominants of aquatic vegetation are *Certophyllum demersum*, *Ceratophyllum submersum*, *Lemna minor*, *Myriophyllum spicatum*, *Potamogeton lucens*, *Potamogeton crispus*, *Hydrocharis morsus-ranae*, *Nuphar lutea*, *Trapa borysthenica*.

Botanical significance. The area is noted for conservation of comlexes of a big river (forests, shrubs, littoral and aquatic vegetation, meadows).

Criterion C

- E3.4 Moist or wet eutropic and mesotrophic grassland; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F9.1 Riverine scrub; area: 500 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.11 Riverine *Salix* woodland; area: 300 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.3 Mediterranean riparian woodland; area: 1800 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature

1. Водно-болотні угіддя України. Довідник / Під ред. Марушевського Г.Б., Жарук І.С. – К.: Чорноморська програма Ветландс Интернешнл, 2006. – 312 с.

2. Гальченко Н. П. Рослинність регіонального ландшафтного парку "Кременчуцькі плавні" // Укр. ботан. журн. – 2004. – 61, № 4. – С. 48–55.

3. Гальченко Н.П. Регіональний ландшафтний парк "Кременчуцькі плавні" / Природно-заповідні території України. Рослинний світ. – Вип. 5. – К.: Фітосоціоцентр, 2006. – 176 с.

Krymski Hory

V.A. Onyshchenko

Ukrainian name: Кримські гори.
Transliteration/Translation variants: Crimean Mountains.
Area: 301150.0 ha.
Altitude: 0–1545 m.
Latitude: 44°45′07″ N (44.7520°).
Longitude: 34°15′17″ E (34.2548°).
Administrative regions. Autonomous Republic of Crimea: Alushta city, Bakhchysarai raion, Bilohirsk raion, Feodosia city, Kirovske raion, Simferopol raion, Sudak city, Yalta city. Sevastopol city: Balaklava raion. Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 0.1%; B – 0.0%; C – 0.0%; E – 13.0%; F – 3.0%; G – 82.9%; H – 1.0%; J – 0.0%.
Habitats. Level 2. A1 Littoral rock and other hard substrata sediment – 0.0%; A2 Littoral sediment – 0.1%; A3 Infralittoral rock and other hard substrata sediment – 0.1%; A5 Sublittoral sediment – 0.0%; B2 Coastal shingle – 0.0%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.0%; C1 Surface standing waters – 0.0%; C2 Surface running waters – 0.0%; C3 Littoral zone of inland surface waterbodies – 0.0%; E1 Dry grasslands – 11.0%; E2 – Mesic grasslands – 2.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; F5 – Maquis, arborescent matorral and thermo-Mediterraneal brushes; F6 – Garrigues; F7 Spiny Mediterranean heaths – 1.0%; G1 Broadleaved deciduous woodland – 77.3%; G3 Coniferous woodland – 3.0%; G4 Mixed deciduous and coniferous woodland

– 2.6%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.8%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.1 Littoral coarse sediment; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.5 Sublittoral macrophyte-dominated sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E1.3 Mediterranean xeric grassland; E2.5 Meadows of the steppe zone; F3.2 Submediterranean deciduous thickets and brushes; F5.2 Maquis; F5.3 Pseudomaquis; F6.4 Black Sea garrigues; F7.4 Hedgehog-heaths; G1.6 *Fagus* woodland; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.5 *Pinus nigra* woodland; G3.7 Lowland to montane mediterranean *Pinus* woodland (excluding *Pinus nigra*); G3.F Highly artificial coniferous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: agriculture (animals) – 3%; forestry – 65%; nature conservation and research – 28%; tourism/recreation – major.
Protected areas. *National:* overlaps (34563 ha) with Krymskyi nature reserve (includes mountain part of the reserve), includes Yaltynskyi Hirsko-Lisovyi nature reserve (14523 ha), includes Aharmyskyi Lis state complex nature monument (40 ha), overlaps (17954 ha) with Baydarskyi state landscape reserve, includes Dolhorukivska Yayla regional landscape reserve (2130 ha), includes Hirskyi Karst Krymu state geological reserve (4316 ha), includes Hirskyi Masyv Karaul-Oba state compex nature monument (100 ha), includes Hora Kara-Tau state botanical nature monument (100 ha), includes Kachynskyi Kanyon state geological reserve (100 ha), includes Karabi-Yaylynska Ulohovyna state botanical nature monument (32 ha), includes Karstova Shakhta Soldatska state geological nature monument (10 ha), includes Khapkhalskyi state hydrological reserve (250 ha), includes Kyzyl-Koba state geological nature monument (33 ha), includes Manhup-Kale state complex nature monument (90 ha), includes Mys Aia state landscape reserve (1340 ha), includes Novyi Svit state botanical reserve (477 ha), includes Urochyshche Demerdzhi state geological nature monument (20 ha), includes Urochyshche Karabi-Yayla state bonatical reserve (491 ha), includes Urochyshche Karasu-Bashi state hydrological nature monument (24 ha), includes Urochyshche Kubalach state bonatical reserve (526 ha), includes Velyky Kanyon Krymu state landscape reserve (300 ha). *Regional:* includes Ai-Petrynska Yayla regional landscape reserve (1795 ha), includes Ai-Serez regional complex nature monument (5 ha), includes Bakla regional geological nature monument (5 ha), includes Belbetskyi Tysovyi Hay regional botanical reserve (20 ha), includes Demerdzhi Yayla regional landscape reserve (2076 ha), includes regional reserve “Dolyna Richky Satera” (10 ha), includes regional reserve “Hirsko-Lisovyi Masyv Bilia Sela Topolivka I Sela Kurske” (20 ha), includes Hora Koshka regional complex nature monument (50 ha), includes Hora Krestova regional complex nature monument (7 ha), includes regional botanical reserve Karabi-Yayla (2829 ha), includes Papaya-Kaya regional landscape reserve (550 ha), includes Hora Liagushka regional complex nature monument (5 ha), includes regional geological nature monument “Pryrodni Sfinksy Karalezkoyi Dolyny” (5 ha), includes regional geological nature monument

"Pryrodni Sfinksy v Dolyni Richky Churuk-Su" (5 ha), includes Skeli Laspi regional preserve (18 ha), includes Tepe-Kermen regional geological nature monument (5 ha), includes Urochyshche Parahilmen regional botanical reserve (225 ha), includes regional landscape park "Nauchnyi" (965 ha). *International:* overlaps (22117 ha) with Emerald Site "Baidarskyi ta Mys Aia", overlaps (42597 ha) with Emerald Site "Bakhchysaraisko-Alushtynskyi", includes (130603 ha) Emerald Site "Bilohirskyi", overlaps (34563 ha) with Emerald Site "Crimean Nature Reserve", overlaps (3651 ha) with Emerald Site "Sevastopolskyi", includes Emerald Site "Yaltynskyi Hirsko-Lisovyi Nature Reserve" (14523 ha), includes Emerald Site "Gora Bila" (1091 ha).

Threats: burning of vegetation – medium, development (recreation/tourism) – low, development (urbanization) – low, eutrophication – low.

General description. IPA includes major part of the Crimean mounains. Flora and vegetation are of Eastern submediterranean type with steppe elements. Forest vegetation occupies the largest area. Besides there are a lot of steppe vegetation and large (>100 meters in height and several kilometers in length) limestone cliffs. Major forest type is mesic *Quercus petraea*, *Carpinus betulus* and *Fraxinus excelsior* forests with *Cornus mas* in the shrub layer and dominance of *Mercurialis perennis*, *Physospermum cornubiense*, *Ranunculus constantinopolitanus* in the herb layer. At lower altitudes, there are *Quercus pubescens* and *Carpinus orientalis* woods with high participation of *Aegonychon purpureo-caeruleum*, *Carex hallerana*, in drier habitats – open *Quercus pubescens* woods dominated by *Elytrigia nodosa*. *Fagus sylvatica* ssp. *moesiaca* forests prevails at altitudes above 700 m. In their herb layer, *Dentaria glandulosa*, *Galium odoratum*, *Mercurialis perennis* dominates. In the lower belt, there occur *Juniperus excelsa* woodlands with participation of *Arbutus andrachne*, *Cistus tauricus*, *Jasmnum fruticans*, *Juniperus oxycedrus*, *Quercus pubescens*. In the layer of herbs and low shrubs, there dominate of *Achnatherum bromoides*, *Bromopsis cappadocica*, *Elytrigia nodosa*, *Festuca callieri*, *Helianthemum stevenii*, *Poa sterilis*, *Thymus callieri*, *Teucrium chamaedrys*. On the southern slope of the main mountain chain, near Yalta city, a considerable area is occupied by *Pinus pallasiana* (*P. nigra* ssp. *pallasiana*) and *Pinus sylvestris* var. *hamata* (*Pinus kochiana*) forests with dominance of *Brachypodium rupestre*, *Carex humilis*, *Laser trilobum*, *Pteridium aquilinum*. Besides there occur *Acer stevenii*, *Alnus glutinosa*, *Pinus brutia* woods. Steppe vegetation occupies large areas on the tops of mountains ("Yayla") and at low altitudes in outer parts of the mountains. Dominants of the steppe vegetation are *Agropyron ponticum*, *Bromopsis cappadocica*, *Carex humilis*, *Elytrigia nodosa*, *Festuca valesiaca*, *Stipa brauneri*, *Stipa lithophila*, *Stipa pontica*, *Stipa tirsa*, *Stipa pulcherrima*. Mesic grasslands occur in medium and upper belts. Tomillares are in all belts. Maximum of their distribution is on Yayla. Dominating species are *Asphodeline taurica*, *Helianthemum stevenii*, *Teucrium chamaedrys*, *Teucrium jailae*, *Thymus callieri*, *Thymus hirsutus*, *Tymus tauricus*.

Botanical significance. This area is important for a large number of species and habitats. For some threatened species it includes all their extent of occurence.

Criterion A

- *Astracantha arnacantha* (M.Bieb.) Podlech; A(iv); abundance: frequent; trend: decreasing; species data quality: good; trend data quality: poor.
- *Astragalus setosulus* Gontsch.; A(i), A(ii), A(iii); abundance: rare; trend: decreasing; species data quality: medium; trend data quality: poor.
- *Centaurea comperiana* Steven; A(iii); abundance: occasional; trend: unknown; species data quality: poor; trend data quality: poor.
- *Centaurea sarandinakiae* N.B.Illar.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Cephalaria demetrii* Bobrov; A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Chamaecytisus wulffii* (V.Krecz.) Klásková; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Comperia comperiana* (Steven) Asch. et Graebn.; A(ii); abundance: occasional; trend: decreasing; species data quality: medium; trend data quality: poor.
- *Cyclamen kuznetzovii* Kotov et Czernowa.; A(ii); A(iii); abundance: occasional (>10 000 000 individuals, area of occupancy 400 ha); trend: stable; species data quality: good; trend data quality: poor.
- *Cypripedium calceolus* L.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Daphne taurica* Kotov.; A(iii); abundance: 256 individuals (two localities); trend: stable; species data quality: good; trend data quality: medium.
- *Eremurus tauricus* Steven; abundance: A(iv); occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Himantoglossum caprinum* (Bieb.) C.Koch.; A(ii), A(iv); abundance: occasional; trend: decreasing; species data quality: medium; trend data quality: medium.
- *Lagoseris purpurea* (Willd.) Boiss.; A(i), A(ii), A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Medicago saxatilis* M.Bieb.; A(i); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Onobrychis pallasii* (Willd.) M.Bieb.; A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Onosma polyphylla* Ledeb.; A(ii), A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Ophrys oestrifera* Bieb.; A(ii); abundance: occasional; trend: decreasing; species data quality: medium; trend data quality: poor.
- *Ophrys taurica* (Aggeenko) Nevski Bieb.; A(ii); abundance: occasional; trend: decreasing; species data quality: medium; trend data quality: poor.
- *Orchis provincialis* Balb.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Orchis punctulata* Steven ex Lindl.; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Paeonia tenuifolia* L.; abundance: A(ii); frequent (1 000 000 individuals); trend: unknown; species data quality: good; trend data quality: poor.
- *Pinus stankewiczii* (Sukacz.) Fomin (*P. brutia* Ten. var. *pityusa* (Steven) Silba; A(i), A(iv); abundance: occasional (three natural localities with high number of individuals); trend: decreasing; species data quality: good; trend data quality: medium.
- *Rhus coriaria* L.; A(i); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.
- *Silene jailensis* N.I.Rubtzov; A(iii); abundance: 470 individuals (in 4 localities); trend: stable; species data quality: medium; trend data quality: poor.
- *Sisymbrium confertum* Steven ex Turcz.; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Steveniella satyrioides* (Steven) Schlechter; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Tilia dasystyla* Stev.; A(iv); abundance: occasional; trend: stable; species data quality:

medium; trend data quality: poor.

Criterion B

- G1 Broadleaved deciduous woodland; area 240 000 ha; % of indicator species: 54.5%; No of indicator species: 42; trend: stable; species data quality: good; area data quality: good; trend data quality: good.

Criterion C

- B3.3 Rock cliffs, ledges and shores, with angiosperms; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C2.12 Hard water springs; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 27 000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 5000 ha; trend: stable; area data quality: poor; trend data quality: medium.
- F7 Spiny Mediterranean heaths; area: 800 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G1.A4 Ravine and slope woodland; area: 100 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.6 *Fagus* woodland (excluding G1.66); area: 40000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.7 Thermophilous deciduous woodland; area: 40000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G3.4E Ponto-Caucasian *Pinus sylvestris* forests; area: 2000 ha; trend: decreasing; area data quality: medium; trend data quality: medium.
- G3.5 *Pinus nigra* woodland; area: 9000 ha; trend: decreasing; area data quality: medium; trend data quality: good.
- G3.7 Lowland to montainmediterranean *Pinus* woodland (excluding *Pinus nigra*); area: 200 ha; trend: decreasing; area data quality: medium; trend data quality: medium.
- G3.9 Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*; area: 5000 ha; trend: decreasing; area data quality: medium; trend data quality: good.
- H2.6 Calcareous and ultra-basic screes of warm exposures; area: 3000 ha; trend: stable; area data quality: poor; trend data quality: medium.
- H3.2 Basic and ultra-basic inland cliffs; area: 15 000 ha; trend: stable; area data quality: medium; trend data quality: good.
- H3.511 Limestone pavements; area: 5000 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Didukh Ya.P. The communities of the class Quercetea pubescenti-petraeae at the Crimean Mountains // Ukr. Phytosoc. Col. – Kyiv, 1996. – Ser. A., iss. 1. – P. 63–77.
2. Korzhenevsky V.V. *Pinus pallasiana* forest in the Crimea // Укр. фітосоціол. збірник. – Київ, 1998. – Сер. А. № 1 (9). – С. 78–97.
3. Дідух Я.П. Томіляри Гірського Криму // Укр. бот. журн. – 1981. – 38, № 4. – С. 84–89.
4. Дидух Я.П. Опыт класификации ксерофильной полукустарниковой и травянистой растительности Горного Крыма // Ботан. журн., 1983. – 68, № 11. – С. 1456–1466.
5. Дидух Я.П. Растительный покров Горного Крыма (структура, динамика, эволюция и охрана). – Киев: Наукова думка, 1992 – 256 с.
6. Дідух Я.П. Неморальні ліси Гірського Криму класу Querco-Fagetea Br.-Bl. et. Vlieg. 1937 // Український фітоценологічний збірник, 1996. – Сер. А, №3. – С. 34–51.

7. Дідух Я.П. Гірські бори (Erico-Pinetea Horvat 1959) України // Рослинність хвойних лісів України. – К., 2003. С. 43–79.
8. Дідух Я.П., Куземко А.А. Нові синтаксони класу Molinio-Arrhenatheretea з Гірського Криму // Чорноморський ботан. журн. – 2009. – 5, № 4. – С. 547–562.
9. Дідух Я.П. ПЗ Ялтинський гірсько-лісовий // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 390–405.
10. Зелена книга України / під ред. Я.П. Дідуха – К.: Альтерпрес, 2009. – 448 с.
11. Корженевский В.В. Сосняки из *Pinus kochiana* на Главной гряде Крымских гор (синтаксономическое положение) // Классификация растительности СССР (с использованием флористических критериев). М.: Изд-во Моск. ун-та, 1986. – С. 102–112.
12. Корженевський В.В., Киселев О.А. Фитоценология восточно-буковых лесов южного макросклона Главной гряды Крымских гор // Структура растительности и биоэкология растений Крыма. – Ялта, 1982. – С. 26–35.
13. Корженевський В.В., Руденко М.І., Садогурський С.Ю. ПЗ Кримський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 198–220.
14. Партика Л.Я. Бріофлора Ялтинського гірсько-лісового природного заповідника // Укр. ботан. журн. – 1995. – 52, № 2. – С. 260–270.
15. Ходосовцев О.Є., Богдан О.В. Анотований список лишайників Ялтинського гірсько-лісового заповідника // Чорноморський ботан. журн. – 2005. – 1. – С. 117–132.
16. Рифф Л.Е. Продромус рослинності кам'янистих відслонень Гірського Криму // Ю.Д. Клеопов та сучасна ботанічна наука. – К: Фітосоціоцентр, 2002. – С. 286–289.
17. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Kuchuhury

V.P. Kolomiychuk

Ukrainian name: Кучугури.
Transliteration/Translation variants: Kuchugury.
Area: 75.8 ha.
Altitude: 13–21 m.
Latitude: 47°32'47" N (47.5463°).
Longitude: 35°12'18" E (35.2049°).
Administrative regions. Zaporizhia region: Vasylivka raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 40.0%; E – 30.0%; F – 7.0%; G – 18.0%; H – 5.0%.
Habitats. Level 2. C1 Surface standing waters – 30.0%; C3 Littoral zone of inland surface waterbodies – 10.0%; E1 Dry grasslands – 30.0%; F3 Temperate and mediterranean-montane scrub – 3.0%; F9 Riverine and fen scrubs – 4.0%; G1 Broadleaved deciduous woodland – 18.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation

– 5.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); F3.1 Temperate thickets and scrub; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity.
Land use: nature conservation and research – 100%.
Protected areas: included in Velyky Luh national nature park (zone of strict protection); included in Emerald Site "Velykyi Luh National Nature Park".

Threats: natural events – low (erosion of islands).
General description. Sand islands in the Khakovka resrvoir. Dry sand grasslands are dominated by *Artemisia marschalliana* and *Secale sylvestre*. Species of significant constancy: *Achillea micrantha*, *Agropyron dasyanthum*, *Carex colchica*, *Chondrilla juncea*, *Euphorbia seguieriana*, *Jurinea paczoskiana*, *Rumex acetosella*, *Linaria odora* subsp. *dulcis*, *Jacobaea borysthenica*, *Seseli tortuosum*. Total cover is 50–80%. Besides there are *Salix alba* woods, *Salix acutifolia* scrub and fresh standing waters with aquatic vegetation and littoral *Phragmites australis* communities.

Botanical significance. one of two known locality of narrow endemic species *Centaurea konkae*.
Criterion A
- *Centaurea konkae* Klokov; A(iii); abundance: occasional (900 individuals); trend: unknown; species data quality: good; trend data quality: poor.

Literature
1. Коломійчук В.П. Сучасний список регіонально рідкісних судинних рослин Запорізької області // Промышленная ботаника. – 2011. – Вып. 11. – С. 105–111.
2. Коломійчук В.П., Гальченко Н.П. Національний природний парк Великий Луг // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 63–76.
3. Тарасов В.В. Флора Дніпропетровської та Запорізької областей. Судинні рослини. – Д.: Вид-во ДНУ, 2005. – 276 с.
4. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Kuchurhan

V.A. Onyshchenko, O.M. Popova

Ukrainian name: Кучурган.
Transliteration/Translation variants: Kuchurgan.
Area: 1673 ha.
Altitude: 21–160 m.
Latitude: 46°57'29" N (46.9580°).
Longitude: 29°53'28" E (29.8909°).
Administrative regions. Odesa region: Rozdilna raion, Velyka Mykhailivka raion
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 65.0%; F – 2.0%; G – 32.0%; H – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 63.0%; E2 Mesic grasslands – 2.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 17.0%; G3 Coniferous woodland – 15.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: agriculture (animals) – 70%; forestry – 24%; mowing/hay making – minor
Protected areas: same as Emerald Site "Kuchurhanskyi".
Threats: forestry (afforestation) – medium.
General description. Eroded slopes of the Kuchurgan valley and its right tributary. The largest area is occupied by steppe vegetation and forest plantations. No detailed data on vegetation.
Botanical significance. Important for conservation of *Colchicum fominii* (~*Colchicum*

arenarium) in Ukraine.

Criterion A

- *Colchicum fominii* Bordz.; A(ii), A (iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals: Do not allow artificial afforestation, restore natural vegetation.

Kurylivka

V.P. Kolomiychuk

Ukrainian name: Курилівка.
Area: 65.4 ha.
Altitude: 55–58 m.
Latitude: 48°33’24” N (48.5566°).
Longitude: 34°37’19” E (34.6220°).
Administrative regions. Dnipropetrovsk region: Petrykivka raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. E – 94.0%; F – 2.0%; G – 2.0%; H – 2.0%.
Habitats. Level 2. E1 Dry grasslands – 94.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 0.4%; G3 Coniferous woodland – 1.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); F3.1 Temperate thickets and scrub; G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: forestry – 100%.
Protected areas: included in Emerald Site “Dniprovske Reservoir”.
Threats: forestry (afforestation) – high, burning of vegetation – low.
General description. IPA is situaued on the sand terrace of the Dnipro river. Major vegenation type is the dry sand grasslands dominated by *Festuca beckeri*, *Artemisia marschalliana*, *Secale sylvestre* with total cover 40–50%. Frequent species are *Achillea micrantha*, *Agropyron dasyanthum*, *Carex colchica*, *Chondrilla juncea*, *Euphorbia seguieriana*, *Jurinea charkoviensis*, *Rumex acetosella*, *Linaria odora* subsp. *dulcis*, *Jacobaea borysthenica*, *Seseli tortuosum.* With lower constancies, there occur *Astragalus varius*, *Anchusa gmelinii*, *Chamaecytisus borysthenicus*, *Gypsophilla paniculata*. Population of *Centaurea konkae* occupies about 1 ha. It has several hundred individuals.
Botanical significance. One of two known population of narrow endemic species *Centaurea konkae*.

Criterion A

- *Centaurea konkae* Klokov; A(iii); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals: Create a state botanical reserve.

Literature

1. Тарасов В.В. Флора Дніпропетровської та Запорізької областей. Судинні рослини. – Дніпропетровськ: Вид-во ДНУ, 2005. – 276 с.
2. Червона книга Дніпропетровської області. (Рослинний світ) / Під ред. А.П. Травлєєва. – Дніпропетровськ: ВКК “Баланс-Клуб”, 2010. – 500 с.
3. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Levkivski Lisy

O.O. Orlov

Ukrainian name: Левківські ліси.
Transliteration/Translation variants: Levkivsky Forest.
Area: 973.0 ha.
Altitude: 176–201 m.
Latitude: 50°13’36” N (50.2265°).
Longitude: 28°53’56” E (28.8987°).
Administrative regions. Zhytomyr region: Zhytomyr raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.3%; E – 0.2%; G – 98.5%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.2%; C3 Littoral zone of inland surface waterbodies – 0.1%; E2 Mesic grasslands – 0.2%; G1 Broadleaved deciduous woodland – 9.5%; G3 Coniferous woodland – 14.5%; G4 Mixed deciduous and coniferous woodland – 60.0%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 14.5%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E2.2 Low and medium altitude hay meadows; G1.7 Thermophilous deciduous woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H5.6 Trampled areas.
Land use: forestry – major.
Protected areas: included in Emerald Site “Korostyshivskyi”.
Threats: forestry (intensified forest management) – medium.
General description. Vegetation is represented mainly by forests (deciduous, mixed and coniferous approximately in equal parts). Mesic *Pinus sylvestris* forests are dominated by *Peucedanum oreoselinum*, *Dicranum polysetum*, *Pleurozium schreberi*. Other frequnt species are *Campanula rotundifolia*, *Chamaecytisus ruthenicus*, *Dianthus pseudosquarrosus*, *Gypsophila fastigiata*, *Luzula pilosa*, *Melampyrum pratense*, *Pulsatilla patens*, *Rumex acetosella*, *Thymus serpyllum*, *Vaccinium vitis-idaea*. In wetter pine forests, dominant species of the lower layers are *Frangula alnus*, *Vaccinium myrtillus*, *Molinia caerulea*, *Pteridium aquilinum*, *Dicranum polysetum*, *Pleurozium schreberi*. Secondary *Betula pendula* woods have species composition similar to one of pine woods. Dominants of the herb layer of *Quercus robur* woods and mixed *Pinus sylvestris* - *Quercus robur* woods are *Convallaria majalis* and *Pteridium aquilinum*. Their constant species are *Betonica officinalis*, *Campanula*

persicifolia, *Centaurea pseudophrygia*, *Clinopodium vulgare*, *Maianthemum bifolium*, *Melittis sarmatica*, *Polygonatum odaratum*, *Potentilla alba*, *Primula veris*, *Pulsatilla patens*, *Serratula coronata*. In the herb layer of *Alnus glutinosa* woods, there dominate *Carex vesicaria*, *Scirpus sylvaticus*. Constant species are *Carex acutiformis*, *C. elongata*, *C. rostrata*, *Galium uliginosum*, *Juncus conglomeratus*, *Lysimachia vulgaris*, *Lythrum salicaria*, *Padus racemosa*, *Peucedanum palustre*, *Poa palustris*. Prevailing species of meadows are *Arrhenatherum elatius*, *Carex panicea*, *Cynosurus cristatus*, *Festuca rubra*.

Botanical significance. Large dense population of *Pulsatilla patens*. One of the largest known localities of endemic species *Dianthus pseudoserotinus*. A good example of species rich oak woods.
Criterion A

- *Dianthus pseudoserotinus* Błocki; A(ii); abundance: occasional; trend: stable; species-data quality: medium; trend data quality: poor.
- *Pulsatilla patens* (L.) Mill.; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C

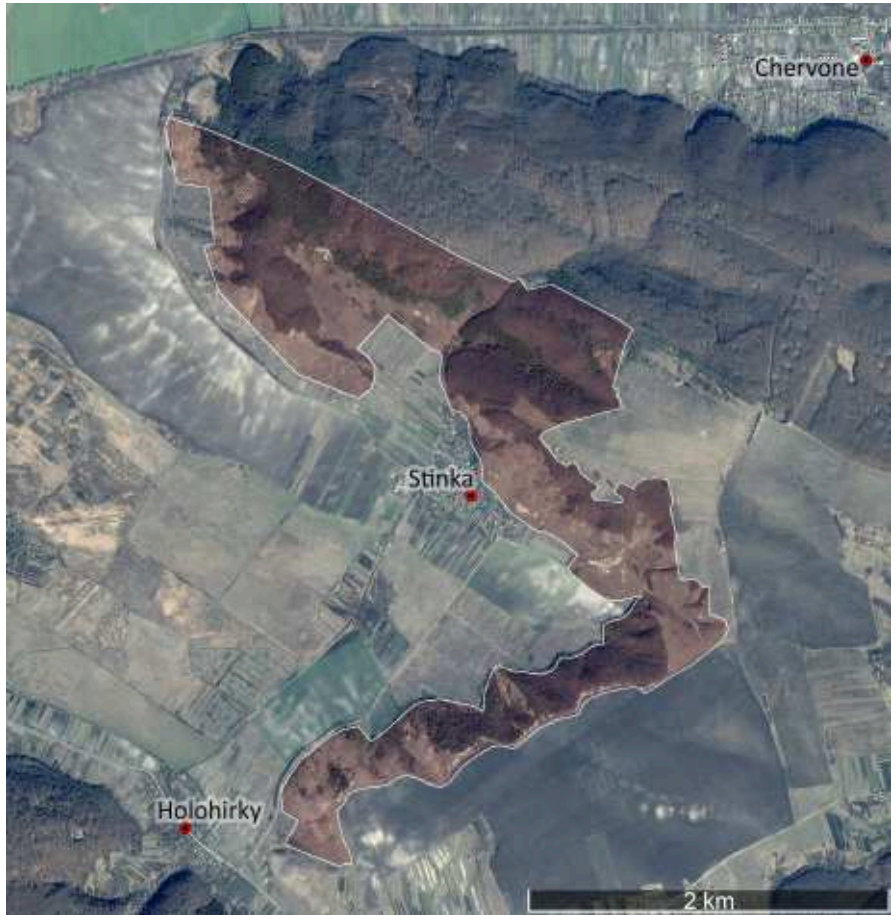
- G1.7 Thermophilous deciduous woodland; area: 40 ha; trend: decreasing; area data quality: medium; trend data quality: medium.

Conservation proposals. Create a state botanical reserve including the entire IPA.

Lysa Hora i Stinka

V.A. Onyshchenko, T.D. Solomakha

Ukrainian name: Лиса гора і Стінка.
Transliteration/Translation variants: Bald Hill and Cliff.
Area: 351 ha.
Altitude: 288–427 m.
Latitude: 49°47′00″ N (49.7832°).
Longitude: 24°44′21″ E (24.7390°).
Administrative regions. Lviv region: Zolochiv raion.



Ownership: state.
Biogeographic regions: continental

Habitats. Level 1. E – 36.8%; F – 1.0%; G – 60.5%; H – 1.7%
Habitats. Level 2. E1 Dry grasslands – 36.2%; E5 Woodland fringes and clearings and tall forb stands – 0.3%; E7 Sparsely wooded grasslands – 0.3%; F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 44.5%; G3 Coniferous woodland – 12.0%; G4 Mixed deciduous and coniferous woodland – 1.5%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 2.5%; H3 Inland cliffs, rock pavements and outcrops – 1.7%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E7.2 Sub-continental parkland; F3.1 Temperate thickets and scrub; G1.6 *Fagus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.F Highly artificial coniferous plantations; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: nature conservation and research – major, forestry – major.
Protected areas: overlaps (196 ha) with state botanical nature monument “Lysa Hora i Hora Sypukha”, overlaps (about 345 ha) with Pivnichne Podillia national nature park, included in Emerald Site “Pivnichne Podillia”.
Threats: abandonment/reduction of land management – medium, burning of vegetation – low.
General description. Hills with beech forests, pine plantations, grasslands and marl outcrops. The grasslands are dominated by *Briza media*, *Carex flava*, *Carex humilis*, *Dactylis glomerata*, *Festuca pratensis*, *Festuca rubra*, *Festuca rupicola*, *Helictotrichon desertorum*, *Inula ensifolia*, *Teucrium chamaedrys*. Frequent species are *Allium lusitanicum* s.l. (*Allium montanum* auct.), *Anemone sylvestris*, *Asperula cynanchica*, *Bupleurum falcatum*, *Campanula sibirica*, *Centaurea pannonica*, *Euphorbia cyparissias*, *Galium verum*, *Lembotropis nigricans*, *Leontodon hispidus*, *Linum catharticum*, *Onobrychis arenaria*, *Pimpinella saxifraga*, *Plantago media*, *Potentilla incana* (*P. arenaria*), *Primula veris*, *Prunella grandiflora*, *Ranunculus polyanthemos*, *Ranunculus zapalowiczii*, *Scabiosa ochroleuca*, *Thymus marschallianus*, *Thymus pannonicus*, *Salvia pratensis*.
Botanical significance. Important area for *Carlina onopordifolia*.
Criterion A

- *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł.; A(i), A(ii), A(iv); abundance: frequent (2000 individuals); trend: stable; species data quality: good; trend data quality: medium.

Conservation proposals: do not allow natural and artificial afforestation, expand state botanical monument “Lysa Hora i Hora Sypukha”.
Literature

1. Дідух Я., Коротченко І. Ксеротермна рослинність північно-західного Поділля // Вісник Львівського ун-ту. Серія біологічна. – 2003. – 34. – С. 82–91.

2. Кагало О.О., Загульський М.М., Зеленчук А.Т., Сичак Н.М. Судинні рослини державного заказника “Лиса гора та гора Сипуха” в Золочівському районі Львівської області // Наукові основи збереження біотичної різноманітності: тематичний збірник Інституту екології Карпат НАН України. – Вип. 6. – Львів: Ліга-Прес, 2006. – С. 66–81.

3. Мельник В.І., Скоропляс І.О., Баточенко В.М. Сучасний стан популяцій *Carlina onopordifolia* (*Asteraceae*) на західному Волино-Поділлі // Укр. ботан. журн. – 2014. – 71, № 2. – С. 35–48.

4. Мельник В.И., Скоропляс И.О. Современное состояние популяций *Carlina onopordifolia* Besser ex Szafer, Kulcz. & Pawl. в Украине // Austrian Journal of Technical and Natural Sciences. – 2014. № 9-10. – С. 21–24.

Lysohirka

V.P. Kolomiychuk

Ukrainian name: Лисогірка.
Transliteration/Translation variants: Lysogirka.
Area: 4.8 ha.
Altitude: 32–43 m.
Latitude: 47°39’44” N (47.6621°).
Longitude: 35°06’19” E (35.1052°).
Administrative regions. Zaporizhia region: Zaporizhia raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 65.0%; G – 30.0%; H – 5.0%.
Habitats. Level 2. E1 Dry grasslands – 65.0%; G3 Coniferous woodland – 30.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 5.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); G3.F Highly artificial coniferous plantations; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: forestry – 100%.
Protected areas: –.
Threats: forestry (afforestation) – high, burning of vegetation – low.
General description. Inland dunes on the right bank of the Dnipro river. Dry sand grasslands are dominated by *Artemisia marschalliana*, major co-dominant is *Secale sylvestre*. Species of significant constancy: *Festuca beckeri*, *Koeleria sabuletorum*, *Dianthus platyodon*, *Otites borysthenica*, *Chondrilla juncea*, *Gypsophilla paniculata*, *Erigeron canadensis*, *Digitaria sanquinalis*, *Eragrostis minor*, *Kochia laniflora*, *Setaria pycnocoma*, *Tragus racemosus*. Total

cover is 50–80%. Besides there are forest plantations of *Pinus pallasiana*.
Botanical significance. Single known locality of narrow endemic species *Centaurea appendicata*.
Criterion A

- *Centaurea appendicata* Klokov; A(iii); abundance: 270 individuals; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Create a state botanical nature monument.
Literature

1. Коломійчук В.П. Сучасний список регіонально рідкісних судинних рослин Запорізької області // Промышленная ботаника. – 2011. – вып. 11. – С. 105–111.
2. Мойсієнко І.І., Коломійчук В.П., Діденко В.І., Костіков І.Ю., Баданіна В.А., Захарова М.Я., Овсієнко В.М. Білоперлинні волошки берегів Каховського водосховища: сучасний стан популяцій та заходи з їх охорони // Чорноморськ. бот. журнал. – 2014. – Т. 10, № 3. – С. 352–357.
3. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Marina Hora

V.A. Onyshchenko

Ukrainian name: Мар’їна гора.
Transliteration/Translation variants: Mar’yina Gora, Maria’s Hill.
Area: 84.7 ha.
Altitude: 57–114 m.
Latitude: 48°55’42” N (48.9282°).
Longitude: 38°09’16” E (38.1544°).
Administrative regions. Donetsk region: Bakhmut (Artemivsk) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 96.1%; F – 0.2%; G – 1.5%; H – 2.2%.
Habitats. Level 2. E1 Dry grasslands – 96.1%; F3 Temperate and mediterranean-montane scrub – 0.2%; G1 Broadleaved deciduous woodland – 1.5%; H2 Screes – 2.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%; H5.6 Trampled areas.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; nature conservation and research – major; tourism/recreation – minor.
Protected areas: overlaps (about 80 ha) with regional botanical nature monument “Marina Hora”, overlaps (83 ha) with Emerald Site “Kreminski Lisy”).
Threats: –.
General description. Slope of the Siverskyi Donets valley with the steppe vegatation and chalk outcrops.
Botanical significance. Important area for some endemic species of chalk outcrops.

Criterion A

- *Alyssum gymnopodum* P.A.Smirn. (*Odontarrhena gymnopoda* (P.A.Smirn.) D.A.German); A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.
- *Diplotaxis cretacea* Kotov; A(i); abundance: unknown: rare; trend: unknown; species data quality: por; trend data quality: poor.
- *Schivereckia podolica* Andrz. ex DC. (*Draba podolica* (Besser) Rupr.); A(ii); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.
- *Syrenia talievi* Klokov; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.

Literature

1. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Markovychi

V.V. Datsiuk

Ukrainian name: Марковичі.
Area: 51.4 ha.
Altitude: 198–205 m.
Latitude: 50°43’48” N (50.7298°).
Longitude: 24°43’13” E (24.7201°).
Administrative regions. Volynska region: Lokachi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.1%; D – 87.6; E – 12.0%; %; F – 0.3%.
Habitats. Level 2. E3 Seasonally wet and wet grasslands – 12.0%; D4 Base-rich fens and calcareous spring mires – 45.0%; D5 Sedge and reedbeds, normally without free-standing water – 42.6%; F9 Riverine and fen scrubs – 0.3%.
Futher habitat description. D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E3.4 Moist or wet eutrophic and mesotrophic grassland; F9.2 *Salix* carr and fen scrub.
Land use: nature conservation and research – 100%.
Protected areas: included in regional hydrological reserve “Luha-Svynoryika”, included in Emerald Site “Markovychi”.
Threats: abandonment/reduction of land management – low, burning of vegetation – low.
General description. Major vegetation type is the rich fens dominated by *Schoenus ferrugineus*, *Cladium mariscus*, *Carex flava*, *Pragmites australis*, *Carex elata*, *Eriophorum latifolioum*, with presence of *Briza media*, *Calliergonella cuspidata*, *Carex panicea*, *Carex nigra*, *Drepanocladus intermedius*, *Drepanocladus polygamus*, *Lysimachia vulgaris*, *Molinia caerulea*, *Parnassia palustris*, *Potentilla erecta*, *Salix rozmarinifolia*. Besides there are marshes dominated by *Carex acutiformis*, *Carex elata*, *Phragmites australis* without significant presence of calciphile species.
Botanical significance. One of the largest rich fens in Ukraine.

Criterion C

- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 22 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Дацюк В.В., Андрієнко Т.Л Найбільший в Україні локалітет рідкісних угруповань *Schoenus ferrugineus* L. та *Cladium mariscus* (L.) Pohl (*Cyperaceae*) на Волинському лесовому плато // Наук. вісник. Східноєвропейського національного університету імені Лесі Українки. Біологічні науки. – Луцьк. – 2013. – № 14. – С. 8–13.

Marmaroski Hory

V.A. Onyshchenko, V.M. Virchenko

Ukrainian name: Мармароські гори.
Transliteration/Translation variants: Marmarosh Mountains, Maramureș Mountains.
Area: 8464.0 ha.
Altitude: 435–1940 m.
Latitude: 47°56′41″ N (47.9446°).
Longitude: 24°18′14″ E (24.3037°).
Administrative regions. Zakarpatska region: Rakhiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.4%; D – 0.1%; E – 8.4%; F – 1.6%; G – 89.1%; H – 0.4%.
Habitats. Level 2. C2 Surface running waters – 0.4%; E1 Dry grasslands – 0.6%; E4 Alpine and subalpine grasslands stands – 5.8%; E5 Woodland fringes and clearings and tall forb stands – 2.0%; F2 Arctic, alpine and subalpine scrub – 1.6%; G1 Broadleaved deciduous woodland – 7.0%; G3 Coniferous woodland – 14.2%; G4 Mixed deciduous and coniferous woodland – 67.9%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland (E1.71 *Nardus stricta* swards, E1.72 *Agrostis* – *Festuca* grassland); E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E4.1 Vegetated snow-patch; E4.2 Moss and lichen dominated mountain summits, ridges and exposed slopes; E4.3 Acid alpine and subalpine grassland; E4.4 Calcareous alpine and subalpine grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H2.4 Temperate-montane calcareous and ultra-basic screes; H3.1 Acid silicious inland cliffs; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – minor, forestry – minor, nature conservation and research – major.
Protected areas: included in Karpatskyi biosphere reserve (national category), included in Carpathian biosphere reserve (UNESCO), included in Emerald Site "Carpathian Biosphere Reserve", overlaps (8474.0 ha) with World Heritage Site "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany" (core zone: 2243.6 ha, buffer zone: 6230.4 ha).
Threats: climate change/sea level rise – low.
General description. At lower altitudes, there prevails mixed forests co-dominated by *Fagus sylvatica*, *Picea abies* and *Abies alba* and pure *Fagus sylvatica* forests. The herb layer is composed predominantly of *Anemone nemorosa*, *Athyrium filix-femina*, *Dryopteris filix-mas*, *Galium odoratum*, *Mercurialis perennis*, *Oxalis acetosella*, *Symphytum cordatum*. At higher altitudes, there are pure *Picea abies* forests and subalpine vegetation. Subalpine vegetation is represented mainly by *Pinus mugo*, *Duschekia alnobetua* (*Alnus alnobetula*),

Juniperus sibirica scrubs, *Vaccinium myrtillus* heaths, grasslands dominated by *Nardus stricta* and *Deschampsia cespitosa*. Besides there are communities dominated by *Rhododendron myrtifolium*, *Festuca inarmata*, *Festuca carpatica*, *Festuca saxatilis*, *Poa deylii*.
Botanical significance. Important area for beech, mixed and spruce forests, subalpine habitats and species.

Criterion A
- *Botrychium multifidum* (S.G.Gmel.) Rupr.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Campanula abietina* Griseb. & Schenk; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Campanula serrata* (Kit.) Hendrych; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Dicranum viride* (Sull. et Lesq.) Lindb.; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Hamatocaulis vernicosus* (Mitt.) Hedenas (*Drepanocladus vernicosus* (Mitt.) Warnst.); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Narcissus angustifolius* Curtis; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Poa granitica* Braun.-Blanq. (*Poa deylii* Chrtek & V.Jira); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Tozzia carpathica* Woł.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C
- C2.12 Hard water springs; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- D2.226 Peri-Danubian black-white-star sedge fens; area: 1 ha; trend: unknown; area data quality: poor; trend data quality: poor.

- E4.11 Boreo-alpine acidocline snow-patch grassland and herb habitats; area: 1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.3 Acid alpine and subalpine grassland; area: 450 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.4 Calcareous alpine and subalpine grassland; area: 2 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.5 Subalpine moist or wet tall-herb and fern stands; area: 150 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F2.22 Alpide acidocline *Rhododendron* heaths; area: 3 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.12 Boreo-alpine riparian galleries; area: 80 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.A4 (*9180) Ravine and slope woodland; area: 30 ha; trend: stable; area data quality: poor; trend data quality: medium.
- H2.3 Temperate-montane acid siliceous screes; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1.Біорізноманіття Карпатського біосферного заповідника / Кол. авт., Ред. рада: Я.І. Мовчан, Ф.Д. Гамор та ін. – К.: Інтерекоцентр, 1997. – 711 с.

2.Гамор Ф.Д., Волощук М.І., Антосяк Т.М., Козурак А.В. Б3 Карпатський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 45–72.

3.Гамор Ф.Д., Довганич Я.О., Покиньчереда В.Ф. та ін. Праліси Закарпаття. Інвентаризація та менеджмент. – Рахів, 2008. – 86 с.

4.Малиновський К.А. Рослинність високогір'я Українських Карпат. – К.: Наук. думка, 1980.– 280 с.

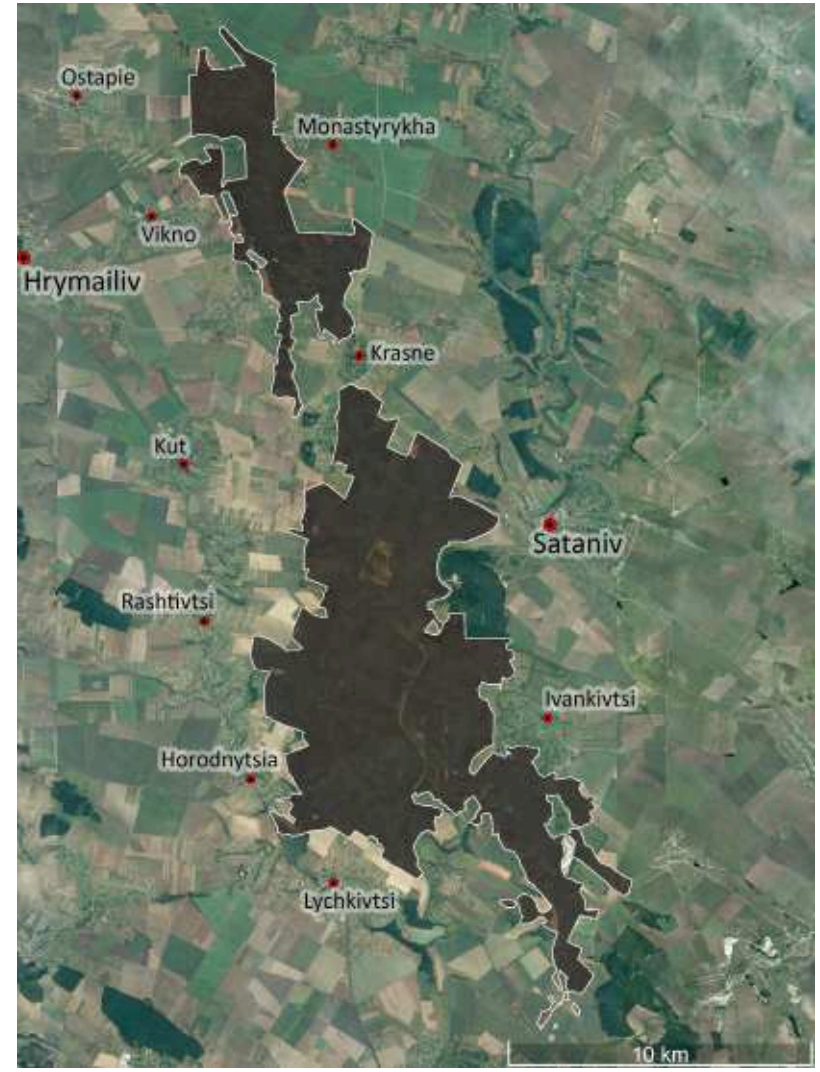
5.Малиновський К.А., Крічфалушій В.В. Рослинні угруповання високогір'я Українських Карпат. – Ужгород, 2002. – 244 с.

Medobory

V.A. Onyshchenko

Ukrainian name: Медобори.
Area: 11811 ha.
Altitude: 235–414 m.
Latitude: 49°15'06" N (49.2515°).
Longitude: 26°10'33" E (26.1758°).
Administrative regions. Khmelnytskyi region: Chemerivtsi raion, Horodok raion; Ternopil region: Husiatyn raion, Pidvolochysk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.1%; D – 0.1%; E – 2.1%; F – 0.2%; G – 96.5%; H – 1.0%.
Habitats. Level 2. C2 Surface running waters – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.1%; E1 Dry grasslands – 1.1%; E2 Mesic grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 0.2%; G1 Broadleaved deciduous

woodland – 95.5%; G3 Coniferous woodland – 1.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.2 Low and medium altitude hay meadows; G1.6 *Fagus* woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus*



and related woodland; G3.F Highly artificial coniferous forestry plantations; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements;

H5.6 Trampled areas.

Land use: agriculture (animals) – minor; forestry – minor, mowing/hay making – minor, nature conservation and research – 98%.

Protected areas: overlaps with Medobory nature reserve (about 8786 ha), overlaps with Podilski Tovtry national nature park (about 2810 ha), includes Satanivskyi state forest reserve (1015 ha), includes Ivakhnovenskyi state landscape reserve (1778 ha), includes Velyka and Mala Buhaikha state landscape reserve (66 ha), includes Vilkhovetski Tovtry regional botanical reserve (47 ha), overlaps with Emerald Site "Medobory Nature Reserve" (about 8786 ha), overlaps with Emerald Site "Podiliski Tovtry National Nature Park" (about 2950 ha).

Threats: abandonment/reduction of land management – low.

General description. A part of the Tovtry hills. Major vegetation type is the broadleaved forest. The tree layer is formed mainly by *Carpinus betulus*, *Quercus robur*, *Fraxinus excelsior*. Main dominants of the herb layer are *Aegopodium podagraria*, *Anemone nemorosa*, *Anemone ranunculoides*, *Carex pilosa*, *Corydalis cava*, *Isopyrum thalictroides*, *Lamium galeobdolon*. Other typical species are *Acer platanoides*, *Acer pseudoplatanus*, *Corydalis solida*, *Euonymus europaeus*, *Galium odoratum*, *Glechoma hirsuta*, *Milium effusum*, *Mercurialis perennis*, *Polygonatum hirtum*, *Polygonatum multiflorum*, *Pulmonaria obscura*, *Ranunculus cassubicus*, *Sambucus nigra*, *Stachys sylvatica*, *Stellaria holostea*, *Tilia cordata*, *Urtica dioica*. On the stony slopes and tops of the limestone hills, there occur forests dominated by *Fraxinus excelsior* and *Acer platanoides* with differential species *Arum besseranum*, *Bromopsis benekenii*, *Hordelymus europaeus*, *Hylotelephium polonicum*, *Lamium maculatum*, *Lunaria rediviva*, *Melandrium dioicum*, *Scutellaria altissima*, *Viburum lantana*. The area includes the easternmost natural *Fagus sylvatica* forest in the continental biogeographical region. In some places there is the steppe vegetation in complex with the shrub vegetation. Main dominants of the steppes are *Carex humilis*, *Festuca valesiaca* s.l., *Poa angustifolia*. Prevailng species of shrubs are *Chamaecytisus albus*, *Crataegus leiomonogyna*, *Juniperus communis*, *Prunus spinosa*, *Swida sanguinea* (*Cornus sanguinea*). Hay medows in the floodplain of the Zbruch river are dominated by *Arrhenatherum elatius*, *Dactylis glomerata*, *Poa pratensis*. Besides in other places *Calamagrostis epigeios* meadows occur.

Botanical significance. One of the best oak-hornbeam forests in the flatland portion of Ukraine. Besides this area is important for *Chamaecytisus podolicus* and communities of *Juniperus communis*. Other important species: *Aconitum besseranum*, *Cypripedium calceolus*, *Chamaecytisus blockianus*, *Euphorbia volhynica*, *Schivereckia podolica* (*Draba podolica*).

Criterion A

- *Aconitum besserianum* Andrz.; A(iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.
- *Chamaecytisus podolicus* (Błocki) Klásk. A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Schivereckia podolica* (Besser) Andrz. ex DC. (*Draba podolica* (Besser) Rupr.); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion B

- G1 Broadleaved deciduous woodland; area 11100 ha; % of indicator species: 13.0%; No of indicator species: 10; trend: increasing; species data quality: good; area data quality: good; trend data quality: good.

Criterion C

- F3.16 *Juniperus communis* scrub; area: 16 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G1.A1 *Quercus – Fraxinus – Carpinus betulus* woodland on eutrophic and mesotrophic soils; area: 9000 ha; trend: increasing; area data quality: medium; trend data quality: good.
- G1.A4 (*9180) Ravine and slope woodland; area: 200 ha; trend: stable; area data quality: medium; trend data quality: good.

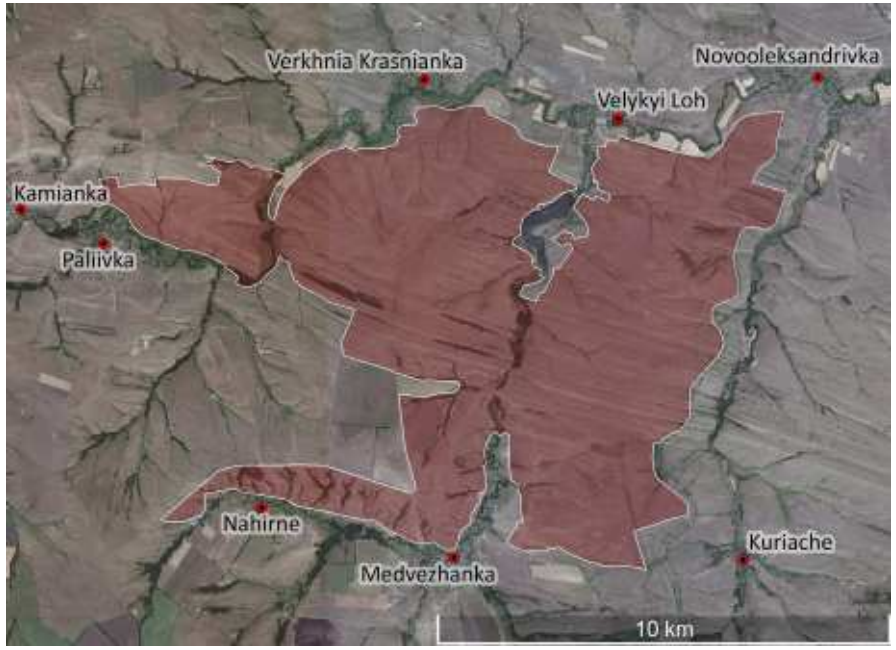
Literature

1. Onyshchenko V.A. Forests of order Fagetalia sylvaticae in Ukraine. – Kyiv: Alterpress, 2009. – 212 p.
2. Szafer W. Geobotaniczne stosunki Miodoborów Galicyjskich // Rozpr. Wydz. Matemat.-Przyrod. Akad. Umiejętności. – 1910. – Ser. 3, Dz. B, T. 10. – S. 63–172.
3. Данилків І.С., Рабик І.В. Мохоподібні (*Bryophytes*) природного заповідника "Медобори" // Чорноморський ботан. журн. – 2007. – 3, № 1. – С. 85–99.
4. Коломієць І.В., Дудка І.О., Тихоненко Ю.Я. Іржасті гриби заповідника "Медобори" // Укр. ботан. журн. – 1996. – 53, № 3. – С. 201–207.
5. Кондратюк С.Я. Лишайники заповідника "Медобори" // Укр. ботан. журн. – 1995. – 52, № 1. – С. 141–144.
6. Кондратюк С.Я., Коломієць І.В. Нові для України види лишайників та ліхенофільних грибів заповідника "Медобори" // Укр. ботан. журн. – 1997. – 54, № 1. – С. 42–47.
7. Котов М. Геоботанический очерк буковых лесов по р. Збруч // Журнал Русского ботанического общества. – 1930. – 15, № 1–2. – P. 139–148.
8. Мельник В.І., Корінько О.М. Букові ліси Подільської височини. – Київ: Фітосоціоцентр, 2005. – 152 с.
9. Оляр Г.І. Рослини Червоної книги України в природному заповіднику "Медобори"// Заповідна справа в Україні. – 1995. – Т. 1. – С. 11–12.
10. Оляр Г.І. Конспект флори природного заповідника "Медобори" // Наукові записки ТДПУ. Серія: Біологія, № 2 (17). – 2002. – С. 18–25.
11. Оляр Г.І. Зміни у флорі природного заповідника "Медобори" за минуле сторіччя // Роль природно-заповідних територій Західного Поділля та Юри Ойцовської у збереженні біолог. та ландшафтн. різноманіття, – Гримайлів, 2003. – С. 333–338.
12. Оляр Г. І. Фіторариетети природного заповідника "Медобори" з філією "Кременецькі гори" в міжнародних червоних списках // Природно-заповідний фонд України – минуле, сьогодення, майбутнє. Матеріали міжнародної науково-практичної конференції, присвяченої 20-річчю природного заповідника "Медобори" (смт. Гримайлів, 26–28 травня 2010 р.) – Тернопіль: Підручники і посібники, 2010. – С. 460–464.
13. Онищенко В.А. Рослинність карбонатних відслонень природного заповідника "Медобори" // Укр. фітоцен. зб. – Сер. А. – 2001. – 1 (17). – С. 86–104.
14. Онищенко В.А., Оляр Г.І. // Рідкісні лісові угруповання природного заповідника "Медобори" // Укр. ботан. журн. – 1998. – 55, № 4. – С. 413–416.
15. Онищенко В.А., Оляр Г.І. ПЗ Медобори // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 254–276.
16. Смеречинская Т. А. Закономерности распространения лишайников по фитоценозам природного заповедника "Медоборы" // Заповідна справа в Україні. – 2005. – Т.11, Випуск 1. – С. 9–15.

Medvezhanka

V.A. Onyshchenko, M.M. Peregrym

Ukrainian name: Медвежанка.
Area: 7849.0 ha.
Altitude: 80–223 m.
Latitude: 48°13’24” N (48.2234°).
Longitude: 39°31’34” E (39.5260°).
Administrative regions. Luhansk region: Dovzhansk (Sverdlovsk) raion, Lutuhyne raion, Sorokyne (Krasnodon) raion.
Ownership: state.
Biogeographic regions: steppic



Habitats. Level 1. E – 90.0%; F – 1.0%; G – 3.0%; H – 1.0%; I – 5.0%;
Habitats. Level 2. E1 Dry grasslands – 89.9%; E2 Mesic grasslands – 0.1%; F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 2.6%; G3 Coniferous woodland – 0.4%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.8%; I1 Arable land and market gardens – 5.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G3.F Highly artificial coniferous plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas; I1.5 Bare tilled, fallow or recently abandoned arable land.
Land use: agriculture (animals) – major; agriculture (arable) – minor; extraction (minerals) – minor; forestry – minor; nature conservation and research – minor.
Protected areas: overlaps (about 1135 ha) with regional landscape reserve “Krasnianske Vodoskhovyshche”, overlaps (7790 ha) with Emerald Site “Vedmezhanka”.
Threats: agricultural intensification/expansion (arable) – medium, agricultural intensification/expansion (grazing) – low, extraction (minerals/quarries) – low, forestry (afforestation) – low.
General description. The area is situated within the Donetsk Ridge. Dominants of the steppe vegetation are *Festuca valesiaca*, *Bothriochloa ischaemum*, *Bromopsis riparia*, *Bromopsis inermis*, *Elytrigia intermedia*, *Poa angustifolia*, *Stipa capillata*, *S. lessingiana*, *S. tirsa*, *S. ucrainica*. On the neutral outcrops of slate and sandstone, there are *Thymus marschallianus*, *Pimpinella titanophila*, *Artemisia marschalliana*, *Agropyron pectinatum*.
Botanical significance. One of the largest areas of the steppe vegetation in Ukraine.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 7000 ha; trend: decreasing; area data quality: good; trend data quality: poor.

Conservation proposals. Do not allow plowing. Create a national nature park.
Literature

1. Природно-заповідний фонд Луганської області // О.А. Арапов (заг. ред.), Т.В. Сова, О.А. Савенко, В.Б. Фєрєнц, Н.У. Кравець, Л.Л. Зятьков, Л.О. Морозова. Довідник. – 3-е вид., доп. і переробл. – Луганськ: “Луганська правда”, 2013. – 224 с.

Mehanom

V.A. Onyshchenko

Ukrainian name: Меганом.
Transliteration/Translation variants: Meganom.
Area: 1936.0 ha.
Altitude: 0–358 m.
Latitude: 44°48’55” N (44.8152°).
Longitude: 35°05’34” E (35.0929°).
Administrative regions. Autonomous Republic of Crimea: Sudak city; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 6.6%; B – 1.3%; E – 63.1%; F – 4.7%; G – 20.7%; H – 3.7%; J – 0.1%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.2%; A2 Littoral sediment – 0.2%; A3 Infralittoral rock and other hard substrata – 2.1%; A5 Sublittoral sediment – 4.1%; B2 Coastal shingle – 0.1%; B3 Rock cliffs, ledges and shores, including the supralittoral – 1.2%; E1 Dry grasslands – 59.9%; E6 Salt steppes – 3.1%; F3 Temperate and mediterranean-montane scrub – 2.7%; F7 Spiny Mediterranean heaths – 2.0%; F9 Riverine and fen scrubs – 0.0%; G1 Broadleaved deciduous woodland – 20.7%; H2 Screes – 0.5%; H3 Inland cliffs, rock pavements and outcrops – 3.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.

Futher habitat description. A2.1 Littoral coarse sediment; A2.5 Coastal saltmarshes and saline reedbeds; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.5 Sublittoral macrophyte-dominated sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E1.3 Mediterranean xeric grassland; F3.2 Submediterranean deciduous thickets and brushes; F7.4 Hedgehog-heaths; F9.3 Southern riparian galleries and thickets; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.

Land use: tourism/recreation – minor, urban/industrial/transport – 2% (wind turbines, road).
Protected areas: includes Pivostriv Mehanom regional complex nature monument (651.6 ha), included in Emerald Site “Mehanom”.
Threats: development (recreation/tourism) – low, eutrophication – low.
General description. Mehanom is a peninsula in the southeastern part of Crimea. This is the most arid place in Crimea. Hills are covered chiefly with the steppe vegetation. Maximum altitude is 358 m. Slope to the sea is steep, with cliffs about 100 m high. Adjacent sea is included. Surface of the shore consists of rocks, boulders, pebble and gravel. Dominants of the steppe vegetation are *Agropyron pectinatum*, *Bothriochloa ischaemum*, *Bromopsis cappadocica*, *Festuca valesiaca*, *Koeleria cristata*, *Stipa capillata*, *Stipa pontica*, *Stipa ucrainica*. Typical are *Achillea nobilis*, *Achillea millefolium*, *Galatella linosyris*, *G. villosa*,

Cruciata taurica, *Inula germanica*, *Inula oculus-christi*, *Jurinea roegneri*, *Centaurea salonitana*, *Limonium platyphyllum*, *Linum austriacum*, *Linum nervosum*, *Limonium squamulosum*, *Nepeta ucranica*, *Onosma taurica*, *Onosma visianii*, *Phlomis pungens*, *Poterium polygamum*, *Psephellus trinervius*, *Salvia nemorosa* s.l., *Scabiosa argentea*, *Stachys cretica* subsp. *velata*. Petrophytic steppe differs with presence of *Alyssum tortuosum* (*Odontarrhena tortuosa*), *Ephedra distachya*, *Euphorbia petrophila*, *Fumana procumbens*, *Paronychia cephalotes*, *Siederitis syriaca*, *Thymus roegneri*, *Thymus tauricus*. Salt steppes are dominanted by *Artemisia taurica*, *Artemisia lercheana*, *Camphorosma monspeliaca*, *Petrosimonia brachiata*. Dry grasslands of mediterranean type with significant participation of annual species (*Aegilops biuncialis*, *Aegilops cylindrica*, *Aegilops triuncialis*, *Alyssum hirsutum*, *Alyssum desertorum*, *Bromus japonicus*, *Bromus hordeaceus*, *Bromus sguarrosus*, *Gaudinopsis macra*, *Taeniatherum asperum*, *Taeniatherum crinitum*) occupy about 100 ha. In dry rocky habitats, there is open vegetation with *Alyssum murale*, *Asphodeline taurica*, *Cleistogenes serotina*, *Ephedra distachya*, *Euphorbia petrophila*, *Fumana procumbens*, *Hedysarum candidum*, *Helianthemum grandiflorum*, *Helianthemum nummularium*, *Medicago cretacea*, *Melica monticola*, *Melica taurica*, *Pimpinella tragium*, *Poa sterilis*, *Sideritis syriaca* subsp. *catillaris*, *Sedum acre*, *Sedum hispanicum*, *Seseli gummiferum*, *Teucrium polium*, *Thymus roegneri*, *Thymus tauricus*, *Veronica multifida*. On the sea beach, there occur *Crambe maritima*, *Cynanchum acutum*, *Limonium gmelini*, *Peganum harmala*, several species of *Atriplex* and *Soda.* Main species of trees in sparse woods is *Quercus pubescens*. Besides there are *Carpinus orientalis*, *Clematis vitalba*, *Cotoneaster tauricus*, *Cotinus coggygria*, species of *Crataegus*, *Paliurus spina-christi*, *Pyrus communis*, *Pyrus eleagnifolia*. The herb layer consists mainly of steppe and petrophytic species, some wood species occur too. Shrub communities are dominated by *Rosa canina*, *R. spinosissima*, *Paliurus spina-christi*, *Cotinus coggygria*. In valleys, there are small areas of *Tamarix ramosissima*, *Tamarix tetrandra* and *Eleagnus angustifolia* stands. In the sea at depths to 3 m, dominant species are *Ceramium ciliatum*, *Cladostephus verticillatus*, *Corallina mediterranea*, *Cystosera barbata*, *Cystoseira crinita*, *Dilophus fasciola*, *Enteromorpha compressa*, *Grateloupia dichotoma*, *Polysiphonia opaca*. At depths 3–10 m, there predominate *Chondria tenuissima*, *Cladophora albida*, *Cladophora dalmatica*, *Cystoseira crinita*, *Cystoseira barbata*, *Phyllophora nervosa*, *Ulva rigida*, *Zostera marina*, *Zostera noltii* (*Nanozostera noltii*).
Protected areas: –.
Botanical significance. Important area for conservation of dry grasslands, sea and inland cliffs, marine macrophytes. There are threatened endemic species *Astragalus reduncus*, *Astragalus setosulus*, *Onobrychis pallasii*, *Onosma polyphylla*, *Stipa syreistschikowii.*
Criterion A

- *Astracantha arnacantha* (M.Bieb.) Podlech; A(iv); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Astragalus reduncus* Pall.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Astragalus setosulus* Gontsch.; A(i), A(ii), A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Onobrychis pallasii* (Willd.) M.Bieb.; A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Onosma polyphylla* Ledeb.; A(ii), A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Stipa syreistschikowii* P.Smirn.; A(ii), A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- A3 Infralittoral rock and other hard substrata; area: 80 ha; trend: stable; area data quality: medium; trend data quality: poor.
- A5 Sublittoral sediment; area: 80 ha; trend: stable; area data quality: medium; trend data quality: medium.
- B3.3 Rock cliffs, ledges and shores, with angiosperms; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: medium.
- E1.2 Perennial calcareous grassland and basic steppes; area: 700 ha; trend: stable; area data quality: medium; trend data quality: medium .
- F7 Spiny Mediterranean heaths; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.
- F9.3 Southern riparian galleries and thickets; area: 1 ha; trend: unknown; area data quality: poor; trend data quality: poor.

Literature

1. Костенко Н.С., Дикий Е.А., Заклецкий А.А., Марченко В.С. Аквальні комплекси бухти Лісьей та півострова Меганом – перспективі об'єкти природнозаповідного фонду // Современные проблемы экологии Азово-Черноморского региона: материалы II международной конференции (Керчь, 26–27 июня 2006 г.). – Керчь: ЮгНИИРО, 2006. – С. 103–108

2. Костенко Н.С., Дикий Е.А., Заклецкий А.А., Марченко В.С. Донная растительность приоритетных акваторий юго-восточного Крыма: современное состояние и необходимые меры по сохранению // Заповедники Крыма – 2007. Материалы IV международной научно-практической конференции, посвященной 10-летию проведения международного семинара "Оценка потребностей сохранения биоразнообразия Крыма" (Гурзуф, 1997). Часть 1. Ботаника. Общие вопросы охраны природы. – Симферополь, 2007. – С. 63–68.

3. Миронова Л.П., Шатко В.Г. Полуостров Меганом в юго-восточном Крыму (природные условия, флора, растительность // Геополитика и экогеодинамика регионов. – 2013. – Т. 9, Вып. 2, Ч. 2. – С. 26–64.

Mishkovo-Pohorilove

O.M.Derkach, H.V. Kolomiets

Ukrainian name: Мішково-Погорілове.
Area: 152 ha.
Altitude: 2–41 m.
Latitude: 47°00’54” N (47.0148°).
Longitude: 32°06’11” E (32.1029°).
Administrative regions. Mykolaiv region: Vitovka (Zhovtnevyi) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 8.0%; G – 90.0%; H – 2.0%.
Habitats. Level 2. E1 Dry grasslands – 8.0%; G3 Coniferous woodland – 90.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – minor.
Protected areas: overlaps with regional forest reserve “Mishkovo-Pohorilove”.
Threats: forestry (afforestation) – medium, development (urbanization) – low.
General description. Terrace of the Inhul river with *Pinus pallasiana* and *Pinus sylvestris* plantations and sand grasslands. Sand grasslands are dominated by *Carex colchica*, *Artemisia marschalliana*, *Festuca beckeri*, *Koeleria sabuletorum*, *Thymus pallasianus*. Other frequent species are *Stipa borysthenica*, *Scabiosa ucrainica*, *Achillea ochroleuca*, *Helichrysum corymbiforme*, *Astragalus varius*, *Anchusa gmelinii*, *Jurinea charcoviensis*, *Tragopogon borysthenicus*, *Alyssum savranicum* (*Odontarrhena savranica*), *Secale sylvestre*. Denstity of *Centaurea margaritacea* in natural grasslands is 3 to 30 individuals per 100 m^2.
Botanical significance. 100% of global population of narrow endemic species *Centaurea margaritacea* s. str.
Criterion A

- *Centaurea margaritacea* Ten. s. str.; A(iii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Create a state botanical reserve instead of local forest reserve “Mishkovo-Pohorilove”. Restore sand grasslands.

Literature

1.Деркач О.М. Ключові ботанічні території Миколаївщини: сучасний стан та проблеми збереження // Теорія і практика заповідної справи в Україні. Зб.наук.праць. – К., 2005. – С.167–173.

2.Деркач О.М. Нижньоінгульське // Південно-Бузький меридіональний екологічний коридор: стислий огляд біорізноманіття та найцінніші території / Під ред. В. Костюшина. – К., 2007. – С. 53.

3.Коломієць Г.В. Перлинні волошки секції *Pseudophalolepis* Klok. ряду *Margaritacea* Klok. Питання систематики та охорони // Укр. фітоценологічний зб. – Вип. 1–2 (12–13). – К.: Фітосоціоцентр, 1999. – С. 165–169.

4.Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok. (*Centaurea* L.) // Укр. ботан. журн. – 1991. – 48, № 3. – С. 78–80.

5.Крицька Л.І., Деркач О.М. Волошка первиннoперлинна *Centaurea margaritacea* Ten. / Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 304.

6.Перлини піщаної флори у пониззях Південного Бугу та Інгулу. Серія: Збереження біорізноманіття в Приморсько-степовому екокоридорі / Під ред. Г.В. Коломієць. – К.: Громадська організація "Веселий Дельфін", 2008. – 60 с.

Molochnyi Lyman

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Молочний лиман.
Area: 28196.0 ha.
Altitude: 0–20 m.
Latitude: 46°34'42" N (46.5782°).
Longitude: 35°19'44" E (35.3289°).
Administrative regions. Zaporizhia region: Melitopol raion, Pryazovsk raion, Yakymivka raion .
Ownership: state.
Biogeographic regions: steppic
Habitats. Level 1. A – 85.2%; C – 0.7%; D – 1.1%; E – 12.9%; H – 0.1%.
Habitats. Level 2. A2 Littoral sediment – 17.0%; A5 Sublittoral sediment – 68.2%; C1 Surface standing waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.6%; D5 Sedge and reedbeds, normally without free-standing water – 0.2%; D6 Inland saline and brackish marshes and reedbeds – 0.9%; E1 Dry grasslands – 1.0%; E6 Salt steppes – 11.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.3 Littoral mud; A2.5 Coastal saltmarshes and saline reedbeds; A5.3 Subittoral mud; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; D6.1 Inland saltmarshes; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E1.2 Perennial calcareous grassland and basic steppes; E6.2 Continental inland salt steppes; H5.6 Trampled areas.
Land use: agriculture (animals) – minor; nature conservation and research – major.
Protected areas: overlaps (about 22730 ha) with Pryazovskyi national nature park, overlaps (about 22400 ha) with Ramsar Site "Molochnyi Liman", overlaps (about 22730 ha) with Emerald Site "Pryazovskyi National Nature Park".
Threats: –.
General description. A lagoon in the northwestern part of the Sea of Azov and the mouth of the Molochna river in the nothern part of the lagoon. Connection with the sea is intermittent. Level of water is unstable. A large area of the bottom is exposed in the dry season. The right bank is rather high. There is the steppe vegetation dominated by *Agropyron pectinatum*, *Festuca valesiaca*, *Koeleria cristata*, *Stipa lessingiana*, *S. pulcherrima*, *S. ucrainica* with

presence of psammophytic species *Artemisia marschalliana*, *Stipa borysthenica*, *Ephedra distachya*, *Helicrysum arenarium*. A large area is occupied by salt meadows (dominats:

Elytrigia elongata, *Puccinellia distans*, *Aeluropus littoralis*, *Juncus gerardii*) and wet halophytic communities (dominants: *Phragmites australis*, *Scirpus tabernaemontani*, *Juncus maritimus*, *Bolboschoenus maritimus*). In the most saline habitats, there dominate *Halocnemum strobilaceum*, *Salicornia perennans*, *Suaeda prostrata*, *Halimione pedunculata*, *H. verrucifera*, *Limonium caspium*, *L. meyeri*. On elevated areas of the left bank there are salt

steppes with dominance of *Festuca valesiaca* s.l., *Camphorosma monspeliaca*, *Agropyron pectinatum*, *Koeleria cristata*, *Crinitaria villosa*. On the southern side of the bar, there are littoral communities with *Argusia sibirica*, *Cakile euxina*, *Leymus sabulosus*, *Salsola pontica*. In some places, there are aquatic communities of *Zostera marina*, *Zannichellia major*, *Myriophyllum spicatum*, *Ceratophyllum demersum*, *Potamogeton pectinatum* (*Stuckenia pectinata*).

Botanical significance. Important area for halophytic vegetation, *Zostera marina* and some threatened steppe species.

Criterion A

- *Allium pervestitum* Klokov.; A(i), A(iv); abundance: rare; trend: stable; species data quality: good; trend data quality: good.
- *Allium regelianum* A.Becker ex Iljin.; A(ii); abundance: rare (100–150 individuals); trend: unknown; species data quality: good; trend data quality: poor.
- *Ferula orientalis* L.; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Zostera marina* L.; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- A2.5 Coastal saltmarshes and saline reedbeds; area: 500 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E6.2 Continental inland salt steppes; area: 3300 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Дубина Д.В., Шеляг-Сосонко Ю.Р. Тенденції антропогенних змін плавнево-літоральних фітосистем р. Молочної // Укр. ботан. журн. – 1996. – 53, № 1–2. – С. 31–37.
2. Дубовий М.С., Дмитренко Є.М., Коломійчук В.П. Флора і рослинність Молочного лиману // Зб. доп. VI Міжнар. науков. конф. аспірантів і студентів "Охорона навколишнього середовища та раціональне використання природних ресурсів" (17–19 квітня 2007 р., м. Донецьк). – Т. 1. – Донецьк: ДонНТУ, ДонНУ, 2007. – С. 176–177.
3. Коломийчук В.П., Подорожный С.Н. Флора берегов Молочного лимана // Біологічний вісник Мелітопольського держ. пед. університуту ім. Богдана Хмельницького. – 2013. – № 2. – С. 128–135.
4. Коломійчук В.П., Тищенко О.В. НПП Приазовський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 410–428.
5. Коломійчук В.П., Яровий С.О. Конспект флори судинних рослин Приазовського національного природного парку. – К.: Альтерпрес, 2011. – 296 с.
6. Тищенко О.В. Рослинність приморських кіс північного узбережжя Азовського моря. – Київ: Фітосоціоцентр, 2006. – 156 с.

Morochno-2

V.A. Onyshchenko

Ukrainian name: Морочно-2.
Area: 4487 ha.
Altitude: 148–159 m.

Latitude: 51°37'43" N (51.6285°).
Longitude: 26°17'05" E (26.2846°).
Administrative regions. Rivne region: Zarichne raion, Volodymyrets raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.02%; D – 10%; F – 0.1%; G – 90%.
Habitats. Level 2. C1 Surface standing waters – 0.01%; C2 Surface running waters – 0.02%; D1 Raised and blanket bogs – 1%; D2 Valley mires, poor fens and transition mires – 8%; D5 Sedge and reedbeds, normally without free-standing water – 1%; F9 Riverine and fen scrubs – 0.1%; G1 Broadleaved deciduous woodland – 15%; G3 Coniferous woodland – 25%; G4 Mixed deciduous and coniferous woodland – 50%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D1.1 Raised bogs; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.5 Broadleaved swamp

woodland not on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.1 Mixed swamp woodland.
Land use: forestry – minor, nature conservation and research – 100%.
Protected areas: includes Khynotskyi state botanical reserve (2267 ha), includes Svarytsevytskyi state botanical reserve (2220 ha), included in Emerald Site "Dubrovytskyi".
Threats: –.
General description. Wooded raised bogs and transitional mires with smaller areas of mires without the tree layer. Dominants: *Pinus sylvestris*, *Betula pubescens*, *Carex lasiocarpa*, *Eriophorym vaginatum*, *Ledum palustre*, *Vaccinium oxycoccos* (*Oxycoccus palustris*), *Phragmites australis*, *Sphagnum cuspidatum*, *Sphagnum fallax*, *Sphagnum magellanicum*, *Sphagnum fuscum*.
Botanical significance. The largest area of wooded oligotrophic and mesotrophic mires with *Pinus sylvestris* and *Betula pubescens* in Ukraine.
Criterion C

- G1.51 Sphagnum *Betula* woods; area: 600 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G3.E Nemoral bog conifer woodland; area: 1000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- X04 Raised bog complexes; area: 40 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature

1. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Mykhailivskyi Step

V.A. Onyshchenko, O.M. Derkach

Ukrainian name: Михайлівський степ.
Transliteration/Translation variants: Myhaylivskyi Steppe.
Area: 1774.0 ha.
Altitude: 12–89 m.
Latitude: 47°24'51" N (47.4140°).
Longitude: 31°37'43" E (31.6284°).
Administrative regions. Mykolaiv region: Voznesensk raion, Nova Odesa raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 95.9%; F – 0.3%; G – 3.3%; H – 0.5%.
Habitats. Level 2. E1 Dry grasslands – 95.0%; E2 Mesic grasslands – 0.9%; F3 Temperate and mediterranean-montane scrub – 0.3%; G1 Broadleaved deciduous woodland – 3.3%; H2 Screes – 0.2%; H3 Inland cliffs, rock pavements and outcrops – 0.2%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.

Land use: agriculture (animals) – minor; nature conservation and research – major.
Protected areas: includes Mykhailivskyi Step regional landscape reserve (1343.1 ha), included in Emerald Site "Mykhailivskyi Steppe".
Threats: –.
General description. Grasslands dominated by *Festuca valesiaca*, *Stipa capillata*, *S, lessingiana*, *S. pulcherrima*, *S. ucrainica*, *Caragana frutex*, *Amygdalus nana*, *Koeleria cristata*, *Poa angustifolia*. On stony calcareous soil, there prevail *Stipa asperella*, *Thymus*

dimorphus, *Koeleria brevis*, *Jurinea brachycephala* with *Allium flavescens*, *Astragalus albidus*, *A. ucrainicus*, *A. corniculatus*, *Centaurea marschalliana*, *Dianthus pseudoarmeria*, *Genista scythica*, *Gypsophila collina*, *Hedysarum grandiflorum*, *Linaria macroura*, *Linum linearifolium*, *Pimpinella titanophila*, *Teucrium polium*.
Botanical significance. One of the best steppe areas west to the Dnipro river.
Criterion A

- *Chamaecytisus graniticus* (Rehmann.) Rothm.; A(iii); abundance: occasional; trend: stable; species data quality: poor; trend data quality: poor.
- *Crambe tataria* Sebeok.; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

- *Gymnospermium odessanum* (DC.) Takht.; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.
- *Tulipa hypanica* Klokov et Zoz; A(iii); abundance: occasional; trend: stable; species data quality: poor; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 1700 ha; trend: stable; area data quality: good; trend data quality: good.

Conservation proposals. Include in Yelanetskyi nature reserve.

Literature

1. Південно-Бузький меридіональний екологічний коридор: стислий огляд біорізноманіття та найцінніші території / під ред. В. Костюшина. – К., 2007. – 92 с.

Mykhailo-Laryne

O.M.Derkach, H.V. Kolomiets

Ukrainian name: Михайло-Ларине.
Area: 39.6 ha.
Altitude: 10–45 m.
Latitude: 47°08'14" N (47.1373°).
Longitude: 32°13'00" E (32.2165°).
Administrative regions. Mykolaiv region: Vitovka (Zhovtnevyi) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 30.0%; G – 69.0%; H – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 30.0%; G3 Coniferous woodland – 69.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: forestry – major.
Protected areas: includes local botanical reserve "Mykhailo-Larynskyi" (14.8 ha)
Threats: forestry (afforestation) – medium.
General description. A part of sand terrace above the floodplain of the Inhul river. Forest plantations of *Pinus pallasiana* and *Pinus sylvestris* in comlex with dry sand grasslands. Dominant species of the grasslands are *Carex colchica*, *Artemisia marschalliana*. Other typical species are *Anchusa gmelinii*, *Centaurea adpressa*, *Centaurea margarita-alba*, *Dianthus membranaceus*, *Euphorbia seguieriana*, *Gypsophila paniculata*, *Helichrysum arenarium*, *Linaria genistifolia*, *Scabiosa ucrainica*, *Stipa borysthenica*, *Thymus pallasianus*.
Botanical significance. 40% of global population of narrow endemic species *Centaurea margarita-alba* s. str.

Criterion A

- *Centaurea margarita-alba* Klokov; A(iii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Remove trees. Create a state botanical reserve instead of local botanical reserve "Mykhailo-Larynskyi" including the entire IPA. Restore sand grasslands in adjacent area.

Literature

1.Деркач О.М. Ключові ботанічні території Миколаївщини: сучасний стан та проблеми збереження // Теорія і практика заповідної справи в Україні. Зб.наук.праць. – К., 2005. – С.167–173.

2.Коломієць Г.В. Перлинні волошки секції *Pseudophalolepis* Klok. ряду *Margaritacea* Klok. Питання систематики та охорони // Укр. фітоценологічний зб. – Вип. 1–2 (12–13). – К.: Фітосоціоцентр, 1999. – С. 165–169.

3.Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok. (*Centaurea* L.) // Укр. ботан. журн. – 1991. – Т. 48, № 3. – С. 78–80.

4.Крицька Л.І., Деркач О.М., Собко В.Г. Волошка білоперлинна *Centaurea margarita-alba* Klokov / Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 305.

5.Перлини піщаної флори у пониззях Південного Бугу та Інгулу. Серія: Збереження біорізноманіття в Приморсько-степовому екокоридорі / Під ред. Г.В. Коломієць. – К.: Громадська організація "Веселий Дельфін", 2008. – 60 с.

Mys Martian

V.A. Onyshchenko

Ukrainian name: Мис Март'ян.
Transliteration/Translation variants: Cape Martian, Cape Martyan.
Area: 128.0 ha.
Altitude: 0–240 m.

Latitude: 44°30'40" N (44.5110°).
Longitude: 34°14'56" E (34.2487°).
Administrative regions. Autonom. Republic of Crimea: Yalta city; Territ. waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 7.0%; B – 1.0%; E – 0.1%; G – 91.4%; H – 0.5%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.1%; A2 Littoral sediment – 0.9%; A3 Infralittoral rock and other hard substrata – 3.0%; A5 Sublittoral sediment – 3.0%; B2 Coastal shingle – 0.8%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.2%; E1 Dry grasslands – 0.1%; G1 Broadleaved deciduous woodland – 33.2%; G3 Coniferous woodland – 35.0%; G4 Mixed deciduous and coniferous woodland – 23.2%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.2%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.

Futher habitat description. A2.1 Littoral coarse sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.3 Mediterranean xeric grassland; G1.7 Thermophilous deciduous woodland; G3.5 *Pinus nigra* woodland; G3.9 Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: nature conservation and research – 98%; tourism/recreation – minor.
Protected areas: overlaps (about 126 ha) with Mys Martian nature reserve, overlaps (94 ha) with Emerald Site "Mys Martian".
Threats: burning of vegetation – medium, development (recreation/tourism) – low.
General description. The IPA is situated in the southern part of the Crimea. It includes a slope near the sea with woods at altitudes up to 240 m and 50 m wide strip of the sea.

The largest area is occupied by broadleaved woods dominated by *Quercus pubescens* with admixture of *Arbutus andrachne*, *Fraxinus angustifolia*, *Juniperus excelsa*, *Pinus pallasiana*. The shrub layer is dominated by *Carpinus orientalis*, *Cornus mas*, *Juniperus oxycedrus*, the lower shrub sublayer consists of *Ruscus ponticus*. In the herb layer, there are *Achnatherum bromoides*, *Aegonychon purpureocaeruleum*, *Brachypodium rupestre*, *Carex cuspidata*, *Carex hallerana*, *Elytrigia nodosa*, *Festuca valesiaca*. *Juniperus excelsa* woods also occupy a large area. Their shrub layer is composed of *Juniperus oxycedrus* (predominantly), *Bupleurum fruticosum*, *Carpinus orientalis*, *Cornus mas*, *Paliurus spina-christi* and lower shrubs such as *Cistus tauricus*, *Hippocrepis emeroides*, *Jasminum fruticans*, *Ruscus ponticus*. In the herb layer, there prevail *Achnatherum bromoides*, *Carex cuspidata*, *Carex hallerana*, *Elytrigia nodosa*, *Fumana procumbens*, *Helianthemum canum*, *Helianthemum stevenii*, *Teucrium chamaedrys*, *Teucrium polium*, *Thymus roegneri*. Smaller area is covered by *Pinus pallasiana* forest with dominance of *Asperula stevenii*, *Brachypodium rupestre*, *Carex hallerana*, *Dorycnium herbaceum*, *Galium mollugo*, *Laser trilobum*, *Teucrium chamaedrys*. Substrate types of the beach are unmobile rock and shingle. In the sea, there dominate *Cystoseira crinita*, *Cystoseira barbata*, *Zostera marina*, *Zostera noltii* (*Nanozostera noltii*). Considerable areas are occupied by screes and outcrops. Littoral habitats are represented by shingle beach and rocks.
Botanical significance. Important for conservation of *Quercus pubescens* woods, *Juniperus excelsa* woods, *Brassica taurica*.
Criterion A
- *Brassica taurica* (Tzvelev) Tzvelev (*Brassica sylvestris* Mill. subsp. *taurica* Tzvel.); A(i), A(ii); abundance: 30 individuals; trend: fluctuating; species data quality: good; trend data quality: good.
- *Ophrys oestrifera* M.Bieb.; A(ii); abundance: 70 individuals; trend: stable; species data quality: good; trend data quality: medium.

Criterion B
- G1 Broadleaved deciduous woodland; area 75 ha; % of indicator species: 19.5%; No of indicator species: 15; trend: increasing; species data quality: good; area data quality: good; trend data quality: medium.

Criterion C
- G3.5 *Pinus pallasiana* and *Pinus banatica* forests; area: 5 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G3.9 Coniferous woodland dominated by *Cupressaceae* or *Taxaceae*; area: 40 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Белич Т.В. К изучению бриофлоры заповедника "Мыс Мартьян" // Заповедники Крыма. Заповедное дело, биоразнообразие, экообразование: Матер. III научн. конф. (22 апреля 2005 г., Симферополь, Крым). – Ч. I. – Симферополь, 2005. – С. 141–144.
2. Голубева И.В., Крайнюк Е.С. Аннотированный каталог высших растений заповедника "Мыс Мартьян". – Ялта, ГНБС. – 1987. – 40 с.
3. Шеляг-Сосонко Ю.Р., Дидух Я.П., Молчанов Е.Ф. Государственный заповедник "Мыс Мартьян". – Киев: Наук. думка, 1985. – 260 с.
4. Григоров А.Н. Естественное возобновление и возрастная структура насаждений можжевельника высокого в заповеднике "Мыс Мартьян" // Труды Никит. ботан. сада. – 1982. – Т. 86. – С. 35–44.
5. Ена А.В. Современное состояние крымских популяций земляничника мелкоплодного // Природоохранные аспекты изучения Горного Крыма. – Симферополь,

1986. – С. 26–30.
6. Крайнюк Е.С. Редкие виды высших растений в заповеднике "Мыс Мартьян" // Бюл. Никит. ботан. сада. – 1988. – Вып. 67. – С. 20–25.
7. Крайнюк Е.С. Современное состояние раритетного фитофонда заповедника "Мыс Мартьян" // Труды Никит. ботан. сада. – 2001. – Т. 120. – С. 63–73.
8. Крайнюк Е.С. Растения Красной книги Украины в природном заповеднике "Мыс Мартьян" // рослинний світ у Червоній книзі України: впровадження Глобальной стратегії збереження рослин. Матеріали міжнар. конф. (11 – 15 жовтня 2010 р.), Київ. – Київ: Альтерпрес, 2010. – С. 274–277.
9. Крайнюк К.С., Маслов І.І. ПЗ Мис Мартьян // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 277–290.
10. Куликов Г.В., Лялин Г.С. Земляничник мелкоплодный в заповеднике "Мыс Мартьян" // Бюл. Главн. ботан. сада. – 1975. – Вып. 98. – С. 59–63.
11. Ларина Т. Г. Флора и растительность заповедника "Мыс Мартьян" // Труды Гос. Никит. ботан. сада. – 1976. – Т. 70. – С. 45–62.
12. Лукс Ю.А. Флора орхидных заповедника "Мыс Мартьян" // Труды Гос. Никит. ботан. сада. – 1976. – Т. 70. – С. 95–104.
13. Маслов И.И. Фитобентос псевдолиторального пояса района Ялты // Природные экосистемы Южного берега Крыма и их охрана. Сборник науч. тр. – Ялта: ГНБС. – 1984. – Т. 94. – С. 72–87.
14. Маслов И.И., Куропатов Л.А. К детальному описанию биоценоза цистозиры заповедника "Мыс Мартьян". – Бюлл. Гос. Никит. ботан. сада. – 1987. – Вып .63. – С. 13–17.
15. Маслов И.И., Саркина И.С., Белич Т.В., Садогурский С.Е. Аннотированный каталог водорослей и грибов заповедника "Мыс Мартьян". – Ялта, ГНБС. – 1998. – 31 с.
16. Молчанов Е.Ф., Григоров А.Н., Голубева И.В., Ларина Т.Г., Щербатюк Л.К., Ругузов И.А., Склонная Л.У., Бескаравайный М.М. Высокоможжевеловые леса Крыма и проблема их охраны // Гос. Никитск. ботан. сад. – Ялта, 1992. – Деп. В ВИНИТИ 30.12.92. № 3706 – В 92. – 296 с.
17. Погребняк И.И., Маслов И.И. К изучению донной растительности района мыса Мартьян // Труды Гос. Никит. ботан. сада. – 1976. – Т. 70. – С. 105–113.
18. Ходосовцев А.Е., Редченко А.А. Аннотированный список лишайников заповедника "Мыс Мартьян" (Украина) // Укр. ботан. журн. – 2002. – 59, № 1. – С. 64–71.
19. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Mytrofanivskyi Pivostriv

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Митрофанівський півострів.
Transliteration/Translation variants: Mytrofanivsky Peninsula.
Area: 817.1 ha.
Altitude: 0–19 m

Latitude: 46°08'27" N (46.1407°).
Longitude: 34°07'05" E (34.1181°).
Administrative regions. Kherson region: Novotroitske raion .
Ownership: state, private.
Biogeographic regions: steppic.
Habitats. Level 1. A – 16.5%; E – 83.5%.
Habitats. Level 2. A2 Littoral sediment – 11.0%; A5 Sublittoral sediment – 5.5%; E1 Dry grasslands – 40.8%; E6 Salt steppes – 42.7%.
Futher habitat description. A2.3 Littoral mud; A2.5 Coastal saltmarshes and saline reedbeds; A5.3 Subittoral mud; E1.2 Perennial calcareous grassland and basic steppes; E6.2 Continental inland salt steppes.
Land use: nature conservation and research – minor.
Protected areas: included in Ramsar Site "Central Syvash", overlaps (about 218 ha) with Azovo-Syvaskyi national nature park and Emerald Site "Azovo-Syvaskyi National Nature Park".

Threats: agricultural intensification/expansion (arable) – low, burning of vegetation – low.
General description. Northern shore of the Central Syvash Bay (saline lagoon of the Sea of Azov). The IPA includes areas with the steppe vegation, littoral with the halophytic vegetation and shallow water of the bay. The steppe vegetation is dominated by *Agropyron pectinatum*, *Artemisia taurica*, *Festuca valesiaca*, *Stipa lessingiana*, *Stipa capillata*, *Crinitaria villosa*. Other typical species are *Achillea setacea*, *Astragalus asper*, *Astragalus reduncus*, *Limonium platyphyllum*, *Linaria macroura*, *Medicago romanica*, *Phlomis pungens*, *Potentilla obscura*, *Prangos odontalgica*. Dominants of the halophytic vegetation are *Halocnemum strobilaceum*, *Puccinelia fominii*, *Petrosimonia brachiata*, *Limonium suffruticosum*. A part of the steppe vegetation is thretened by plowing.
Botanical significance. The area includes large parts of global populations of endemic species *Goniolimon rubellum* and *Lepidium syvaschicum*.

Criterion A

- *Goniolimon rubellum* (S.G.Gmel.) Klokov; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Lepidium syvaschicum* Kleopow; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Conservation proposals. Include in Azovo-Syvaskyi national nature park.

Literature

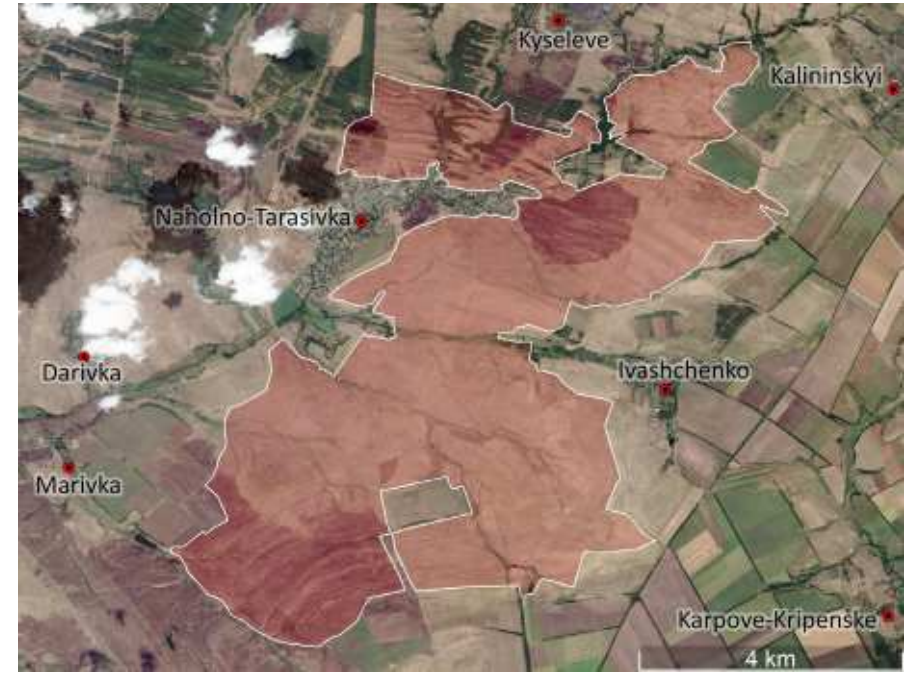
1. Коломійчук В.П. Сучасне поширення видів судинних рослин описаних Ю.Д. Клеоповим з Присивашшя // Ю.Д. Клеопов та сучасна ботанічна наука. Мат-ли читань, присвячені 100-річчю з дня народження Ю.Д. Клеопова (Київ, 10–13 листопада 2002 р.). – Київ: Фітосоціоцентр, 2002. – С. 48–51.

2. Павлов В.В. Північне Присивашшя як елемент Азово-Чорноморського екокоридору // Укр. ботан. журн. – 2002. – 59, №1. – С. 89–93.

Naholnyi Kriazh

V.A. Onyshchenko, M.M. Peregrym

Ukrainian name: Нагольний кряж.
Transliteration/Translation variants: Nagol'nyi Ridge**.**
Area: 3835.0 ha.
Altitude: 140–249 m.
Latitude: 47°58'48" N (47.9801°).
Longitude: 39°29'59" E (39.4996°).
Administrative regions. Luhansk region: Dovzansk (Sverdlovsk) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 92.4%; F – 0.5%; G – 1.8%; H – 1.0%; I – 4.3%.
Habitats. Level 2. E1 Dry grasslands – 91.4%; E2 Mesic grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 0.5%; G1 Broadleaved deciduous woodland – 1.8%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.9%; I1 Arable land and market gardens – 4.3%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; I1.5 Bare tilled, fallow or recently abandoned arable land; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – major; agriculture (arable) – minor; extraction (minerals) – minor; nature conservation and research – minor.
Protected areas: overlaps (about 434 ha) with regional landscape reserve "Naholnyi Kriazh", included in Emerald Site "Naholny Kriazh".
Threats: agricultural intensification/expansion (arable) – medium, agricultural intensification/expansion (grazing) – low, extraction (minerals/quarries) – low, forestry (afforestation) – low.
General description. Dry grasslands with small areas of sandstone and shale outcrops, shrubs and deciduous woods. Dominants of the steppe vegetation are *Festuca valesiaca*, *Bothriochloa ischaemum*, *Agropyron pectinatum*, *Poa angustifolia*, *Stipa capillata*, *S. lessingiana*. Frequent species are *Salvia nutans, Plantago stepposa, Trifolium montanum, Achillea nobilis, Artemisia austriaca, Echium rubrum, Thalictrum minus*. Steppic shrub communities are dominated by *Caragana frutex*, *Amygdalus nana*, *Spiraea hypericifolia*, *Cotoneaster melanocarpa*. Shale outcrops are characterized by the presence of the local endemic species *Scrophularia donetzica*. Woods with dominance of *Quercus robur*, *Fraxinus excelior*, *Tilia cordata* and *Ulmus laevis* are in valleys and gulches.



Botanical significance. A large area of the steppe vegetation.
Criterion A

- *Hyacinthella pallasiana* (Steven) Losinsk.; A(iv); abundance: occasional; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 2800 ha; trend: unknown; area data quality: good; trend data quality: poor

Conservation proposals. Do not allow plowing. Create a state botanical reserve including the entire IPA.

Literature

1. Природно-заповідний фонд Луганської області // О.А. Арапов (заг. ред.), Т.В. Сова, О.А. Савенко, В.Б. Фєренц, Н.У. Кравець, Л.Л. Зятьков, Л.О. Морозова. Довідник. – 3-е вид., доп. і перероб. – Луганськ: "Луганська правда", 2013. – 224 с.

Novobila

V.A. Onyshchenko, M.V. Banik

Ukrainian name: Новобіла.
Area: 2469.0 ha.

Altitude: 70–160 m.
Latitude: 49°47'03" N (49.7841°).
Longitude: 39°09'34" E (39.1595°).
Administrative regions. Luhansk region: Novopskov raion.
Ownership: state.

Biogeographic regions: steppic.
Habitats. Level 1. D – 4.3%; E – 77.2%; F – 2.0%; G – 9.4%; H – 5.1%; I – 2.0%.
Habitats. Level 2. D5 Sedge and reedbeds, normally without free-standing water – 4.3%; E1 Dry grasslands – 76.6%; E2 Mesic grasslands – 0.6%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 9.4%; H2 Screes – 5.1%; I1 Arable land and market gardens – 2.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; I1.5 Bare tilled, fallow or recently abandoned arable land.
Land use: agriculture (animals) – major; forestry – minor; nature conservation and research – major.
Protected areas: overlaps (>2000 ha) with Novobila regional botanical nature monument, overlaps (2214 ha) with Emerald Site "Novobilskyi".
Threats: abandonment/reduction of land management – low; agricultural intensification/ expansion (arable) – low, extraction (minerals/quarries) – low; forestry (afforestation) – low.
General description. Slopes with the steppe vegetation, outcrops of chalk and oak woods; small areas of reedbeds and hay meadows. There are many threatened species of steppes and chalk outcrops.
Botanical significance. The largest locality of *Hedysarum ucrainicum* in Ukraine. Important area for conservation of the steppes and chalk outcrops with endemic species.
Criterion A

- *Hedysarum ucrainicum* Kaschm.; A(iv); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- E1.13 Continental dry rocky steppic grasslands and dwarf scrub on chalk outcrops; area: 135 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 2000 ha; trend: stable; area data quality: good; trend data quality: poor.

Literature

1. Banik M. Daphne'04. Final report. – Kharkiv, 2006. – 20 p. (http://www.rufford.org/files/127.01.04%20Detailed%Final%20Report.pdf).

Novohredneve

V.P. Kolomiychuk

Ukrainian name: Новогредневе.
Transliteration/Translation variants: Novogredneve.
Area: 16.2 ha.
Altitude: 7–23 m.
Latitude: 47°09'41" N (47.1613°).
Longitude: 32°59'52" E (32.9978°).
Administrative regions. Kherson region: Velyka Oleksandrivka raion.

Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 76.0%; G – 20.0%; H – 2.0%; J – 2.0%.
Habitats. Level 2. E1 Dry grasslands – 76.0%; G1 Broadleaved deciduous woodland – 19.0%; G3 Coniferous woodland – 1.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%; J3 Active opencast mineral extraction sites, including quarries – 2.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); G1.C Highly artificial broadleaved deciduous forestry plantations; H5.6 Trampled areas; J3.2 Active opencast mineral extraction sites, including quarries.
Land use: agriculture (animals) – major, extraction (minerals) – minor, forestry – major.
Protected areas: –.
Threats: agricultural intensification/expansion (grazing) – low, burning of vegetation – low,

extraction (mineral/quarries) – medium, forestry (afforestation) – low.
General description. Grassland on the sand terrace of the Inhulets river. Dominant species are *Carex colchica, Festuca beckeri*, *Artemisia campestris*. Other frequent species are *Eragrostis minor*, *Chondrilla juncea*, *Dianthus platyodon*, *Jurinea* sp., *Helichrysum arenarium*, *Koeleria glauca* s.l., *Plantago scabra*. Moss layer consists of *Tortula ruralis* (cover 3–10%). Population of *Centaurea paczoskii* occupies 2–3 ha. A part of the area is artificial wood with

Robinia pseudoacacia, *Pinus pallasiana*, *Ulmus minor*. Illegal sand quarry occupies a small part of the site.
Botanical significance. Important area for narrow endemic species *Centaurea paczoskii* (one of 2 localities).
Criterion A

- *Centaurea paczoskii* Kotov ex Klokov; A(iii); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Remove trees. Create a state botanical reserve and an Emerald Site including the entire IPA.
Literature

1. Крицька Л.І., Деркач О.М. Сучасний стан популяцій видів ряду *Margaritaceae* Klok. (*Centaurea* L.) // Укр. ботан. журн. – 1991. – 48, № 3. – С. 78 – 80.
2. Мойсієнко І.І., Мельник Р.М. Волошка Пачоського *Centaurea paczoskii* Klokov (*C. margaritacea* Ten. subsp. *paczoskii* (Kotov et Klokov) Dostál) / Червона книга України. рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 306.

Nyzhnii Dnipro

V.A. Onyshchenko

Ukrainian name: Нижній Дніпро.
Transliteration/Translation variants: Lower Dnipro, Lower Reaches of the Dnieper.
Area: 43083.0 ha.
Altitude: 0–13 m.
Latitude: 46°36'01" N (46.6004°).
Longitude: 32°38'46" E (32.6461°).
Administrative regions. Kherson region: Beryslav raion, Biloozerka raion, Hola Prystan raion, Oleshky (Tsiurupynsk) raion, Kherson city; Nova Kakhovka city .
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 30.4%; D – 55.5%; E – 4.2%; F – 0.4%; G – 9.5%.
Habitats. Level 2. C1 Surface standing waters – 14.5%; C2 Surface running waters – 13.8%; C3 Littoral zone of inland surface waterbodies – 2.1%; D5 Sedge and reedbeds, normally without free-standing water – 55.5%; E3 Seasonally wet and wet grasslands – 3.9%; E6 Inland salt steppes – 0.3%; F9 Riverine and fen scrubs – 0.4%; G1 Broadleaved deciduous woodland – 8.3%; G3 Coniferous woodland – 1.2%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; E6.2 Continental inland salt steppes; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.3 Mediterranean riparian woodland; G3.F Highly artificial coniferous plantations.
Land use: forestry – 10%; mowing/hay making – minor, urban/industrial/transport – minor, tourism/recreation – minor.
Protected areas: overlaps with Nyzhniodniprovskyi national nature park (about 40000 ha),

overlaps (39039 ha) with Emerald Site "Lower Dnipro", overlaps (3823 ha) with Emerald Site "Dniprovsko-Buzkyi Lyman", overlaps (123 ha) with Emerald Site "Kinburnska Kosa".
Threats: development (recreation/tourism) – low, development (urbanization) – low.
General description. Floodplain of the Dnipro river from Nova Kakhovka to the mouth. *Phragmites australis* dominated marshes occupy the largest area. Other important dominants are *Typha angustifolia*, *Carex acutiformis*, *Carex elata*. Large areas are occupied by aquatic vegetation dominated by *Ceratophyllum demersum*, *Lemna minor*, *Myriophyllum*

verticillatum, *Myriophllum spicatum*, *Nuphar lutea*, *Nymphaea alba*, *Potamogeton pectinatus* (*Stuckenia pectinata*), *Potamogeton perfoliatus*, *Potamogeton crispus*, *Potamogeton berchtoldii*, *Salvinia natans*, *Spirodela polyrrhiza*. Woods cover about 4000 ha. Main dominant is *Salix alba*, other important species – *Salix fragilis*, *Populus alba*, *Populus nigra*. Shrub vegetation is represented mainly by communities of *Salix cinerea*, *Salix triandra*, *Salix acutifolia*.
Botanical significance. This area is one of the richest in aquatic vascular plant species in Ukraine.
Criterion A
- *Carex secalina* Wahlenb.; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Salvinia natans* (L.) All.; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.
- *Trapa natans* L.; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C
- C1.224 Floating *Utricularia australis* and *Utricularia vulgaris* colonies; area: 3 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.225 Floating *Salvinia natans* mats; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.3411 *Ranunculus* communities in shallow water; area: 1 ha; trend: unknown; area data quality: poor; trend data quality: poor.

- C2.34 Eutrophic vegetation of slow-flowing rivers; area: 300 ha; trend: stable; area data quality: poor; trend data quality: medium.
- D5.2 Beds of large sedges normally without free-standing water; area: 400 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature
1. Дубына Д.В., Шеляг-Сосонко Ю.Р. Плавни Причерноморья. – К.: Наук. думка, 1989. – 272 с.
2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
3. Чинкіна Т.Б. Сучасний стан і завдання охорони рослинного покриву гирлової області Дніпра // Природничий альманах. Сер. біол. науки, 2002. – Вип. 2(3). – С. 240–247.
4. Чинкіна Т. Синтаксономічна схема заплавної рослинності гирлової ділянки Дніпра // Вісник Львівського університету. Сер. біол., 2006. – 42. – С. 32–37.

Nyzhniodniprovski Pisky

V.A. Onyshchenko

Ukrainian name: Нижньодніпровські піски.
Transliteration/Translation variants: Lower Dnipro Sands.
Area: 10388.0 ha.
Altitude: 0–10 m.
Latitude: 46°27'21" N (46.4559°).
Longitude: 31°58'28" E (31.9744°).
Administrative regions. Kherson region: Hola Prystan raion; Mykolaiv region: Ochakiv raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 1.6%; C – 16.0%; D – 1.6%; E – 67.8%; F – 1.0%; G – 10.0%; H – 2.0%.
Habitats. Level 2. A2 Littoral sediment – 0.2%; A5 Sublittoral sediment – 1.4%; C1 Surface standing waters – 16.0%; D5 Sedge and reedbeds normally without free-standing water – 1.5%; D6 Inland saline and brackish marshes and reedbeds – 0.1%; E1 Dry grasslands – 58.7%; E2 Mesic grasslands – 5.4%; E3 Seasonally wet and wet grasslands – 2.3%; E6 Inland salt steppes – 1.4%; F3 Temperate and mediterranean-mountane scrub – 1.0%; G1 Broadleaved deciduous woodland – 10.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 2.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes, E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland, (× E1.1) E2.5 Meadows of the steppe zone, E3.4 Moist or wet eutrophic and mesotrophic grassland, F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland, G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*, H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity.
Land use: nature conservation and research – major, agriculture (animals) – minor.
Protected areas: overlaps (5397 ha) with Chernomorskiy (Chornomorskyi, Black Sea) biosphere reserve (UNESCO, core zone of the reserve), overlaps (5397 ha) with Chornomorskyi biosphere reserve (national category), overlaps (ca. 270 ha) with Biloberezhia Sviatoslava

national nature park, overlaps with Emerald Sites "Black Sea Biosphere Reserve" (5397 ha), "Biloberezhzhia Sviatoslava National Nature Park" (267 ha), "Kinburnska Kosa" (4724 ha).
Threats: forestry (afforestation) – low.
General description. Major habitat type is the dry sand grassland. Other habitats are sublittoral of Kinburn (Yahorlytska) Bay, mesic grasslands, beds of *Carex riparia* and *Carex elata*, halophytic vegetation, deciduous woods (small groves), freshwater and saline permanent and temporary lakes. Sand grasslands are dominated by *Festuca beckeri*, *Koeleria sabuletorum*, *Agropyron lavrenkoanum*, *Stipa borysthenica*, *Artemisia marschalliana*. Their typical species are *Achillea micrantha*, *Agropyron dasyanthum*, *Anchusa gmelinii*, *Asperula graveolens*, *Dianthus platyodon*, *Helichrysum corymbiforme*, *Jacobaea borysthenica* (*Senecio borysthenicus*), *Scabiosa ucrainica*, *Scorzonera ensifolia*, *Seseli tortuosum*, *Tragopogon borysthenicus*. Dominants of the mesic grasslands are *Agrostis sabulicola*, *Calamagrosts*

epigeios, *Cynodon dactylon*, *Elytrigia elongata*, *Elytrigia repens*, *Phleum phleoides*, *Poa angustifolia*. Typical species: *Achillea euxina*, *Allium guttatum*, *Campanula rapunculus*, *Carex melanostachya*, *Centaurea adpressa*, *Festuca rupicola*, *Hypericum perforatum*, *Inula sabuletorum*, *Linum perenne*, *Rumex acetosella*, *Rumex thyrsiflorus*, *Veronica steppacea*. *Puccinellia gigantea* dominates in saline grasslands. Other frequent halophytic specis are *Aeluropus littoralis*, *Juncus gerardii*, *Limonium meyeri*, *Scorzonera parviflora*, *Spergularia marina*. Woods are represented by groves of *Quercus robur*, *Betula borysthenica*, *Populus tremula*. *Quercus robur* woods have the shrub layer (0.2–0.4) consisting of *Rhamnus catharctica*, *Sambucus nigra*, *Crataegus fallacina*, *Crataegus alutacea*. The most frequent species of the herb layer are *Acillea euxina*, *Asparagus tenuifolius*, *Calamagrostis epigeios*, *Carex elata*, *Convallaria majalis*, *Dactylis glomerara*, *Elytrigia repens*, *Phragmites australis*, *Poa sylvicola*, *Polygonatum odoratum*, *Scilla bifolia*, *Viola odorata*. The most frequent species of *Betula borysthenica* woods: *Agrostis sabulicola*, *Calamagrostis epigeios*, *Carex elata*, *Frangula alnus*, *Genista borysthenica*, *Genista sibirica*, *Hieracium umbellatum*, *Juncus atratus*, *Juncus conglomeratus*, *Phragmites australis*, *Rhamnus cathartica*, *Rubus caesius*, *Salix rosmarinifolia*, *Solidago virgaurea*. The most frequent species of *Populus tremula* woods: *Carex elata*, *Euphorbia semivillosa*, *Frangula alnus*, *Lysimachia vulgaris*, *Phalaroides arundinacea*, *Rubus caesius*, *Sambucus nigra*, *Veronica longifolia.* Littoral vegetation of

lakes is dominated by *Phragmites australis*, aquatic vegetation of lakes by *Lemna minor* and *Lemna trisulca*.
Botanical significance. The best area of sand steppe in Ukraine.
Criterion A

- *Agropyron dasyanthum* Ledeb.; A(i); abundance: frequent; trend: stable; species data quality: medium; trend data quality: poor.
- *Allium savranicum* Besser; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Alyssum savranicum* Andrz. ex Besser (*Odontarrhena savranica* (Andrz. ex Besser) D.A.German); A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Centaurea breviceps* Iljin; A(iii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Goniolimon graminifolium* (Ait.) Boiss.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor

Criterion C

- E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; area: 6000 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Do not allow artificial afforestation.
Literature

1. Андрієнко Т.Л., Кофман І.Ш., Уманець О.Ю., Якушина Л.А. Розподіл рослинності та її антропогенні зміни на Івано-Рибальчанській ділянці Чорноморського біосферного заповідника // Укр. ботан. журн. – 1992. – 49, № 2. – С. 22–25.

2. Соломаха І.В., Воробйов Є.О., Мойсієнко І.І. Рослинний покрив лісів та чагарників Північного Причорномор'я. – К.: Фітосоціоцентр, 2015. – 387 с.

3. Ткаченко В.С., Лисенко Г.М., Маяцький Г.Б., Уманець О.Ю. Структурні зміни фітоценокомплексів Солоноозерної ділянки Чорноморського біосферного заповідника за даними періодичного картографування // Укр. ботан. журн. – 1997. – 54, № 3. – С. 232–239.

4. Ткаченко В.С., Уманець О.Ю. Фітоценотична характеристика Солоноозерної ділянки Чорноморського біосферного заповедника (Херсонська область, Україна) // Укр. ботан. журн. – 1993. – 50, № 2. – С. 14–23.

5. Уманець О.Ю. БЗ Чорноморський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 73–93.

6. Уманець О.Ю., Соломаха І.В. Синтаксономія рослинності Чорноморського біосферного заповідника. ІІІ. Ділянка Івано-Рибальчанська // Укр. фітоцен. зб. – Київ, 1999. – Сер. А, вип. 3 (14). – С. 84–102.

Obytichna Kosa

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Обитічна коса.
Transliteration/Translation variants: Obytichna Spit, Obitochna Spit.
Area: 4738.1 ha.
Altitude: 0–2 m.
Latitude: 46°34’10” N (46.5693°).
Longitude: 36°14’00” E (36.2332°).

Administrative regions. Zaporizhia region: Prymorsk raion. Territorial waters of Ukraine.
Ownership: state (major), private.
Biogeographic regions: steppic.
Habitats. Level 1. A– 49.1%; B – 1.7%; C – 9.7%; D – 0.5%; E – 36.7%; G – 2.3%.
Habitats. Level 2. A2 Littoral sediment – 5.3%; A5 Sublittoral sediment – 43.8%; B1 Coastal dunes and sandy shores – 1.0%; B2 Coastal shingle – 0.7%; C1 Surface standing waters – 9.7%; D6 Inland saline and brackish marshes and reedbeds – 0.5%; E1 Dry grasslands – 34.2%; E6 Salt steppes – 2.5%; G1 Broadleaved deciduous woodland – 2.3%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.2 Littoral sand and muddy sand; A2.4 Littoral mixed sediments; A2.5 Coastal saltmarshes and saline reedbeds; B1.1 Sand beach driftlines; B1.2 Sand beaches above the driftline; B1.3 Shifting coastal dunes; B1.4 Coastal stable dune grassland (grey dunes); B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; C1.5 Permanent inland saline and brackish lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E1.2 Perennial calcareous grassland and basic steppes (E1.2G); E6.2 Continental inland salt steppes; G1.C Highly artificial broadleaved deciduous forestry plantations.
Land use: forestry – minor; hunting – minor; mowing/hay making – 2%; nature conservation and research – major.
Protected areas: included in Kosa Obytichna state landscape reserve, includes Ramsar Site “Obytochna Spit and Obytocna Bay”, overlaps (about 4708 ha) with Emerald ste “Obytichna Kosa Ta Zatoka”.
Threats: climate change/ sea level rise – low, development (recreation/tourism) – low, forestry (afforestation) – low, natural events: spit erosion – medium
General description. A spit composed of shells and sand with adjacent sea. Major aquatic species are *Zostera marina*, *Zostera noltii* (*Nanozostera noltii*), *Potamogeton pectinatus* (*Stuckenia pectinata*), *Zanichellia major*. Littoral vegetation of the Sea of Azov and saline lakes is represented by halophytic communities dominated by *Phragmites australis*, *Juncus maritimus*, *Salicornia perennans*. On sand, there prevail *Leymus sabulosus*, *Carex colchica*, *Crambe maritima*, *Festuca beckeri*, *Medicago kotovii*; other typical species are *Artemisia santonica*, *Centaurea adpressa*, *Centaurea odessana*, *Euphorbia seguierana*.
Botanical significance. Important area for conservation of sand steppes and brackish aquatic vegetation.
Criterion A

- *Zostera marina* L.; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- B1.1 Sand beach driftlines; area: 6 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E1.2 Perennial calcareous grassland and basic steppes; area: 850 ha; trend: decreasing; area data quality: medium; trend data quality: medium.

Literature

1. Коломійчук В.П. Флора і рослинність островів Обитічної затоки // Укр. ботан. журн. – 2000. – 57, № 2. – С. 134–141.
2. Коломійчук В.П. Ключові ботанічні території Північного Приазов’я // Заповідна справа в Україні. – 2008. – Т. 14, вип. 1. – С. 61–66.
3. Ткаченко В.С., Кучерява Л.Ф., Тищенко О.В. Багаторічні зміни та сучасний стан рослинності Обитічної коси // Укр. ботан. журн. – 1998. – 55, № 6. – С. 639–647.
4. Тищенко О.В. Рослинність приморських кіс північного узбережжя Азовського моря. – Київ: Фітосоціоцентр, 2006. – 156 с.

Olevski Lisy

O.O. Orlov

Ukrainian name: Олевські ліси.
Transliteration/Translation variants: Olevskyi Forest.
Area: 4930.0 ha.
Altitude: 182–190 m.
Latitude: 51°17′17″ N (51.2879°).
Longitude: 27°30′15″ E (27.5042°).
Administrative regions. Zhytomyr region: Olevsk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 0.4%; F – 1.0%; G – 97.6%; H – 1.0%.

Habitats. Level 2. D2 – Valley mires, poor fens and transition mires – 0.4%; F9 Riverine and fen scrubs – 1.0%; G1 Broadleaved deciduous woodland – 38.3%; G3 Coniferous woodland – 29.0%; G4 Mixed deciduous and coniferous woodland – 26.6%; G5.6 Early-stage natural and semi-natural woodlands and regrowth – 3.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. D2.3 Transition mires and quaking bogs; F9.2 *Salix* carr and fen scrub; G1.5 Broadleaved swamp woodland on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – 20%.
Protected areas: overlaps (about 1000 ha) with Banky regional forest reserve.
Threats: forestry (intensified forest management) – low.
General description. Acidophilous *Pinus sylvestris*, *Quercus robur*, *Betula pendula* woods, neutrophilous *Quercus robur* – *Carpinus betulus* woods, and *Betula pubescens* swamps. Dominants of the wet pine woods are *Franula alnus*, *Molinia caerulea*, *Pteridium aquilinum*, *Vaccinium myrtillus*, *Dicranum polysetum*, *Pleurozium shreberi*. Other frequent species are *Dryopteris carthusiana*, *Trientalis europaea* (*Lysimachia europaea*), *Vaccinium uliginosum*, *Vaccinium vitis-idaea*. On the drier soils, there are species-rich *Pinus sylvestris* woods with dominance of *Rhododendron luteum*. Dominants of the herb layer are *Convallaria majalis* and *Pteridium aquilinum*. Constant species: *Calamagrostis arundinacea*, *Carex montana*, *Galium intermedium*, *Maianthemum bifolium*, *Polygonatum odoratum*, *Primula veris*, *Serratula coronata*. Differential species of the swamped pine woods are *Andromeda polifolia*, *Carex nigra*, *Ledum palustre*, *Sphagnum fallax*, *Sphagnum palustre*. In acidophilous *Quercus robur* woods, there are the shrub layer consisting of *Frangula alnus*. The herb layer is dominanted by *Anemone nemorosa*, *Luzula pilosa*, *Lysimachia vulgaris*, *Oxalis acetosella*. On the richer soil, there are *Quercus robur* – *Carpinus betulus* woods dominated by *Anemone nemorosa*, *Asarum europaeum*, *Milium effusum*, *Aegopodium podagraria*, *Galium odoratum*, *Lamium galeobdolon*, *Pulmonaria obscura*, *Viola reichenbachiana*.
Botanical significance. Important for conservation of *Rhododendron lutem* and acidophilous oak forests.
Criterion A

- *Rhododendron luteum* Sweet; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Literature

1. Орлов О.О., Сіренький С.П., Якушенко Д.М., Жижин М.П., Степаненко М.А., Тарасевич О.В. Природно-заповідний фонд Житомирської області. Довідник / За заг. ред. О.О. Орлова. – Житомир – Новоград-Волинський: Вид-во НОВОград, 2015. – 404 с.
2. Орлов О.О., Якушенко Д.М., Воробйов Є.О. Флористична класифікація лісів із участю *Rhododendron luteum* Sweet та радіоекологічна оцінка їх асоціацій в Поліссі України. І. Синтаксономія лісів із участю *Rhododendron luteum* // Укр. фітоцен. зб. – 2000. - Серія А, Вип. 1 (16). – Київ: Фітосоціоцентр. – С. 94–113.

Opuk

V.A. Onyshchenko

Ukrainian name: Опук.
Area: 2070.0 ha.
Altitude: 0–184 m.
Latitude: 45°02′35″ N (45.0429°).
Longitude: 36°12′37″ E (36.2103°).

Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 24.9%; B – 0.7%; C – 32.0%; D – 0.5%; E – 41.5%; H – 0.4%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.1%; A2 Littoral sediment – 0.5%; A3 Infralittoral rock and other hard substrata – 4.1%; A5 Sublittoral sediment – 20.1%; B1 Coastal dunes and sandy shores – 0.3%; B2 Coastal shingle – 0.2%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.1%; C1 Surface standing waters – 32.0%; D6 Inland saline and brackish marshes and reedbeds – 0.5%; E1 Dry grasslands – 39.9%; E2 – Mesic grasslands – 1.5%; E6 Inland salt steppes – 0.1%; H2 Screes – 0.01%; H3 Inland cliffs, rock pavements and outcrops – 0.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.2 Littoral sand and muddy sand; A5.4 Sublittoral mixed sediments; A5.5 Sublittoral macrophyte-dominated sediment; A2.5 Coastal saltmarshes and saline reedbeds; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.5 Sublittoral macrophyte-dominated sediment; B1.1 Sand beach driftline; B1.2 Sand beaches above the driftline; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; C1.5 Permanent inland saline and brackish lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; D6.1 Inland saltmarshes; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E1.3 Mediterranean xeric grassland; E2.7 Unmanaged mesic grassland; E6.2 Continental inland salt steppes; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: nature conservation and research – 77%.
Protected areas: includes Opukskyi nature reserve (1592.3 ha) and Emerald Site “Opukskyi Nature Reserve” (1592.3 ha).
Threats: –.
General description. The IPA includes Opuk Hill (184 m over the sea level), salt Lake Koyash (Koyaske) and adjacent part of the Black Sea. The steppe vegetation occupies the largest area, usually it is on shallow stony solis; dominants: *Stipa capillata*, *Stipa pulcherrina*, *Festuca rupicola*, *Festuca valesiaca*, *Koeleria cristata*; typical species: *Achillea setacea*, *Artemisia taurica*, *Asperula kotovii*, *Bromopsis cappadocica*, *Euphorbia seguierana*, *Filipendula vulgaris*, *Galium tenuissimum*, *Galium verum*, *Medicago glandulosa*, *Phleum phleoides*, *Teucrium chamaedrys*, *Teucrium polium*. On limestone outcrops, typical species are *Euphorbia petrophila*, *Minuartia hypanica*, *Pimpinella lithophila*, *Thymus callieri.* Salinity of Lake Koyash is 160–350‰. In summer the lake is the most saline and its peripheral part is dry. There no macrophytes in aquatic vegetation in the lake excluding the southern part where there is infiltration of less saline sea water; saltmarshes are dominated mainly by *Halocnemum strobilaceum* with presence of *Limonium caspium*, *Suaeda salsa*, *Puccinellia distans*, *Salicornia perennans*. Near the sea, there occur communities of *Crambe maritima*, *Eryngium maritimum*, *Leymus racemosus*, *Phragmites australis*, *Juncus maritimus*, *Elytrigia elongata*, *Aeluropus littoralis*. In the sea on hard substrates near capes, there prevail *Ceramium rubrum*, *Cladostephus verticillatus*, *Corallina granifera*, *Cystoseira barbata*, *Cystoseira crinita*, *Dilophus fasciola*, *Gelidium crinale*, *Gelidium latifolium*, *Polysiphonia subulifera*. In bays, *Enteromorpha intestinalis* and *Ceramium ciliatum* dominates. On pebble beach and boulders near the sea, there dominate *Crithmum maritimum* and *Elytrigia bessarabica*; on the slopes of Opuk Hill near the sea, there are communities of *Halimione verrucifera*, *Holosteum umbellatum*, *Kochia prostrata*.
Botanical significance. Important area for conservation of the steppe vegetation, sea cliffs, and marine macrophytes.
Criterion A
- *Crambe aspera* M.Bieb.; A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Crambe koktebelica* (Junge) N.Busch; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe mitridatis* Juz.; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Thymus littoralis* Klokov et Des.-Shost.; A(iii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C
- A3 Infralittoral rock and other hard substrata; area: 40 ha; trend: stable; area data quality: poor; trend data quality: poor.
- A5 Sublittoral sediment; area: 400 ha; trend: stable; area data quality: medium; trend

data quality: good.

- B3.3 Rock cliffs, ledges and shores, with angiosperms; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Белич Т.В., Садогурская С.А., Садогурский С.Е. Аннотированный список фитобентоса Опукского природного заповедника // Труды Никит. ботан. сада. – 2006. – Т. 126. – С. 74–88.
2. Исиков В.П. Опукский природный заповедник // Сборник тр. Никит. ботан. сада.– 2001. – С. 13–27.
3. Корженевский В.В., Рыфф Л.Э. Анализ флоры высших сосудистых растений Опукского природного заповедника // Труды Никит. Ботан. сада. – 2006. – Т. 126. – С. 51–73.
4. Корженевский В.В., Садогурський С.Ю., Квітницька О.І. ПЗ Опукський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 291–300.
5. Маслов И.И. Макрофитобентос некоторых заповедных акваторий Черного моря (Украина) // Альгология. – 2002. – Т. 12, № 1. – С. 81–95.
6. Новосад В.В. Флора Керченско-Таманского региона. – Киев: Наукова думка, 1992. – 278 с.
7. Пузанов И.И. По нехоженому Крыму. – М.: Географгиз, 1960. – 270 с.
8. Садогурская С.А. *Cyanophyta* морской каменистой супралиторали Крыма: Дис. … канд. биол. наук: 03.00.05 – Ялта, 2005. – 395 с.
9. Садогурский С.Е., Белич Т.В. Макрофитобентос Опукского природного заповедника (Черное море) // Мат-лы науч. конф., посв. 180-летию заслуженного проф. Харьковского ун-та Л.С.Ценковского (Харьков, 4–5 декабря, 2002 г.). – Харьков, 2003. – С. 65–67.
10. Садогурский С.Е. Белич Т.В. Современное состояние макрофитобентоса Опукского природного заповедника (Черное море) // Альгология. – 2003. – 13, № 2 – С. 185–203.
11. Садогурский С.Е., Белич Т.В., Садогурская С.А., Маслов И.И. Видовой состав фитобентоса природных заповедников Крыма // Бюлл. ГБС РАН. – 2003. – Вып. 186. – С. 86–104.

Oskilski Skhyly

V.A. Onyshchenko, O.V. Bezrodnova, M.V. Banik

Ukrainian name: Оскільські схили.
Transliteration/Translation variants: Oskil Slopes.
Area: 1525.0 ha.
Altitude: 80–180 m.
Latitude: 49°57’39” N (49.9609°).
Longitude: 37°48’06” E (37.8017°).
Administrative regions. Kharkiv region: Dvorichna raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. E – 78.6%; F – 2.0%; G – 9.6%; H – 9.8%.
Habitats. Level 2. E1 Dry grasslands – 78.6%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 9.6%; H2 Screes – 9.8%
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures.

Land use: agriculture (animals) – major; nature conservation and research – major.
Protected areas: overlaps (1067 ha) with Dvorichanskyi national nature park, includes Chervonyi regional botanical reserve (49.8 ha), includes Korobochkine regional botanical reserve (29.1 ha), includes Kreidianyi regional botanical reserve (36.9 ha), includes Konopliane regional botanical reserve (315.9 ha), overlaps (1067 ha) with Emerald Site “Dvorichanskyi National Nature Park”.

Threats: abandonment/reduction of land management – low; burning of vegetation – medium; extraction (minerals/quarries) – low; forestry (afforestation) – low.
General description. Slopes with outcrops of chalk, steppes, oak forests. Dominants of communities on chalk are *Asperula tephrocarpa*, *Bupleurum falcatum*, *Thymus calcareus*, less frequently – *Artemisia hololeuca*, *Astragalus albicaulis*, *Carex humilis*, *Cephalaria uralensis*, *Hyssopus cretaceus*, *Koeleria talievii*, *Linum ucrainicum*, *Onosma tanaitica*, *Scrophularia cretacea*; locally – *Artemisia salsoloides*, *Hedysarum grandiflorum*. Other typical species are *Androsace koso-poljanskii*, *Helianthemum cretaceum*, *Astragalus austriacus*, *Erucastrum cretaceum*, *Euphorbia seguieriana*, *Genista tanaitica*, *Gypsophila altissima*, *Matthiola fragrans*, *Meniocus linifolius*, *Odontites luteus*, *Polygala cretacea*, *Polygala sibirica*, *Silene supina*, *Teucrium polium*. Steppe vegetation is dominated by *Bromopsis riparia*, *Bromopsis inermis*, *Festuca valesiaca*, *Koeleria cristata*, *Poa angustifolia*, *Salvia nutans*, *Stipa capillata*, *Stipa lessingiana*, locally – *Stipa pennata*, *Stipa pulcherrima*. There occur steppes with dominance of shrubs (*Caragana frutex*, *Chamaecytisus austriacus*, *Chamaecytisus tuthenicus*). Typical species of the steppe vegetation are also *Adonis vernalis*, *Clematis integrifolia*, *Euphorbia stepposa*, *Galatella villosa*, *Galatella linosyris*, *Jurinea calcarea*, *Teucrium polium*, *Thalictrum minus*, *Vinca herbacea*. Shrub vegetation is formed by *Cerasus fruticosa*, *Crataegus* sp., *Euonymus verrucosus*, *Malus sylvestris*, *Prunus spinosa*, *Rhamnus cathartica*, *Rosa* sp., *Swida sanguinea* (*Cornus sanguinea*), *Ulmus minor*. In the tree layer of forests, there dominate *Quercus robur*, *Fraxinus excelsior*, *Acer campestre*, *Tilia cordata*. The herb layer is dominated by *Aegopodium podagraria*, *Stellaria holostea*.
Botanical significance. Important area for conservation of endemic species of chalk outcrops.
Criterion A
- *Alyssum gymnopodum* P.A.Smirn. (*Odontarrhena gymnopoda* (P.A.Smirn.) D.A.German); A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.
- *Androsace koso-poljanskii* Ovcz.; A(iv); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.
- *Diplotaxis cretacea* Kotov; abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Erysimum ucrainicum* J.Gay.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C
- E1.13 Continental dry rocky steppic grasslands and dwarf scrub on chalk outcrops; area: 120 ha; trend: unknown; area data quality: medium; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 1200 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Безроднова О.В. Раритетные кальцефильные виды в Гербарии Харьковского национального университета имени В. Н. Каразина (CWU) //Вісник Харківського національного університету імені В.Н. Каразіна. Серія: біологія. – 2015. Вип. 25. – С. 16–26.
2. Савченко Г.О., Банік М.В. Ронкін В.І. Червонокнижні види судинних рослин степів і виходів крейди національного природного парку "Дворічанський" та його околиць // Рідкісні рослини і гриби України та прилеглих територій: реалізація природоохоронних стратегій. Матеріали IV Міжнар. конф. 16-20 травня 2016 р. Київ. – К.: друкарня А.В. Паливоди, 2016. – С. 133-136.

3. Саідахмедова Н.Б., Банік М.В., Громакова А.Б., Кривохижа М.В. НПП Дворічанський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 191–205.
4. Ткаченко В.С., Парахонська Н.О., Горєлова Л.М. Ботанічний заказник для охорони природної рослинності Пооскольля // Укр. ботан. журн. – 1986. – 43, № 6. – С. 59–63.
5. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Osovynskyi Step

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Осовинський степ.
Transliteration/Translation variants: Osovynskyi Steppe.
Area: 5613.0 ha.
Altitude: 0–164 m.
Latitude: 45°25'58" N (45.4327°).
Longitude: 36°28'51" E (36.4807°).
Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.
Ownership: state (major), private.
Biogeographic regions: steppic.

Habitats. Level 1. A – 3.2%; B – 0.6%; D – 0.1%; E – 89.3%; F – 4.2%; G – 0.6%; H – 1.0%; I – 1.0%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.0%; A2 Littoral sediment –

0.2%; A3 Infralittoral rock and other hard substrata – 0.0%; A5 Sublittoral sediment – 2.9%; B1 Coastal dunes and sandy shores – 0.2%; B2 Coastal shingle – 0.4%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.0%; D6 inland saline and brackish marshes and reedbeds – <0.1%; E1 Dry grasslands – 89.3%; E6 Salt steppes – <0.1%; F3 Temperate and mediterranean-montane scrub – 4.2%; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.9%; I1 Arable land and market gardens – 1.0%.

Futher habitat description. A2.1 Littoral coarse sediment; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.4 Sublittoral mixed sediments; B1.2 Sand beaches above the driftline; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); D6.1 Inland saltmarshes; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes (>80% of the IPA); E6.2 Continental inland salt steppes; F3.2 Submediterranean deciduous thickets and brushes; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas, I1.5 Bare tilled, fallow or recently abandoned arable land.

Land use: agriculture (animals) – minor, mowing/hay making – minor, nature conservation and research – minor, tourism/recreation – minor.

Protected areas: includes regional landscape reserve “Osovynskyi Step” (3472 ha), regional geological nature monuments “Hriaziova Sopka Vernadskoho” (1.0 ha), “Hriazova Sopka Andrusova (1.0 ha), “Hriazova Sopka Obrucheva” (1.0 ha), overlaps (5433 ha) with Emerald Site (“Karalarskyi”).

Threats: agricultural intensification/expansion (general) – low, burning of vegetation – low, development (recreation/tourism) – low, development (urbanization) – low.

General description. Major habitat type is the steppe. Dominant species are *Festuca valesiaca*, *Dactylis glomerata*, *Stipa brauneri*, *S. capillata*, *Agropyron pectinatum*, *Elytrigia intermedia*, *E. elongata*, *Melica transsilvanica*, *Galatella villosa*. The most typical species with lower cover are *Achillea setacea, Carduus uncinatus, Centaurea salonitana, Malabaila graveolens, Phlomis pungens, Potentilla obscura*. There are shrub communities with prevailing of *Rosa corymbifera*, *R. lapidosa*, *R. lupulina*, *R. pygmaea*, *R. tesquicola*, *Crataegus dipyrena*, *C. stevenii*, *C. taurica*. On slopes to the sea, there are small groves of *Ulmus minor*. In their herb layer, *Anacamptis pyramidalis*, *Arum elongatum*, *Corydalus paczoskii*, *Orchis purpurea*, *O. picta*, *Pisum elatius*, *Scilla bifolia*, *Viola suavis* occur. In ravines and near mud volcanos there are halophtic communities with predominance of *Lepidium crassifolium*, *Petrosimonia brachiata*, *Petrosimonia oppositifolia*, *Puccinellia fominii*, *Artemisia santonica*, *Eremopyrum triticeum*.

Botanical significance. One of the largest areas of the steppe vegetation in Ukraine. One of the most important areas for *Crambe grandiflora* and *Crambe steveniana*.

Criterion A

- *Crambe grandiflora* DC.; A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Crambe steveniana* Rupr.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 4300 ha; trend: stable; area data quality: medium; trend data quality: poor.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 50 ha; trend: unknown; area data quality: medium; trend data quality: poor.

Pecheniiske Boloto

V.A. Onyshchenko, O.T. Kuzyarin

Ukrainian name: Печенійське болото.
Transliteration/Translation variants: Pecheniiske Mire.
Area: 684.0 ha.
Altitude: 234–250 m.
Latitude: 49°46’09” N (49.7692°).
Longitude: 24°21’12” E (24.3532°).
Administrative regions. Lviv region: Pustomyty raion, Zolochiv raion.
Ownership: state, private
Biogeographic regions: continental.
Habitats. Level 1. C – 0.7%; D – 50.0%; E – 44.3%; F – 2.0%; G – 3.0%.

Habitats. Level 2. C1 Surface standing waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.6%; E2 Mesic grasslands – 1.3%; E3 Seasonally wet and wet grasslands – 39.7%; E5 Woodland fringes and clearings and tall forb stands – 3.3%; D4 Base-rich fens and calcareous spring mires – 30.0%; D5 Sedge and reedbeds, normally without free-standing water – 20.0%; F9 Riverine and fen scrubs – 2.0%; G1 Broadleaved deciduous woodland – 3.0%.

Futher habitat description. D4.1 Rich fens, including eutrophic tall-herb fens and calcareous

flushes and soaks; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.2 *Salix* carr and fen scrub.
Land use: mowing/hay making – minor.
Protected areas: –.
Threats: abandonment/reduction of land management – low, agricultural intensification/expantion (general) – medium, water (drainage) – low.
General description. Partially drained fen. Major vegetation types are rich fens and wet grasslands. Dominant species of rich fens are *Carex davalliana*, *Carex flava*, *Cladium mariscus*, *Molinia caerulea*, *Pragmites australis*, *Schoenus ferrugineus*. Other frequent species are *Carex flacca*, *Carex panicea*, *Equisetum palustre*, *Lycopus europaeus*, *Lysimachia vulgaris*, *Lythrum salicaria*, *Potentilla anserina*, *Potentilla erecta*, *Salix cinerea*. Meadows are dominated by *Deschampsia cespitosa*, *Filipendula ulmaria*, *Molinia caerulea*.
Botanical significance. One of the largest rich fens in Ukraine with a large population of *Pedicularis sceptrum-carolinum*.
Criterion C

- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 200 ha; trend: stable; area data quality: poor; trend data quality: medium.

Conservation proposals. Do not allow recovery of reclamation ditches, create a state reserve, create an Emerald Site.
Literature

1. Кузярін О.Т. Перспективні природоохоронні території басейну верхів'я Західного Бугу // Наукові записки державного природохнавчого музею. – Львів. – 2012. – Вип. 28. – С. 121–130.
2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Perebrody

V.A. Onyshchenko, O.I. Pryadko

Ukrainian name: Переброди.
Area: 21103 ha.
Altitude: 135–145 m.
Latitude: 51°41'51" N (51.6974°).
Longitude: 27°05'45" E (27.0957°).
Administrative regions. Rivne region: Dubrovytsia raion, Rokytne raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.5%; D – 60%; E – 0.1%; F – 1%; G – 38.4%.
Habitats. Level 2. C1 Surface standing waters – 0.4%; C3 Littoral zone of inland surface waterbodies – 0.1%; D1 Raised and blanket bogs – 1%; D2 – Valley mires, poor fens and transition mires – 39%; D5 Sedge and reedbeds, normally without free-standing water – 20%; E1 Dry grasslands – 0.1%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 10%; G3 Coniferous woodland – 18.4%; G4 Mixed deciduous and coniferous woodland – 10%.

Futher habitat description. D1.1 Raised bogs; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.7 Closed non-Mediterranean dry acid and neutral grassland; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; F9.2 *Salix* carr and fen scrub; G1.5 Broadleaved swamp woodland on acid peat; G1.9 Non-riverine woodland with *Betula*, *Populus* tremula or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland, G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland.
Land use: nature conservation and research – major%.

Protected areas: overlaps (13460 ha) with Rivnenskyi nature reserve, Emerald Sites "Dubrovytsko-Sarnynskyi" (3719 ha) and "Rivnenskyi Nature Reserve" (13460 ha).
Threats: –.
General description. One of the largest mires in Ukraine. Major vegetation type is *Carex lasiocarpa* and *Carex rostrata* mires with a peat moss layer (*Sphagnum centrale*, *S. fallax*, *S. flexuosum*, *S. magellanicum*, *S. obtusum*, *S. papillosum*, *S. subsecundum*). Constant species are *Betula pubescens*, *Carex limosa*, *Equisetum fluviatile*, *Menyanthes trifoliata*,

Peucedanum palustre, *Phragmites australis*, *Potentilla palustris*, *Vaccinium oxycoccos* (*Oxycoccus palustris*). In hollows, there dominate *Carex limosa*, *Rhynchospora alba*, *Sphagnum cuspidatum*. Significant area is covered by eutrophic and mesotrophic communities of *Carex elata*. Raised bogs occupy a small area. Main dominants are *Eriophorum vaginatum* and *Sphagnum fallax*. Constant species are *Andromeda polifolia*, *Vaccinium oxycoccos* and *Pinus sylvestris*. *Pinus sylvestris* woods are represented by dry lichen pine woods (dominants: *Cladonia mitis*, *Corynephorus canescens*), woods dominated by *Vaccinium myrtillus* and *Pleurozium schreberi* (constant species: *Betula pendula*, *Frangula alnus*, *Melampyrum pratense*, *Molinia caerulea*, *Sorbus aucuparia*, *Vaccinium vitis idaea*), *Sphagnum* pine woods. Besides there are *Betula pubescens* and *Alnus glutinosa* woods with a layer of peat mosses.

Botanical significance. The largest transition mire in Ukraine.

Criterion C

- D2.3 Transition mires and quaking bogs; area: 8000 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Андрієнко Т.Л. ПЗ Рівненський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 313–324.
2. Андрієнко Т.Л., Балашов Л.С., Прядко О.І. Унікальний болотний масив Переброди на Ровенщині // Укр. ботан. журн. – 1976. – 33, № 5. – С. 532–536.
3. Андрієнко Т.Л., Прядко О.І., Онищенко В.А. Раритетна компонента флори Рівненського природного заповідника // Укр. ботан. журн. – 2006. – 63, № 2. – С. 220–228.
4. Онищенко В., Прядко О., Андрієнко Т. Рослинність ділянки Переброди Рівненського природного заповідника // Науковий вісник Східноєвропейського національного ун-ту ім. Лесі Українки. Сер. Біологічні науки. – 2015. – 13. – С. 32–49.
5. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Peresyp Aktaskoho Ozera

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Пересип Актаського озера.
Transliteration/Translation variants: Peresyp of Aktash Lake.
Area: 189.0 ha.
Altitude: 0–3 m.
Latitude: 45°23’18” N (45.3884°).
Longitude: 35°55’05” E (35.9181°).
Administrative regions. Autonomous Republic of Crimea: Lenine raion; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 37.0%; B – 25.0%; E – 34.0%; H – 4.0%.
Habitats. Level 2. A2 Littoral sediment – 4.0%; A5 Sublittoral sediment – 33.0%; B1 Coastal dunes and sandy shores – 15.0%; B2 Coastal shingle – 10.0%; E1 Dry grasslands – 22.0%; E6 Salt steppes – 12.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 4.0%.

Futher habitat description. A2.1 Littoral coarse sediment; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; B1.2 Sand beaches above the driftline; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; E1.1 Inland sand and rock with open vegetation; H5.6 Trampled areas.

Land use: nature conservation and research – minor, tourism/recreation – minor.
Protected areas: overlaps with state ornithological reserve “Astaninski Plavni” (“Ostaninski Zaplavy”).
Threats: climate change/ sea level rise – low, development (recreation/tourism) – medium.
General description. A bar composed of sand and seashells. Vegetation of the beach is formed by *Leymus sabulosus*, *Crambe maritima*, *Cakile euxina*, *Centaurea odessana*, *Carex colchica*, *Eryngium maritimum*. The most elevated places are dominated by *Artemisia marschalliana*, *Stipa capillata, Ephedra distachya*, *Agropyron cimmericum*. On the side opposite the sea, there are mesic and wet plant communities dominated by *Elytrigia elongata, Elytigia repens, Glycyrrhiza glabra, Limonium meyeri*.
Botanical significance. Important area for seaside threatened species *Alyssum borzaeanum* (*Odontarrhena borzaeana*) and *Thymus littoralis*.
Criterion A

- *Agropyron cimmericum* Nevski; A(i); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

- *Alyssum borzaeanum* Nyár. (*Odontarrhena borzaeana* (Nyár.) D.A.German); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Thymus littoralis* Klokov et Shost.; A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create an Emerald Site including the entire IPA.

Literature

1. Корженевский В.В., Волкова Т.А., Клюкин А.А. О синтаксономическом положении растительности пляжей и формирующихся дюн Азовского побережья Керченского полуострова // Ботан. журн. – 1984. – Т. 69, № 11. – С. 1462–1467.

2. Котова И.Н. Флора и растительность Керченского полуострова // Тр. Никит. ботан. сада. Материалы по флоре и растительности Крыма. – 1961. – Т. 35. – С. 64–168.

3. Новосад В.В. Флора Керченско-Таманского региона. – Киев: Наукова думка. – 1992. – 280 с.

Petro-Ivanivka

O.V. Bezrodnova

Ukrainian name: Петро-Іванівка.
Area: 188 ha.
Altitude: 90-160 m.
Latitude: 49°55’22” N (49.9226°).
Longitude: 37°40’43”E (37.6785°).
Administrative regions. Kharkiv region: Dvorichna raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 73.3%; F – 2.0%; G – 15.7%; H – 9.0%.
Habitats. Level 2. E1 Dry grasslands – 72.7%; E5 Woodland fringes and clearings and tall forb stands – 0.6%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 15.7%; H2 Screes – 9.0%
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; forestry – minor.
Protected areas: –
Threats: abandonment/reduction of land management – low; extraction (minerals/quarries) – low.
General description. Slopes with outcrops of chalk and steppes. Dominants of vegetation on chalk are *Androsace koso-poljanskii*, *Artemisia hololeuca*, *Hyssopus cretaceus*, *Linum ucrainicum*, *Thymus calcareus*. Other typical species are *Asperula tephrocarpa*, *Astragalus albicaulis*, *Astragalus austriacus*, *Bupleurum falcatum*, *Carex humilis*, *Cephalaria uralensis*, *Euphorbia stepposa*, *E. seguierana*, *Gypsophila fastigiata*, *Hedysarum grandiflorum*, *Matthiola fragrans*, *Odontites luteus*, *Onosma tanaitica*, *Pimpinella titanophila*, *Polygala cretacea*, *Scrophularia cretacea*, *Silene supina*, *Teucrium polium*. Steppe vegetation is dominated by *Sitpa capillata*, *Bromopsis riparia*, *Festuca valesiaca*, *Koeleria cristata*, *Poa angustifolia, Elytrigia repens*. There occur steppes with dominance of shrubs (*Caragana frutex*, *Chamaecytisus austriacus*, *Chamaecytisus ruthenicus*). Typical species of the steppe vegetation are also *Adonis vernalis*, *Salvia nutans*, *Stachys recta, Linum flavum, Thalictrum minus*. Shrub vegetation is formed by *Cerasus fruticosa*, *Crataegus* sp., *Prunus spinosa*, *Rosa* sp.

Botanical significance. Important area for conservation of *Androsace koso-poljanskii* and other endemic species of chalk outcrops.

Criterion A

- *Alyssum gymnopodum* P.A.Smirn. (*Odontarrhena gymnopoda* (P.A.Smirn.) D.A.German); A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Androsace koso-poljanskii* Ovcz.; A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservational proposals: create a state botanical reserve and an Emerald Site.

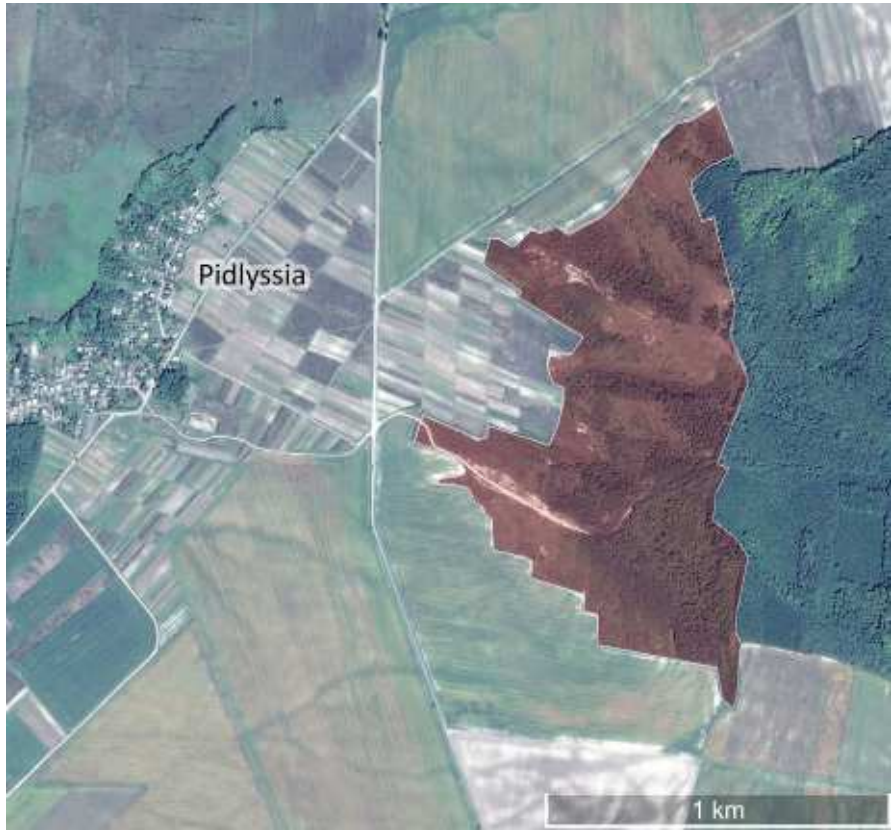
Literature

1. Безроднова О.В. Раритетные кальцефильные виды в Гербарии Харьковского национального университета имени В. Н. Каразина (CWU) // Вісник Харківського національного університету імені В.Н. Каразіна. Серія: біологія. – 2015. Вип.25. – С. 16-26.

Pidlyska Hora

V.A. Onyshchenko, T.D. Solomakha

Ukrainian name: Підлиська гора.
Transliteration/Translation variants: Pidlys'ka Gora, Pidlys'ka Hill.
Area: 81.9 ha.
Altitude: 262–374 m.
Latitude: 49°55'56" N (49.9321°).



Longitude: 24°50'36" E (24.8432°).
Administrative regions. Lviv region: Zolochiv raion.
Ownership: state.
Biogeographic regions: continental
Habitats. Level 1. E – 22.8%; F – 1.0%; G – 75.2%; H – 1.0%
Habitats. Level 2. E1 Dry grasslands – 20.5%; E5 Woodland fringes and clearings and tall forb stands – 0.3%; E7 Sparsely wooded grasslands – 2.0%; F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 8.0%; G3 Coniferous woodland – 17.0%; G4 Mixed deciduous and coniferous woodland – 20.2%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 30.0%; H3 Inland cliffs, rock pavements and outcrops – 0.5%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E7.2 Sub-continental parkland; F3.1 Temperate thickets and scrub; G1.6 *Fagus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.F Highly artificial coniferous plantations; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: nature conservation and research – major, forestry – major.
Protected areas: included in regional nature monument "Pidlyska Hora abo Hora Markiana Shashkevycha".
Threats: abandonment/reduction of land management – medium, burning of vegetation – low.
General description. A hill with the forest, grassland and limestone outcrops. The grassland vegetation is dominated by *Briza media*, *Carex flava*, *Carex humilis*, *Dactylis glomerata*, *Festuca pratensis*, *Festuca rubra*, *Festuca rupicola*, *Inula ensifolia*, *Teucrium chamaedrys*. Frequent species are *Allium lusitanicum* s.l. (*Allium montanum* auct.), *Anemone sylvestris*, *Asperula cynanchica*, *Bupleurum falcatum*, *Campanula sibirica*, *Centaurea pannonica*, *Euphorbia cyparissias*, *Galium verum*, *Lembotropis nigricans*, *Leontodon hispidus*, *Linum catharticum*, *Onobrychis arenaria*, *Pimpinella saxifraga*, *Plantago media*, *Potentilla incana*, *Primula veris*, *Prunella grandiflora*, *Ranunculus polyanthemos*, *Ranunculus zapalowiczii*, *Scabiosa ochroleuca*, *Thymus marschallianus*, *Thymus pannonicus*, *Salvia pratensis*.
Botanical significance. Important area for *Carlina onopordifolia* and *Cypripedium calceolus*.
Criterion A

- *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł.; A(i), A(ii), A(iv); abundance: frequent (289 individuals); trend: stable; species data quality: good; trend data quality: medium.
- *Cypripedium calceolus*; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals: do not allow afforestation.

Literature

1. Дідух Я., Коротченко І. Ксеротермна рослинність північно-західного Поділля // Вісник Львівського ун-ту. Серія біологічна. – 2003. – 34. – С. 82–91.

2. Мельник В.І., Скоропляс І.О., Баточенко В.М. Сучасний стан популяцій *Carlina onopordifolia* (*Asteraceae*) на західному Волино-Поділлі // Укр. ботан. журн. – 2014. – 71, № 2. – С. 35–48.

3. Мельник В.И., Скоропляс И.О. Современное состояние популяций *Carlina onopordifolia* Besser ex Szafer, Kulcz. & Pawl. в Украине // Austrian Journal of Technical and Natural Sciences. – 2014. № 9–10. – С. 21–24.

4. Скоропляс І.О. Географічне поширення *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł. (*Asteraceae*) в Україні // Ботанічні дослідження – 2014: Збірник наукових праць V Всеукраїнської науково-практичної конференції молодих учених і студентів. – Житомир: Вид-во ЖДУ ім. І. Франка, 2014. – С. 430–434.

Podvirivka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Подвір'ївка.
Area: 45.4 ha.
Altitude: 172-221 m.
Latitude: 48°20'36" N (48.3432°).
Longitude: 26°48'29" E (26.8079°).
Administrative regions: Chernivtsi region: Kelmentsi raion.

Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 97.0%; F – 2.0%; G – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 88.0%; E2 Mesic grasslands – 10.0%; E7 Sparsely wooded grasslands – 1.0%; F3 Temperate and mediterranean-montane scrubs – 2.0%; G1 Broadleaved deciduous woodland – 1.0%.
Futherhabitat description: E1.2 Perennial calcareous grassland and basic steppes; E7.2 Sub-continental parkland.

Landuse: agriculture (animals) – major.
Protected areas: –.
Threats: agricultural intensification/expansion (grazing) – low.
General description. Slopes with grasslands dominated by *Briza media*, *Dactylis glomerata*, *Elytrigia intermedia*, *Festuca pratensis*, *F. valesiaca*, *Helictotrichon pubescens*, *Koeleria cristata*, *Poa pratensis*. Other frequent species are *Achillea millefolium*, *Carex tomentosa*, *Centaurea jacea*, *Filipendula vulgaris*, *Galium verum*, *Knautia arvensis*, *Leontodon hispidus*, *Primula veris*, *Ranunculus polyanthemos*, *Salvia pratensis*, *Serratula lycopifolia*, *Vicia tetrasperma*. The synusium of spring ephemeroids consists of *Fritillaria montana*, *Ficaria stepporum*, *Bulbocodium versicolor*.
Botanical significance. Important populations of *Serratula lycopifolia* and *Fritillaria montana*.
Criterion A

- *Fritillaria montana* Hoppe; A (ii); abundance: occasional; trend: stable; species data quality: good; trend data quality: medium.
- *Serratula lycopifolia* (Vill.) A. Kern.; A (ii); abundance: occasional; trend: stable; species data quality: good; trend data quality: medium.

Conservation proposals. Create a state botanical reserve and an Emerald Site.
Literature

1. Каземірська М.А., Токарюк А.І., Чорней І.І. Насіннєва продуктивність *Fritillaria montana* Hopre (*Liliaceae*) в популяціях на північно-східній межі ареалу (середнє Прут-Дністров'я) // Заповідна справа в Україні. – 2010. – Т. 16, Вип. 2. – С. 9–14.
2. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.

Pohorylivka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Погорилівка.
Area: 94.7 ha.
Altitude: 194-258 m.
Latitude: 48°32'26" N (48.5406°).
Longitude: 25°59'18" E (25.9883°).
Administrative regions: Chernivtsi region: Zastavna raion.
Ownership: state (major), municipal.
Biogeographic regions: continental.
Habitats. Level 1. E – 96.7%; F – 2.0%; H – 0.6%; J – 0.7%
Habitats. Level 2. E1 Dry grasslands – 96.7%; F3 Temperate and mediterranean-montane scrubs – 2.0%; H1 Terrestrial underground caves, cave systems, passages and waterbodies; H3 Inland cliffs, rock pavements and outcrops – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%; J3 Extractive industrial sites – 0.7%.
Futherhabitat description: E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; H3.5 Almost bare rock pavements, including limestone pavements; H5.6 Trampled areas.
Landuse: agriculture (animals) – minor; nature conservation and research – major.
Protected areas: includes Chornopototskyi state karst-spelaean reserve (49 ha), Martynivske regional nature preserve (zapovidne urochyshche) (26 ha), Pechera Fushteika regional

geological nature monument (2.5 ha).
Threats: agricultural intensification/expansion (grazing) – low.
General description. Karst area with grasslands and gypsum outcrops. Grasslands are dominated by *Carex humilis*, *Carex montana*, *Festuca valesiaca*, *Koeleria cristata*, *Stipa*

capillata, *Stipa pennata*, *Inula ensifolia*, *Molinia caerulea* agg. There are *Adonis vernalis*, *Aconitum anthora*, *Asperula cynanchica*, *Astragalus austriacus*, *A. onobrychis*, *Anthericum ramosum*, *Chamaecytisus albus*, *Filipendula vulgaris*, *Galium verum*, *Gypsophila thyraica, Inula ensifolia*, *Iris hungarica*, *Potentilla arenaria*, *Pulsatilla grandis*, *Pulsatilla patens*, *Pulsatilla pratensis*, *Salvia pratensis*, *S. verticillata*, *Securigera varia*, *Teucrium chamaedrys*, *T. pannonicum*, *Thymus marschallianus*, *Trifolium montanum*.
Botanical significance. One of the largest areas of dry grasslands in western Ukraine. There are many protected species including *Cypripedium calceolus*, *Iris hungarica*, *Gypsophila thyraica*, *Pulsatilla grandis*, *Pulsatilla patens*, *Pulsatilla pratensis*, *Stipa pennata*.
Criterion A

- *Gypsophila thyraica* A.Krasnova; A(iii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Iris hungarica* Waldst. & Kit.; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.
- *Pulsatilla grandis* Wend.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 80 ha; trend: stable; area data quality: medium; trend data quality: medium.

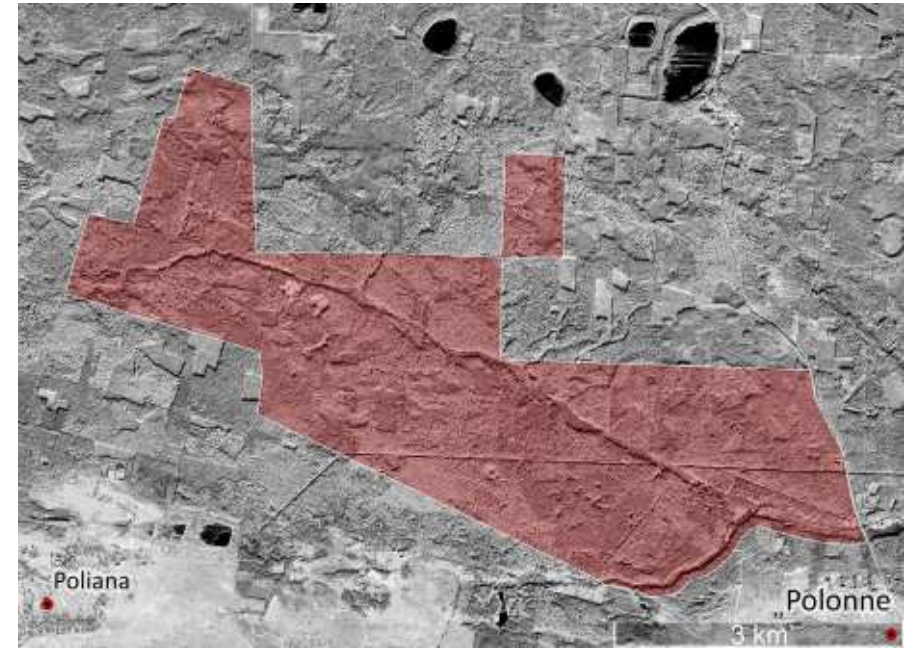
Literature

1. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.
2. Чорней І.І., Скільський І.В., Коржик В.П., Буджак В.В. Заповідні об'єкти Буковини загальнодержавного значення як основа регіональної екологічної мережі // Заповідна справа в Україні. – 2001. – Т. 7, вип. 2. – С. 73–98.
3. Чорней І.І., Токарюк А.І., Буджак В.В., Скільський І.В. Заповідні урочища Північної Буковини та Хотинщини: загальний огляд, раритетні флора і фауна // Заповідна справа в Україні. – 2009. – Т. 15, вип. 1. – С. 82–100.

Polonskyi Lis

V.A. Onyshchenko

Ukrainian name: Полонський ліс.
Transliteration/Translation variants: Polons'kyi Forest.
Area: 1704.0 ha.
Altitude: 236–246 m.
Latitude: 50°09'57" N (50.1659°).
Longitude: 27°24'44" E (27.4122°).
Administrative regions. Khmelnytskyi region: Polonne raion, Shepetivka raion.
Ownership: state.



Biogeographic regions: continental.
Habitats. Level 1. C – 2.6%; D – 2.0%; E – 0.1%; G – 94.3%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.6%; C2 Surface running waters – 0.0%; C3 Littoral zone of inland surface waterbodies – 2.0%; D5 Sedge and reedbeds, normally without free-standing water – 2.0%; E3 Seasonally wet and wet grasslands – 0.1%; G1 Broadleaved deciduous woodland – 73.3%; G3 Coniferous woodland – 10.0%; G4 Mixed deciduous and coniferous woodland – 11.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – major; tourism/recreation – minor.
Protected areas: included in Maliovanka regional landscape park, included in Emerald Site "Maliovanka Regional Landscape Park".
Threats: forestry (intensified forest management) – low.
General description. Major vegetation type is the mesotrophic moist forests dominated by *Quercus robur* in the tree layer and *Carex brizoides* in the herb layer. Usually there is the shrub layer with prevailng of *Frangula alnus*. Other species of significant constancy are *Betula pendula*, *Calamagrostis arundinacea*, *Corylus avellana*, *Lysimachia vulgaris*, *Maianthemum bifolium*, *Pinus sylvestris*, *Populus tremula*. Other forest types: *Quercus robur* forests dominated by *Convallaria majalis* or *Pteridium aquilinum* with presence of *Betonica officinalis*, *Serratula tinctoria*; *Pinus sylvestris* and mixed *Pinus sylvestris* – *Quercus robur* forests dominated by *Vaccinium myrtillus* and *Pleurozium shreberi*; *Alnus glutinosa* forests and swamps.
Botanical significance. Important for conservation of acidophilous oak forests.
Criterion C

- G1.8 Acidophilous *Quercus*-dominated woodland; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Create a state botanical reserve. Do not allow clearcutting.
Literature

1. Природа ункального краю – Малого Полісся / Т.Л. Андрієнко, Л.С. Юглічек, Р.Г. Білик, О.І. Прядко, М.Д. Матвєєв, Л.П. Казімірова, В.А. Онищенко, Л.Г.Безусько, Р.Я. Арап, М.О. Тарасенко / під ред. Т.Л.Андрієнко. – Кам'янець-Подільський: Вид-во ПП Мошинського В.С., 2010. – 254 с.

Polonyna Borzhava

V.A. Onyshchenko

Ukrainian name: Полонина Боржава.
Area: 4448.0 ha.
Altitude: 1100–1682 m.
Latitude: 48°38'46" N (48.6460°).
Longitude: 23°13'59" E (23.2332°).
Administrative regions. Zakarpatska region: Mizhhirya raion, Svaliava raion, Volovets raion.
Ownership: state, private.
Biogeographic regions: alpine.
Habitats. Level 1. E – 50.6%; F – 45.2%; G – 3.7%; H – 0.5%.
Habitats. Level 2. E1 Dry grasslands – 44.0%; E4 Alpine and subalpine grasslands stands –

6.3%; E5 Woodland fringes and clearings and tall forb stands – 0.3%; F2 Arctic, alpine and subalpine scrub – 1.6%; F4 Temperate shrub heathland – 43.6; G1 Broadleaved deciduous woodland – 3.7%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.
Futher habitat description. E1.7 Non-Mediterranean dry acid and neutral closed grassland; E4.1 Vegetated snow-patch; E4.2 Moss and lichen dominated mountain summits, ridges

and exposed slopes; E4.3 Acid alpine and subalpine grassland; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F4.2 Dry heaths; G1.6 *Fagus* woodland; H3.1 Acid silicious inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – major.
Protected areas: same as Emerald Site "Polonyna Borzhava".
Threats: abandonment/reduction of land management – low.
General description. Grasslands and heaths above the upper limit of the forest. Main dominant species are *Nardus stricta* and *Vaccinium myrtillus*.
Botanical significance. Important area for heaths and mountain grasslands.
Criterion C

- E1.71 *Nardus stricta* swards; area: 1400 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E4.11 Boreo-alpine acidocline snow-patch grassland and herb habitats; area: 1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.3 Acid alpine and subalpine grassland; area: 220 ha; trend: stable; area data quality: medium; trend data quality: poor.
- F4.2 Dry heaths; area: 1800 ha; trend: stable; area data quality: medium; trend data quality: poor.

Conservation proposals. Create a national protected area.
Literature

1.Малиновський К.А., Крічфалушій В.В. Рослинні угруповання високогір'я Українських Карпат. – Ужгород, 2002. – 244 с.

Polovetskyi Step

V.P. Kolomiychuk

Ukrainian name: Половецький степ.
Transliteration/Translation variants: Polovtsian Steppe.
Area: 2120.0 ha.
Altitude: 59–135 m.
Latitude: 47°10'47" N (47.1795°).
Longitude: 36°52'26" E (36.8739°).
Administrative regions. Donetsk region: Volodarske raion; Zaporizhia region: Berdiansk raion, Bilmak raion.
Ownership: state, private.
Biogeographic regions: steppic.
Habitats. Level 1. C – 1.2%; D – 0.9%; E – 91.7%; F – 1.0%; G – 4.2%; H –1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; C2 Surface running waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 1.0%; D5 Sedge and reedbeds, normally without free-standing water – 0.9%; E1 Dry grasslands – 90.6%; E2 Mesic grasslands – 1.0%; E5 Woodland fringes and clearings and tall forb stands – 0.1% F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 4.0%; G3 Coniferous woodland – 0.2%; H3 Inland cliffs, rock pavements and outcrops – <0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.1

Temperate thickets and scrub; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.3 Mediterranean riparian woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.

Land use: agriculture (animals) – major, mowing/hay making – minor, nature conservation and research – 47%.
Protected areas: overlaps (about 990 ha) with Meotyda national nature park and Emerald Site "Meotyda".
Threats: abandonment/reduction of land management – low; agricultural intensification/ expansion (grazing) – low, forestry (afforestation) – medium.
General description. Valleys of the Berda river in its middle reaches and the Karatiuk river with the gulches flowing in them. Major habitat type is the steppe. Dominant species are *Festuca valesiaca*, *Stipa capillata*, *S. lessingiana*, *S. ucrainica*, *Koeleria cristata*, in some places *Stipa pulcherrima*. Other constant species are *Adonis vernalis*, *Asrtagalus onobrychis*, *A. palescens*, *Euphorbia stepposa*, *Jurinea arachnoidea*, *Haplophyllum suaveolens*, *Onobrychis tanaitica*, *Oxytropis pilosa*, *Phlomoides tuberosa* (*Phlomis tuberosa*), *Plantago stepposa*, *Pulsatilla pratensis*, *Stachys transsilvanica*, *Thymus marschallianus*. In more mesic habitats, rhizomatous grasses *Poa angustifolia*, *Elytrigia repens*, *Alopecurus pratensis* dominate. In some places there are shrub steppes with co-dominance of *Caragana frutex*, *Amygdalus nana*. Typical species of the steppes on stony soils are *Festuca valesiaca*, *Achillea leptophylla*, *Helicrysum arenarium*, *Thymus dimorphus*. Besides there are riverine forests of *Salix alba*, *Populus alba*, *P. nigra*, plantations of *Robinia pseudoacacia*, *Pinus pallasiana*, *Ulmus minor*, *Fraxinus lanceolata*, shrub communities with dominance of *Prunus spinosa*, *Rhamnus cathartica*, *Crataegus fallacina*, saline medows with dominance of *Festuca regeliana* and *Elytrigia elongata*, beds of *Phragmites australis*, granite outcrops.

Botanical significance. Well-preserved continental steppe.
Criterion C
- E1.2 Perennial calcareous grassland and basic steppes; area: 1900 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Create a state botanical reserve.
Literature

1. Вакаренко Л.П., Мовчан Я.І., Турута О.Є. Рослинні раритети середньої течії р. Берди // Укр. ботан. журн. – 1996. – 53, № 5. – С. 598–603
2. Вакаренко Л.П., Мосякін С.Л., Генов А.П. Наукове обгрунтування необхідності створення міжрегіонального ландшафтного парку "Надбердянський степ" (Північне Приазов'я) // Заповідна справа в Україні. – 2000. – Т. 6. – С. 17–27.
3. Ландшафты, растительный покров и животный мир регионального ландшафтного парка "Меотида" / Г. Н. Молодан, С. А. Приходько, С. В. Третьяков и др. – Донецк: Ноулидж, 2010. – 184 с.

Potashnianski Lisy

O.O. Orlov, V.A. Onyshchenko

Ukrainian name: Поташнянські ліси.
Transliteration/Translation variants: Potashnia Forests.
Area: 852.0 ha.
Altitude: 174–190 m.
Latitude: 50°25'32" N (50.4253°).
Longitude: 29°18'56" E (29.3154°).
Administrative regions. Zhytomyr region: Radomyshl raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 1.0%; G – 98.0%; H – 1.0%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 29.9%; G3 Coniferous woodland – 29.9%; G4 Mixed deciduous and coniferous woodland – 29.8%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 8.4%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. G1.7 Thermophilous deciduous woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – 46%.
Protected areas: includes Bervy regional botanical reserve (392 ha).
Threats: forestry (intensified forest management) – medium.
General description. Vegetation is represented mainly by forests (deciduous, mixed and coniferous approximately in equal parts). Constatnt species of drier *Pinus sylvestris* forests are *Chamaecytisus zingeri*, *Campanula rotundifolia*, *Melampyrum pratense*, *Hieracium umbellatum*, *Peucedanum cervaria* (dom.), *Solidago virgaurea*, *Pleurozium schreberi* (dom.), *Dicranum polysetum* (dom.). In wetter pine forests, constant species are *Frangula alnus* (dom.), *Sorbus aucuparia*, *Dryopteris carthusiana*, *Luzula pilosa*, *Melampyrum pratense*, *Mollinia caerulea* (dom.), *Pteridium aquilinum* (dom.), *Trientalis europaea* (*Lysimachia europaea*), *Vaccinium myrtillus* (dom.), *Vaccinium vitis-idaea*. In termophilous *Quercus robur* forests, *Convallaria majalis* dominates. Other frequent species are *Allium lusitanicum* s.l. (*Allium montanum* auct.), *Campanula persicifolia*, *Centaurea phrygia*, *Fragaria vesca*, *Lathyrus niger*, *Melittis sarmatica*, *Polygonatum odoratum*, *Potentilla alba*, *Pteridium aquilinum*, *Serratula tinctoria*, *Vicia cassubica*.
Botanical significance. Large population of *Dracocephalum ruyschiana*. One of the best species-rich oak woods in the northen Ukraine.
Criterion A

- *Dracocephalum ruyschiana* L.; A(ii); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C
- G1.7 Thermophilous deciduous woodland; area: 150 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

1. Якушенко Д.М., Віниченко Т.С. Еколого-ценотична характеристика *Dracocephalum ruyschiana* L. на південному сході Житомирського Полісся // Вісник Київського національного університету імені Тараса Шевченка. Інтродукція та збереження рослинного різноманіття. – 2005. – Вип. 8. – С. 42–44.

Probabyn

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Пробабин.
Area: 4.6 ha.
Altitude: 260–287 m.
Latitude: 48°39'39" N (48.6609°).
Longitude: 25°35'14" E (25.5872°).

Administrative regions. Ivano-Frankivsk region: Horodenka raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1: E – 98.0%, F – 2.0%.
Habitats. Level 2: E1 Dry grasslands – 98.0%, F3 Temperate and mediterranean-montane scrub – 2.0%.
Futher habitat description: E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub.
Land use: agriculture (animals) – minor.
Protected areas: –.
Threats: agricultural intensification/expansion (grazing) – low, extraction (mineral/quarries) – low.
General description. Grasslands dominated by *Carex humilis*, *Festuca rupicola*, *Festuca valesiaca*, *Koeleria cristata*, *Poa angustifolia*. Other frequent species: *Adonis vernalis*, *Asperula cynanchica*, *Astragalus austriacus*, *Cephalaria uralensis*, *Chamaecytisus podolicus*, *Filipendula vulgaris*, *Fragaria viridis*, *Gypsophila thyraica*, *Hyacinthella leucophaea*, *Inula ensifolia*, *Muscari botryoides*, *Potentilla arenaria*, *Salvia pratensis*, *Securigera varia*, *Teucrium chamaedrys*, *Thymus marschallianus*, *Trifolium montanum.*
Botanical significance. Important area for endemic species *Aconitum pseudanthora*, *Chamaecytisus podolicus*, *Gypsophila thyraica*; *locus classicus* of *Chamaecytisus podolicus*. There are other Crierion A species: *Iris hungarica*, *Pulsatilla grandis*, *Pulsatilla patens*.
Criterion A

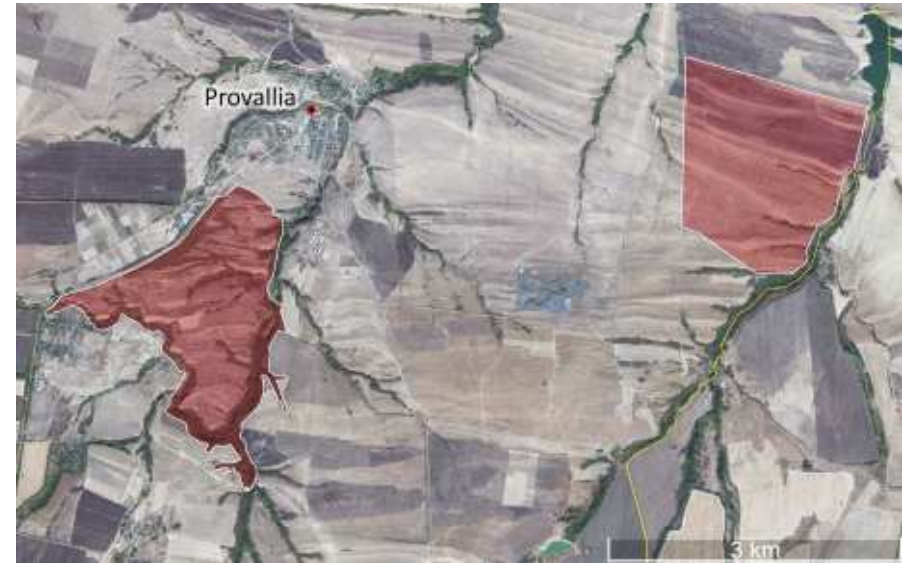
- *Aconitum pseudanthora* Błocki ex Pacz. A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Chamaecytisus podolicus* (Błocki) Klásk. A(iv); abundance: frequent; trend: unknown; species data quality: good; trend data quality: medium.
- *Gypsophila thyraica* A.Krasnova A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create a state botanical nature monument.

Provalskyi Step

V.A. Onyshchenko

Ukrainian name: Провальський степ.
Transliteration/Translation variants: Proval'skyi Steppe.
Area: 587.5 ha.
Altitude: 115–231 m.
Latitude: 48°07'55" N (48.1319°).



Longitude: 39°49'09" E (39.8191°).
Administrative regions. Luhansk region: Dovzhansk (Sverdlovsk) raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 77.0%; D – 1.0%; F – 1.0%; G – 20.0%; H – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 76.0%; E2 Mesic grasslands – 1.0%; D5 Sedge and reedbeds, normally without free-standing water – 1.0%; F3 Temperate and mediterranean-montane scrub – 1.0%; G1 Broadleaved deciduous woodland – 20.0%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 0.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: nature conservation and research – 100%.
Protected areas: included in Luhanskyi nature reserve (same as division Provalskyi Step of the reserve), included in Emerald Site "Luhanskyi Nature Reserve".
Threats: abandonment/reduction of land management – low.
General description. Major vegetation of the area is steppe. Most common are steppes dominated by *Stipa tirsa*. They are rich in mesic species: *Anemone sylvestris*, *Filipendula vulgaris*, *Fragaria viridis*, *Inula hirta*, *Melampyrum argyrocomum*, *Trifolium alpestre*, *Trifolium montanum*, *Myosotis popovii*. A large area is occupied by the steppes of *Stipa dasyphylla* with significant admixture of *Festuca rupicola*, *Festuca valesiaca*, *Elytrigia intermedia*, *Bromopsis riparia*, *Stipa capillata*, *Caragana frutex*, *Spiraea hypericifolia*. On eroded soils, a typical dominant is *Stipa ucrainica*. On shallow gravel soils, there dominates *Stipa pulcherrima*, *Stipa asperella*, *Stipa ucrainica*, *Botriochloa ischaemum* with presence of *Artemisia marschalliana*, *Cota tinctoria* (*Anthemis tinctoria*), *Ephedra distachya*, *Festuca valesiaca*, *Jurinea arachnoidea*, *Galatella villosa*, *Pimpinella titanophila*, *Psephellus marschallianus* (*Centaurea marschalliana*), *Salvia nutans*, *Tanacetum millefoliom*, *Teucrium polium*, *Thymus dimorphus*. On northern slopes and in depressions, a large area is occupied by the grasslands with dominance of rhizomatous grasses *Bromopsis riparia*, *Bromopsis inermis*, *Elytrigia intermedia*, *Poa angustifolia*, *Calamagrostis epigeios*, *Hierochloe repens* with admixture of *Galium verum*, *Inula hirta*, *Salvia nutans*, *Salvia tesquicola*, *Securigera varia*, *Phlomis pungens*, *Phlomoides tuberosa* (*Phlomis tuberosa*), *Trifolium alpestre*, *Trifolium montanum*, *Trifolium pratense*. Halophytic steppes dominated by *Festuca valesiaca* and *Galatella dracunculoides* occur between ridges, their typical species are *Artemisia santonica*, *Halimione verrucifera*, *Kochia prostrata*, *Limonium bungei*, *Pimpinella titanophila*, *Plantago tenuiflora*. On outcrops, there is open vegetation with prevailing *Thymus calcareus*, *Pimpinella titanophila*, *Artemisia marschalliana*, *Agropyron pectinatum*. Typical species of these communities are *Spiraea hypericifolia*, *Spiraea crenata*, *Alyssum tortuosum* (*Odontarrhena tortuosa*), *Asperula tephrocarpa*, *Silene supina*, *Thymus dimorphus*, *Tulipa ophiophylla*. Forests are dominated by *Quercus robur*, *Fraxinus excelsior*, *Acer campestre*; *Acer tataricum*, *Rhamnus cathartica*, *Sambucus nigra*, *Crataegus fallacina*, *Ligustrum vulgare*, *Euonymus verrucosus*, *Euonymus czernjaevii*, *Swida sanguinea* (*Cornus sanguinea*); *Aegopodium podagraria*, *Ficaria verna*, *Anemone ranunculoides*, *Scilla siberica*, *Corydalis solida*, *Corydalis marschalliana*, *Viola odorata*, *Melica picta*, *Poa nemoralis*. The IPA consists of two clusters located at a distance of 4 km from each other.
Botanical significance. Important area for conservation of steppes.
Criterion A
- *Delphinium sergii* Wissjul.; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Onosma graniticola* Klokov; A(iv); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C
- E1.2 Perennial calcareous grassland and basic steppes; area: 446 ha; trend: stable; area data quality: good; trend data quality: good.

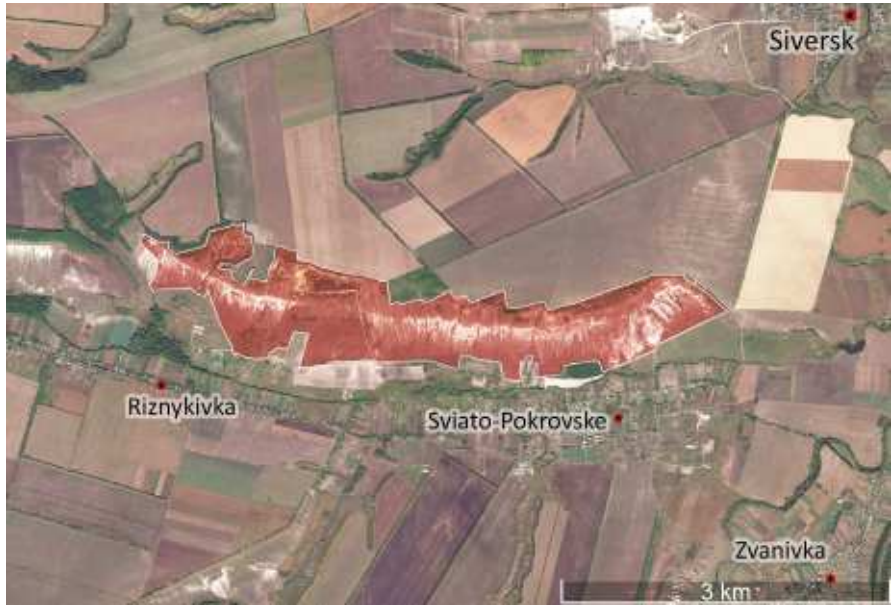
Literature

1. Біорізноманітність Луганського природного заповідника НАН України / сост. Т. Сова. – Луганськ: ЛГСІ, 2005. – 218 с.
2. Биоразнообразие Луганского природного заповедника: растительный мир / Составители: Сова Т. В., Русина Н. В., Гузь Г. В., Боровик Л. П., Шиян-Глотова А. В. – Луганск: Элтон–2, 2009. – 130 с.
3. Білик Г.І., Ткаченко В.С. Рослинний покрив Провальского степу // Укр. ботан. журн. – 1971. – 28, № 4. – С. 443–448.
4. Вєтрова З.І. Розподіл Евгленофітових у водоймах заповідника "Провальский степ" // Укр. ботан. журн. – 1988. – 45, № 4. – С. 58–61.
5. Кондратюк Е.Н., Бурда Р.И., Чуприна Т.Т., Хомяков М.Т. Луганский государственный заповедник. Растительный мир. – Киев: Наук. думка, 1988. – 188 с.
6. Маслова В.Р. Ліхенофлора Провальского степу // Зб. наук. праць "Інтродукція і акліматизація рослин на Україні". – 1979. – Вип. 15. – С. 51–54.
7. Надеина О.В. Лишайники Провальской степи (Украина) // Ботан. журн. – 2008. – 93, № 1. – С. 3–9.
8. Приходькова Л.П. Синьозелені водорості в грунтах заповідника "Провальський степ" // Укр. ботан. журн. – 1988. – 45, № 2. – С. 9–13.
9. Русіна Н.В. Історія та сучасний стан дослідження ліхенобіоти Луганського природного заповідника // Наукові праці Луганського природного заповідника. Рослинний і тваринний світ та його охорона. – Луганськ. – 2011. – Вип. 2. – С. 47–53
10. Сова Т.В., Боровик Л.П. ПЗ Луганський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 221–253.
11. Ткаченко В.С. Прогноз змін рослинності заповідника "Провальский степ" // Укр. ботан. журн. – 1981. – 38, № 1. – С. 83–89.
12. Ткаченко В.С. Темпи демутації та коригування прогнозу розпитку степової рослинності Провальского степу // Укр. ботан. журн. – 1990. – 47, № 2. – С. 49–54.
13. Ткаченко В.С., Чуприна Т.Т., Бакланов О.В. Заповідник Провальський степ (сучасний стан і завдання наукових досліджень) // Укр. ботан. журн. – 1979. – 36, № 4. – С. 352–356.
14. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Riznykivka

V.A. Onyshchenko

Ukrainian name: Різниківка.
Area: 330.0 ha.
Altitude: 100–160 m.
Latitude: 48°50'22" N (48.8393°).
Longitude: 38°01'40" E (38.0278°).
Administrative regions. Donetsk region: Bakhmut (Artemivsk) raion.
Ownership: state.
Biogeographic regions: steppic.



Habitats. Level 1. E – 79.6%; F – 2.0%; G – 8.4%; H – 10.0%.
Habitats. Level 2. E1 Dry grasslands – 79.6%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 7.7%; G3 Coniferous woodland – 0.7%; H2 Screes – 10.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; forestry – major.
Protected areas: overlaps (about 320.0 ha) with regional botanical reserve "Kreidiana roslynnist bilia sela Kirove", included in Emerald Site "Riznykivskyi".
Threats: agricultural intensification/expansion (grazing) – low, extraction (minerals/

quarries) – low, forestry (afforestation) – medium.
General description. Slope of the Riznykivska valley. The steppe vegetation is dominated by *Festuca valesiaca*, *Stipa capillata*, *S. lessingiana*, *S. pennata*, *S. tirsa*, *S. ucrainica*. Dominants of the chalk outcrops are *Artemisia hololeuca*, *Hyssopys cretaceus*, *Thymus cretaceus*.
Botanical significance. Important area for some endemic species of chalk outcrops.
Criterion A

- *Linaria cretacea* Fisch. ex Spreng.; A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Silene cretacea* Fisch. ex Spreng.; A(ii), A(iv); abundance: occasional; trend: unknown; species data quality: poor; trend data quality: poor.

Conservation proposals. Create a state botanical reserve.
Literature

1. Остапко В.М., Мулєнкова О.Г., Приходько С.А. Перспективні ботанічні об'єкти для включення до природно-заповідного фонду Донецької області та формування регіональної екомережі // Промышленная ботаника. Сборник научных трудов. – Донецк: Донецкий ботанический сад НАН Украины. – 2013. – Вып. 13. – С. 25–34
2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Romosh

V.V. Datsiuk, V.A. Onyshchenko

Ukrainian name: Ромош.
Area: 636 ha.
Altitude: 205–235 m.
Latitude: 50°35'12" N (50.5867°).
Longitude: 24°21'12" E (24.3533°).
Administrative regions. Lviv region: Sokal raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1: E – 1.2%, G – 97.8%, H – 1.0% .
Habitats. Level 2: E2 Mesic grasslands – 1.2%; G1 Broadleaved deciduous woodland – 69.8%; G3 Coniferous woodland – 14.0%; G4 Mixed deciduous and coniferous woodland – 14.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description: G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.F Highly artificial coniferous plantations; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H5.6 Trampled areas.
Land use: forestry – major.
Protected areas: –.
Threats: abandonment/reduction of land management – low; forestry (intensified forest management) – low.
General description. The major vegetation type is deciduous forests dominated by *Quercus robur*, *Carpinus betulus*, *Betula pendula*. Dominants of the herb layer are *Convallaria majalis*, *Galium odoratum*, *Stellaria holostea*, *Asarum europaeum*. Frequent species are *Betula*

pendula, *Fragaria vesca*, *Frangula alnus*, *Maianthemum bifolium*, *Pulmonaria obscura*, *Sanicula europaea*, *Sorbus aucuparia*, *Viola mirabilis*. Besides there are plantations of *Pinus sylvestris* with dominance of *Pleurozium schreberi* in the moss later.

Botanical significance. One of the largest populations of *Cypripedium calceolus* in Ukraine. The density of population is the highest in *Pinus sylvestris* wood in a former quarry of chalk

(219 individuald per 0.3 ha in the early 1980th). Typical density is 5–50 individuals per ha. *Cypripedium calceolus* is present both in deciduous and coniferous forests.

Criterion A

- *Cypripedium calceolus*; A(ii); abundance: frequent; trend: decreasing; species data quality: good; trend data quality: medium.

Conservation proposals. Create a state botanical reserve.

Literature

1. Вавриш П.О., Собко В.Г. Рідкісна популяція *Cypripedium calceolus* L. на Волинській височині // Укр. ботан. журн. – 1984. – 41, № 2. – С. 86–88.

2. Мельник В.І., Логвиненко І.П. Поширення та сучасний стан популяцій *Cypripedium calceolus* L. (*Orchidaceae*) на Волинській височині // Укр. ботан. журн. – 2013. – 70, № 6. – С. 788–791.

3. Собко В.Г. Орхідеї України. – Київ: Наук. думка, 1989. – С. 191 с.

Rys

V.A. Onyshchenko

Ukrainian name: Рись.
Area: 320.5 ha.
Altitude: 175–192 m.
Latitude: 51°15'42" N (51.26156°).
Longitude: 25°22'59" E (25.38314°).
Administrative regions. Volynska region: Manevychi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. G – 99.0%; H – 1.0%.

Habitats. Level 2. G1 Broadleaved deciduous woodland – 10.0%; G3 Coniferous woodland – 49.0%; G4 Mixed deciduous and coniferous woodland – 40.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.1 *Abies* and *Picea* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; H5.6 Trampled areas.

Land use: forestry – minor, nature conservation and research – minor.

Protected areas: same as Rys state zoological reserve, included in Emerald Site "Cherevaskyi Lis".

Threats: forestry (intensified forest management) – low.

General description. Forest dominated by *Pinus sylvestris*, *Betula pendula*, *Alnus glutinosa*, *Picea abies*.

Botanical significance. One of the largest locations of *Picea abies* forests in the flatland part of Ukraine.
Criterion C
- G3.1F Enclave *Picea abies* forests; area: 100 ha; trend: stable; area data quality: poor; trend data quality: poor.

Conservation proposals. Do not allow clearcuttings. Create an Emerald Site including the entire IPA.

Samarskyi Lis

V.A. Onyshchenko

Ukrainian name: Самарський ліс.
Transliteration/Translation variants: Samara Forest, River Samara Forest.
Area: 14372.0 ha.
Altitude: 51–110 m.
Latitude: 48°42'27" N (48.7075°).
Longitude: 35°31'50" E (35.5306°).
Administrative regions. Dnipropetrovsk region: Novomoskovsk raion, Pavlohrad raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. C – 3.8%; D – 1.5%; E – 17.4%; F – 0.1%; G – 76.7%; H – 0.5%.
Habitats. Level 2. C1 Surface standing waters – 1.4%; C2 Surface running waters – 1.9%; C3 Littoral zone of inland surface waterbodies – 0.5%; D5 Sedge and reedbeds, normally without free-standing water – 1.2%; D6 Inland saline and brackish marshes and reedbeds – 0.1%; E1 Dry grasslands – 0.2%; E2 Low and medium altitude hay meadows – 15.1%; E3 Seasonally wet and wet grasslands – 1.0%; E6 Inland salt steppes – 1.3%; F9 Riverine and fen scrubs – 0.1%; G1 Broadleaved deciduous woodland – 41.4% G3 Coniferous woodland – 31.7%; G4 Mixed deciduous and coniferous woodland – 3.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; D6.1 Inland saltmarshes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; E6.2 Continental inland salt steppes; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.3 Mediterranean riparian woodland; G1.B Non-riverine *Alnus* woodland; G3.F Highly artificial coniferous plantations; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G4.C Mixed *Pinus sylvestris* – thermophilous *Quercus* woodland; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: forestry – 80%; mowing/hay making – 10%; tourism/recreation – minor.
Protected areas: includes state ornithological reserve "Bulakhivskyi lyman" (100 ha), regional ornithological reserve "Vasylivska kolonia sirykh chapel" (144 ha), botanical nature monument "Dilianka nasadzhen sosny zvychainoi" (43 ha), regional botanical nature monument "Vysokoproduktyvni nasadzhennia sosny zvychainoi" (5 ha), regional botanical nature monument "Dilianka vikovych dubiv Vasylivskoi dachi" (3.4 ha), regional botanical nature monument "Shtuchni dubovi nasadzhennia" (4.3 ha), regional botanical nature monument "Shtuchni dubovi nasadzhennia" (2.2 ha), regional botanical nature monument "Storichni dubovi nasadzhennia pryrodnoho pokhodzhennia" (7.0 ha), regional botanical nature monument "Storichni dubovi nasadzhennia pryrodnoho pokhodzhennia" (1.9 ha), regional botanical nature monument "Stolitni dubovi nasadzhennia" (1.8 ha), overlaps (13136 ha) with Emerald Site "Samarskyi Lis".
Threats: agricultural intensification/expansion (arable) – low; development (recreation/tourism) – low; forestry (intensified forest management) – medium.
General description. The valley of the Samara river with broadleaved forests and meadows in the floodplain and pine forests on the sand terrace. The tree layer of the broadleaved forests is dominated by *Quercus robur* (major), *Fraxinus excelsior*, *Tilia cordata*, *Ulmus laevis*, *Ulmus minor*. In other layers, there prevail *Acer tataricum*, *Aegopodium podagraria*, *Aristolochia clematitis*, *Calamagrostis epigeios*, *Convallaria majalis*, *Frangula alnus*, *Glechoma hederacea*, *Rubus caesius*, *Stellaria holostea*, *Urtica dioica*. Species of significant constancy are also *Anthriscus sylvestris*, *Asarum europaeum*, *Geum urbanum*, *Polygonatum multiflorum*, *Pulmonaria obscura*, *Viola hirta*, *Viola mirabilis*. Interesting are saline broadleaved woods with presence of *Carex melanostachya*, *Limonium gmelinii*, *Peucedanum latifolium*, *Silaum silaus*. Oak forest is also on the slope of the right bank of the Samara river. Another important forest types are *Alnus glutinosa* swamp and *Populus nigra* wood, often co-dominated by *Populus alba*, *Salix alba* or *Salix fragilis*. The tree layer of pine forests consists of *Pinus sylvestris* with participation of *Betula pendula*, *Quercus robur* and *Populus tremula*. The pine forest occupies soils of different moister: dry (with *Festuca beckeri*, *Koeleria sabuletorum*, *Sempervivum ruthenicum*, *Thymus pallasianus*, *Cladonia foliacea*, *Cladonia furcata*, *Cladonia rangiferina*), mesic (with *Anthericum ramosum*, *Calamagrostis epigeios* (main dominant), *Dianthus campestris*, *Hypericum perforatum*, *Melampyrum pratense*, *Peucedanum oreoselinum*, *Solidago virgaurea*, *Pleurozium schreberi*, *Dicranum polysetum*),

moist (with *Molinia caerulea*), wet (with *Calamagrostis canescens*). In depressions on the sand terrace, among pine forest, there are *Betula pubescens* woods with the *Sphagnum* layer and wet *Populus tremula* woods. On dry sand, there are grasslands dominated by *Festuca beckeri*, *Stipa borysthenica* with presence of *Artemisia marschalliana*, *Euphorbia seguieriana*, *Koeleria sabuletorum*. Floodplain meadows are dominated by *Bromopsis inermis*, *Calamagrostis epigeios*, *Elytrigia repens*, *Festuca pratensis* with presence of *Achillea millefolium*, *Carex praecox*, *Centaurea scabiosa*, *Convolvulus arvensis*, *Euphorbia seguieriana*, *Euphorbia virgata*, *Galium verum*, *Gypsophila paniculata*, *Lathyrus tuberosus*, *Lotus ucrainicus*, *Poa angustifolia*, *Poa pratensis*, *Securigera varia*, *Vicia cracca*. In wetter habitats, *Agrostis stolonifera* and *Beckmannia eruciformis* dominate, there are *Althaea officinalis*, *Carduus crispus*, *Euphorbia palustris*, *Geranium collinum*, *Inula germanica*, *Lysimachia nummularia*, *Lotus ucrainicus*, *Lythrum virgatum*, *Melica altissima*, *Plantago cornuti*, *Trifolium pratense*. In moderately saline habitats, there dominate *Bolboschoenus maritimus*, *Festuca regeliana*, *Juncus gerardii*, *Puccinellia distans*, *Triglochin maritima*. More saline habitats are occupied by communities of *Salicornia prostrata*, *Suaeda prostrata*, *Kochia prostrata*. Eutrophic mires are dominated by *Carex acuta*, *Carex acutiformis*, *Carex riparia*, *Phragmites australis*; littoral vegetation – *Phragmites australis*, *Bolboschoenus maritimus*, *Typha angustifolia*, *Glyceria maxima*; aquatic vegetation – *Potamogeton perfoliatus*, *Potamogeton pectinatus* (*Stuckenia pectinata*), *Myriophyllum verticillatum*.

Botanical significance. This area includes one of the largest and the southernmost natural steppe *Pinus sylvestris* wood in Ukraine. It includes also one of the largest floodplain oak woods. Important for poplar woods and inland halophytic vegetation.

Criterion C

- E6.2 Continental inland salt steppes; area: 200 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.22 Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers; area: 4500 ha; trend: decreasing; area data quality: medium; trend data quality: medium
- G1.3 Mediterranean riparian woodland; area: 300 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- G1.414 Steppe swamp *Alnus glutinosa* woods; area: 300 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G3.4232 Sarmatic steppe *Pinus sylvestris* forests; area: 3000 ha; trend: decreasing; area data quality: medium; trend data quality: medium.

Conservation proposals. Create an Emerald Site a national protected area including the entire IPA.

Literature

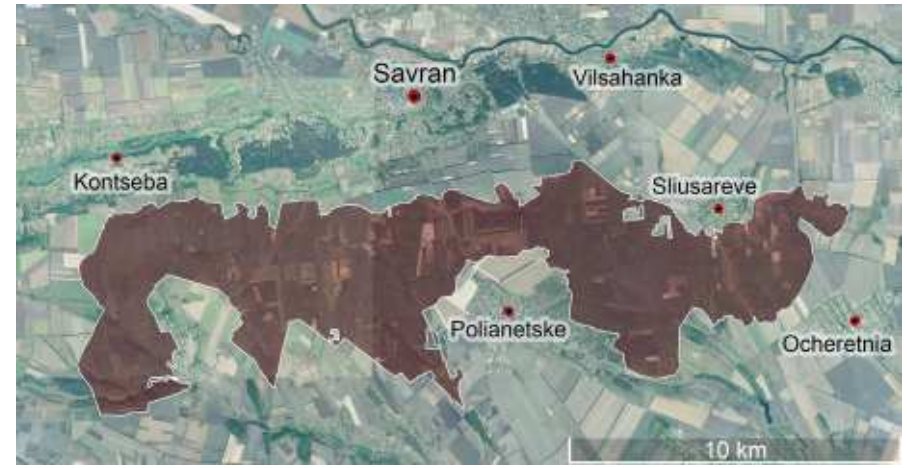
1. Бельгард А.Л. Лесная растительность юго-востока УССР, Киев: Изд-во КГУ, 1950. – 264 с.

2. Екомережа степової зони України: принципи створення, структура, елементи / під ред. Д.В. Дубини і Я.І. Мовчана. – К., 2013. – С. 409 с.

Savranskyi Lis

V.A. Onyshchenko

Ukrainian name: Савранський ліс.
Transliteration/Translation variants: Savran' Forest.
Area: 8475 ha.
Altitude: 125–205 m.
Latitude: 48°05'10" N (48.0862°).
Longitude: 30°05'36" E (30.0934°).
Administrative regions. Odesa region: Savran raion.
Ownership: state, private (minor).
Biogeographic regions: continental.



Habitats. Level 1. G – 97.3%; H – 1.1%; I – 1.6%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 97.3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.1%; I1 Arable land and market gardens – 1.6%.
Futher habitat description. G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – major.
Protected areas: includes Savranskyi Lis state landscape reserve (8397 ha), same as Emerald Site "Savranskyi Lis".
Threats: forestry (intensified forest management) – medium.
General description. Vegetation consists of oak-hornbeam forests and termophilous oak forests. The tree layer is dominated by *Quercus robur, Carpinus betulus*, *Quercus petraea*. Frequent species are *Acer campestre*, *Acer platanoides*, *Acer tataricum*, *Anemone ranunculoides*, *Asparagus tenuifolius*, *Cerasus avium*, *Corydalis solida*, *Euonymus europaeus*, *Euonymus verrucosus*, *Polygonatum hirtum*, *Pyrus communis*, *Scutellaria altissima*, *Swida sanguinea* (*Cornus sanguinea*), *Tilia cordata*, *Ulmus glabra*, *Ulmus minor*.

Botanical significance. The largest termophilous deciduous forest in flatland part of Ukraine.
Criterion C
G1.7 Thermophilous deciduous woodland (*91I0); area: 5000 ha; trend: stable; area data quality: medium; trend data quality: medium.
Conservation proposals. Create an Emerald including the entire IPA.

Serbyno

V.A. Onyshchenko

Ukrainian name: Сербино.
Area: 1577 ha.
Altitude: 150–243 m.
Latitude: 47°53'23" N (47.8897°).
Longitude: 29°26'34" E (29.4429°).
Administrative regions. Odesa region: Balta raion.
Ownership: state.
Biogeographic regions: continental.

Habitats. Level 1. G – 99.0%; H – 1.0%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 99.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. G1.7 Thermophilous deciduous woodland; H5.6 Trampled areas.
Land use: forestry – major.
Protected areas: included in Emerald Site "Serbyno".

Threats: forestry (intensified forest management) – low.
General description. Termophilous deciduous forest. Main dominants of the tree layer are *Fraxinus excelsior* and *Quercus robur*. Other frequent species are *Acer campestre*, *Acer platanoides*, *Acer tataricum*, *Aegonychon purpureo-caeruleum*, *Anemone ranunculoides*, *Anthriscus sylvestris*, *Cerasus avium*, *Corydalis solida*, *Crataegus curvisepala* s.l., *Euonymus europaeus*, *Euonymus verrucosus*, *Polygonatum hirtum*, *Pyrus communis*, *Scutellaria altissima*, *Sambucus nigra*, *Swida sanguinea* (*Cornus sanguinea*), *Tilia cordata*, *Torilis japonica*, *Ulmus minor*.
Botanical significance. One of the largest termophilous deciduous forests in flatland part of Ukraine.
Criterion C
G1.7 Thermophilous deciduous woodland (*91I0); area: 1500 ha; trend: stable; area data quality: medium; trend data quality: medium.
Conservation proposals. Create a state botanical reserve including the entire IPA.

Sharivka

V.A. Onyshchenko, M.V. Banik

Ukrainian name: Шарівка.
Area: 44.4 ha.
Altitude: 84–130 m.
Latitude: 49°49’58” N (49.8327°).
Longitude: 38°53’44” E (38.8955°).
Administrative regions. Luhansk region: Bilokurakyne raion.
Ownership: state.

Biogeographic regions: steppic.
Habitats. Level 1. E – 73.0%; F – 2.0%; G – 5.0%; H – 20.0%.
Habitats. Level 2. E1 Dry grasslands – 73.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 5.0%; H2 Screes – 20.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major.
Protected areas: –.
Threats: extraction (minerals/quarries) – low; forestry (afforestation) – medium.
General description. A hill with chalk outcrops and steppe vegetation.
Botanical significance. Important area for *Hedysarum ucrainicum*.
Criterion A

- *Hedysarum ucrainicum* Kaschm.; A(iv); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

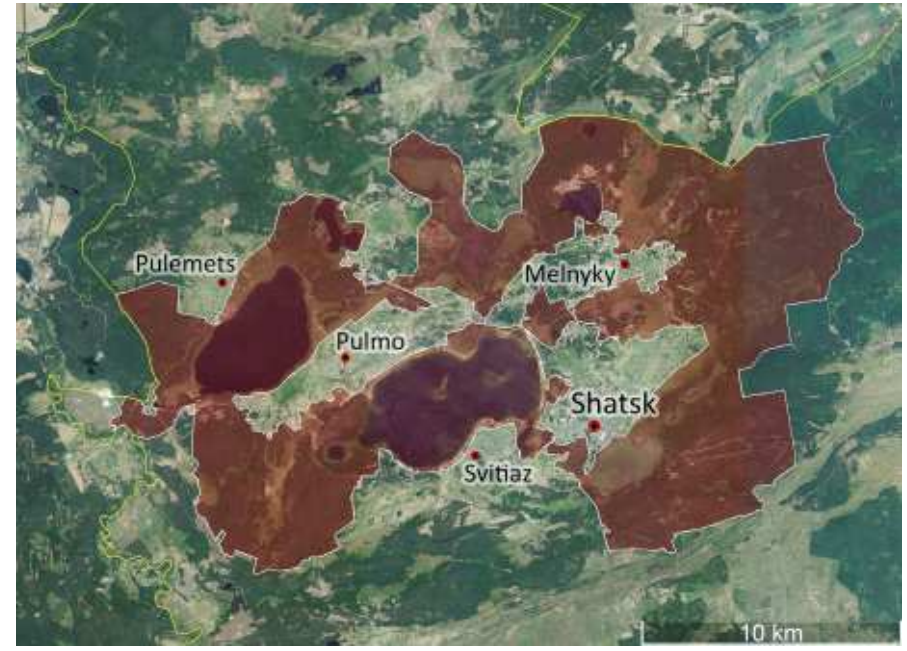
Conservation proposals. Create a state botanical reserve.
Literature

1. Banik M. Daphne'04. Final report. – Kharkiv, 2006. – 20 p. (http://www.rufford.org/files/127.01.04%20Detailed%Final%20Report.pdf).

Shatski Ozera

V.A. Onyshchenko

Ukrainian name: Шацькі озера.
Transliteration/Translation variants: Shatsk Lakes.
Area: 25003 ha.
Altitude: 162–176 m.
Latitude: 51°31'06" N (51.5184°).
Longitude: 23°52'20" E (23.8723°).
Administrative regions. Volynska region: Shatsk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 27%; D – 6%; E – 1%; F – 1%; G – 65%.
Habitats. Level 2. C1 Surface standing waters – 25.5%; C3 littoral zone of inland surface waterbodies – 1.5%; D2 Valley mires, poor fens and transition mires – 1.8%; D5 Sedge and reedbeds, normally without free-standing water – 4.3%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 17%; G3 Coniferous woodland – 42%; G4 Mixed deciduous and coniferous woodland – 6%.
Futher habitat description. C1.1 Permanent oligotrophic lakes, ponds and pools; C1.2 Permanent mesotrophic lakes, ponds and pools; C1.3 Permanent eutrophic lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D2.2 Poor fens and soft-water spring mires; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E3.4 Moist or wet eutrophic and mesotrophic grassland; E3.5 Moist or wet oligotrophic grassland; F9.2 *Salix* carr and fen scrub; G1.4 Broadleaved swamp woodland not on acid peat; G1.5 Broadleaved swamp woodland on acid peat; G1.7 Thermophilous deciduous woodland; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland.
Land use: agriculture (animals) – minor, forestry – 30%; mowing / hay making – minor, nature conservation and research – major, tourism/recreation – minor.



Protected areas: overlaps (24581 ha) with Shatskyi national nature park, included in West Polesie biosphere reserve, overlaps (24581 ha) with Emerald Site "Shatskyi".
Threats: agricultural intensification/expansion (general) – low; development (recreation/tourism) – low, eutrophication – medium.
General description. A complex of 17 lakes with adjacent forests and mires. The largest lakes are Svitiaz (2750 ha, maximum depth 58 m), Pulemetske (1635 ha, 4.4 m), Luky (675 ha, 3.2 m), Liutsymer (430 ha, 11 m), Ostrivyanske (250 ha, 3.8 m), Peremut (146 ha, 6.7 ha), Krymne (144 ha, 6 m), Pisochne (138 ha, 16 m). They are different in trophic indices (oligo-mesotrophic to eutrophic). Aquatic vegetation is dominated mainly by *Ceratophyllum demersum*, *Potamogeton crispus*, *Potanogeton lucens*, *Potamogeton pectinatus* (*Stuckenia pectinata*), *Elodea canadensis*, *Stratiotes aloides*, *Nymphaea alba*, *Nymphaea candida*, *Nuphar lutea*. There are charophyte communities (*Chara aspera*, *Ch. fragilis*, *Ch. delicatula*, *Ch. contraria*, *Lychnothamnus barbatus*, *Nitella symcarpa*). Littoral vegetation is dominated by *Schoenoplectus lacustris* (*Scirpus lacustris*), *Phragmites australis*, *Glyceria maxima*. Mires

belong predominantly to eutrophic and mesotrophic ones. Eutrophic mires are dominated by *Carex elata*, *C. appropinquata*, *Phragmites australis*, with presence of *Potentilla palustris*, *Menyanthes trifoliata*, *Carex rostrata*, *Carex flava*, *Equisetum fluviatile*, *Lysimachia thyrsiflora*. Mesotrophic mires are dominated by *Carex lasiocarpa*, *Phragmites australis*, *Sphagnum fallax*. *Menyanthes trifoliata* and *Vaccinium oxycoccos* (*Oxycoccus palustris*) are typical co-dominants. Often there is an open layer of *Pinus sylvestris* and *Betula bubescens*. Swamp *Alnus glutinosa* forests occupy a large area. Their herb layer is dominated by *Carex riparia*, *C. acutiformis*, *Iris pseudacorus*. Typical species are *Thelypteris palustris*, *Peucedanum palustre*, *Carex vesicaria*, *C. pseudocyperus*, *Stachys palustris*. In more acidic habitats, there is a layer of peat mosses (*Sphagnum centrale*, *S. squarrosum*, *S. obtusum*). Wet *Alnus glutinosa* forests often are co-dominated by *Betula pendula*, *Populus tremula*, *Quercus robur*, *Fraxinus excelsior*. Main species of the shrub layer are *Frangula alnus* and *Corylus avellana*. Typical species of the herb layer are *Athyrium filix-femina*, *Urtica dioica*, *Festuca gigantea*, *Ficaria verna*, *Aegopodium podagraria*, *Asarum europaeum*. Pine forests occupy the largest area. The most typical dominants of lower layers in mesic and wet *Pinus sylvestris* forests are *Pleurozium schreberi*, *Vaccinium myrtillus*, *Molinia caerulea*. Constant species are *Betula pendula*, *Calluna vulgaris*, *Dicranum polysetum*, *Frangula alnus*, *Quercus robur*, *Sorbus aucuparia*, *Vaccinium vitis-idaea*. In dry habitats, typical species are *Thymus serpyllum*, *Festuca ovina*, *Jasione montana*, *Pilosella officinarum* (*Hieracium pilosella*). There occur acidophilous *Quercus robur* forests, acidophilous mixed oak-pine forests, and *Betula pendula* forests.

Botanical significance. Important area for conservation of diverse freshwater communities, *Aldrovanda vesiculosa*, *Dianthus pseudoserotinus*.

Criterion A

- *Aldrovanda vesiculosa* L.; A(i), A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Dianthus pseudoserotinus* Błocki; A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- C1.1 Permanent oligotrophic lakes, ponds and pools; area: 1000 ha; trend: decreasing (eutrophication); area data quality: poor; trend data quality: good.
- C1.226 Floating *Aldrovanda vesiculosa* communities; area: <0.1 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C1.25 Charophyte submerged carpets in mesotrophic waterbodies; area: 10 ha; trend: decreasing (eutrophication); area data quality: poor; trend data quality: medium.
- G3.1F Enclave *Picea abies* forests; area: 2 ha; trend: stable; area data quality: medium; trend data quality: poor.

Conservation proposals. Reduce the intensity of recreation, the area of arable lands and the use of fertilizers in adjacent areas.

Literature

1. Андрієнко Т.Л., Кузьмичов А.І., Прядко О.І. Болота в районі Шацьких озер // Укр. ботан. журн. – 1971. – 26, № 6. – С. 727–733.
2. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 215 с.
3. Борисова Е.В., Царенко П.М., Якушенко Д.Н. Современное состояние *Charales* озера Свитязь (Шацкий национальный природный парк, Волынское Полесье, Украина) // Альгология. – 2008. – 18, № 4. – С. 449–456
4. Борисова О.В., Гончаренко В.І. До вивчення *Charales* озер Шацького національного природного парку (Волинське Полісся) // Вісн. Львів. ун-ту. Сер.біол. – 2007, № 44. – С. 46–51.
5. Борисова О.В., Якушенко Д.М. Угруповання харових водоростей південно-західного сектора озера Світязь (Волинське Полісся) // Укр. ботан. журн. – 2008. – 65, № 2. – С. 226–233.
6. Вірченко В.М. Бріофлора Шацького національного природного парку // Укр. ботан. журн. – 1999. – 56, № 1. – С. 67–73.
7. Водно-болотні угіддя України / Під ред. Г.Б. Марушевського, І.С. Жарук. – К.: Wetlands International Black Sea Programme, 2006. – 312 с.
8. Дідух Я.П., Фіцайло Т.В., Пашкевич Н.А., Мала Ю.І. Екологічні карти трилатерального біосферного резервату "Західне Полісся" (Шацький НПП) та їх аналіз // Укр. ботан. журн. – 2013. – Т. 70, № 4. – С. 450–456.
9. Дідух Я.П., Якушенко Д.М., Фіцайло Т.В. Класифікація рослинності та біотопів Української частини транскордонного біосферного резервату "Західне Полісся" // Створення транскордонного біосферного резервату та регіональної екологічної мережі в Поліссі. – К., 2008. – С. 41–56.
10. Карпова Г.О., Зуб Л.М. До поширення *Aldrovanda vesiculosa* L. на озерах Шацької групи // Ю.Д. Клеопов та сучасна ботанічна наука. Мат-ли читань, присвячених 100-річчю з дня народження Ю.Д. Клеопова. – К., 2002. – С. 375–378.
11. Прядко О.І., Онищенко В.А. НПП Шацький // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 548–557.
12. Цурик Є.І., Жижин М.П., Ященко П.Т. Поширення та охорона *Picea abies* (L.) Karsten у районі Шацьких озер // Укр. ботан. журн. – 1973. – 36, № 4. – С. 313–315.
13. Шацький національний природний парк. Наукові дослідження 1983–93 рр. – Світязь, 1994. – 248 с.
14. Шацький національний природний парк. Наукові дослідження 1994–2004 рр. – Луцьк, 2004. – 224 с.
15. Якушенко Д.М., Фіцайло Т.В., Коротченко І.А. Псамофітні екосистеми української частини біосферного резервату "Західне Полісся" // Стан і біорізноманіття екосистем Шацького національного природного парку: Мат-ли наук. конф. – Львів: СПОЛОМ, 2005. – С. 82–86.
16. Ященко П.Т. Флористична оцінка території Шацького природного національного парку // Укр. ботан. журн. – 1985. – 42, № 1. – С. 22–23.
17. Ященко П.Т. Судинні рослини Шацького національного природного парку // Шацький національний природний парк. Наукові дослідження 1983–1993 рр. – Світязь. – С. 132–163 с.
18. Ященко П.Т., Андрієнко Т.Л., Шеляг-Сосонко Ю.Р., Стойко С.М. Рослинний покрив Шацького природного парку // Укр. ботан. журн. – 1983. – 50, № 4. – С. 68–72.

Shebutynskyi Yar

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Шебутинський яр.
Transliteration/Translation variants: Shebutynskyi Ravine.
Area: 896 ha.
Altitude: 115–275 m.
Latitude: 48°33’03” N (48.5508°).
Longitude: 27°10’49” E (27.1803°).
Administrative regions. Chernivtsi region: Sokyriany raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 1%; G – 98%; H – 1%
Habitats. Level 2. E1 Dry grasslands – 0.5%; E2 Mesic grasslands – 0.5%; G1 – Broadleaved deciduous woodland – 98.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.
Land use: forestry – major, nature conservation and research – major.
Protected areas: overlaps (about 790 ha) with regional landscape reserve “Shebutynskyi Yar”, included in national nature park “Khotynskyi”, overlaps (299 ha) with Emerald Site “Khotynskyi National Nature Park”.
Threats: development (recreation/tourism) – low.
General description. Broadleaved forests dominated by *Quercus robur* with *Carpinus betulus*, *Acer pseudoplatanus*, *Acer platanoides*, *Tilia cordata*, *Fraxinus excelsior*, *Cerasus avium*, *Sorbus torminalis*. The shrub layer is composed of *Acer tataricum*, *Acer campestre*, *Corylus avellana*, *Euonymus verrucosus*, *Euonymus europaeus*, *Sambucus nigra*, *Staphylea pinnata*, *Swida sanguinea* (*Cornus sanguinea*), *Viburnum lantana*. Typical species of the herb layer are *Carex pilosa*, *Stellaria holostea*, *Asarum europaeum*, *Aegopodium podagraria*, *Lathyrus vernus*, *Hedera helix*, *Hepatica nobilis*.
Botanical significance. Important area for *Fritillaria montana* and *Aconitum besserianum*.
Criterion A

- *Aconitum besserianum* Andrz. ex Trautv; A (iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.
- *Fritillaria montana* Hoppe; A (ii); abundance: rare (1000 individuals); trend: stable; species data quality: good; trend data quality: poor.

Literature

1. Волуца О.Д. *Fritillaria montana* Норре у флорі Чернівецької області // Науковий вісник Чернівецького університету: Збірник наукових праць. – Вип. 293: Біологія. – Чернівці: Рута, 2006. – С. 31–34.
2. Каземірська М.А. Стан популяції *Fritillaria montana* Норре (*Liliaceae*) на території ландшафтного заказника місцевого значення “Шебутинський яр” // Наукові основи збереження біотичної різноманітності: Матеріали десятої наукової конференції молодих учених (Львів, 7-8 жовтня 2010 року). – Львів, 2010. – С. 50–52.
3. Каземірська М.А., Чорней І.І. *Fritillaria montana* Норре (*Liliaceae*): географічна характеристика, поширення в Україні // Науковий вісник Чернівецького університету. Біологія (Біологічні системи). – 2010. – Т. 2, Вип. 3. – С. 63–68.
4. Каземірська М.А., Чорней І.І. *Fritillaria montana* Норре на території ландшафтного заказника місцевого значення “Шебутинський яр” // Молодь і поступ біології: збірник тез VI Міжнародної наукової конференції студентів і аспірантів (21-24 вересня 2010 року, м. Львів). – Львів, 2010. – С. 56–57.
5. Каземірська М.А., Чорней І.І. Вікова та просторова структури популяцій *Fritillaria montana* Норре у Прут-Дністровському межиріччі // Біологічні системи. – 2010. – Т. 2., Вип. 2. – С. 62–66.
6. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.
7. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – С. 85–87.

Sinozhati

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Сіножаті.
Area: 63.5 ha.
Altitude: 285–325 m.
Latitude: 48°36’05” N (48.6015°).

Longitude: 25°13’11” E (25.2198°).
Administrative regions. Ivano-Frankivsk region: Horodenka raion, Kolomyia raion.
Ownership: private, state.
Biogeographic regions: continental.
Habitats. Level 1: E – 92.0%, F – 8.0%.
Habitats. Level 2: E1 Dry grasslands – 75.0%; E2 Mesic grasslands – 17.0%, F3 Temperate

and mediterranean-montane scrub – 8.0%.
Futher habitat description: E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub.
Land use: agriculture (animals) – minor.
Protected areas: –.
Threats: agricultural intensification/expansion (arable) – low.
General description. Species-rich grassland with dominance of *Brachypodium pinnatum*, *Calamagrostis arundinacea*, *Cirsium pannonicum*, *Festuca rupicola*, *F. valesiaca*, *Koeleria cristata*, *Molinia caerulea* agg. Other frequent species: *Adenophora lilifolia*, *Colchicum autumnale*, *Clematis recta*, *Galium boreale*, *Geranium sanguineum*, *Gymnadenia conopsea*, *Helictotrichon praeustum*, *Hypericum maculatum*, *Hypochaeris maculata* (*Achyrophorus maculatus*), *Inula hirta*, *Inula salicina*, *Knautia arvensis*, *Lathyrus pannonicus*, *Lilium martagon*, *Orchis ustulata*, *Peucedanum cervaria*, *Potentilla alba*, *Prunella grandiflora*, *Pulsatilla grandis*, *P. patens*, *Salvia pratensis*, *Sanguisorba officinalis*, *Scorzonera humilis*, *S. purpurea*, *Traunsteinera globosa*, *Trifolium alpestre*, *T. montanum*, *T. pannonicum.*

Botanical significance. One of the best areas for *Pulsatilla grandis*. There are other criterion A species: *Adenophora liliifolia*, *Pulsatilla patens*.
Criterion A

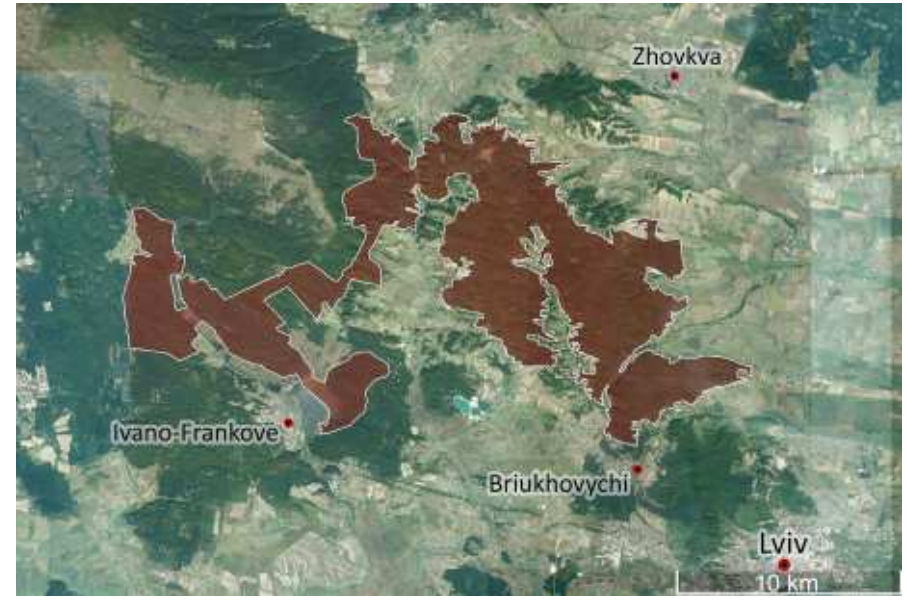
- *Adenophora liliifolia*; A(ii); abundance: rare; trend: unknown; species data quality: good; trend data quality: poor.
- *Pulsatilla grandis* Wend.; A(ii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.
- *Pulsatilla patens* (L.) Mill.; A(ii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Conservation proposals. Do not allow land plowing. Create a state botanical reserve and an Emerald Site.

Skhidne Roztochia

V.A. Onyshchenko

Ukrainian name: Східне Розточчя.
Transliteration/Translation variants: Eastern Roztochchia.
Area: 13680 ha.
Altitude: 288–397 m.
Latitude: 49°58’22” N (49.9728°).
Longitude: 23°50’53” E (23.8479°).
Administrative regions. Lviv region: Zhovkva raion, Yavoriv raion.



Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.2%; D – 0.4%; E – 0.3%; G – 98.6%; H – 0.5%.
Habitats. Level 2. C1 Surface standing waters – 0.2%; D2 Valley mires, poor fens and transition mires – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.3%; E2 Mesic grasslands – 0.3%; G1 Broadleaved deciduous woodland – 77.7%; G3 Coniferous woodland – 2.8%; G4 Mixed deciduous and coniferous woodland – 18.1%.
Futher habitat description. D2.3 Transition mires and quaking bogs; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E3.5 Moist or wet oligotrophic grassland; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat, G1.6 *Fagus* woodland; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.4 Mixed *Pinus sylvestris – Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – major.
Protected areas: includes Roztochia nature reserve (2085 ha), overlaps (about 2920 ha) with Yavorivskyi national nature park; includes Zavadivskyi regional landscape reserve (3561 ha), includes Hriada forest reserve (1149 ha), overlaps (about 5790 ha) with Roztochya biosphere reserve; includes Emerald Site "Roztochia Nature Reserve" (2085 ha), overlaps (about 2920 ha) with Emerald Site "Yavorivskyi National Nature Park", overlaps (about 7820 ha) with Emerald Site "Zavadivskyi", overlaps (about 855 ha) with Emerald Site "Roztochia".
Threats: forestry (intensified forest management) – low; development (recreation/tourism) – low.
General description. Major vegetation type is the *Fagus sylvatica* forest. Dominants of the herb layer are *Anemone nemorosa*, *Asarum europaeum*, *Carex pilosa*, *Convallaria majalis*, *Lamium galeobdolon*, *Maianthemum bifolium*. Other species of high constancy are *Acer platanoides*, *Acer pseudoplatanus*, *Athyrium filix femina*, *Carex digitata*, *Dryopteris carthusiana*, *Dryopteris filix-mas*, *Melica nutans*, *Galium odoratum*, *Polytrichum formosum*, *Quercus robur*, *Rubus hirtus*. Significant areas are covered by the *Carpinus betulus – Quercus robur* forests, *Quercus robur – Pinus sylvestris* forests, *Pinus sylvestris* forests. Dominants of acidophilous *Quercus robur – Pinus sylvestris* forests are *Convallaria majalis*, *Maianthemum bifolium*, *Vaccinium myrtillus*. Dominants of the *Pinus sylvestris* forests are *Vaccinium myrtillus*, *Pleurozium schreberi*. Other constant species are *Dicranum polysetum*, *Luzula pilosa*, *Melampyrum pratense*, *Trientalis europaea* (*Lysimachia europaea*), *Vaccinium vitis-idaea*.
Botanical significance. Important area for flatland beech forests.
Criterion C

- G1.6 *Fagus* woodland (excluding G1.66); area: 8300 ha; trend: increasing; area data quality: medium; trend data quality: good.

Literature

1. Данилків І.С., Сорока М.І. Мохоподібні державного заповідника "Розточчя". Препр. – Львів, 1989. – 78 с.
2. Жижин М.П., Кагало О.О., Чабан Х.І. Рослинність урочища Заливки заповідника Розточчя // Укр. ботан. журн. – 1988. – 45, № 1. – С. 68–72.

3. Кагало О.О. ПЗ Розточчя // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 325–335.
4. Кагало О.О. НПП Яворівський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 558–565.
5. Сорока М.І. Судинні рослини державного заповідника Розточчя. – Львів, 1990. – С. 81–85.
6. Сорока М.І. Синтаксономія рослинності Українського Розточчя // Науковий вісник УкрДЛТУ. – Львів, 1998, вип. 7. – С. 37–41.
7. Сорока М.І. Рослинність Українського Розточчя. – Львів: Вид-во "Світ", 2008. – 432 с.
8. Ткачик В. Рослинність заповідника "Розточчя": ідентифікація сучасного розмаїття фітоценозів. – Львів: НТШ, 1997. – 120 с.
9. Ткачик В.П. Рослинність заповідника "Розточчя": класифікація методом Браун-Бланке. – Львів: НТШ, 1999. – 198 с.

Skhidnyi Churiuk

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Східний Чурюк.
Transliteration/Translation variants: Eastern Churyuk.
Area: 2210.0 ha.
Altitude: 0–13 m.
Latitude: 46°07'00" N (46.1166°).
Longitude: 34°15'36" E (34.2600°).
Administrative regions. Kherson region: Novotroitske raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. A – 58.8%; E – 41.2%.
Habitats. Level 2. A2 Littoral sediment – 3.0%; A5 Sublittoral sediment – 55.8%; E1 Dry grasslands – 37.2%; E6 Salt steppes – 4.0%.
Futher habitat description. A2.3 Littoral mud; A2.5 Coastal saltmarshes and saline reedbeds; A5.3 Subittoral mud; E1.2 Perennial calcareous grassland and basic steppes; E6.2 Continental inland salt steppes.
Land use: nature conservation and research – 100%.
Protected areas: included in Azovo-Syvaskyi national nature park (zone of strict protection), included in Ramsar Site "Central Syvash", included in Emerald Site "Azovo-Syvaskyi National Nature Park".
Threats: abandonment/reduction of land management – low, natural events: erosion – medium.
General description. A loess island in the Syvash Bay with adjacent waters. Major vegetation type on the Churiuk island is the steppe. Dominant species are *Stipa lessingiana*, *S. capillata*, *S. ucrainica*, *Agropyron pectinatum*, *Festuca valesiaca*. Other frequent species are *Achillea setacea*, *Crinitaria villosa*, *Dianthus elongatus*, *Elisanthe viscosa*, *Hesperis tristis*, *Linaria macroura*, *Malabaila graveolens*, *Phlomis pungens*, *Tanacetum millefolium*, *Valeriana tuberosa*, *Vicia angustifolia*, *Vicia cracca*. In depressions, there dominate *Elytrigia repens*,

Elytrigia intermedia, *Leymus ramosus*, *Festuca valesiaca*, *Poa angustifolia*. In the salt steppe, dominant species are *Artemisia santonica*, *Festuca valesiaca*, *Caroxylon laricinum*, *Kochia prostrata, Ephedra distachya*. In mesic and wet halophytic communities, there prevail *Puccinellia fominii*, *Limonium meyeri*, *Artemisia santonica*. Peripheral part of the island is occupied by solonchaks dominated by *Halocnemum strobilaceum*, *Lepidium crassifolium*, *Limonium suffruticosum*, *Petrosimona brachiata*, *Puccinellia fominii*, *Salicornia perennans*.

Botanical significance. One of the best sites for endemic species *Lepidium syvaschicum* (locus classicus, globally ~10 localities), *Allium scythicum* (globally ~10 localities). One of the best examples of the southern Ukrainian steppes.

Criterion A

- *Allium scythicum* Zoz.; A(iii); abundance: rare; trend: fluctuating; species data quality: medium; trend data quality: poor.
- *Lepidium syvaschicum* Kleopow; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 800 ha; trend: slow decreasing; area data quality: good; trend data quality: good.

Literature

1. Бойко М.Ф. Раритетне фіторізноманіття Херсонщини (Україна) та його охорона // Чорноморський ботанічний журнал. – 2005. – 1, №1. – С. 53–59.

2. Коломійчук В.П. Рідкісні види судинних рослин Азово-Сиваського національного природного парку // Вісті біосферного заповідника “Асканія-Нова”. – 2002. – №4. – С. 37–44.

3. Коломійчук В.П. Азово-Сиваський національний природний парк // Фіторізноманіття національних природних парків України / під ред. Т.Л. Андрієнко та В.А. Онищенка. – К.: Науковий світ, 2003. – С. 19–28.

4. Коломійчук В.П. Рідкісні рослинні угруповання островів Сиваша // Укр. ботан. журн. – 2003. – 60, № 5 – С. 540–545.

5. Коломійчук В.П. Азово-Сиваський національний природний парк // Фіторізноманіття національних природних парків України / під ред. Т.Л. Андрієнко та В.А. Онищенка. – К.: Науковий світ, 2003. – С. 19–28.

6. Коломійчук В. П., Онищенко В. А., Перегрим М. М. Важливі ботанічні території Приазов’я / за ред. Т.Л. Андрієнко. – К. : Альтерпрес, 2012. – 114 с.

Skhyly Kohylnyka

V.A. Onyshchenko, O.M. Popova

Ukrainian name: Схили Когильника.
Transliteration/Translation variants: Kohyl’nyk Slopes.
Area: 2683 ha.
Altitude: 40–180 m.
Latitude: 46°14’24” N (46.2400°).

Longitude: 29°04’26” E (29.0739°).
Administrative regions. Odesa region: Tarutyne raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 84%; G – 16%.
Habitats. Level 2. E1 Dry grasslands – 84%; G1 Broadleaved deciduous woodland – 16%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; G1.7 Thermophilous deciduous woodland (minor); G1.C Highly artificial broadleaved deciduous forest plantations.
Land use: agriculture (animals) – major, forestry – major.
Protected areas: included in Emerald Site “Besarabskyi Kolkhikum”.
Threats: forestry (afforestation) – high.
General description.
The area is situated on the slope of the Kohylnyk river’s valley. Major habitat type is the steppe. A significant part of the area is occupied by forest plantations of *Gleditschia triacanthos* and *Robinia pseudoacacia*. Fragments of natural termophilous *Fraxinus excelsior* woods occur.
Botanical significance. The area is noted for conservation of *Colchicum fominii*.
Criterion A
- *Colchicum fominii* Bordz; A(ii), A(iv); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create an Emerald Site.

Skhyly Krasnoi i Kobylky

V.A. Onyshchenko

Ukrainian name: Схили Красної і Кобилки.
Transliteration/Translation variants: Krasna and Kobylka Slopes.
Area: 663.9 ha.
Altitude: 80–130 m.
Latitude: 49°30’50” N (49.5138°).
Longitude: 38°08’12” E (38.1367°).
Administrative regions. Luhansk region: Svatove raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. E – 83.7%; F – 2.0%; G – 6.2%; H – 5.1%; I – 3.0%.
Habitats. Level 2. E1 Dry grasslands – 78.7%; E2 Mesic grasslands – 5.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 6.2%; H2 Screes – 5.1%; I1 Arable land and market gardens – 3.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.2 Low and medium altitude hay meadows; E2.5 Meadows of the steppe zone; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; I1.5 Bare tilled, fallow or recently abandoned arable land.

Land use: agriculture (animals) – major; forestry – minor; nature conservation and research – major.
Protected areas: overlaps (about 350 ha) with Honcharivskyi regional botanical reserve

Threats: agricultural intensification/expansion (arable) – low, extraction (minerals/quarries) – low; forestry (afforestation) – low.
General description. Slopes of the valleys of the Krasna and Kobylka rivers with the steppe vegetation, outcrops of chalk and oak woods. Dominants of the chalk outcrops are *Artemisia hololeuca*, *Artemisia salsoloides*, *Hyssopus cretaceus*, *Silene cretacea*, *Silene supina*, *Thymus cretaceus*. Other typical species are *Asperula tephrocarpa*, *Bupleurum falcatum*, *Cephalaria uralensis*, *Gypsophila oligosperma*, *Pimpinella titanophila*, *Teucrium polium*.
Botanical significance. Important area for conservation of chalk outcrops with endemic species.
Criterion A
- *Linaria cretacea* Fisch. ex Spreng.; A(iv); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.
- *Silene cretacea* Fisch. ex Spreng.; A(ii), A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Conservation proposals. Create an Emerald Site including the entire IPA.

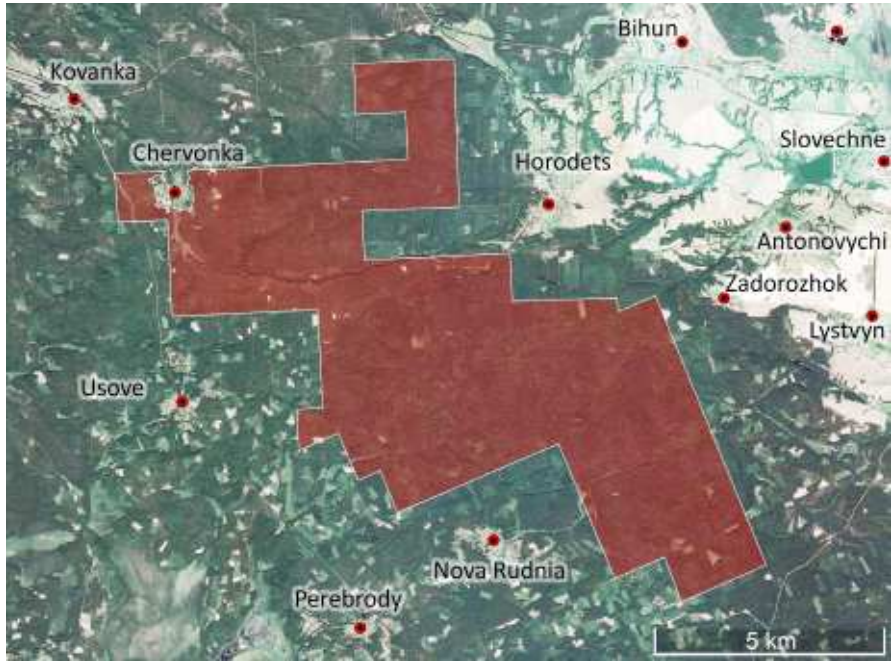
Literature

1. Природно-заповідний фонд Луганської області // О.А. Арапов (заг. ред.), Т.В. Сова, О.А. Савенко, В.Б. Фєренц, Н.У. Кравець, Л.Л. Зятьков, Л.О. Морозова. Довідник. – 3-е вид., доп. і перероб. – Луганськ: "Луганська правда", 2013. – 224 с.

Slovechanskyi Kriazh

V.A. Onyshchenko

Ukrainian name: Словечанський кряж.
Transliteration/Translation variants: Slovechanskyi Ridge, Slovechno Ridge.
Area: 6119.0 ha.
Altitude: 187–191 m.
Latitude: 51°20'18" N (51.3384°).
Longitude: 28°12'25" E (28.2069°).
Administrative regions. Zhytomyr region: Ovruch raion.



Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 0.5%; G – 98.9%; H – 0.5%; J – 0.1%.
Habitats. Level 2. D5 Sedge and reedbeds, normally without free-standing water – 0.5%;

G1 Broadleaved deciduous woodland – 57.3%; G3 Coniferous woodland – 30.9%; G4 Mixed deciduous and coniferous woodland – 10.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%; J4 Transport networks and other constructed hard-surfaced areas – 0.1%.
Futher habitat description. D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; G1.4 Broadleaved swamp woodland not on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – major.
Protected areas: included in Slovechanskyi Kriazh regional forest reserve, included in Emerald Site "Slovechanskyi Kriazh".
Threats: forestry (intensified forest management) – low.
General description. Major vegetation types are acidophilous forests dominated by *Quercus robur*, *Pinus sylvestris*, *Betula pendula*. In the herb layer, there dominate *Calamagrostis arundinacea*, *Maianthemum bifolium*, *Oxalis acetosella*, *Vaccinium myrtillus*. In pine forests, there is a moss layer dominated by *Pleurozium shreberi* and *Dicranum polysetum*. Smaller areas are covered by *Quercus petraea* and *Alnus glutinosa* forests.
Botanical significance. Important for conservation of acidophilous oak forests.
Criterion C

- G1.8 Acidophilous *Quercus*-dominated woodland; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: medium.

Somyno

V.A. Onyshchenko

Ukrainian name: Сомино.
Area: 10852 ha.
Altitude: 146–160 m.
Latitude: 51°25'22" N (51.4228°).
Longitude: 26°55'11" E (26.9197°).
Administrative regions. Rivne region: Sarny raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 1%; D – 60%; F – 1%; G – 38%.
Habitats. Level 2. C1 Surface standing waters – 1%; D2 – Valley mires, poor fens and transition mires – 59%; D5 Sedge and reedbeds, normally without free-standing water – 1%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 10% G3 Coniferous woodland – 18%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.7 Closed non-Mediterranean dry acid and neutral grassland; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; F9.2 *Salix* carr and fen scrub; G1.5 Broadleaved swamp woodland on

acid peat; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland.
Land use: nature conservation and research – 100%.

Protected areas: included in Rivnenskyi nature reserve, included in Emerald Site "Rivnenskyi Nature Reserve".
Threats: –.
General description. Transition mire dominated by *Carex lasiocarpa* and peat mosses (*Sphagnum centrale*, *S. fallax*, *S. cuspidatum*, *S. subsecundum*, *S. magellanicum*, *S. palustre*). Species of high constancy are *Eriophorum gracile*, *Lysimachia thyrsiflora*, *Lysimachia vulgaris*, *Menyanthes trifoliata*, *Pedicularis palustris*, *Peucedanum palustre*, *Phragmites australis*, *Potentilla palustris*, *Rhynchospora alba*; in more oligotrophic conditions – *Andromeda polifolia*, *Drosera rotundifolia*, *Vaccinium oxycoccos* (*Oxycoccus palustris*); in more eutrophic conditions – *Carex elata*, *Cnidium dubium*, *Lythrum salicaria*, *Mentha arvensis*. A portion of the mire has a tree layer of *Betula pubescens*. In some places, *Carex rostrata*, *Phragmites australis*, *Eriophorum gracile*, *Carex omskiana* dominate. Higher levels are occupied by *Pinus sylvestris* woods.
Botanical significance. One of the largest transition mires in Ukraine.
Criterion C

- D2.3 Transition mires and quaking bogs; area: 6400 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.51 Sphagnum *Betula* woods; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

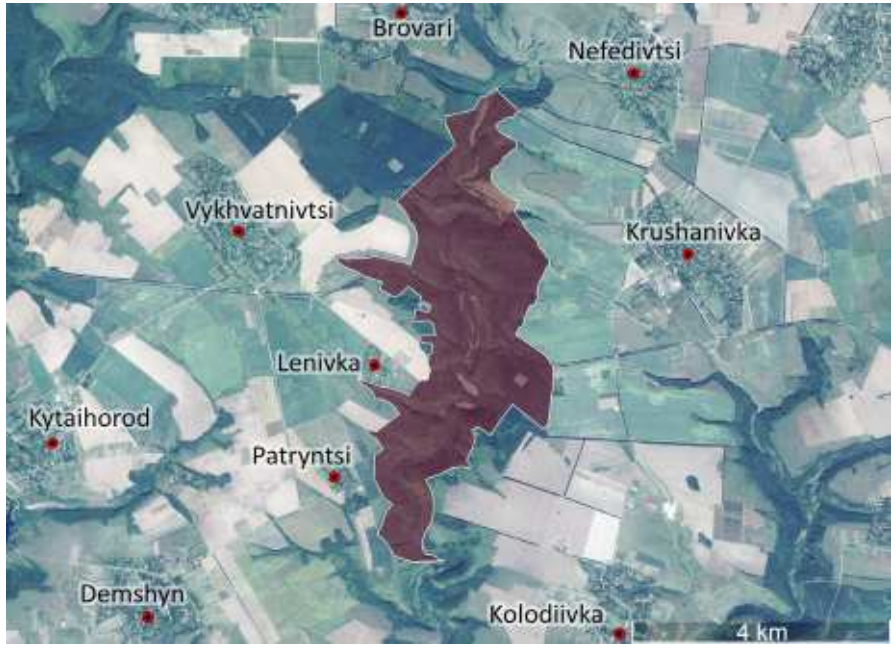
1. Андрієнко Т.Л. ПЗ Рівненський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 313–324.
2. Андрієнко Т.Л., Прядко О.І. Болотний масив Сомино на Ровенщині, його наукова і господарська цінність // Укр. ботан. журн. – 1980. – 36, № 4. – С. 65–69.
3. Андрієнко Т.Л., Прядко О.І., Онищенко В.А. Раритетна компонента флори Рівненського природного заповідника // Укр. ботан. журн. – 2006. – 63, № 2. – С. 220–228.
4. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 215 с.
5. Водно-болотні угіддя України / під ред. Г.Б. Марушевського та І.С.Жарук. – К.: Чорноморська програма Ветландс Інтернешнл, 2006. – 312 с.
6. Онищенко В.А., Андрієнко Т.Л., Прядко О.І. Рослинність ділянки Сомино Рівненського природного заповідника // Науковий вісник Волинського національного університету імені Лесі Українки. Біологічні науки. – 2009. – № 9. – С. 173–187.
7. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Sovyi Yar

V.A. Onyshchenko

Ukrainian name: Совий яр.
Transliteration/Translation variants: Sovii Ravine.
Area: 1081.0 ha.
Altitude: 125–280 m.
Latitude: 48°39'49" N (48.6636°).
Longitude: 26°53'11" E (26.8863°).
Administrative regions. Khmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 0.3%; E – 1.5%; G – 96.2%; H – 1.0%; I – 0.5%; J – 0.5%.
Habitats. Level 2. C2 Surface running waters – 0.3%; E1 – Dry grasslands – 0.7%; E2 – Mesic grasslands – 0.8%; G1 Broadleaved deciduous woodland – 94.4%; G3 Coniferous woodland – 0.2%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 1.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.
Land use: forestry – major, nature conservation and research – major
Protected areas: includes Sovyi Yar state landscape reserve (827 ha), included in Podilski

Tovtry national nature park, included in Emerald Site “Podilski Tovtry National Nature Park”.
Threats: –.



General description. A wood with the dominance of *Quercus robur* and *Carpinus betulus* in the tree layer.
Botanical significance. Important for endemic species *Aconitum besserianum*.
Criterion A

- *Aconitum besserianum* Andrz. ex Trautv.; A(iii); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.

Literature

1. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Striltsivskyi Step

V.A. Onyshchenko

Ukrainian name: Стрільцівський степ.
Transliteration/Translation variants: Stril’tsivs’kyi Steppe.
Area: 1036.5 ha.
Altitude: 120–182 m.
Latitude: 49°17’35” N (49.2930°).
Longitude: 40°04’43” E (40.0786°).

Administrative regions. Luhansk region: Milove raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. E – 68.3%; D – 0.03%; F – 31.0%; G – 0.4%; H – 0.2%.
Habitats. Level 2. D5 Sedge and reedbeds, normally without free-standing water – 0.03%; E1 Dry grasslands – 67.8%; E2 Mesic grasslands – 0.5%; E6 Inland salt steppes – 0.02%; F3 Temperate and mediterranean-montane scrub – 31.0%; F9 Riverine and fen scrubs – 0.01%; G1 Broadleaved deciduous woodland – 0.4%; H2 Screes – 0.02%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; E6.2 Continental inland salt steppes; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; F9.1 Riverine scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: nature conservation and research – 100%.
Protected areas: included in Luhanskyi nature reserve (same as Striltsivskyi Step division of the reserve), included in Emerald Site “Luhanskyi Nature Reserve”.
Threats: abandonment/reduction of land management – low.
General description. The predominant vegetation of the area is the steppe, both virgin (446 ha) and old fallows (270 ha). The second major vegetation type is the steppe shrubs (320 ha). Among the steppe communities the shrub steppes have the largest area. The most common combinations of dominants are *Stipa tirsa* with *Caragana frutex* or *Amygdalus nana*, less common – with *Chamaecytisus ruthenicus*. Steppes without co-dominance of shrubs also occupy a large area. Usually they are dominated by *Stipa tirsa* and *Stipa zalesskii*. Another

important species: *Achillea pannonica*, *Adonis wolgensis*, *Bromopsis riparia*, *Elytrigia intermedia*, *Elytrigia stipifolia*, *Elytrigia trichophora*, *Festuca rupicola*, *Galatella villosa*, *Helictotrichon schellianum*, *Hierochloe repens*, *Koeleria cristata*, *Limonium platyphyllum*, *Medicago romanica*, *Phleum phleoides*, *Phlomoides tuberosa* (*Phlomis tuberosa*), *Poa angustifolia*, *Potentilla schuri*, *Salvia nutans*, *Salvia stepposa*, *Stipa capillata*, *Stipa dasyphylla*, *Stipa pennata*, *Stipa pulcherrima*, *Veronica spicata*. Besides there occur *Stipa pulcherrima* steppes with calciphilous species *Astragalus albicaulis*, *Gypsophila oligosperma*, *Hedysarum grandiflorum*, *Onosma tanaitica*, *Rhaponticoides ruthenica* (*Centaurea ruthenica*); sand steppes dominated by *Stipa borysthenica* and *Festuca beckeri* with *Artemisia marschalliana*, *Astragalus varius*, *Jurinea centauroides*, *Potentilla incana*, *Pulsatilla patens*, *Pulsatilla pratensis*; salt steppes dominated by *Festuca valesiaca* and *Galatella dracunculoides* with *Artemisia santonica*, *Bulbocodium versicolor* (*Colchicum versicolor*), *Ferula tatrica*, *Kochia prostrata*, *Tulipa ophiophylla*. Shrub vegetation is represented by the steppe shrubs (*Prunus stepposa*, *Caragana frutex*, *Amygdalus nana*, *Chamaecytisus ruthenicus*), the wood shrubs with small trees (*Acer tataricum*, *Euonymus europaeus*, *Euonymus verrucosus*, *Malus praecox*, *Rhamnus cathartica*, *Sambucus nigra*, *Swida sanguinea* (*Cornus sanguineus*), *Ulmus laevis*, *Ulmus pumila*) and the floodplain *Salix triandra* and *Salix cinerea* shrubs (small area). Forest vegetation (4 ha) is represented by artificial forest belts (*Fraxinus lanceolata*) and floodplain *Salix alba* woods.

Botanical significance. Important area for conservation of steppe shrubs and steppes.

Criterion A

- *Diplotaxis cretacea* Kotov; A(iv); abundance: occasional; trend: stable; species data quality: good; trend data quality: medium.
- *Paeonia tenuifolia* L.; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 710 ha; trend: decreasing; area data quality: good; trend data quality: good.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 150 ha; trend: increasing; area data quality: medium; trend data quality: medium.

Literature

1. Білик Г.І., Ткаченко В.С. Рослинний покрив Стрільцівського степу // Укр. ботан. журн. – 1971. – 28, № 5. – С. 613–617.
2. Біорізноманітність Луганського природного заповідника НАН України / сост. Т. Сова. – Луганськ: ЛГСІ, 2005. – 218 с.
3. Биоразнообразие Луганского природного заповедника: растительный мир / Составители: Сова Т. В., Русина Н. В., Гузь Г. В., Боровик Л. П., Шиян-Глотова А. В. – Луганск: Элтон–2, 2009. – 130 с.
4. Бойко М.Ф. Мохоподібні заповідників "Стрільцівський степ" і "Михайлівська цілина" // Укр. ботан. журн. – 1981. – 38, № 4. – С. 27–31.
5. Боровик Л.П. Природні та антропогенні фактори демутації перелогів на території Стрільцівського степу (відділення Луганського природного заповідника) // Чорноморський ботан. журн. – 2008. – 4, № 1. – С. 98–106.
6. Боровик Л.П. Растительность залежей как важный компонент сохранения биоразнообразия на востоке Украины (Луганская область) // Вісник Одеського національного університету. – 2008. – 13, вып. 16. – С. 69–73.
7. Боровик Л.П. Постпирогенная динамика растительных сообществ Стрельцовской степи // Збірка тез доповідей міжнародної конференції V-ї ботанічні читання пам'яті Й.К. Пачоського. – Херсон: Айлант. – 2009. – С. 101.
8. Кондратюк Е.Н., Бурда Р.И., Чуприна Т.Т., Хомяков М.Т. Луганский государственный заповедник. Растительный мир. – Киев: Наук. думка, 1988. – 188 с.
9. Маслова В.Р. Ліхенофлора Провальского степу // Зб. наук. праць "Інтродукція і акліматизація рослин на Україні". – 1979. – Вип. 15. – С. 51–54.
10. Приходькова Л.П. Синьозелені водорості в грунтах заповідника "Провальський степ" // Укр. ботан. журн. – 1988. – 45, № 2. – С. 9–13.
11. Русіна Н.В. Історія та сучасний стан дослідження ліхенобіоти Луганського природного заповідника // Наукові праці Луганського природного заповідника. Рослинний і тваринний світ та його охорона. – Луганськ. – 2011. – Вип. 2. – С. 47–53
12. Русина Н.В., Ходосовцев А.Е. Лихенобиота Стрельцовской степи // VI міжнародна наукова конференція "Промислова ботаніка: стан та перспективи розвитку". – Донецьк. – 2010. – 405–407.
13. Сова Т.В., Боровик Л.П. ПЗ Луганський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 221–253.
14. Ткаченко В.С., Чуприна Т.Т., Бакланов О.В. Заповідник Провальський степ (сучасний стан і завдання наукових досліджень) // Укр. ботан. журн. – 1979. – 36, № 4. – С. 352–356.
15. Ткаченко В.С. Изучение особенностей резерватных сукцессий Стрельцовской степи по материалам периодического картирования // Геоботаническое картографирование. – 1989. – С. 47–61.
16. Ткаченко В.С. Особливості екотопічних змін та механізму становлення потенційних фітоценоструктур Стрільцівського степу // Укр. ботан. журн. – 1996. – 53, № 5. – С. 527–535.
17. Ткаченко В.С. Прогноз розвитку рослинності та збереження біорізноманітності "Стрільцівського степу" // Укр. ботан. журн. – 1996. – 53, № 6. – С. 645–652.
18. Ткаченко В.С. "Стрільцівський степ" в фітоценотичному моніторингу Старобільських степів // Вісті Біосферного заповідника "Асканія-Нова". – 2009. – Т. 11. – С. 6–19.
19. Ткаченко В.С., Боровик Л.П., Сова Т.В., Лисенко Г.М. Структура рослинного покриву ділянки розширення "Стрільцівського степу" (Луганська обл., Україна) // Вісті Біосферного заповідника "Асканія-Нова". – 2009. – Т. 11. – С. 35–47.
20. Ткаченко В.С., Сова Т.В., Боровик Л.П. Еколого-генетичний ряд рослинності "Стрільцівського степу" на Луганщині // Зб. ст. до 100-річчя д.б.н., проф. Г.І. Білика "Степові і галофітні екосистеми України". – К. – 2004. – С. 595–620.
21. Ткаченко В.С., Чуприна Т.Т. Зміни в рослинному покриві Стрільцівського степу за даними фітоценологічного моніторингу // Укр. ботан. журн. – 1995. – 52, № 2. – С. 252–259.

Stuzhytsia

V.A. Onyshchenko

Ukrainian name: Стужиця.
Area: 11208 ha (10072.0) ha.
Altitude: 355–1250 m.
Latitude: 49°02’04” N (49.0344°).
Longitude: 22°39’32” E (22.6589°).
Administrative regions. Zakarpatska region: Velykyi Bereznyi raion.
Ownership: state, private.
Biogeographic regions: alpine.

Habitats. Level 1. C – 0.1%; D – 0.1%; E – 24.3%; G – 74.4%; H – 1.0%.
Habitats. Level 2. C2 Surface running waters – 0.1%; D2 Valley mires, poor fens and transition mires – 0.1%; E1 Dry grasslands – 4.5%; E2 Mesic grasslands – 17.0%; E3 Seasonally wet and wet grasslands – 0.8%; E5 Woodland fringes and clearings and tall forb stands – 2.0%; G1 Broadleaved deciduous woodland – 70.0%; G3 Coniferous woodland – 1.3%; G4 Mixed deciduous and coniferous woodland – 3.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; D2.2 Poor fens and soft-water spring mires; E1.7 Non-Mediterranean dry acid and neutral closed grassland; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E4.3 Acid alpine and subalpine grassland; E5.2 Thermophile woodland fringes; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; G1.6 *Fagus* woodland; G3.F Highly artificial coniferous plantations; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H5.6 Trampled areas.

Land use: agriculture (animals) – minor, forestry – minor, mowing/hay making – 25%; nature conservation and research – major.
Protected areas: included in Uzhanskyi national nature park, overlaps with World Heritage Site “Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany” (6147 ha; core zone: 2532 ha, buffer zone: 3615 ha), included in biosphere reserve “East Carpathians”, included in Emerald Site “Uzhanskyi National Nature Park”.
Threats: abandonment/reduction of land management – low, agricultural intensification/expansion (general) – low.
General description. The largest area is covered by *Fagus sylvatica* forests. Dominants of the herb layer are *Dentaria glandulosa*, *Dentaria bulbosa*, *Dryopteris filix-mas*, *Galium odoratum*, *Lamium galeobdolon*, *Rubus hirtus*, *Symphytum cordatum*. Other typical species are *Actaea spicata*, *Anemone nemorosa*, *Anemone ranunculoides*, *Corydalis cava*, *Corydalis solida*, *Oxalis acetosella*, *Polygonatum verticillatum*, *Salvia glutinosa*, *Senecio ovatus*. In acidophilous beech forests, the herb layer consists mainly of *Luzula luzuloides*, *Luzula sylvatica*, *Prenanthes purpurea*, *Rubus hirtus*, *Festuca drymeja*, *Galium odoratum*, *Dryopteris filix-mas*, *Oxalis acetosella*, *Maianthemum bifolium*. On the steep slopes with stony soils, there are forests dominated by *Acer pseudoplatanus* with significant participation of *Ulmus glabra*. Their typical species are *Sambucus nigra*, *Ribes uva-crispa*, *Rubus hirtus*, *Pulmonaria obscura*, *Glechoma hirsuta*, *Polystichum braunii*, *Phyllitis scolopendrium*, *Dryopteris filix-mas*. Hay meadows are dominated by *Arrhenatherum elatior*, *Festuca rubra*, *Cynosurus cristatus*. Other typical species are *Campanula patula*, *Galium mollugo*, *Knautia arvensis*, *Crepis biennis*.
Botanical significance. One of the best areas of beech forests in Ukraine. A good example of mountain low and medium altitude hay meadows.
Criterion C

- E2.2 Low and medium altitude hay meadows; area: 1350 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.6 *Fagus* woodland; area: 8100 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.A4 (*9180) Ravine and slope woodland; area: 50 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

1. Hadač E., Stoyko S.M., Terray J., Tasenkevich L., Bural M. Notes on plant communities of the protected complex Stuzhytsia – a part of the trilateral Polish-Slovakian-Ukrainian biosphere reserve “The Eastern Carpathians” // Укр. ботан. журн. – 1995. – 52, № 5. – С. 686–695.
2. Hadač E., Stoyko S.M., Terray J., Tasenkevich L., Bural M. Notes on the flora and vegetation of the botanical reserve “Stinka” (Biosfere reserve “The Eastern Carpathians”) // Укр. ботан. журн. – 1996. – 53, № 1/2. – С. 105–111.
3. Кваковська І.М. НПП Ужанський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 506–518.
4. Крічфалушій В.В., Лесьо І.М. Раритетні види рослин Ужанського національного природного парку // Укр. ботан. журн. – 2004. – 61, № 1. – С. 27–35.
5. Ужанський національний природний парк / Крічфалушій В.В., Луговой О.Є., Іванега І.Ю. та ін. – Ужгород: ЕкоЦентр – Тиса, 2001. – 120 с. – (Серія “Збереження біорізноманіття”: кн. 5).

6. Ужанський національний природний парк. Поліфункціональне значення / С.М. Стойко, Е. Гадач, Л.О. Тасєнкевич та ін.; під ред. С.М. Стойко. – Львів: Меркатор, 2007. – 306 с.

7. Устименко П.М., Попович С.Ю. Продромус рослинності Стужицького масиву Карпатського біосферного заповідника // Укр. ботан. журн. – 1995. – 52, № 3. – С. 414–419.

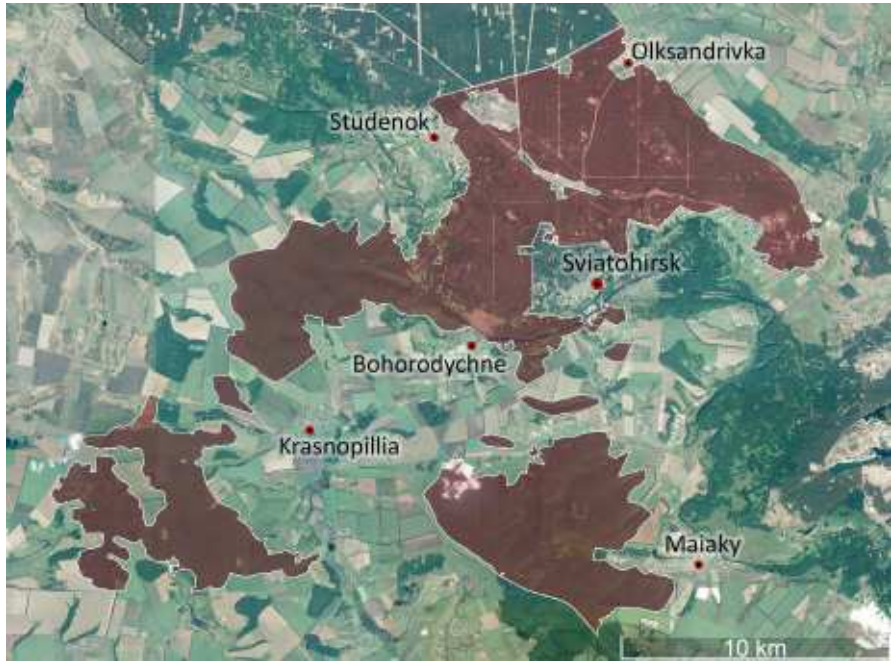
8. Устименко П.М., Попович С.Ю. Висотна диференціація рослинності Стужицького масиву Карпатського біосферного заповідника // Укр. ботан. журн. – 1996. – 53, № 3. – С. 703–707.

9. Фіторізноманіття національних природних парків України / Під заг. ред. Т.Л. Андрієнко та В.А. Онищенка. – Київ: Науковий світ, 2003. – 143 с.

Sviati Hory

V.A. Onyshchenko

Ukrainian name: Святі гори.
Transliteration/Translation variants: Svyati Gory, Holy Hills.
Area: 18207.0 ha.
Altitude: 58–211 m.
Latitude: 49°01’52” N (49.0311°).
Longitude: 37°31’30” E (37.5250°).



Administrative regions. Donetsk region: Sloviansk raion, Lyman (Krasnyi Lyman) raion
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.4%; D – 0.1%; E – 1.2%; F – 0.1%; G – 96.5%; H – 1.5% , J – 0.2%
Habitats. Level 2. C1 Surface standing waters – 0.1%; C2 Surface running waters – 0.2%; C3 Littoral zone of inland surface waterbodies – 0.1%; D5 Sedge and reedbeds, normally without free-standing water – 0.1%; E1 Dry grasslands – 0.1%; E2 Mesic grasslands – 0.1%; E3 Seasonally wet and wet grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 0.1%; G1 Broadleaved deciduous woodland – 61.9%; G3 Coniferous woodland – 26.5%; G4 Mixed deciduous and coniferous woodland – 9.2%; H2 Screes – 0.01%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.5%; J4 Transport networks and other constructed hard-surfaced areas – 0.2%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; E1.2 Perennial calcareous grassland and basic steppes; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; F3.1 Temperate thickets and scrub; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas; J4.2 Road networks; J4.3 Rail networks.
Land use: mowing/hay making – 1%; forestry – 85%; nature conservation and research – 100%; tourism and recreation – minor.
Protected areas: included in Sviati Hory national nature park and Emerald Site “Sviati Hory” (a part of this park belongs to IPA “Zaplava Siverskoho Dintsia”).
Threats: development (recreation/tourism) – low; forestry (afforestation) – low.
General description. The area includes the floodplain of the Siverskyi Donets river (762 ha, medium part of the IPA), sand terrace over the floodplain (7602 ha, northern part) and plateau (2666 ha, southern part). In the floodplain, there prevail *Quercus robur* forests, lesser areas are covered by *Alnus glutinosa* and *Populus alba* forests. Floodplain meadows are dominated by *Festuca pratensis*, *Elytrigia repens*, *Koeleria delavignei*, *Phleum pratense*, *Poa pratensis*, *Beckmanioa eruciformis*, *Carex praecox*. Dominants of wet habitats are *Carex riparia*, *Phalaroides arundinacea*, *Phragmites australis*, *Carex melanostachya*, *Eleocharis palustris*. Sand terrace is occupied by *Pinus sylvestris* and *Pinus silvestris* – *Quercus robur* forests, in depressions – *Alnus glutinosa* woods. The major dominant of the herb layer in pine forests is *Calamagrostis epigeios*, other species of high constancy are *Pilosella officinarum*, *Rumex acetosella*, *Solidago virgaurea*, *Tanacetum vulgare*. Sand grasslands occupy small area due to artificial afforestation. Their dominants are *Artemisia tschernieviana*, *Carex colchica*, *Festuca beckeri*, *Koeleria sabuletorum*, *Thymus pallasianus*. South of the Siverskyi Donets river, there are mesic forests dominated by *Quercus robur*, *Fraxinus excelsior*, with co-dominance of *Acer campestre*, *Acer platanoides*, *Tilia cordata*. Other constant species: *Anemone ranunculoides*, *Asarum europaeum*, *Corydalis solida*, *Corylus avellana*, *Dentaria quinquefolia*, *Euonymus europaeus*, *Euonymus verrucosus*, *Galium odoratum*, *Lathyrus vernus*, *Polygonatum multiflorum*, *Pulmonaria obscura*, *Scilla sibirica*, *Stellaria holostea*, *Ulmus minor*. Insignificant area is occupied by outcrops (screes) of chalk which are rich in

endemic species.
Condition of broadleaved forests of the southern portion of the territory is good. A big part of them belongs to the zone of strict protection of the national park, another part – to the zone of regulated recreation. Mean age of the tree layer is about 90 years. Condition of pine woods is medium, but it is better than in most other places of Ukraine. The tree layer is mainly of artificial origin (plantation of *Pinus sylvestris*). Species composition has natural character and includes endemic species. Northern part of IPA belongs predominantly to the zone of regulated recreation that does not allow forest clearing.
Efforts to establish *Pinus sylvestris* plantations prevent forming sand steppes which previously occupied a much larger area.
Botanical significance. Important for conservation of steppe pine forests, mesic deciduous forests and steppe black alder woods.
Criterion A
- *Centaurea donetzica* Klokov; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Iris humilis* Georgi (*Iris pineticola* Klokov); A(ii), A(iv); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C
- G1.414 Steppe swamp *Alnus glutinosa* woods; area: 300 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.A1 *Quercus* – *Fraxinus* – *Carpinus betulus* woodland on eutrophic and mesotrophic soils; area: 10000 ha; trend: stable; area data quality: good; trend data quality: good.
- G3.4232 Sarmatic steppe *Pinus sylvestris* forests; area: 4750 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Бурда Р.І., Остапко В.М., Глухов А.З., Шпилева Н.В. Національний природний парк “Святі Гори”: біологічна різноманітність рослинного покриву // Заповідна справа в Україні. – 1997. – Т.3, вип. 1. – С. 10–17.

2. Дьякова О.В. Грабово-дубовий ліс в Національному природному парку “Святі Гори” // Менеджмент екосистем природно-заповідних територій. Мат-ли Всеукр. наук.-практ. конф., присвяч. 10-річчю створення Національного природного парку “Подільські Товтри”. – Кам’янець-Подільський: Аксіома, 2006. – С. 93–97.

3. Дьякова О.В. О нахождении *Muscari neglectum* Guss. на территории НПП “Святые Горы” // Промислова ботаніка: стан та перспективи розвитку: Мат-ли міжнар. наук. конф. “Промислова ботаніка: стан та перспективи розвитку” (Донецьк, 24–26 вересня 2007 р.). – Донецьк, 2007. – С.156–157.

4. Дьякова О.В. Рослинність вільхових лісів урочища Святогірський табір (НПП “Святі Гори”) // Відновлення порушених природних екосистем: Мат-ли Третьої міжнар. наук. конф. (м. Донецьк, 7–9 жовтня 2008 р.). – Донецьк, 2008. – С. 183–185.

5. Зацепина Д.Я., Хлевная Н.А. О флоре меловых обнажений заказника “Горы Артема” // Ботан. журн. – 1980. – 65, № 4. – С. 551–555.

6. Мальцева І.А. Грунтові водорості лісів національного природного парку “Святі Гори” (Донецька обл., Україна) // Мат-ли конф., присвяч. 80-річчю Канівського природного заповідника “Роль природно-заповідних територій у підтриманні біорізноманіття” (9–11 вересня 2003 р., м. Канів). – Канів, 2003. – С. 118–119.

7. Мальцева І.А., Супронюк І., Пушкіна О. Грунтові водорості крейдяних борів національного природного парку “Святі Гори” // 21–30 червня 2004 р., м. Дніпропетровськ). – Т. 31. Біологічні науки. – Дніпропетровськ: Наука і освіта, 2004. – С. 35.

8. Морозова І. Міксоміцети Національного природного пароку “Святі Гори” // Мат-ли IV Міжн. наук. конф. студентів та аспірантів “Молодь і поступ біології” (м. Львів, 7–10 квітня 2008 р.). – Львів: ЛНУ ім. І. Франка, 2008. – С. 106–107.

9. Надєіна О.В. Лишайники національного природного парку “Святі Гори” // Чорноморський ботан. журн. – 2007. – 3, № 2. – С. 100–108.

10. Онищенко В.А., Дьякова О.В., Карпенко Ю.О. Лісова рослинність урочищ Теплинська Дача і Маяцька Дача (національний природний парк “Святі Гори”) // Чорноморський ботан. журн. – 2007. – 3, № 2. – С. 88–99.

11. Ордынец А.В., Акулов А.Ю. Предварительные данные о биоте афиллофороидных грибов Национального природного парка “Святые Горы” (Донецкая обл., Украина) // Актуальные проблемы Экологии и сохранения биоразнообразия. Сб. статей. – Владикавказ. – СОИТСИ, 2008. – С. 64–71.

12. Остапко В.М., Шпилева Н.В., Дьякова О.В. НПП Святі гори // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 440–456.

13. Тихоненко Ю.Я., Дудка І.О. Знахідки іржастих грибів (порядок *Uredinales*) в національному природному парку “Святі Гори” // Укр. ботан. журн. – 2005. – 62, № 4. – С. 495–499.

14. Трискиба С.Д., Полохіна І.І., Сухомлин М.М. Знахідка *Grifola frondosa* (Fr.) S. Gray на півночі Донецької області // Укр. ботан. журн. – 2005. – 62, № 9. – С. 87–90.

15. Устименко П.М., Попович С.Ю. Растительность проектируемого Славяногорского национального парка и зонирование его территории // Бюл. ботан. сада. – 1992. – Вып.164. – С.76–81.

16. Шпилевая Н.В. Синантропная флора национального природного парка “Святые Горы” // Відновлення порушених природних екосистем: мат-ли другої міжн. конф., 6–8 верес. 2005 р.: тезисы докл. – Донецьк: ТОВ “Лебідь”, 2005. – С. 109–110.

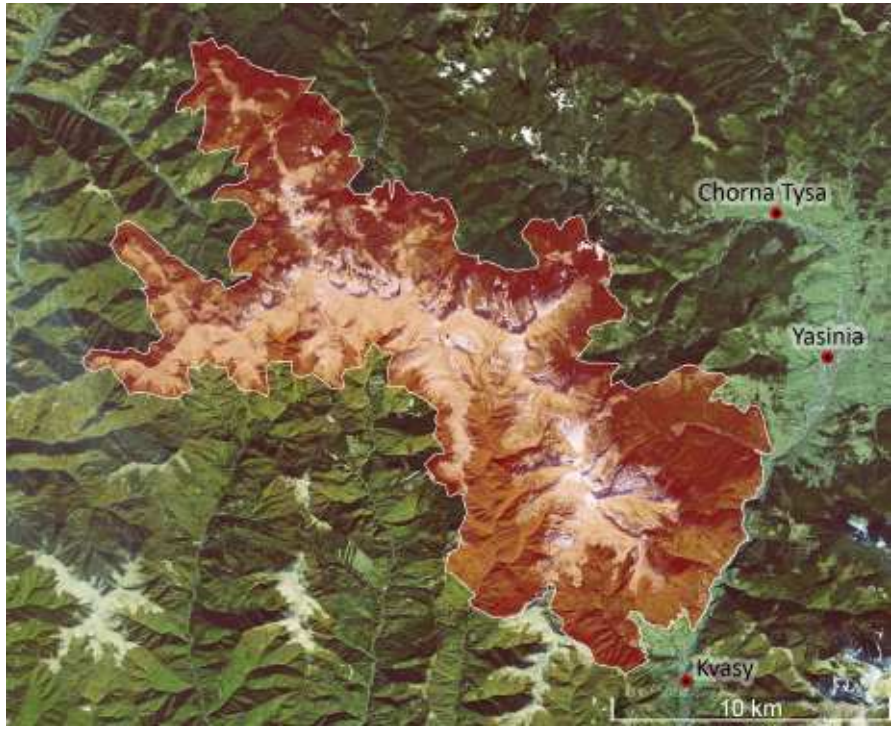
17. Шпилева Н.В. Оцінка антропогенної трансформації флори національного природного парку “Святі Гори” // Синантропізація рослинного покриву України: наук. конф.: тези. допов. – Київ, Переяслав-Хмельницький, 2006. – С. 220–223.

Svydovets

V.A. Onyshchenko

Ukrainian name: Свидовець.
Area: 21167.0 ha.
Altitude: 570–1883 m.
Latitude: 48°16’05” N (48.2681°).
Longitude: 24°10’30” E (24.1749°).
Administrative regions. Zakarpatska region: Tiachiv raion, Rakhiv raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.2%; D – 0.1%; E – 35.6%; F – 9.7%; G – 54.4%; H – 0.5%.
Habitats. Level 2. C1 Surface standing waters – 0.0%; C2 Surface running waters – 0.2%; E4 Alpine and subalpine grasslands stands – 35.0%; E5 Woodland fringes and clearings and tall

forb stands – 0.6%; F2 Arctic, alpine and subalpine scrub – 9.7%; G1 Broadleaved deciduous woodland – 29.0%; G3 Coniferous woodland – 22.1%; G4 Mixed deciduous and coniferous woodland – 3.6%; H2 Screes – 0.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.



Futher habitat description. C1.1 Permanent oligotrophic lakes, ponds and pools; C1.2 Permanent mesotrophic lakes, ponds and pools; C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E4.1 Vegetated snow-patch; E4.2 Moss and lichen dominated mountain summits, ridges and exposed slopes; E4.3 Acid alpine and subalpine grassland; E4.4 Calcareous alpine and subalpine grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; E5.5 Subalpine moist or wet tall-herb and fern stands; F2.2 Evergreen alpine and subalpine heath and scrub; F2.3 Subalpine deciduous scrub; F2.4 Conifer scrub close to the tree limit; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H2.4 Temperate-montane calcareous and ultra-basic screes; H3.1 Acid silicious inland cliffs; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – major, forestry – minor, nature conservation and research – major, tourism/recreation – minor.
Protected areas: overlaps (8523 ha) with Karpatskyi biosphere reserve (national category), overlaps (8523 ha) with Carpathian biosphere reserve (UNESCO), overlaps (8492 ha) with

Emerald Site "Carpathian Biosphere Reserve", overlaps (12644 ha) with Emerald Site "Zakhidnyi Svydovets", overlaps (8670 ha) with World Heritage Site "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany" (core zone: 3030.5 ha, buffer zone: 5639.5 ha).
Threats: climate change/sea level rise – low, development (recreation/tourism) – low.
General description. One of the highest parts of the Ukrainian Carpathians. Large areas are occupied by the spruce forests, beech forests and the subalpine vegetation. *Picea abies* forests prevail on the northeastern slope of the Svydovets Range. Upper limit of the forest vegetation is formed by pure *Picea abies* forests. Typical dominants are *Calamagrostis arundinacea*, *Luzula sylvatica*, *Vaccinium myrtillus*, *Pleurozium schreberi*, *Polytrichum formosum*. At lower altitudes, there are mixed forests dominated by *Picea abies*, *Abies alba* and *Fagus sylvatica*. Pure *Fagus sylvatica* forests occupy a large area on the southern slope. In the herb layer, there predominate *Dentaria glandulosa* (*Cardamine glandulosa*), *Galium odoratum*, *Rubus hirtus*. In the subalpine belt, significant areas are dominated by *Juniperus sibirica*, *Duschekia alnobetula* (*Alnus alnobetula*), *Nardus stricta*, *Deschampsia cespitosa*, *Vaccinium myrtillus*, *Calamagrostis villosa*, *Festuca airoides*, *Oreojuncus trifidus* (*Juncus trifidus*). Sometimes there dominate *Festuca picta*, *Luzula alpinopininosa*, *Rhododendron myrtifolium*, *Vaccinium uliginosum*. In the wet habitats, there occur communities of *Adenostyles alliariae*, *Cirsium waldsteinii*. Calcareous rocky grasslands dominated by *Festuca inarmata* (*Festuca amethystina* s.l.) or *Festuca versicolor* have small areas.
Botanical significance. Important area for subalpine habitats and species, beech forests and oligotrophic aquatic habitats.
Criterion A

- *Botrychium matricariifolium* (A. Braun ex Döll) W.D.J.Koch; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Campanula abietina* Griseb. & Schenk; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Hamatocaulis vernicosus* (Mitt.) Hedenas (*Drepanocladus vernicosus* (Mitt.) Warnst.); A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Heterophyllium affine* (Mitt.) Fleisch; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Narcissus angustifolius* Curtis; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Neckera pennata* Hedw.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Poa granitica* Braun-Blanq. (*Poa deylii* Chrtek & V.Jirasek); A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion A

- C1.1 Permanent oligotrophic lakes, ponds and pools; area: 2 ha; trend: decrasing; area data quality: medium; trend data quality: medium.
- D2.226 Peri-Danubian black-white-star sedge fens; area: 3 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.11 Boreo-alpine acidocline snow-patch grassland and herb habitats; area: 10 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.12 Boreo-alpine calcicline snow-patch grassland and herb habitats; area: 1 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E4.3 Acid alpine and subalpine grassland; area: 7300 ha; trend: stable; area data quality:

poor; trend data quality: poor.

- E4.4 Calcareous alpine and subalpine grassland; area: 10 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.5 Subalpine moist or wet tall-herb and fern stands; area: 400 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F2.22 Alpide acidocline *Rhododendron* heaths; area: 30 ha; trend: stable; area data quality: poor; trend data quality: medium.
- F4.2 Dry heaths; area: 10 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G1.12 Boreo-alpine riparian galleries; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G3.1B Alpine and Carpathian subalpine *Picea forests*; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.6 *Fagus* woodland; area: 5800 ha; trend: stable; area data quality: medium; trend data quality: medium.
- H2.3 Temperate-montane acid siliceous screes; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.

Conservation proposals. Create an Emerald Sites including the entire IPA and a state reserve in the northwestern part of the IPA outside the Carpathian biosphere reserve.

Literature

1.Бедей М.І. Близниці-Драгобрат (флора, рослинність, охорона). – Ужгород: Ліра, 2006. – 108 с.

2.Біорізноманіття Карпатського біосферного заповідника / Кол. авт., Ред. рада: Я.І. Мовчан, Ф.Д. Гамор та ін. – К.: Інтерекоцентр, 1997. – 711 с.

3.Гамор Ф.Д., Вайнагій І.В., Антосяк В.М. Стан охорони червонокнижних видів рослин на заповідних територіях Українських Карпат // Укр. ботан. журн. – 1994. – 51, № 5. – С. 122–129.

4.Гамор Ф.Д., Волощук М.І., Антосяк Т.М., Козурак А.В. БЗ Карпатський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 45–72.

5.Гамор Ф.Д., Довганич Я.О., Покиньчереда В.Ф. та ін. Праліси Закарпаття. Інвентаризація та менеджмент. – Рахів, 2008. – 86 с.

6.Малиновський К.А. Рослинність високогір'я Українських Карпат. – К.: Наук. думка, 1980.– 280 с.

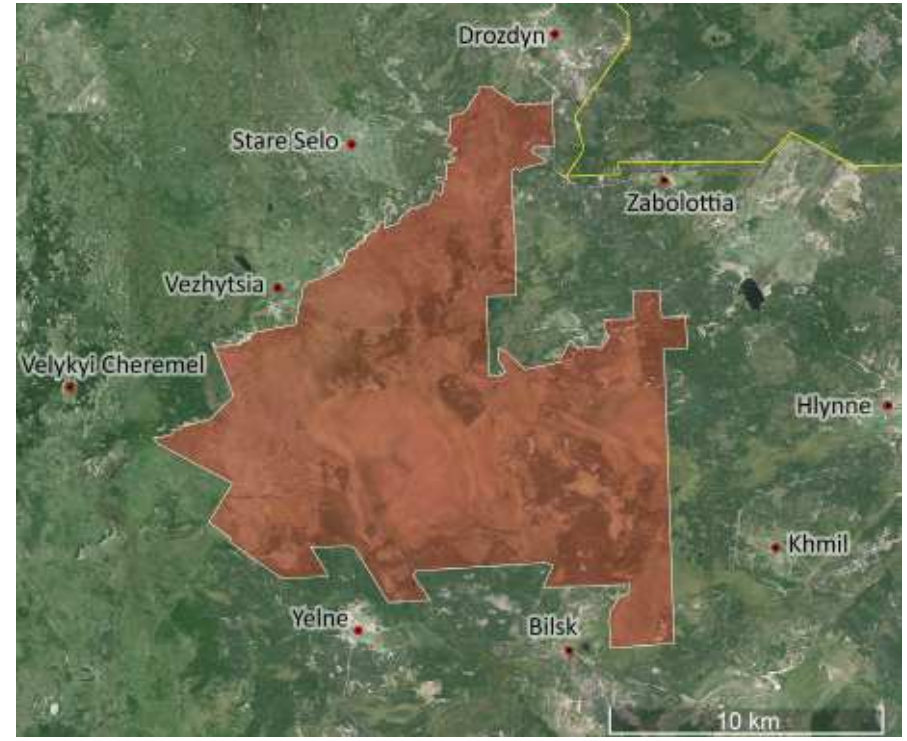
7.Малиновський К.А., Крічфалушій В.В. Рослинні угруповання високогір'я Українських Карпат. – Ужгород, 2002. – 244 с.

8.Праліси в центрі Європи: Путівник по лісах Карпатського біосферного заповідника / Кол. авт., ред.: У-Б. Брендлі, Я. Довганич. – Бірменсдорф: Швейцарський федеральний ін-т досліджень лісу, снігу і ландшафтів (WSL) – Рахів: Карпатський біосферний заповідник (КБЗ), 2003. – 192 с.

Syra Pohonia

V.A. Onyshchenko

Ukrainian name: Сира Погоня.
Area: 18811 ha.
Altitude: 145–160 m.
Latitude: 51°31'33" N (51.5258°).
Longitude: 27°10'12" E (27.1699°).
Administrative regions. Rivne region: Dubrovytsia raion (minor), Rokytne raion.
Ownership: state, private (minor).
Biogeographic regions: continental.



Habitats. Level 1. D – 51%; G – 49%.
Habitats. Level 2. D1 Raised and blanket bogs – 30%; D2 – Valley mires, poor fens and transition mires – 21%; G1 Broadleaved deciduous woodland – 10%; G3 Coniferous woodland – 28%; G4 Mixed deciduous and coniferous woodland – 11%.
Futher habitat description. D1.1 Raised bogs; D2.3 Transition mires and quaking bogs; E1.7 Closed non-Mediterranean dry acid and neutral grassland; E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; G1.5 Broadleaved swamp

woodland on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland, G4.1 Mixed swamp woodland, G4.4 Mixed *Pinus sylvestris* – *Betula* woodland.
Land use: nature conservation and research – 100%.
Protected areas: overlaps (9926 ha) with Rivnenskyi nature reserve, overlaps (9926 ha) with Emerald Site "Rivnenskyi Nature Reserve".
Threats: water (drainage) – low.
General description. Raised bogs, *Pinus sylvestris* woods, and transition mires. Dominants of the raised bogs are *Eriophorum vaginatum*, *Sphagnum magellanicum*, *Sphagnum fuscum*. Often they have a sparse layer of *Pinus sylvestris* and *Betula pubescens.* In *Sphagnum* pine woods, typical dominants are *Ledum palustre*, *Vaccinium uliginosum*, *Vaccinium oxycoccos* (*Oxycoccus palustris*). In hollows, *Sphagnum cuspidatum*, *Scheuchzeria palustris*, *Carex limosa*, *Carex rostrata* dominate. Higher levels are occupied by *Pinus sylvestris* woods.
Botanical significance. The largest raised bog in Ukraine.
Criterion C

- D2.3 Transition mires and quaking bogs; area: 3800 ha; trend: stable; area data quality: poor; trend data quality: medium.
- G3.E Nemoral bog conifer woodland; area: 3000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- X04 Raised bog complexes; area: 7000 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Create a state reserve that will include the IPA outside Rivnenskyi nature reserve.
Literature

1. Андрієнко Т.Л. ПЗ Рівненський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 313–324.

2. Андрієнко Т.Л., Прядко О.І., Онищенко В.А. Раритетна компонента флори Рівненського природного заповідника // Укр. ботан. журн. – 2006. – 63, № 2. – С. 220–228.

3. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 215 с.

4. Водно-болотні угіддя України / під ред. Г.Б. Марушевського та І.С. Жарук. – К.: Чорноморська програма Ветландс Інтернешнл, 2006. – 312 с.

5. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Tarkhankut

V.A. Onyshchenko

Ukrainian name: Тарханкут.
Area: 14379.0 ha.
Altitude: 0–146 m.
Latitude: 45°22'16" N (45.3711°).
Longitude: 32°34'09" E (32.5692°).
Administrative regions. Krym: Chornomorske raion; Territorial waters of Ukraine.

Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 21.9%; B – 0.01%; E – 69.2%; F – 1.0%; H – 0.9%; I – 7.0%; J – 0.05%.
Habitats. Level 2. A2 Littoral sediment – 0.02%; A3 Infralittoral rock and other hard substrata – 15.0%; A4 Circalittoral rock and other hard substrata – 7.6%; A5 Sublittoral sediment – 0.2%; B1 Coastal dunes and sandy shores – 0.001%; B2 Coastal shingle – 0.002%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.01%; E1 Dry grasslands – 69.2%; F3 Temperate and mediterranean-montane scrub – 0.02%; F7 Spiny Mediterranean heaths – 0.9%; H1 Terrestrial underground caves, cave systems, passages and waterbodies, H2 Screes – 0.003%; H3 Inland cliffs, rock pavements and outcrops – 0.04%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.9%; I1 Arable land and market gardens – 7.0%; J2 Low density buildings – 0.01%; J3 Extractive industrial sites – 0.01%; J4 Transport networks and other constructed hard-surfaced areas – 0.03%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.2 Littoral sand and muddy sand; A2.4 Littoral mixed sediments; A2.5 Coastal saltmarshes and saline reedbeds; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.3 Atlantic and Mediterranean low energy infralittoral rock; A3.7 Features of infralittoral rock; A4.3 Atlantic

and Mediterranean low energy circalittoral rock; A5.1 Sublittoral coarse sediment; A5.2 Sublittoral sand; A5.4 Sublittoral mixed sediments; A5.5 Sublittoral macrophyte-dominated sediment; E1.1 Inland sand and rock with open vegetation, E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; F7.4 Hedgehog-heaths; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas; I1.5 Bare tilled, fallow or recently abandoned arable land.

Land use: agriculture (animals) – 30%; nature conservation and research – 77%; tourism/recreation – major.

Protected areas: includes Charivna Havan national nature park (10900 ha); includes Emerald Site "Charivna Havan' National Nature Park" (10900 ha).

Threats: development (recreation/tourism) – medium; eutrophicatin – low.

General description. The IPA includes areas occupied mainly by steppes on stony soils in the western part of the Crimean Peninsula and adjacent 1-km wide strip of the Black Sea. The shore is a popular place for sea diving.

Dominants of marine vegetation are *Cladostephus spongiosus*, *Cystoseira crinita*, *Cystoseira barbata*, *Corallina elongata*, *Phyllophora crispa.* Other typical species: *Ceramium virgatum*, *Chondrophycus papillosus*, *Cladophora albida*, *Cladophora sericea*, *Dictyota fasciola*, *Dilophus fasciola*, *Laurencia coronopus*, *Laurencia obtusa*, *Ulva intestinalis*, *Ulva linza*. Dry grasslands are dominated by: *Agropyron pectinatum*, *Botriochloa ischaemum*, *Festuca rupicola*, *Festuca valesiaca*, *Koeleria brevis*, *Stipa capillata*, *Stipa lessingiana*. Steppes of more xeric habitats differ by presence of *Artemisia lerchiana*, *Artemisia taurica*, *Astragalus henningii*, *Centaurea orientalis*, *Dianthus capitatus*, *Galium ruthenicum*, *Linum tenuifolium*, *Medicago romanica*, *Scabiosa praemontana*, *Tanacetum paczoskii*. Differential species of more mesic habitats are *Ajuga salicifolia*, *Centaurea diffusa*, *Filipendula vulgaris*, *Galium verum*, *Potentilla argentea*, *Salvia aethiopis*, *Salvia nemorosa*, *Salvia nutans*, *Veronica spicata*. *Artemisia*-dominated steppes have been formed as a result of intensive grazing. Their dominants are *Artemisia austriaca*, *Artemisia lerchiana*, *Artemisia taurica*. Other important species of *Artemisia*-dominated steppes: *Carthamus lanatus*, *Centaurea solsitialis*, *Euphorbia seguieriana*, *Salvia aethiopis*, *Stipa capillata*, *Stipa lessingiana*. Differential species of *Artemisia*-dominated steppes on shallow rendzina soils are *Artemisia lerchiana* (dom.), *Artemisia caucasica* (dom.), *Caragana scythica*, *Convolvulus cantabrica*, *Convolvulus holosericeus*, *Cota dubia* (*Anthemis dubia*), *Crambe aspera*, *Genista albida*, *Ononis pusilla*, *Teucrium chamaedrys*, *Teucrium polium*, *Veronica taurica*. Typical species of abandoned arable lands are *Centaurea diffusa* (dom.), *Carduus nutans*, *Eryngium campestre*, *Euphorbia seguieriana*, *Euphorbia stepposa*, *Euphorbia virgata*, *Marrubium peregrinum*, *Salvia aethiopis*. Tomillares are dominated by *Thymus roegneri* (*Th. callieri*), *Th. dzevanovskyi*, *Asphodeline taurica*, *Jurinea stoechadifolia*, *Convolvulus holosericeus*, *Achillea nobilis* with admixture (10–15%) of steppe species. Small areas are occupied by deciduous thickets and brushes (*Berberis vulgaris*, *Cotinus coggygria*, *Crataegus monogyna*, *Euonymus verrucosus*, *Genista albida*, *Hedera helix* s.l., *Jasminus fruticans*, *Malus sylvestris*, *Fraxinus excelsior*, *Prunus spinosa*, *Pyrus communis*, *Pyrus eleagnifolia*, *Rhamnus cathartica*, *Rosa* spp, *Rubus* sp. div., *Ulmus minor*; in the herb layer: *Arum elongatum*, *Asparagus officinalis*, *Asparagus littoralis*, *Asparagus verticillatus*, *Crambe mitridatis*, *Dactylis glomerata*, *Malva erecta*, *Thalictrum minus*.

Botanical significance. One of the largest areas of steppe vegetation and one of the most valuable sites of seaweed communities in Ukraine.

Criterion A

- *Centaurea taliewii* Kleopow; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.
- *Crambe mitridatis* Juz.; A(iv); abundance: unknown; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion C

- A3 Infralittoral rock and other hard substrata; area: 2000 ha; trend: stable; area data quality: medium; trend data quality: poor.
- E1.2 Perennial calcareous grassland and basic steppes; area: 9800 ha; trend: increasing; area data quality: good; trend data quality: good.
- F7 Spiny Mediterranean heaths; area: 100 ha; trend: unknown; area data quality: poor; trend data quality: poor.

Conservation proposals. Add coastal part of the sea to the Charivna Havan national nature park and Emerald Site "Charivna Havan' National Nature Park".

Literature

1. Белянина Н.Б., Шатко В.Г. Флористические находки с Тарханкутского полуострова // Бюл. Главн. ботанич. сада. – 1992. – Вып. 164. – С. 57–63.
2. Белянина Н.Б., Шатко В.Г. Конспект флоры Джангульского побережья (Крым) // Бюл. Главн. ботанич. сада. – 1999. – Вып. 178. – С. 43–65.
3. Голубева И.В., Маслова И.И. Оценка современного состояния и предложения по заповедной охране степной растительности в связи с организацией Тарханкутского заповедника // Фонды Никитс. ботан. сада. – Ялта, 1986. – 4 с.
4. Дідух Я.П., Вакаренко Л.П. Флористичні та ценотичні особливості Тарханкутського півострова (Крим) // Укр. ботан. журн. – 1987. – 44, № 3. – С. 31–36.
5. Маслов И.И. Фитобентос заповедной акватории "Прибрежный аквальный комплекс у мыса Атлеш" (Черное море) // Экология моря. – 2001. – Вып. 56. – С. 30–34.
6. Маслов И.И. Макрофитобентос некоторых заповедных акваторий Черного моря (Украина) // Альгология. – 2002. – 12, № 1 – С. 81–95.
7. Мильчакова Н.А. Макрофитобентос // Современное состояние биоразнообразия прибрежных вод Крыма (черноморский сектор). – Севастополь: ЭКОСИ-Гидрофизика, 2003. – С. 152–208.
8. Мільчакова Н.П., Вахрушева Л.П., Єпіхін Д.В. НПП Чарівна гавань // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 519–529.
9. Подгородецкий П.Д. Тарханкутский национальный природный парк // Заповедники Крыма – 2007. Мат-лы IV междунар. науч.-практ. конф., 2 нояб. 2007 г., Симферополь. – Ч. 1. Ботаника. Общие вопросы охраны природы. – Симферополь, 2007. – С. 341–352.

Tendrivska Zatoka

V.A. Onyshchenko, O.Yu. Umanets

Ukrainian name: Тендрівська затока.
Transliteration/Translation variants: Tendra Bay, Gulf of Tendra.
Area: 52622.0 ha.
Altitude: 0–3 m.
Latitude: 46°14′48″ N (46.2467°).
Longitude: 31°54′11″ E (31.9029°).
Administrative regions. Kherson region: Hola Prystan raion; Territorial waters of Ukraine
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 75.0%; B – 0.3%; C – 1.8%; D – 2.0%; E – 20.8%; H – 0.1%.
Habitats. Level 2. A2 Littoral sediment – 4.0%; A5 Sublittoral sediment – 71.0%; B1 Coastal dunes and sandy shores – 0.3%; B2 Coastal shingle – 0.1%; C1 Surface standing waters – 1.8%; D6 Inland saline and brackish marshes and reedbeds – 2.0%; E1 Dry grasslands – 1.5%; E2 – Mesic grasslands – 0.2%; E6 Inland salt steppes – 19.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.5 Coastal saltmarshes and saline reedbeds; A5.5 Sublittoral macrophyte-dominated sediment; B1.1 Sand beach driftlines; B1.2 Sand beaches above the driftline; B1.3 Shifting coastal dunes; B1.4 Coastal stable dune grassland (grey dunes); B1.8 Moist and wet dune slacks; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; C1.5 Permanent inland saline and brackish lakes, ponds and pools; D6.1 Inland saltmarshes; D6.2 Inland saline or brackish species-poor helophyte beds normally without free-standing water; E6.2 Continental inland salt steppes; H5.3 Sparsely-

or un-vegetated habitats on mineral substrates not resulting from recent ice activity.
Land use: nature conservation and research – 85%.
Protected areas: overlaps (about 44700 ha) with Chernomorskiy (Chornomorskyi, Black Sea) biosphere reserve (UNESCO, core zone of the reserve) and, Chornomorskyi biosphere reserve (national category), overlaps (about 44700 ha) with Emerald Site “Black Sea Biosphere Reserve”.
Threats: climate change/sea level rise – low.
General description. The IPA includes Gulf of Tendra, smaller lagoons and salt lakes with adjacent inland salt marshes, salt steppes, accumulative islands. Gulf of Tendra is up to 2.6 m depth. Its salinity is 15–18 ‰. Tendra island is a bar situated south to the gulf. It consists of sand and shells. Dominants of aquatic vegetation are *Zostera noltii* (*Nanozostera noltii*), *Zostera marina*, *Ruppia spiralis*, *Zannichellia maior*, *Potamogeton pectinatus* (*Stuckenia pectinata*). On lower part of the beach *Cakile maritima*, *Crambe pontica*, *Salsola kali* subsp. *pontica* dominates. Typical species are *Argusia sibirica*, *Lactuca tatarica*, *Xanthium albinum*, *Leymus sabulosus*. On sand beaches above the driftline, dominants are *Leymus sabulosus*, *Crambe pontica*, *Calamagrostis epigeios*, *Polygonum euxinum*, *Elytrigia bessarabica*. Other typical species are *Asparagus maritimus*, *Astrodaucus littoralis*, *Centaurea odessana*, *Cynanchum acutum*, *Eryngium maritimum*, *Lactuca tatarica*, *Polygonum mesembricum*. Halophytic vegetation is represented by the communities of *Juncus maritimus*, *Halocnemum strobilaceum*, *Salicornia perennans*, *Halocnemum strobilaceum*, *Frankenia pulverulenta*, *Lepidium pumilum*, *Puccinellia syvaschica*, *Puccinellia fomini*, *Puccinellia bilykiana*, *Puccinellia brachylepis* (~ *P. gigantea*), *Aeluropus littoralis*, *Bolbochoenus maritimus*, *Tripolium vulgare*, *Scirpus tabernaemontani*. Drier salt habitats (salt steppes) are dominated by *Artemisia santonica*, *Festuca valesiaca*, *Stipa capillata*, *Agropyron pectinatum*, *Elytrigia pseudocaesia*. Typical species: *Achillea setacea*, *Artemisia austriaca*, *Bromus mollis*, *Bromus squarrosus*, *Festuca pseudodalmatica*, *Festuca valesiaca*, *Halimione verrucifera*, *Limonium meyeri*, *Poa bulbosa*, *Dianthus guttatus*, *Milium vernale*. Dominant species of dry grasslands on sands and shells (sand steppes) is *Festuca beckeri*, other typical species are *Artemisia arenaria*, *Asperula setulosa*, *Centaurea odessana*. In the mesic grasslands, there prevail *Agrostis sabulicola*, *Calamagrosts epigeios*, *Cynodon dactylon*, *Elytrigia elongata*, *Elytrigia repens*, *Phleum phleoides*, *Poa angustifolia*.
Botanical significance. Important area for conservation of sand steppes, littoral vegetation, sand dunes, halophytic vegetation, vegetation of salt waters and endemic psammophytic and halophytic species.
Criterion A

- *Allium regelianum* A.Beckerex Iljin; A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.
- *Allium scythicum* Zoz; A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Alyssum borzaeanum* Nyár. (*Odontarrhena borzaeana* (Nyár.) D.A.German); A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- A2.5 Coastal saltmarshes and saline reedbeds; area: 200 ha; trend: stable; area data quality: poor; trend data quality: medium.
- A5 Sublittoral sediment; area: 37000 ha; trend: stable; area data quality: good; trend data quality: medium.
- B1.3 Shifting coastal dunes; area: 50 ha; trend: stable; area data quality: medium; trend

data quality: medium.

- B1.4 Coastal stable dune grassland (grey dunes); area: 50 ha; trend: stable; area data quality: medium; trend data quality: medium.
- D6.1 Inland saltmarshes; area: 600 ha; trend: stable; area data quality: poor; trend data quality: medium.
- E6.2 Continental inland salt steppes; area: 11150 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

1. Білик Г.І., Ткаченко В.С. Рослинність урочища Потіївка Чорноморського державного заповідника // Укр. ботан. журн. – 1970. – 27. № 4. – С. 491–496.

2. Войтюк Б.Ю., Уманець О.Ю., Соломаха І.В Синтаксономія галофільної рослинності Чорноморського біосферного заповідника // Науковий вісник Чернівецького ун-ту: Збірник наукових праць. – Вип. 193: Біологія. – Чернівці: Рута, 2004. – С. 85–92.

3. Мринський О.П. Рослинність заповідної ділянки Ягорлицького півострова / Охорона, вивчення та збагачення рослинного світу. – Міжвідомчий збірник. – К: Вища школа, 1975. – С. 41–44.

4. Ткаченко В.С., Лисенко Г.М., Маяцький Г.Б., Уманець О.Ю. Структурні зміни фітоценокомплексів Солоноозерної ділянки Чорноморського біосферного заповідника за даними періодичного картографування // Укр. ботан. журн. – 1997. – 54. № 3. – С. 232–239.

5. Ткаченко В.С., Маяцький Г.Б. Динаміка рослинності Потіївської ділянки Чорноморського біосферного заповідника під впливом іригації // Укр. ботан. журн. – 1989. – 46. № 3. – С. 66–71.

6. Уманец О.Ю. Фитоценотическая характеристика сообществ с участием Puccinellia syvaschica Bilyk на территории Черноморского биосферного заповедника // Заповідна справа в Україні. – 2000, Т.6. – Вип.1. – С. 14–16.

7. Уманець О.Ю. БЗ Чорноморський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 73–93.

8. Уманець О.Ю., Войтюк Б.Ю., Соломаха І.В. Синтаксономія рослинності Чорноморського біосферного заповідника. IV. Ділянка Потіївська // Укр. фітоцен. зб. – Київ, 2001. – 1 (17). – С. 66–86.

9. Уманець О.Ю., Соломаха І.В. Синтаксономія рослинності Чорноморського біосферного заповідника І. Урочище “Ягорлицький Кут” // Укр. фітоцен. зб. – Київ. – 1998. – Сер. А., вип. 2 (11). – С. 109–127.

10. Уманець О.Ю., Соломаха І.В. Синтаксономія рослинності Чорноморського біосферного заповідника. ІІ. Острів Тендра // Укр. фітоцен. зб. – Київ. – 1999, Сер.А, вип.1–2 (12–13). – С. 63–77.

Tepe-Oba

V.A. Onyshchenko

Ukrainian name: Тепе-Оба.
Area: 3977.0 ha.
Altitude: 0–287 m.
Latitude: 45°00’09” N (45.0024°).

Longitude: 35°19’40” E (35.3276°).
Administrative regions. Autonomous Republic of Crimea: Feodosia city; Territorial waters of Ukraine.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 5.9%; B – 0.8%; E – 77.5%; F – 3.8%; G – 8.5%; H – 3.5%.
Habitats. Level 2. A1 Littoral rock and other hard substrata – 0.1%; A2 Littoral sediment – 0.1%; A3 Infralittoral rock and other hard substrata sediment – 3.5%; A5 Sublittoral sediment – 2.2%; B2 Coastal shingle – 0.3%; B3 Rock cliffs, ledges and shores, including the supralittoral – 0.5%; E1 Dry grasslands – 76.5%; E6 Salt steppes – 1.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; F7 Spiny Mediterranean heaths – 1.8%; G1 Broadleaved deciduous woodland – 2.8%; G3 Coniferous woodland – 5.7%; H2 Screes – 0.5%; H3 Inland cliffs, rock pavements and outcrops – 2.9%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. A2.1 Littoral coarse sediment; A2.5 Coastal saltmarshes and saline reedbeds; A3.2 Atlantic and Mediterranean moderate energy infralittoral rock; A3.2 Atlantic and Mediterranean low energy infralittoral rock; A5.1 Sublittoral coarse sediment; A5.5 Sublittoral macrophyte-dominated sediment; B2.1 Shingle beach driftlines; B2.2 Unvegetated mobile shingle beaches above the driftline; B2.3 Upper shingle beaches with open vegetation; B3.1 Supralittoral rock (lichen or splash zone); B3.2 Unvegetated rock cliffs, ledges, shores and islets; B3.3 Rock cliffs, ledges and shores, with angiosperms; B3.4 Soft sea-cliffs, often vegetated; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E1.3 Mediterranean xeric grassland; F3.2 Submediterranean deciduous thickets and brushes; F7.4 Hedgehog-heaths; F9.3 Southern riparian galleries and thickets; G1.7 Thermophilous deciduous woodland; G3.F Highly

artificial coniferous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: agriculture (animals) – major, tourism/recreation – minor
Protected areas: includes Tepe-Oba regional botanical reserve (1200 ha), overlaps with Tykha Bukta regional landscape park (about 1499 ha), same as Emerald Site "Tepe-Oba".
Threats: development (recreation/tourism) – medium, eutrophication – medium.
General description. Tepe-Oba is the easternmost part of the Crimean mountains with altitudes up to 238 m over the sea level. Major vegetation type is the steppe. Besides there are significant areas of sparsely vegetated rocks and screes, dry open rock debris swards, grasslands of submediterranean type with high cover of annuals, woods of *Quercus pubescens*, forest plantations of *Pinus*. Slope to the sea is steep, with cliffs about 100 m high. Shore consists of rocks, boulders, pebble and gravel. Dominant macrophytes in the sea are *Cystoseira crinita*, *Cystoseira barbata*, *Polisiphonia elongata*.
Botanical significance. Important area for conservation of dry grasslands, sea and inland cliffs, marine macrophytes communities, threatened endemic rock and steppe species.

- *Astracantha arnacantha* (M.Bieb.) Podlech; A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Astragalus reduncus* Pall.; A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe aspera* M. Bieb.; A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe koktebelica* (Junge) N.Busch; A(ii); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Crambe steveniana* Rupr.; A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Lepidium turczaninowii* Lipsky; A(i), A(ii), A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Onobrychis pallasii* (Willd.) M.Bieb.; A(iii); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.
- *Ophrys oestrifera* Bieb.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Orchis punctulata* Steven ex Lindl.; A(ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Stipa syreistschikowii* P.Smirn.; A(ii), A(iv); abundance: unknown; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- A3 Infralittoral rock and other hard substrata; area: 150 ha; trend: decreasing; area data quality: medium; trend data quality: poor.
- B3.3 Rock cliffs, ledges and shores, with angiosperms; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.
- E1.2 Perennial calcareous grassland and basic steppes; area: 700 ha; trend: stable; area data quality: medium; trend data quality: medium.
- F7 Spiny Mediterranean heaths; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.
- H3.2 Basic and ultra-basic inland cliffs; area: 40 ha; trend: stable; area data quality: poor; trend data quality: medium.

Literature

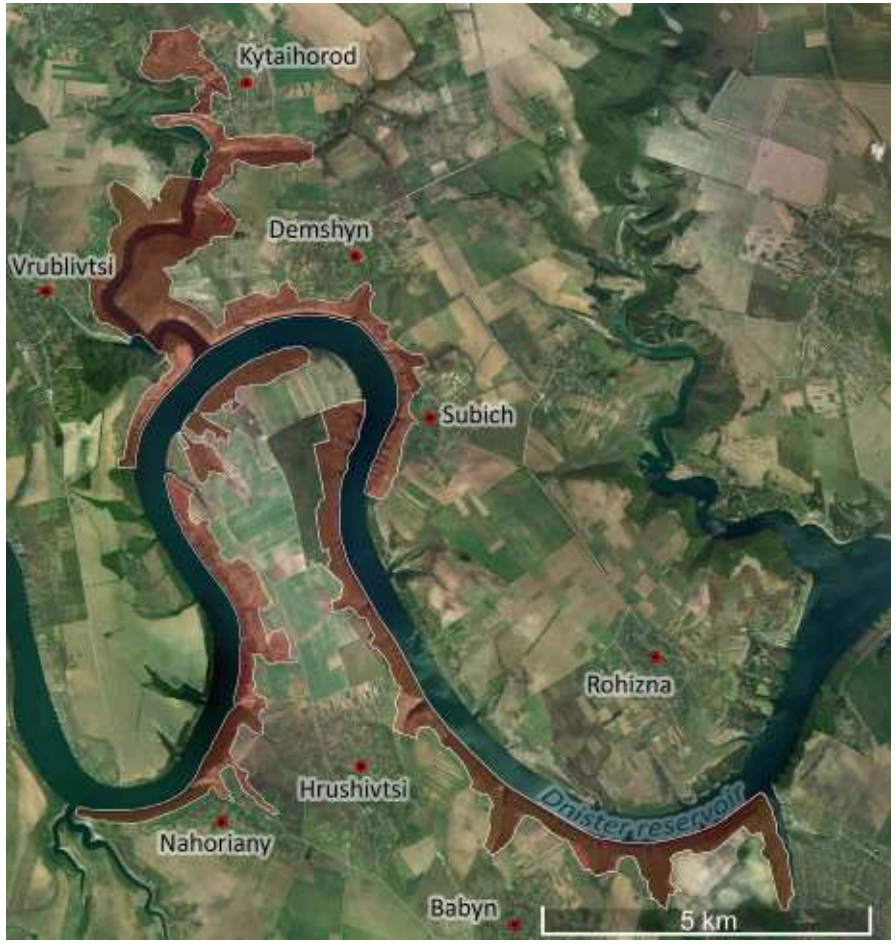
1. Костенко Н.С., Дикий Е.А., Алексеева Н.А. Донная растительность Юго–Восточного Крыма // Сборник научных трудов, посвященных 90–летию Карадагской научной станции и 25–летию Карадагского природного заповедника НАН Украины. – Симферополь: СОНАТ, 2004. – С. 66–84.
2. Костенко Н.С., Дикий Е.А., Заклецкий А.А., Марченко В.С. Донная растительность приоритетных акваторий юго-восточного Крыма: современное состояние и необходимые меры по сохранению // Заповедники Крыма – 2007. – Симферополь, 2007. – С. 63–68.
3. Шатко В.Г., Миронова Л.П. Конспект флоры хребта Тепе-Оба (Крым) // Бюллетень Главного ботанического сада. – 2011. – Вып. 197. – С. 43–70.

Ternava – Dnister

V.A. Onyshchenko

Ukrainian name: Тернава – Дністер.
Area: 1601.0 ha.
Altitude: 122–260 m.
Latitude: 48°36'35" N (48.6097°).
Longitude: 26°47'30" E (26.7917°).
Administrative regions. Chernivtsi region: Kelmentsi raion; Kmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state (major), private.
Biogeographic regions: continental.
Habitats. Level 1. C – 10.9%; E – 24.8%; F – 2.9%; G – 59.5%; H – 1.9%.
Habitats. Level 2. C1 Surface standing waters – 10.9%; E1 Dry grasslands – 24.8%; F3 Temperate and mediterranean-montane scrub – 2.9%; G1 Broadleaved deciduous woodland – 59.5%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 1.8%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs.
Land use: agriculture (animals) – major, forestry – major, nature conservation and research – major, tourism/recreation – minor.
Protected areas: overlaps (774 ha) with Podilski Tovtry national nature park, overlaps (662 ha) with Khotynskyi national nature park, includes Kytaihorodske Vidslonennia state geological nature monument (60 ha), includes Chaplia state botanical reserve (177 ha), overlaps (774 ha) with Emerald Site "Podilski Tovtry National Nature Park", overlaps (662 ha) with Emerald Site "Khotynskyi National Nature Park".
Threats: agricultural intensification/expansion (grazing) – low, development (recreation/tourism) – low.
General description. Steep slopes of the Ternava and Dnister rivers with dry grasslands, limestone and sandstone rocks, shrub vegetation and woods. Steppe vegetation is dominated by *Carex humilis*, *Festuca valesiaca*, *Sesleria heufleriana*, *Stipa capillata*,

Botriochloa ischaemum, *Koeleria cristata*, *Potentilla incana*. Typical species are *Asperula cynanchica*, *Campanula sibirica*, *Filipendula vulgaris*, *Galium verum*, *Medicago falcata*, *Salvia verticillata*, *Scabiosa ochroleuca*, *Silene eugeniae*, *Teucrium chamaedrys*, *Thymus marschallianus*. Shrub vegetation is represented mainly by *Prunus spinosa* communities. Besides there are *Crataegus curvisepala, C. fallacina, C. monogyna, Cerasus mahaleb, Prunus stepposa, Swida sanguinea* (*Cornus sanguinea*). The tree layer of woods consists of *Quercus robur*, *Quercus petraea*, *Sorbus torminalis*. In the shrub layer, there occur *Cornus mas*, *Staphylea pinnata*, *Viburnum lantana*. On the outcrops, there are *Allium montanum*,



Asplenium ruta-muraria, *Aurinia saxatilis*, *Cleistogenes bulgarica*, *Poa versicolor*, *Sedum acre*, *Sedum sexangulare*.

Botanical significance. Important area for conservation of Podolian steppes, shrubs and rocks and several endemic species.

Criterion A

- *Aconitum besserianum* Andrz.; A(iii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Iris hungarica* Waldst. & Kit.; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.
- *Schivereckia podolica* Andrz. ex DC. (*Draba podolica* (Besser) Rupr.); A(ii); abundance: occasional (1000 individuals); trend: stable; species data quality: good; trend data quality: medium.
- *Spiraea polonica* Błocki; A(iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C

- E1.11 Euro-Siberian rock debris swards; area: 15 ha; trend: stable; area data quality: medium; trend data quality: good.
- E1.2 Perennial calcareous grassland and basic steppes; area: 370 ha; trend: stable; area data quality: medium; trend data quality: medium
- F3.247 Ponto-Sarmatic deciduous thickets; area: 40 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.7 Thermophilous deciduous woodland; area: 100 ha; trend: stable; area data quality: poor; trend data quality: poor.
- H2.6 Calcareous and ultra-basic screes of warm exposures; area: 1 ha; trend: stable; area data quality: medium; trend data quality: good.
- H3.2 Basic and ultra-basic inland cliffs; area: 25 ha; trend: stable; area data quality: poor; trend data quality: good.

Literature

1. Волуца О.Д. *Spiraea polonica* Błocki (*Rosaceae*) у Чернівецькій області // Актуальні проблеми ботаніки та екології. Матеріали міжнародної конференції молодих учених. Кременець. 11-15 серпня 2009 р. – Тернопіль, 209. – С. 61-62.

2. Волуца О.Д., Токарюк А.І., Чорней І.І., Буджак В.В. Раритетні види флори національного природного парку “Хотинський”: поширення, ценотична приуроченість // Прагматичні аспекти діяльності національних природних парків у контексті збалансованого розвитку : матеріали міжнар.-практ. конф., присвяч. 20-річчю нац. природ. парку “Вижницький” (17-19 вер. 2015 р., смт Берегомет, Чернівецька обл., Україна). – Чернівці: ДрукАрт, 2015. – С. 326–347.

3. Волуца О. Д., Чорней І. І. Родина Зозулинцеві у флорі Північної Бессарабії // Запов. справа в Україні. – 2009. – Т. 15, вип. 2. – С. 26–31.

4. Заповідні перлини Хмельниччини / під ред. Т.Л.Андрієнко. – Хмельницький: ПАВФ “Інтрада”, 2006. – 220 с.

5. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

6. Федорончук М. М., Белемець Н. М., Волуца О. Д. Рідкісні види роду *Spiraea* L. (*Rosaceae*) флори України та стан їхньої охорони // Укр. ботан. журн. – 2013. – 70, № 2. – С. 164–167.

7. Чорней І. І., Буджак В. В., Токарюк А. І. Сторінками Червоної книги України (рослиннийсвіт). Чернівецька область. – Чернівці: ДрукАрт, 2010. – 452 с.

Tiup-Tarkhan i Kalynivskyi Pivostriv

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Тюп-Тархан і Калинівський півострів.
Transliteration/Translation variants: Tiup-Tarkhan and Kalynivskyi Peninsula.
Area: 5266.0 ha.
Altitude: 0–4 m.
Latitude: 45°48′07″ N (45.8018°).
Longitude: 34°40′40″ E (34.6778°).
Administrative regions. Autonomous Republic of Crimea: Dzhankoi raion.
Ownership: state.
Biogeographic regions: steppic.

Habitats. Level 1. A – 62.8%; E – 37.2%.
Habitats. Level 2. A2 Littoral sediment – 61.8%; A5 Sublittoral sediment – 1.0%; E1 Dry grasslands – 11.4%; E6 Salt steppes – 25.8%.
Futher habitat description. A2.3 Littoral mud; A2.4 Littoral mixed sediments; A2.5 Coastal saltmarshes and saline reedbeds; A5.3 Subittoral mud; E1.2 Perennial calcareous grassland and basic steppes; D6.1 Inland saltmarshes; E6.2 Continental inland salt steppes.
Land use: agriculture (animals) – major; nature conservation and research – major.
Protected areas: overlaps (about 3300 ha) with Kalynivskyi regional landscape park, overlaps (about 3700 ha) with Ramsar Site “Eastern Syvash”, overlaps with Emerald Site “Eastern Syvash” (4050 ha).
Threats: natural events: erosion – low.
General description. A part of shores of the Eastern Syvash with the steppe and halophytic vegetation. The steppes are dominated by *Agropyron pectinatum*, *Artemisia santonica*, *Carex melanostachya, Festuca valesiaca*, *Kochia prostrata*, *Poa bulbosa*, *Stipa capillata*, *S. ucrainica*. Other frequent species are *Atriplex aucheri*, *Elisanthe viscosa*, *Limonium tschurjukiense*, *Phlomis pungens*, *Verbascum densiflorum*. Mesic grasslands are dominated by *Elytrigia elongata* and *E. repens*. Dominants of salt grasslands are *Argusia sibirica*, *Artemisia santonica*, *Salsola soda* (*Soda inermis*), *Tripolium pannonicum*. The littoral halophytic vegetation is formed mainly by *Halocnemum strobilaceum*, *Halimione verrucifera*, *Salicornia perennans*, *Puccinellia fominii*, *Aeluropus littoralis*.
Botanical significance. One of the best sites for endemic species *Limonium tschurjukiense*.
Criterion A

- *Limonium tschurjukiense* (Klokov) Lavrenko ex Klokov; A(iv); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.

Conservation proposals. Create Syvaskyi national nature park and an Emerald Site including the entire IPA.
Literature

1. Коломійчук В. П., Онищенко В. А., Перегрим М. М. Важливі ботанічні території Приазов’я / за ред. Т. Л. Андрієнко. – К. : Альтерпрес, 2012. – 114 с.
2. Котов С.Ф., Вахрушева Л.П. Растительный покров Калиновского регионального ландшафтного парка (современное состояние и перспективы сохранения ценогенофонда) // Бюлл. Никитск. ботан. сада, 2003. – Вып. 88. – С. 34–37.
3. Котов С.Ф., Вахрушева Л.П., Бирюлева Э.Г. Научное обоснование о целесообразности организации в Крыму государственного ботанического заказника “Калиновский”. – Симферополь: Экоцентр “Синтез НТ”, 1991. – 21 с.

Tovtrivska Stinka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Товтрівська стінка.
Transliteration/Translation variants: Tovtry Wall, Tovtry Cliff.
Area: 16.1 ha.
Altitude: 196–255 m.
Latitude: 48°33′51″ N (48.5642°).
Longitude: 25°52′03″ E (25.8675°).
Administrative regions. Chernivtsi region: Zastavna raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1: E – 89.0%, F – 1.0%; H – 10.0% .
Habitats. Level 2: E1 Dry grasslands – 89.0%; F3 Temperate and mediterranean-montane scrub – 1.0%; H3 Inland cliffs, rock pavements and outcrops – 10.0%.
Futher habitat description: E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; H3.2 Basic and ultra-basic inland cliffs.
Land use: nature conservation and research – major.

Protected areas: includes Tovtrivska Stinka state botanical reserve .
Threats: –.

General description. Dry grasslands, gypsum and limestone outcrops. Grasslands are dominated by *Carex humilis*, *C. montana*, *Festuca valesiaca*, *Koeleria cristata*, *Poa angustifolia*, *Sesleria heufleriana*, *Stipa capillata*, *S. pennata.* Other frequent species are *Achillea submillefolium*, *Asperula cynanchica*, *Astragalus austriacus*, *A. onobrychis*, *Anthericum ramosum*, *Bupleurum falcatum*, *Galium verum*, *Gypsophila thyraica*, *Minuartia thyraica*, *Potentilla arenaria*, *Salvia pratensis*, *S. verticillata*, *Securigera varia*, *Teucrium chamaedrys*, *T. pannonicum*, *Thymus marschallianus*, *Trifolium montanum.*
Botanical significance. Large population of endemic species *Gypsophila thyraica*.
Criterion A

- *Gypsophila thyraica* A.Krasnova; A(iii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

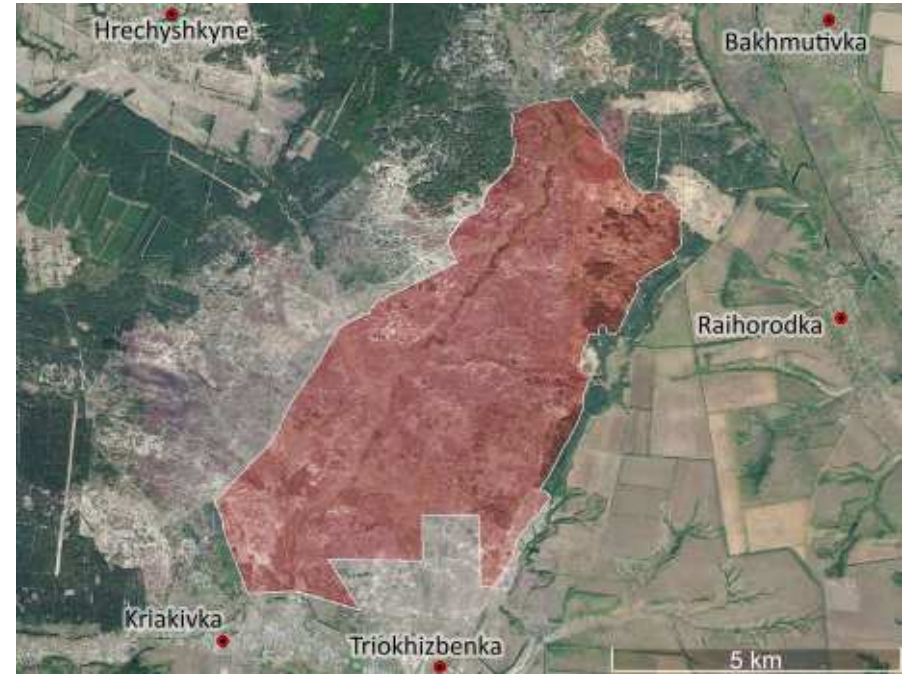
Literature

1. Чорней І.І., Скільський І.В., Коржик В.П., Буджак В.В. Заповідні об’єкти Буковини загальнодержавного значення як основа регіональної екологічної мережі // Заповідна справа в Україні. – 2001. – Т. 7, вип. 2. – С. 73–98.

Triokhizbenskyi Step

V.A. Onyshchenko

Ukrainian name: Трьохізбенський степ.
Transliteration/Translation variants: Triokhizbens’kyi Steppe.
Area: 3281.0 ha.
Altitude: 50–150 m.
Latitude: 48°48’37” N (48.8103°).
Longitude: 38°57’59” E (38.9664°).
Administrative regions. Luhansk region: Slovianoserbsk raion, Novoaidar raion.
Ownership: state.
Biogeographic regions: steppic.



Habitats. Level 1. E – 81.0%; F – 2.0%; G – 16.0%; H – 1.0%.
Habitats. Level 2. E1 Dry grasslands – 76.0%; E3 Seasonly wet and wet grasslands – 5.0%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 8.0%; G3 Coniferous woodland – 8.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland (× E1.1); E3.4 Moist or wet eutrophic and mesotrophic grassland; F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; H5.3 Sparsely- or un-vegetated habitats

on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: nature conservation and research – 100%.
Protected areas: included in Luhanskyi nature reserve (same as Triokhizbenskyi Step division of the reserve), included in Emerald Site "Luhanskyi Nature Reserve".
Threats: abandonment/reduction of land management – low.
General description. A part of sand terrace over the floodplain of the Siverskyi Donets river. Prevailng vegetation is open grasslands on sand dominated by *Koeleria sabuletorum*, *Festuca beckeri*, *Stipa borysthenica*, *Carex colchica*, *Agropyron tanaiticum*, *Agropyron lavrenkoanum*, *Calamagrostis epigeios*, *Artemisia marschalliana*. These habitats are rich in endemic species (*Achillea micrantha*, *Agropyron tanaiticum*, *Anchusa popovii*, *Astragalus varius*, *Centaurea majorovii*, *Jacobaea borysthenica* (*Senecio borysthenicus*), *Jurinea thyrsiflora*, *Linaria dulcis*, *Linaria genistifolia*, *Tragopogon tanaiticus*, *Tragopogon ucrainicus*). Besides there are wet meadows (*Juncus articulatus*, *Juncus conglomeratus*), shrub communities (*Salix acutifolia*, *Salix rosmarinifolia*), woods (*Betula pendula*, *Populus tremula*, *Populus nigra*, *Alnus glutinosa*, *Pinus sylvestris*).
Botanical significance. Important area for conservation of sand steppes and endemic psammophytic species.
Criterion A
- *Allium savranicum* Besser; A(ii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C
- E1.9 Open non-Mediterranean dry acid and neutral grassland, including inland dune grassland; area: 2400 ha; trend: stable; area data quality: medium; trend data quality: medium.
- X35 Inland Sand Dunes; area: 300 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Русіна Н.В., Ходосовцев О.Є. Ліхенобіота Трьохізбенського полігону як перспективного відділення Луганського природного заповідника // Наукові праці Луганського природного заповідника. Рослинний і тваринний світ та його охорона. – Луганськ. – 2008. – Вип. 1, присвячений 40-річному ювілею Луганського природного заповідника. – С. 38–43.

2. Русіна Н.В. Історія та сучасний стан дослідження ліхенобіоти Луганського природного заповідника // Наукові праці Луганського природного заповідника. Рослинний і тваринний світ та його охорона. – Луганськ. – 2011. – Вип. 2. – С. 47–53

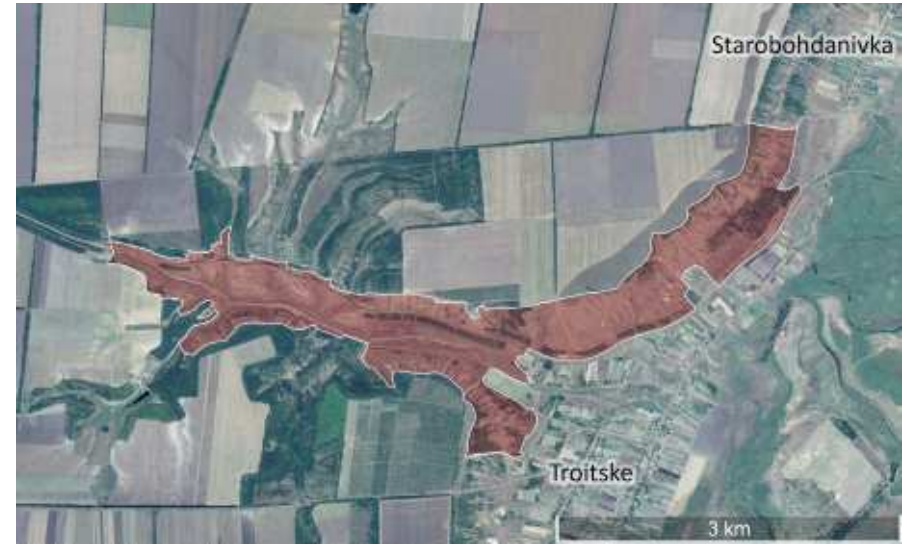
3. Сова Т.В., Боровик Л.П. ПЗ Луганський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 221–253.

4. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Troitska Balka

V.P. Kolomiychuk, V.A. Onyshchenko

Ukrainian name: Троїцька балка.
Transliteration/Translation variants: Troits'ka Ravine.
Area: 387.0 ha.
Altitude: 25–81 m.
Latitude: 47°04'07" N (47.0685°).
Longitude: 35°26'35" E (35.4430°).
Administrative regions. Zaporizhia region: Melitopol raion
Ownership: state.
Biogeographic regions: steppic.



Habitats. Level 1. E – 82.3%; F – 0.1%; G – 15.4%; H – 1.8%; J – 0.4%.
Habitats. Level 2. E1 Dry grasslands – 81.3%; E2 Mesic grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 0.1%; G1 Broadleaved deciduous woodland – 15.4%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.8%; J4 Transport networks and other constructed hard-surfaced areas – 0.4%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; G1.C Highly artificial broadleaved deciduous forestry plantations; H5.6 Trampled areas; J4.3 Rail networks.
Land use: agriculture (animals) – major; forestry – major; nature conservation and research – minor; urban/industrial/transport – minor.
Protected areas: includes regional entomological reserve "Tsilynna balka Troitska, dilianka №1" (17 ha), includes regional entomological reserve "Tsilynna balka Troitska, dilianka №2" (9 ha), includes regional botanical reserve reserve "Troitska balka" (1 ha), included in Emerald Site "Troitska Balka".

Threats: forestry (afforestation) – medium, included in Emerald Site "Troitska Balka".
General description. A valley with prevailing steppe vegetation dominated by *Stipa lessingiana*, *Stipa capillata*, *Stipa ucrainica*, *Agropyron pectinatum*, *Festuca valesiaca*.
Botanical significance. Important area for threatened steppe species *Calophaca wolgarica*, *Tulipa ophiophylla*, *Cymbochasma borysthenica*, *Allium pervestitum*, *Elytrigia stipifolia*, *Caragana scythica*, *Centaurea talievii*, *Astragalus pallescens*, *Eremogone rigida*, *Dianthus palidiflorus*.
Criterion A

- *Calophaca wolgarica* (L.f.) DC.; A(iv); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Conservation proposals. Do not allow artificial afforestation. Create a state botanical reserve and an Emerald Site including the entire IPA.
Literature

1. Коломійчук В.П. Ключові ботанічні території Північного Приазов'я // Заповідна справа в Україні. – 2008. – Т.14, вип. 1. – С. 61–66.
2. Коломійчук В. П., Онищенко В. А., Перегрим М. М. Важливі ботанічні території Приазов'я / за ред. Т. Л. Андрієнко. – К. : Альтерпрес, 2012. – 114 с.

Trostianets

V.A. Onyshchenko, O.M. Popova

Ukrainian name: Тростянець.
Area: 665.0 ha.
Altitude: 40–150 m.
Latitude: 47°29'05" N (47.4847°).
Longitude: 29°11'50" E (29.1973°).
Administrative regions. Odesa region: Krasni Okny raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. C – 1.6%; E – 70.9%; F – 2.0%; G – 24.0%; H – 1.5%.
Habitats. Level 2. C3 Littoral zone of inland surface waterbodies – 1.6%; E1 Dry grasslands – 69.0%; E2 Mesic grasslands – 1.9%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 12.0%; G3 Coniferous woodland – 12.0%; H2 Screes – 0.2%; H3 Inland cliffs, rock pavements and outcrops – 1.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; E2.5 Meadows of the steppe zone; F3.2 Submediterranean deciduous thickets and brushes; G1.7 Thermophilous deciduous woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity; H5.6 Trampled areas.
Land use: agriculture (animals) – 70%; forestry – 24%; mowing/hay making – minor.
Protected areas: same as Emerald Site "Trostianetskyi".
Threats: abandonment/reduction of land management – low; agricultural intensification/ expansion (grazing) – low; forestry (afforestation) – low.
General description. Valleys of the Trostianets river and its tributaries. The steppe vegetation occupies the largest area. Besides there are termophilous *Quercus robur* forests, artificial plantations of coniferous and broadleaved trees, outcrops of limestone, mesic meadows and reed marshes.

Botanical significance. One of two localities of *Genista tetragona* in Ukraine.
Criterion A

- *Genista tetragona* Besser; A(i), A(ii), A(iv); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create a state botanical reserve and an Emerald Site including the entire IPA.

Tsetsyno

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Цецино.
Area: 519 ha.
Altitude: 295–537 m.
Latitude: 48°18’07” N (48.3019°).
Longitude: 25°49’45” E (25.8292°).
Administrative regions. Chernivtsi region: Chernivtsi city, Kitsman raion, Storozhynets raion.
Ownership: state.
Biogeographic regions: continental.

Habitats. Level 1: G – 99.2%, H – 0.2%, J – 0.6%.
Habitats. Level 2: G1 Broadleaved deciduous woodland – 99.2%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%, J4 Transport networks and other constructed hard-surfaced areas – 0.6%.
Futher habitat description: G1.6 *Fagus* woodland; H5.6 Trampled areas, J4.2 Road networks.
Land use: forestry – minor; nature conservation and research – major.
Protected areas: included in Chernivetskyi regional landscape park, include Tsetsyno state landscape reserve (430 ha), included in Emerald Site “Chernivetskyi Regional Landscape Park”.
Threats: forestry (intensified forest management) – low.
General description. *Fagus sylvatica* forest with participation of *Acer platanoides* and *Acer pseudoplatanus*. Sparse shrub layer consists *Sambucus nigra* (predominantly), *Corylus avellana*, *Swida sanguinea* (*Cornus sanguinea*), *Viburnum opulus*, rarely *Staphylea pinnata*. Frequent summer species of the herb layer are *Galium odoratum*, *Lamium galeobdolon*, *Pulmonaria obscura*, *Asarum europaeum*, *Mercurialis perennis*, *Aegopodium podagraria*, *Actaea spicata*, *Dryopteris filix-mas*, *Salvia glutinosa*, *Symphytum cordatum*, *Paris quadrifolia*, *Stachys sylvatica*. Spring ephemeroids are respresented by *Allium ursinum*, *Corydalis cava*, *Corydalis solida*, *Crocus heuffelianus, Ficaria verna*, *Isopyrum thalictroides.* Typical are calciphilous species *Cephalanthera damasonium*, *C. longifolia*, *C. rubra*, *Cypripedium calceolus*, *Epipactis helleborine*, *Epipactis purpurata*, *Neottia nidus-avis*, *Platanthera bifolia*, *Sorbus torminalis*, *Taxus baccata*.

Botanical significance. Important area for calciphilous beech forests and *Cypripedium calceolus*.
Criterion A
- *Cypripedium calceolus*; A(ii); abundance: occasional; trend: unknown; species data quality: good; trend data quality: poor.

Criterion C
- G1.66 Medio-European limestone *Fagus* forests (*9150); area: 300 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Чорней І.І., Скільський І.В., Коржик В.П., Буджак В.В. Заповідні об’єкти Буковини загальнодержавного значення як основа регіональної екологічної мережі // Заповідна справа в Україні. – 2001. – Т. 7, вип. 2. – С. 73–98.

Tulyntsi – Makedony

V.A. Onyshchenko

Ukrainian name: Тулинці – Македони.
Area: 529.0 ha.
Altitude: 114–182 m.
Latitude: 49°48’49” N (49.8135°).
Longitude: 31°08’18” E (31.1383°).
Administrative regions. Kyiv region: Myronivka raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 75.1%; F – 0.1%; G – 24.2%; H – 0.6%.
Habitats. Level 2. E1 Dry grasslands – 70.1%; E2 Mesic grasslands – 5.0%; F3 Temperate and mediterranean-montane scrub – 0.1%; G1 Broadleaved deciduous woodland – 24.2%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.6%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.
Land use: agriculture (animals) – major; nature conservation and research – minor.
Protected areas: includes regional botanical reserve “Tulynetski Perelisky” (88 ha).
Threats: agricultural intensification/expansion (grazing) – medium.
General description. Valleys with the steppe and forest vegetation. Major dominants of grasslands are *Poa angustifolia*, *Bromopsis inermis*, *Botriochloa ischaemum*, *Calamagrostis epigeios*. Communities with the dominance of *Carex humilis*, *Festuca rupicola*, *Festuca valesiava*, *Stipa capillata*, *Stipa pennata* occupy smaller areas. Frequent species are *Carex*

praecox, *Elytrigia intermedia*, *Elytrigia repens*, *Medicago falcata*, *Salvia pratensis*. The grasslands have many species that are character species of meadows steppes: *Adonis vernalis*, *Anemone sylvestris*, *Astragalus onobrychis*, *Astragalus dasyanthus*, *Bulbocodium versicolor*, *Crocus reticulatus*, *Dianthus membranaceus*, *Fritillaria ruthenica*, *Inula hirta*, *Iris hungarica*, *Jurinea arachnoidea*, *Jurinea salicifolia*, *Jurinea calcarea*, *Hyacinthella leucophaea*, *Pedicularis kaufmannii*, *Pulsatilla pratensis*, *Salvia nemorosa*, *Scorzonera purpurea*, *Thalictrum minus*. In bottoms of the valleys there are mesic and wet meadows.

Botanical significance. One of the largest areas of meadow steppes in Ukraine.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 350 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Бортняк М.М., Войтюк Ю.О., Любченко В.М., Голяченко Т.В. Флористичні особливості ділянки ділянки степу Шандра-Тулинці // Укр. ботан. журн. – 1993. – 50, № 2. – С. 122–125.

2. Василюк О., Костюшин В., Норенко А., Плига А., Прекрасна Є., Коломицев Г., Фатікова М. Природно-заповідний фонд Київської області. Київ: НЕЦУ, 2012. – 338 с.

3. Кучерява Л. Ф., Шевчик В. Л., Бакаліна М. В., Тищенко О. В. Червонокнижні види у заказнику "Тулинецькі переліски" (Київська обл.) // Роль природно-заповідних територій у підтриманні біорізноманіття. Матеріали конф. – Канів, 2003. – С. 116.

4. Кучерява Л. Ф., Шевчик В. Л., Тищенко О. В. Судинні рослини заказника "Тулинецькі переліски" (Київська обл.) // Заповідна справа в Україні. – 2007. – 13, 1–2. – С. 38–41.

5. Мельник В. І., Гриценко В. В. Росслинний покрив урочища "Тулинецькі переліски" – еталон лучних степв Київського плато // Збірник наукових праць Полтавського дер. пед. ун-ту ім. В. Г. Короленка. Серія "Екологія.Біологічні науки". – Полтава, 2005. – №4 (43) – С. 22–28.

Turova Dacha

V.A. Onyshchenko, N.V. Shumska

Ukrainian name: Турова дача.
Area: 1046.0 ha.
Altitude: 402–420 m.
Latitude: 48°52'02" N (48.8672°).
Longitude: 24°14'36" E (24.2433°).
Administrative regions. Ivano-Frankivsk region: Rozhniativ raion.

Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.0%; D – 0.3%; E – 0.1%, G – 98.9%; H – 0.7%.
Habitats. Level 2. C2 Surface running waters – 0.0%; D1 Raised and blanket bogs – 0.2%; D2 Valley mires, poor fens and transition mires – 0.1%; E3 Seasonally wet and wet grasslands – 0.1%; G1 Broadleaved deciduous woodland – 5.5%; G3 Coniferous woodland – 73.4%; G4 Mixed deciduous and coniferous woodland – 20.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.7%.
Futher habitat description. C2.3 Permanent non-tidal, smooth-flowing watercourses; D1.1 Raised bogs; D2.2 Poor fens and soft-water spring mires; D2.3 Transition mires and quaking bogs; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.5 Broadleaved swamp woodland on acid peat; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus*

aucuparia; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.E Nemoral bog conifer woodland; G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland.
Land use: forestry – major, nature conservation and research – 24%.
Protected areas: includes state hydrological reserve "Turova Dacha" (255 ha), included in Emerald Site "Turova Dacha".
Threats: burning of vegetation – low, eutrophication – low; water (drainage) – low.
General description. Swamped *Pinus sylvestris* woods with the layer of *Sphagnum* and wet *Pinus sylvestris* woods. In the layer of herbs and small shrubs of the swamped woods, there dominate *Eriophorum vaginatum*, *Ledum palustre*, *Vaccinium oxycoccos* (*Oxycoccus palustris*), *Vaccinium uliginosum*. The moss layer is formed by *Sphagnum capillifolium*, *S. magellanicum*, *S. recurvum* s.l., *Polytrichum strictum*. In the forests of lower moisture, typical dominant is *Vaccinium myrtillus*. The area of swamped woods is decreasing because of drainage works carried out several decades ago.
Botanical significance. The largest *Sphagnum* pine wood in the alpine biogeographic region of Ukraine.
Criterion C

- G3.E Nemoral bog conifer woodland; area: 100 ha; trend: decreasing; area data quality: poor; trend data quality: good.

Conservation proposals. Increase the groudwater level.
Literature

1. Онищенко В.А., Андрієнко Т.Л. Клас Oxycocco-Sphagnetea Br.-Bl. et Tüxen ex Westhoff et al. 1946 в Українських Карпатах. – Укр. ботан. журн. – 2015. – 72 (3). – С. 218–228.
2. Природно-заповідні території та об'єкти Івано-Франківщини. – Івано-Франківськ, 2000. – 272 с.

Ubort – Bolotnytsia

V.A. Onyshchenko

Ukrainian name: Уборть – Болотниця.
Area: 23423 ha.
Altitude: 148–178 m.
Latitude: 51°30'40" N (51.5111°).
Longitude: 27°57'03" E (27.9508°).
Administrative regions. Zhytomyr region: Olevsk raion, Ovruch raion.
Ownership: state
Biogeographic regions: continental.
Habitats. Level 1. C – 0.2%; D – 11.0%; E – 1.4%; F – 1.0%; G – 85.4%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.04%; C2 Surface running waters – 0.03%; C3 Littoral zone of inland surface waterbodies – 0.13%; D1 Raised and blanket bogs – 1%; D2 Valley mires, poor fens and transition mires – 9%; D5 Sedge and reedbeds, normally without free-standing water – 1%; E1 Dry grasslands – 1%; E3 Seasonally wet and wet grasslands – 0.4%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 8%; G3 Coniferous woodland – 55.4%; G4 Mixed deciduous and coniferous woodland – 22%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3

Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; D1.1 Raised bogs; D2.2 Poor fens and soft-water spring mires; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.1 Inland sand and rock with open vegetation; E3.4 Moist or wet eutrophic and mesotrophic grassland; F9.1 Riverine scrub; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.5 Broadleaved swamp woodland on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga (major); G3.E Nemoral bog conifer woodland; G4.1 Mixed swamp woodland; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland.

Land use: forestry – minor, mowing / hay making – minor, nature conservation and research – 97%.
Protected areas: includes Poliskyi nature resrve (20858 ha), includes Didove Ozero state hydrological reserve (294 ha), includes Plotnytsia state landscape reserve (460 ha), overlaps with Emerald Site "Poliskyi" (22966 ha).
Threats: abandonment/reduction of land management – low, burning of vegetation – low, water (drainage) – low.
General description. Complex of *Pinus sylvestris* forests on fluvioglacial sands, with

oligotrophic, mesotrophic and eutrophic mires. Most constant species of pine forests are *Betula pendula*, *Dicranum polysetum*, *Pleurozium schreberi*. Often these species are dominants. Dry lichen forests differ by presence and dominance of *Calluna vulgaris*, *Cladonia rangiferina*, *Cladonia aplestris*, *Corynephorus canescens*, *Polytrichum piliferum*. Mesic pine forests have high constancies of *Calamagrostis epigeios*, *Calluna vulgaris*, *Chamaecytisus zingeri*, *Festuca ovina*. Constant differential species of wet pine forests are *Frangula alnus*, *Molinia caerulea*, *Populus tremula*, *Quercus robur*, *Sorbus aucuparia*, *Vaccinium vitis-idaea*, *Vaccinium myrtilus*. Swamp pine forests differ from wet ones by presence of *Andromeda polifolia*, *Eriophorum vaginatum*, *Polytrichum alpestre*, *Sphagnum cuspidatum*, *Sphagnum fallax*, *Vaccinium oxycoccos* (*Oxycoccus palustris*), *Vaccinium uliginosum*. Constant species of raised bogs are *Andromeda polifolia*, *Betula pubescens*, *Calluna vulgaris*, *Eriophorum vaginatum*, *Ledum palustre*, *Vaccinium oxycoccos*, *Pinus sylvestris*, *Polytrichum alpestre*, *Sphagnum centrale*, *Sphagnum cuspidatum*, *Sphagnum fallax*, on hummocks – *Sphagnum magellanicum*. Usually they have an open tree layer of low *Pinus sylvestris* and *Betula pubescens*. Most frequent dominants of the lower layers are *Eriophorum vaginatum*, *Sphagnum cuspidatum*, *Sphagnum fallax*. Transition mires usually are dominated by *Carex lasiocarpa*, *Sphagnum recurvum* s.l., *Sphagnum cuspidatum*. Often they have a tree layer of *Pinus sylvestris* and *Betula pubescens*. Other constant species are *Eriophorum vaginatum* and *Polytrichum alpestre*. Eutrophic mires are dominated by *Carex elata* and *Carex rostrata*.

Botanical significance. Important for conservation of mires and pine forests.

Criterion C

- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; area: 0.1 ha; trend: stable; area data quality: poor; trend data quality: poor; note: *Juncus bulbosus*.
- D2.3 Transition mires and quaking bogs; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: poor.
- G3.E Nemoral bog conifer woodland; area: 1500 ha; trend: stable; area data quality: poor; trend data quality: poor.
- X04 Raised bog complexes; area: 200 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature

1. Андрієнко Т.Л. ПЗ Полівський // Фіторізноманіття заповідників і національних природних парків України. Ч.1. Біосферні заповідники. Природні заповідники / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ, 2012. – С. 301–312.
2. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 216 с.
3. Андриенко Т.Л., Попович С.Ю., Шеляг-Сосонко Ю.Р. Полесский государственный заповедник. Растительный мир. – Киев: Наук. думка, 1986. – 208 с.
4. Балашов Л.С., Мошкова Н.О. Синузії деяких водоростей асоціації водяного горіха (Trapa rossica V.Vassil.) в заплаві р. Уборті // Укр. ботан. журн. – 1973. – 3, № 3. – С. 360–364.
5. Бумар Г.Й. *Chamaedaphne calyculata* (L.) Moench. на Житомирському Поліссі // Укр. ботан. журн. – 1990. – 47, № 4. – С. 73–74.
6. Водно-болотні угіддя України / Під ред. Г.Б. Марушевського, І.С. Жарук. – К.: Wetlands International Black Sea Programme, 2006. – 312 с.
7. Воробйов Є.О., Балашов Л.С., Соломаха В.А. Синтаксономія рослинності Поліського природного заповідника // Укр. фітоцен. зб. – 1997. Сер. Б, вип. 1(8). – К., 1997. – 128 с.

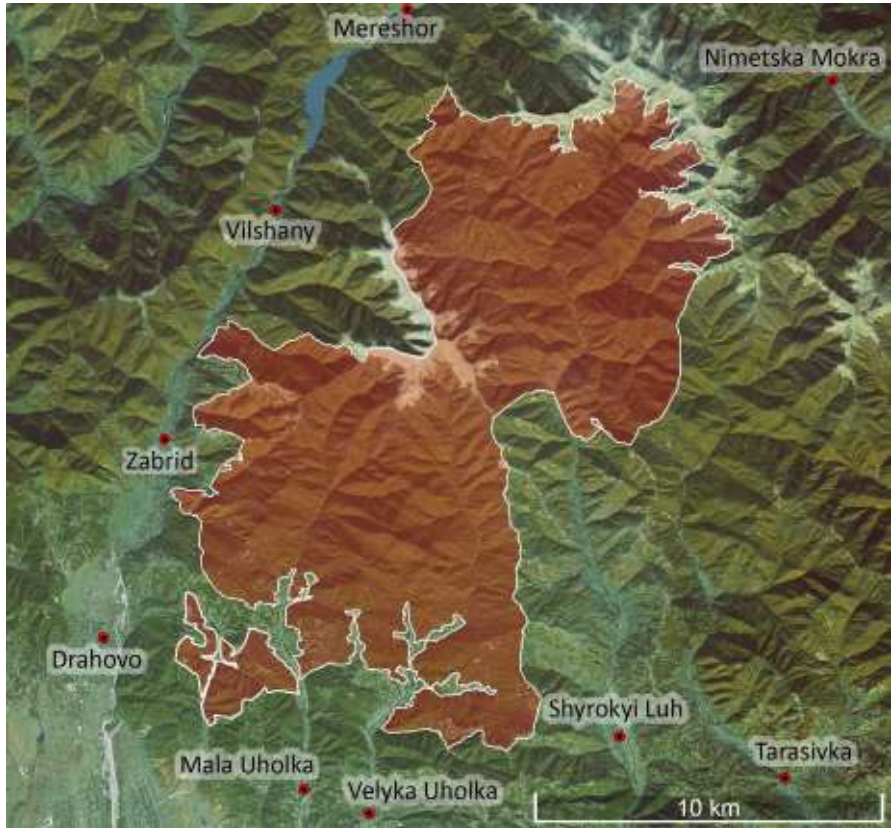
8. Маслова В.Р. Лишайники Поліського заповідника // Укр. ботан. журн. – 1977. – 34, № 1. – С. 55–61.
9. Орлов О.О. Рідкісні та зникаючі види судинних рослин Житомирської області. – Житомир: Волинь, 2005. – 496 с.
10. Парахонська Н.О., Мошкова Н.О. Рослинний покрив болота Волисок у Поліському заповіднику та деякі його альгосинузії // Укр. ботан. журн. – 1975. – 32, № 6. – С. 741–746.
11. Партика Л.Я. До бріофлори Поліського природного заповідника. – Укр. ботан. журн. – 1974. – 31, № 6. – С. 770–773.
12. Партика Л.Я. Бриофлора // Полесский государственный заповедник. Растительный мир. – Киев: Наук. думка, 1986. – С. 34–41.
13. Поліському природному заповіднику – 30 років. – Зб. наук. праць. – Вип. 1. – Житомир, 1999. – 144 с.
14. Попович С.Ю. Флористичні знахідки на території Поліського державного заповідника // Укр. ботан. журн. – 1983. – 40, № 6. – С. 94–98.
15. Фіторізноманіття Поліського природного заповідника: водорості, мохоподібні, судинні рослини / за заг. ред. к.б.н. О.О. Орлова. – К.: НВП Інтерсервіс, 2013. – 256 с.
16. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Uholka – Shyrokyi Luh

V.A. Onyshchenko

Ukrainian name: Уголька – Широкий Луг.
Area: 14485.0 ha.
Altitude: 370–1501 m.
Latitude: 48°17’52” N (48.2979°).
Longitude: 23°41’14” E (23.6873°).
Administrative regions. Zakarpatska region: Khust raion, Tiachiv raion.
Ownership: state (major), private.
Biogeographic regions: alpine.
Habitats. Level 1. C – 0.2%; E – 4.0%; G – 95.7%; H – 0.1%.
Habitats. Level 2. C2 Surface running waters – 0.2%; E1 Dry grasslands – 1.9%; E2 Mesic grasslands – 0.3%; E4 Alpine and subalpine grasslands stands – 1.8%; G1 Broadleaved deciduous woodland – 95.6%; G3 Coniferous woodland – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.1%.
Futher habitat description. C2.1 Springs, spring brooks and geysers; C2.2 Permanent non-tidal, fast, turbulent watercourses; E1.7 Non-Mediterranean dry acid and neutral closed grassland (E1.71 *Nardus stricta* swards, E1.72 *Agrostis* – *Festuca* grassland); E2.2 Low and medium altitude hay meadows; G1.6 *Fagus* woodland; G3.F Highly artificial coniferous plantations; H2.3 Temperate-montane acid siliceous screes; H2.4 Temperate-montane calcareous and ultra-basic screes; H3.1 Acid silicious inland cliffs; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.
Land use: agriculture (animals) – minor, forestry – minor, mowing/hay making – minor, nature conservation and research – major.

Protected areas: included in Karpatskyi biosphere reserve (national category), included in Carpathian biosphere reserve (UNESCO), included in World Heritage Site "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany" (14485 ha; core zone: 11860 ha, buffer zone: 2625 ha), included in Emerald Site "Carpathian Biosphere Reserve".
Threats: –.



General description. The beech forest occupies about 95% of the area. Predominantly it is the neutrophilous forest. The tree layer usually consists of *Fagus sylvatica*. Constant species are *Acer pseudoplatanus*, *Athyrium filix-femona*, *Dentaria bulbifera* (*Cardamine bulbifera*), *Dentaria glandulosa* (*Cardamine glandulosa*), *Dryopteris filix-mas*, *Galium odoratum*, *Rubus hirtus*. Acidophilous beech forests occupies a smaller area. Besides there are calcareous beech forests. They differ by presence of *Tilia platyphyllos*, *Taxus baccata*, *Carex digitata*, *Hepatica nobilis*, *Melittis carpaticum*, *Moehringia muscosa*, *Primula acaulis*, *Seseli libanotis*.
Botanical significance. Probably this is the largest primeval beech forest in Europe.
Criterion A

- *Mannia triandra* (Scop.) Grolle; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

- *Neckera pennata* Hedw.; A(ii); abundance: rare; trend: unknown; species data quality: poor; trend data quality: poor.

Criterion B

- G1 deciduous broadleaved woodland; area 13860 ha; % of indicator species: 20.8%; No of indicator species: 16; trend: increasing; species data quality: good; area data quality: good; trend data quality: good.

Criterion C

- G1.6 *Fagus* woodland (excluding G1.66); area: 13800 ha; trend: stable; area data quality: good; trend data quality: good.
- G1.66 Medio-European limestone *Fagus* forests (*9150); area: 10 ha; trend: stable; area data quality: medium; trend data quality: good.

Literature

1. Brändli U.-B., Dovhanych Y. Virgin forest of Uholka: Nature Guide to the Largest Virgin Beech Forest of Europe. A UNESCO World Heritage Site. WSL, Rakhiv: Birmensdorf and CBR, 2008 – 23 p.
2. Гамор Ф.Д., Волощук М.І., Антосяк Т.М., Козурак А.В. БЗ Карпатський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 45–72.
3. Гамор Ф.Д., Довганич Я.О., Покиньчереда В.Ф. та ін. Праліси Закарпаття. Інвентаризація та менеджмент. – Рахів, 2008. – 86 с.
4. Біорізноманіття Карпатського біосферного заповідника / Кол. авт., Ред. рада: Я.І. Мовчан, Ф.Д. Гамор та ін. – К.: Інтерекоцентр, 1997. – 711 с.
5. Онищенко В.А. Лісова рослинність верхньої частини басейну Малої Угольки (Карпатський біосферний заповідник) // Науковий вісник Чернівецького університету. – 2007. – Вип. 343: Біологія. – С. 130–147.
6. Праліси в центрі Європи: Путівник по лісах Карпатського біосферного заповідника / Кол. авт., ред.: У-Б. Брендлі, Я. Довганич. – Бірменсдорф: Швейцарський федеральний ін-т досліджень лісу, снігу і ландшафтів (WSL) – Рахів: Карпатський біосферний заповідник (КБЗ), 2003. – 192 с.
7. Флора і рослинність Карпатського заповідника / Стойко С.М., Тасенкевич Л.О., Мілкіна Л.І. та ін. – К.: Наук. думка, 1982. – 220 с.

Ustia – Shutnivtsi

L.H. Lubinska, V.A. Kolodiy

Ukrainian name: Устя – Шутнівці.
Area: 46.5 ha.
Altitude: 122–210 m.
Latitude: 48°35'07" N (48.5853°).
Longitude: 26°37'32" E (26.6255°).
Administrative regions. Kmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 9.6%; F – 7.4%; G – 70.0%; H – 13.0%.
Habitats. Level 2. E1 Dry grasslands – 9.6%; F3 Temperate and mediterranean-montane

scrub – 7.4%; G1 Broadleaved deciduous woodland – 70.0%; H2 Screes – 1.0%; H3 Inland cliffs, rock pavements and outcrops – 12.0%.

Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2

Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs.

Land use: agriculture (animals) – minor, forestry – minor, nature conservation and research – major, tourism/recreation – minor.

Protected areas: included in Podilski Tovtry national nature park (zone of regulated recreation), included in Emerald Site "Podilski Tovtry National Nature Park".

Threats: agricultural intensification/expansion (grazing) – low, development (recreation/tourism) – low.

General description. Steep slopes of the Smotrych river valley with calcareous rocks, shrub vegetation dominated by *Prunus spinosa*, and deciduous forest. Typical species of the outcrops are *Aurinia saxatilis*, *Sedum acre*, *Allium podolicum*, *Potentilla arenaria*, *Stipa capillata*, *Veronica incana*, *Festuca valesiaca*, *Sesleria heufleriana*, *Teucrium chamaedrys*, *T. pannonicum*, *Thymus moldavicus*, *Scabiosa ochroleuca*, *Schivereckia podolica* (*Draba podolica*), *Anthericum ramosum*. The area belongs to the zone of regulated recreation of national nature park "Podiliski Tovtry".

Botanical significance. One of the best populations of *Schivereckia podolica* in Ukraine.

Criterion A

- *Schivereckia podolica* (Besser) Andrz. et Besser ex DC. (*Draba podolica* (Besser) Rupr.); A(ii); abundance: frequent; trend: unknown; species data quality: good; trend data quality: poor.

Vasylivka

V.P. Kolomiychuk, L.V. Markivska

Ukrainian name: Василівка.
Area: 132.5 ha.
Altitude: 153–235 m.
Latitude: 48°14'37" N (48.2436°).
Longitude: 29°18'41" E (29.3114°).
Administrative regions. Vinnytsia region: Chechelnyk raion.
Ownership: state.
Biogeographic regions: continental

Habitats. Level 1. E – 95.0%; F – 1.0%; G – 3.0%; H – 1.0%

Habitats. Level 2. E1 Dry grasslands – 94.7%; E7 Sparsely wooded grasslands – 0.3%; G1 Broadleaved deciduous woodland – 1.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes.

Land use: nature conservation and research – minor.

Protected areas: includes regional botanical reserve "Romashkove" 8.7 ha (a part of Karmeliukove Podillia national nature park), overlaps with Emerald Site "Karmeliukove

Podillia National Nature Park" 8.7 ha).
Threats: abandonment/reduction of land management – low, agricultural intensification/ expansion (grazing) – low, burning of vegetation – low.
General description. Slopes with the steppe vegetation dominated by *Festuca valesiaca*, *Elytrigia intermedia*, *Poa angustifolia*, *Stipa capillata*, with presence of *Botryochloa ischaemum*, *Bromopsis inermis*, *Chamaecytisus austriacus*, *Convolvolus arvensis*, *Elytrigia repens*, *Euphorbia cyparissias*, *Galium verum*, *Inula encifolia*, *Koeleria cristata*, *Salvia pratensis*, *Salvia verticillata*, *Securigera varia*, *Stachus recta*, *Teucrium chamaedrys*.
Botanical significance. Important area for *Carlina onopordifolia*.
Criterion A

- *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł.; A(i), A(ii), A(iv); abundance: occasional (1400 individuals); trend: stable; species data quality: good; trend data quality: poor.

Conservational proposals. Include entire IPA in national nature park "Karmeliukove Podillia".
Literature

1. Kuzemko A.A., Becker T., Didukh Y.P., Ardelean I.A., Becker U., Beldean M., Dolnik C., Jeschke M., Naqinezhad A., Ugurlu E., Ünal A., Vassilev K., Vorona E.I., Yavorska O.H., Dengler J. Dry grassland vegetation of Central Podolia (Ukraine) – a preliminary overview on syntaxonomy, ecology and biodiversity // Tuexenia. – 2014. – Vol. 34. – S. 391–430.
2. Дідух Я.П., Кагало О.О., Орлов О.О. Відкасник татарниколистий *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł. / Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – С. 279.
3. Мельник В.І., Скоропляс І. О., Ваколюк В. Д. *Carlina onopordifolia* (*Asteraceae*) на Східному Поділлі // Укр. ботан. журн. – 2014. – 71, №3. – С. 324–329.
4. Польовий Є.В., Дідух Я. П. Еколого-територіальна диференціація рослинного покриву модельного полігону "Ромашково" в долині р. Савранки (Вінницька обл.) // Укр. ботан. журн. – 2014. – 71, №6. – С. 647–659.
5. Яворська О.Г. НПП Кармелюкове Поділля // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ, 2012. – С. 265–272.

Vasylivskyi i Rozkopynskyi Yary

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Василівський і Розкопинський яри.
Transliteration/Translation variants: Vasylivs'kyi and Rozkopyns'kyi Ravines.
Area: 1962 ha.
Altitude: 84–263 m.
Latitude: 48°30'08" N (48.5021°).
Longitude: 27°25'36" E (27.4263°).
Administrative regions. Chernivtsi region: Sokyriany raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 0.2%; G – 99.0%; H – 0.8%.
Habitats. Level 2. C2 Surface running waters – 0.0%; E1 Dry grasslands – 0.2%; G1 – Broadleaved deciduous woodland – 99.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.8%.
Futher habitat description. C2.5 Temporary running waters; E1.2 Perennial calcareous grassland and basic steppes; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.

Land use: forestry – major, nature conservation and research – minor.
Protected areas: includes (about 497 ha) with regional landscape reserve "Vasilivskyi Yar".
Threats: forestry (intensified forest management) – medium.
General description. Broadleaved forests dominated by *Quercus robur*, *Carpinus betulus*, *Acer pseudoplatanus*, *Fraxinus excelsior* with admixture of *Acer campestre*, *Acer platanoides*, *Tilia cordata*, *Sorbus torminalis*. The shrub layer is composed of *Acer tataricum*, *Acer campestre*, *Corylus avellana*, *Euonymus verrucosus*, *Euonymus europaeus*, *Sambucus nigra*, *Staphylea pinnata*, *Swida sanguinea* (*Cornus sanguinea*), *Viburnum lantana*. Typical species of the herb layer are *Carex pilosa*, *Stellaria holostea*, *Asarum europaeum*, *Aegopodium podagraria*, *Convallaria majalis*, *Galium odoratum*, *Lathyrus vernus*, *Hedera helix*, *Hepatica nobilis*. There scattered limestone boulders up to 3 m in diameter, covered by mosses and *Phyllitis scolopendrium*.
Botanical significance. Important area for *Fritillaria montana* and *Aconitum besserianum*.
Criterion A

- *Fritillaria montana* Hoppe; A (ii); abundance: occasional (5000 individuals); trend: stable; species data quality: good; trend data quality: poor.
- *Aconitum besserianum* Andrz. ex Trautv; A (iii); abundance: rare; trend: stable; species data quality: medium; trend data quality: poor.

Literature

1. Волуца О.Д. *Fritillaria montana* Hoppe у флорі Чернівецької області // Науковий вісник Чернівецького університету: Збірник наукових праць. – Вип. 293: Біологія. – Чернівці: Рута, 2006. – С. 31–34.

2. Волуца О. *Euonymus nana* M. Bieb. (*Celastraceae*) – новий вид для флори Прут-Дністровського межиріччя (в межах України) // Вісник Прикарпатського національного університету імені Василя Стефаника. Серія Біологія / Матеріали Міжнародної наукової конференції "Проблеми вивчення та охорони біорізноманіття Карпат та прилеглих територій" (Івано-Франківськ, 8-9 листопада 2007р.). – Вип. VII-VIII. – Івано-Франківськ: Гостинець, 2007. – С. 51-52.

3. Волуца О.Д. Нові місцезнаходження видів роду *Pulsatilla* Mill. (*Ranunculaceae*) на території Північно-Бессарабського геоботанічного округу (Чернівецька область) // "Молодь у вирішенні регіональних та транскордонних проблем екологічної безпеки": Матеріали Шостої Міжнародної наукової конференції (м. Чернівці, 11–12 травня 2007 року). – Чернівці: Зелена Буковина, 2007. – С. 59–61.

4. Волуца О.Д., Токарюк А.І. Стан популяції *Fritillaria montana* Hoppe (*Liliaceae*) в околицях м. Сокиряни (Чернівецька область) // "Молодь та поступ біології": Збірник тез IV Міжнародної конференції студентів і аспірантів (7-10 квітня 2008 року, м. Львів). – Львів, 2008. – С. 119-120.

5. Каземірська М.А., Чорней І.І. *Fritillaria montana* Hoppe (*Liliaceae*): географічна характеристика, поширення в Україні // Науковий вісник Чернівецького університету. Біологія (Біологічні системи). – 2010. – Т. 2, Вип. 3. – С. 63–68.

6. Каземірська М.А., Чорней І.І. Вікова та просторова структури популяцій *Fritillaria montana* Hoppe у Прут-Дністровському межиріччі // Біологічні системи. – 2010. – Т. 2., Вип. 2. – С. 62–66.

7. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

8. Чорней І.І., Буджак В.В., Токарюк А.І. Сторінками Червоної книги України (рослинний світ). Чернівецька область. – Чернівці: ДрукАрт, 2010. – С. 85–87.

Velyki Holdy

N.V. Shumska, V.A. Onyshchenko

Ukrainian name: Великі Голди.
Area: 141 ha.
Altitude: 260–347 m.
Latitude: 49°19'32" N (49.3255°).
Longitude: 24°39'54" E (24.6650°).
Administrative regions. Ivano-Frankivsk region: Rohatyn raion.
Ownership: state.
Biogeographic regions: continental
Habitats. Level 1. E – 21.9%; F – 2.0%; G – 76.0%; H – 0.1%
Habitats. Level 2. E1 Dry grasslands – 21.5%; E5 Woodland fringes and clearings and tall forb stands – 0.1%; E7 Sparsely wooded grasslands – 0.3%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 55.0%; G3 Coniferous woodland – 19.0%; G4 Mixed deciduous and coniferous woodland – 0.5%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 1.5%; H3 Inland cliffs, rock pavements and outcrops – 0.1%.

Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; E7.2 Sub-continental parkland; F3.1 Temperate thickets and scrub; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G3.F Highly artificial coniferous plantations; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H3.2 Basic and ultra-basic inland cliffs; H3.5 Almost bare rock pavements, including limestone pavements.
Land use: agriculture (animals) – minor, nature conservation and research – minor, forestry

– major, mowing/hay making – minor.
Protected areas: includes state complex nature monument "Velyki Holdy" (24.0 ha), included in Emerald Site "Velyki Holdy".
Threats: abandonment/reduction of land management – medium, agricultural intensification/expansion (grazing) – low, burning of vegetation – low.
General description. Hills with the deciduous forest, pine plantations, dry grasslands, shrubs, and gypsum outcrops. The grasslands are dominated by *Brachypodium pinnatum*, *Briza media*, *Elytrigia intermedia*. Other typical species are *Anthericum ramosum*, *Bupleurum falcatum*, *Carex montana*, *Dactylis glomerata*, *Salvia pratensis*. In upper parts of the slopes and on eroded stony slopes, dominant species are *Stipa capillata*, *Stipa pennata*, *Festuca valesiaca*, *Carex humilis*, *Koeleria cristata*, *Teucrium chamaedrys*, *Astragalus onobrychis*, other frequent species are *Artemisia austriaca*, *Euphorbia cyparissias*, *Inula ensifolia*, *Phleum phleoides*, *Thymus marschallianus*. On gypsum outcrops, there prevail *Allium lusitanicum* s.l. (*Allium montanum* auct.), *Festuca pallens*, *Gypsophila fastigiata*, *Potentilla*

arenaria, *Sedum acre*. Main dominant of the shrub vegetation is *Prunus spinosa*. The area of trees and shrubs is increasing, this is the main threat for conservation of *Carlina cirsioides* and other species of grasslands.
Botanical significance. Important area for *Carlina onopordifolia*.
Criterion A
- *Carlina onopordifolia* Besser ex Szafer, Kulcz. et Pawł.; A(i), A(ii), A(iv); abundance: frequent (2000 individuals); trend: stable; species data quality: good; trend data quality: medium.

Conservational proposals: do not allow natural and artificial afforestation, expand area of nature monument "Velyki Holdy".
Literature
1. Шумська Н.В., Чуй О.В., Дмитраш І.І. Збереження фіторізноманіття комплексної пам'ятки природи "Великі Голди" (Рогатинське Опілля) шляхом оптимізації її території // Науковий вісник національного університету біоресурсів і природокористування України. Сер.: Лісівництво та декоративно садівництво. – 2012. – 171 (1). – С. 287–290.

Verbetska Tovtra

V.A. Onyshchenko

Ukrainian name: Вербецька товтра.
Area: 10.8 ha.
Altitude: 280–303 m.
Latitude: 48°48'33" N (48.8092°).
Longitude: 26°36'14" E (26.6038°).
Administrative regions. Kmelnytskyi region: Kamianets-Podilskyi raion.
Ownership: state
Biogeographic regions: continental.

Habitats. Level 1. E – 97.6%; F – 1.1%; H – 1.3%.
Habitats. Level 2. E1 Dry grasslands – 97.6%; F3 Temperate and mediterranean-montane scrub – 1.1%; H2 Screes – 0.1%; H3 Inland cliffs, rock pavements and outcrops – 1.2%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs.
Land use: nature conservation and research – major.
Protected areas: overlaps (about 8 ha) with Tovtra Verbetska state botanical reserve, included in Podilski Tovtry national nature park, included in Emerald Site "Podilski Tovtry National Nature Park".
Threats: agricultural intensification/expansion (arable) – low, development (recreation/tourism) – low.
General description. A small hill with the steppe vegetation and limestone outcrops. Steppe vegetation is dominated by *Carex humilis*, *Festuca valesiaca*, *Stipa capillata*, *Sesleria heuffleriana*. On the outcrops, there are *Allium flavescens*, *Allium lusitanicum*, *Allium podolicum*, *Sedum acre*, *Sempervivum ruthenicum*, *Veronica incana*.
Botanical significance. Important area for *Gypsophila thyraica*.
Criterion A
- *Gypsophila thyraica* Krasnova; A(iii); abundance: frequent; trend: unknown; species data quality: poor; trend data quality: poor.

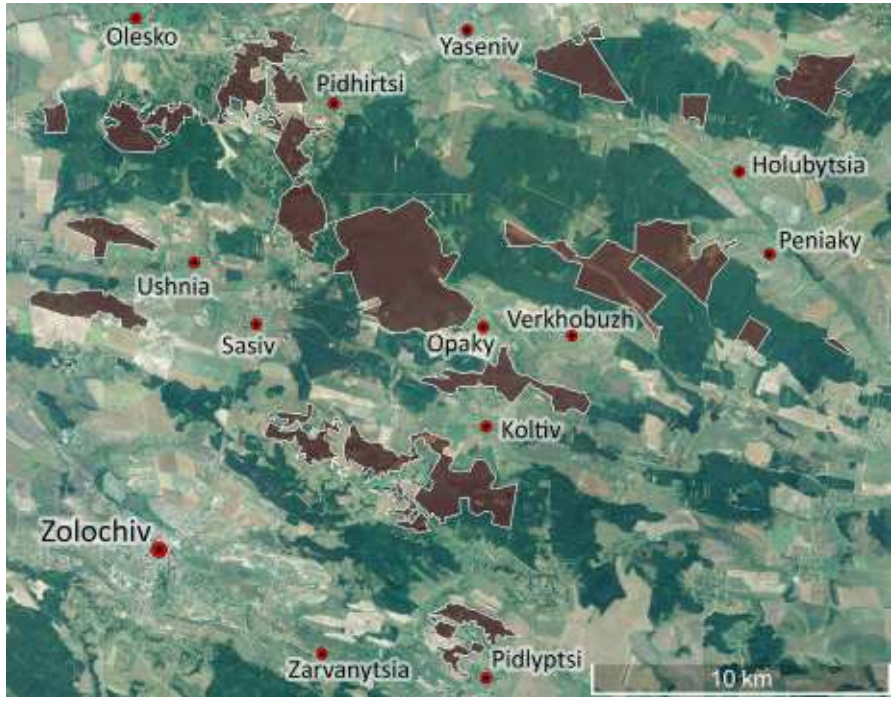
Literature
1. Заповідні перлини Хмельниччини / під ред. Т.Л.Андрієнко. – Хмельницький: ПАВФ "Інтрада", 2006. – 220 с.

Verkhniobuzki Lisy

V.A. Onyshchenko

Ukrainian name: Верхньобузькі ліси.
Transliteration/Translation variants: Upper Buh Forests.
Area: 6543.5 ha.
Altitude: 270–437 m.
Latitude: 49°52'56" N (49.8823°).
Longitude: 25°01'30" E (25.0249°).
Administrative regions. Lviv region: Brody raion; Zolochiv raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 2.1%; G – 96.9%; H – 1.0%.
Habitats. Level 2. E2 Mesic grasslands – 1.6%; E3 Seasonally wet and wet grasslands – 0.5%; G1 Broadleaved deciduous woodland – 94.5%; G3 Coniferous woodland – 0.4%; G4 Mixed deciduous and coniferous woodland – 2.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.2 Mixed riparian floodplain and gallery woodland; G1.6 *Fagus* woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G3.F Highly artificial coniferous forestry plantations; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: forestry – major, nature conservation and research – 83%.

Protected areas: overlaps with Pivnichne Podillia national nature park (5920 ha), includes Pamiatka Peniatska regional complex nature monument (35 ha), overlaps (65 ha) with Pidlyska Hora regional complex nature monument, includes Sasivska regional botanical nature monument (130 ha), includes Sviata Hora regional complex nature monument (186 ha), includes regional complex nature monument "Zhulytska Hora, Hora Storozhykha, Hora Vysoka" (261 ha), overlaps with Emerald Site "Pivnichne Podillia" (about 5920 ha).



Threats: forestry (intensified forest management) – low.
General description. Hills covered by broadleaved forests. The largest area is occupied by *Fagus sylvatica* forests. Main dominants of the herb layer are *Aegopodium podagraria*, *Anemone nemorosa*, *Asarum europaeum*, *Carex pilosa*, *Galium odoratum*, *Hedera helix*, *Lamium galeobdolon*. Constatnt species are *Acer platanoides*, *Acer pseudoplatanus*, *Anemone nemorosa*, *Carex digitata*, *Dryopteris filix-mas*, *Fagus sylvatica*, *Galium odoratum*, *Lamium galeobdolon*, *Maianthemum bifolium*, *Polygonatum multiflorum*. Calcareous beech forests differ by constant presence of *Cephalanthera damasonium*, *Campanula persicifolia*, *Campanula trachelium*, *Convallaria majalis*, *Daphne mezereum*, *Lilium martagon*, *Melittis sarmatica* (*M. melissophyllum* s.l.), *Neottia nidus-avis*, *Swida sanguinea* (*Cornus sanguinea*), *Viola mirabilis*. Species comoposition of oak-hornbeam forests (*Quercus robur*, *Carpinus betulus*) is similar to one of beech forests. On slopes and bottoms of valleys and gullies, there are species-rich forests with *Fraxinus excelsior* and *Acer pseudoplatanus* prevailing in the tree layer. Their characteristic species are *Anthrisus nitida*, *Campanula latifolia*, *Cerastium sylvaticum*, *Chaerophyllum aromaticum*, *Dipsacus pilosus*, *Primula elatior*, *Ranunculus lanuginosus*. Besides there are mixed *Quercus robur* – *Pinus sylvestris* forests and *Alnus glutinosa* forests.
Botanical significance. Important area for conservation of species-rich broadleaved forests.
Criterion B

- G1 Broadleaved deciduous woodland; area: 5800 ha; % of indicator species: 13.0%; No of indicator species: 10; trend: increasing; species data quality: good; area data quality: good; trend data quality: medium.

Criterion C

- G1.66 Medio-European limestone *Fagus* forests (*9150); area: 500 ha; trend: stable; area data quality: poor; trend data quality: good.
- G1.A4 (*9180) Ravine and slope woodland; area: 200 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature

1. Кагало О.О. Північне Поділля // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 381–394.

2. Рало В. М. Матеріали до класифікації букових лісів Верхобузького пасма (північно-західне Поділля) // Наукові основи збереження біотичної різноманітності / Тематичний збірник Інституту екології Карпат НАН України. – Вип. 8–9. – Львів, 2009. – С. 65–102.

3. Рало В.М., Онищенко В.А. Anthrisco nitidi-Aceretum pseudoplatani – нова асоціація із Західного Поділля // Науковий вісник Волинського національного університету імені Лесі Українки. Біологічні науки. – 2008. – № 3. – С. 239–249.

Vitrohon

V.A. Onyshchenko

Ukrainian name: Вітрогон.
Area: 688.0 ha.
Altitude: 70–140 m.

Latitude: 49°07'59" N (49.1331°).
Longitude: 39°42'25" E (39.7068°).

Administrative regions. Luhansk region: Bilovodsk raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 0.2%; E – 96.6%; F – 2.0%; G – 0.6%; H – 0.5%; J – 0.1%.
Habitats. Level 2. C1 Surface standing waters – 0.1%; C2 Surface running waters – 0.1%; E1 Dry grasslands – 93.0%; E2 Mesic grasslands – 3.6%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 0.6%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%; J4 Transport networks and other constructed hard-surfaced areas – 0.1%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.2 Submediterranean deciduous thickets and brushes; H5.6 Trampled areas.
Land use: agriculture (animals) – minor.
Protected areas: overlaps (350–400 ha) with proposed regional botanical reserve "Vitrohon", overlaps (647 ha) with Emerald Site "Vitrohonskyi".
Threats: agricultural intensification/expansion (arable) – low, agricultural intensification/expansion (grazing) – low, forestry (afforestation) – low.
General description. Small valleys with the steppe vegetation (abandoned pastures) on the slopes. Major dominants are *Festuca valesiaca* s.l., *Stipa capillata*, *Stipa tirsa*, *Stipa ucrainica*, *Stipa zalesskii*.
Botanical significance. Important area for conservation of the steppe vegetation and some steppe species.
Criterion A
- *Paeonia tenuifolia* L.; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.
- *Stipa zalesskii* Wilensky; A(ii); abundance: frequent; trend: stable; species data quality: medium; trend data quality: medium.

Criterion C
- E1.2 Perennial calcareous grassland and basic steppes; area: 600 ha; trend: stable; area data quality: good; trend data quality: medium.

Conservation proposals. Create an Emerald Site including the entire IPA.

Volyzhyn Lis

V.A. Onyshchenko, O.Yu. Umanets

Ukrainian name: Волижин ліс.
Transliteration/Translation variants: Volyzhyn Wood.
Area: 203.0 ha.
Altitude: 0–6 m.
Latitude: 46°32'21" N (46.5391°).
Longitude: 31°43'14" E (31.7205°).
Administrative regions. Mykolaiv region: Ochakiv raion.
Ownership: state.
Biogeographic regions: steppic.
Habitats. Level 1. C – 10.3%; D – 2.6%; E – 74.4%; F – 0.4%; G – 11.8%; H – 0.5%.
Habitats. Level 2. Surface standing waters – 8.4%; C3 Littoral zone of inland surface waterbodies – 1.9%; D5 Sedge and reedbeds normally without free-standing water – 2.6%; E1 Dry grasslands – 52.8%; E2 Mesic grasslands – 21.5%; E6 Inland salt steppes – 0.1%; F3 Temperate and mediterranean-mountane scrub – 0.4%; G1 Broadleaved deciduous woodland – 11.8%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.
Futher habitat description. D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.2 Perennial calcareous grassland and basic steppes; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland (× E1.1); E2.5 Meadows of the steppe zone; E6.2 Continental inland salt steppes; F3.1 Temperate thickets and scrub; G1.5 Broadleaved swamp woodland on acid peat; G1.7 Thermophilous deciduous woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; H5.3 Sparsely- or un-vegetated habitats on mineral substrates not resulting from recent ice activity.

Land use: mowing/hay making – minor, nature conservation and research – 67%.
Protected areas: included in Chernomorskiy (Chornomorskyi, Black Sea) biosphere reserve (core zone of the reserve), included in Emerald Site "Black Sea Biosphere Reserve".
Threats: –.
General description. Major habitat type is the sand steppe. Other important habitats types are freshwater permanent lakes, mesic grasslands, eutrophic mires, deciduous forests (swamp and mesic), halophytic vegetation. Sand steppes are dominated by *Artemisia marschalliana*, *Festuca beckeri*, *Helichrysum corymbiforme*, *Koeleria sabuletorum*, *Thymus borysthenicus*, *Stipa borysthenica*. Typical species: *Agropyron dasyanthum*, *Goniolimon graminifolium*, *Polygonum arenarium*. Prevailing species of mesic grasslands are *Agrostis sabulicola*, *Calamagrosts epigeios*, *Cynodon dactylon*, *Elytrigia elongata*, *Elytrigia repens*, *Phleum phleoides*, *Poa angustifolia*. Besides there are communities of *Puccinellia gigantea*, *Salicornia perennans*, *Tripolium vulgare*, *Carex riparia*, *Phragmites australis*, *Lemna minor*, *Lemna trisulca*. Dominants of the the herb layer of *Alder glutinosa* swamp woods are *Calamagrostis epigeios*, *Carex riparia*. Constant species: *Eupatorium cannabinum*, *Lysimachia vulgaris*, *Urtica dioica*. In *Betula borysthenica* woods, the shrub layer consists of *Rhamnus cathartica*, *Sambucus nigra*. Dominants of the herb layer are *Agrostis sabulicola*, *Calamagrostis epigeios*, *Carex elata*, *Phragmites australis*.
Botanical significance. Important area for conservation of steppe swamp *Alnus glutinosa*

woods and some psammophytic species.

Criterion A

- *Allium savranicum* Besser; A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Alyssum savranicum* Andrz. ex Besser (*Odontarrhena savranica* (Andrz. ex Besser) D.A.German); A(iv); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.
- *Goniolimon graminifolium* (Ait.) Boiss.; A(iv); abundance: frequent; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- G1.414 Steppe swamp *Alnus glutinosa* woods; area: 11 ha; trend: stable; area data quality: good; trend data quality: medium.

Literature

1. Кузнєцова Г.О., Протопопова В.В., Саричева З.А. Флора і рослинність Волижиного лісу в Чорноморському заповіднику // Укр. ботан. журн. – 1969. – 26. № 4. – С. 35–40.

2. Уманець О.Ю. БЗ Чорноморський // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 73–93.

Vovchanski Skhyly

V.A. Onyshchenko, O.V. Bezrodnova, M.V. Banik

Ukrainian name: Вовчанські схили.
Transliteration/Translation variants: Vovcha Slopes.
Area: 1131.6 ha.
Altitude: 120–200 m.
Latitude: 50°22’35” N (50.3763°).
Longitude: 37°17’23” E (37.2898°).
Administrative regions. Kharkiv region: Vovchansk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 72.7%; F – 2.0%; G – 17.3%; H – 8.0%.
Habitats. Level 2. E1 Dry grasslands – 72.7%; F3 Temperate and mediterranean-montane scrub – 2.0%; G1 Broadleaved deciduous woodland – 15.4%; G3 Coniferous woodland – 1.9%; H2 Screes – 8.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; G1.C Highly artificial broadleaved deciduous forestry plantations; G3.F Highly artificial coniferous plantations; H2.6 Calcareous and ultra-basic screes of warm exposures.
Land use: agriculture (animals) – major; forestry – minor, nature conservation and research – minor.
Protected areas: includes Vovchanskyi state botanical reserve (185 ha), overlaps (18 ha) with Siverskodonetskyi regional landscape reserve, overlaps (about 1050 ha) with Emerald Site “Siverskodonetskyi”.

Threats: abandonment/reduction of land management – low; burning of vegetation – medium, extraction (minerals/quarries) – low, forestry (afforestation) – medium.
General description. Slopes of the valley of the Vovcha river with chalk outcrops. The major habitat type is the steppe. Dominants of the steppe vegetation are *Bromopsis riparia*, *Carex humilis*, *Caragana frutex*, *Chamaecytisus austriacus*, *Chamaecythisus ruthenicus*, *Festuca valesiaca*, *Koeleria cristata*, *Poa angustifolia*, *Stipa capillata*, *Stipa pulcherrima*, *Stipa pennata*, *Salvia nutans*. Major dominants of the chalk outcrops are *Thymus cretaceus*, *Artemisia hololeuca*, *Asperula tephrocarpa*, *Onosma tanaitica*. Sometimes there dominate *Androsace koso-poljanskii*, *Hyssopus cretaceus*, *Linum ucrainicum*, *Onosma tanaitica*, *Polygala cretacea*, *Scutellaria creticola*, *Ephedra distachia*. Other species of the outcrops: *Gypsophila altissima*, *Helianthemum cretaceum*. Natural forests are dominated by *Quercus robur*, *Tilia cordata*, *Acer platanoides*. There are also plantations of *Pinus sylvestris*, *Pinus pallasiana*, *Quercus robur*, *Fraxinus excelsior*, *Tilia cordata*, *Cotynus coggygria*. Rare endemic species

Daphne sophia occurs mainly at forest margins.
Botanical significance. Important area for conservation of endemic species *Daphne sophia* and *Androsace koso-poljanskii* and vegetation of chalk outcrops.

Criterion A

- *Androsace koso-poljanskii* Ovcz.; A(iv); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.
- *Daphne sophia* Kalen.; A(i), A(iv); abundance: rare (675 individuals in 3 localities); trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- E1.13 Continental dry rocky steppic grasslands and dwarf scrub on chalk outcrops; area: 90 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Banik M. Daphne'04. Final report. – Kharkiv, 2006. – 20 p. (http://www.rufford.org/files/.01.04%20Detailed%Final%20Report.pdf).

2. Банік М.В., Тверетинова В.В., Волкова Р.Є., Атемасова Т.А., Атемасов А.А., Брезгунова О.О., Влащенко А.С., Гончаров Г.Л., Коноваленко С.В., Скоробогатов В.М., Скоробогатов Є.В., Целіщев О.Г. Нові місцезнаходження *Daphne sophiae* Kalen., (*Thymeleaceae*) в Україні // Укр. ботан. журн. – 2007. – 64, № 4. – С. 565–569.

3. Ермоленко Е.Д., Горелова Е.Н., Кушнарева Ю.И. К флоре и растительности меловых обнажений рек Волчьей и Оскол в Харьковской области // Вест. ХГУ. – 1981. – № 211. – С. 6–11.

4. Коротченко І.А. Рідкісні види флори степів південної частини Лівобережного Лісостепу України // Наукові основи збереження біотичної різноманітності / Темат. зб. ін-ту екології Карпат НАН України. – Вип. 3. – Львів: Ліга-Прес, 2001. – С. 26–36

5. Расевич В.В. Еколого-ценотичні особливості популяцій *Daphne sophia* Kalen. у природній флорі України // Укр. ботан. журн. – 2008. – 65, № 1. – С. 90–103.

6. Смолко С.С. Третинний релікт – вовчі ягоди Софії (*Daphne sophia* Kalen.) на Середньоросійській височині та його сучасне поширення // Укр. ботан. журн. – 1967. – 24, № 1. – С. 69–75.

7. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Vtenske Boloto

V.A. Onyshchenko

Ukrainian name: Втенське болото.
Transliteration/Translation variants: Vtenske Swamp, Vtenske Bog.
Area: 179 ha.
Altitude: 155–160 m.
Latitude: 51°37'31" N (51.6251°).
Longitude: 23°41'01" E (23.6835°).
Administrative regions. Volynska region: Shatsk raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. G – 100%.
Habitats. Level 2. G1 Broadleaved deciduous woodland – 4.0%; G3 Coniferous woodland – 76.0%; G4 Mixed deciduous and coniferous woodland – 20.0%.
Futher habitat description. G1.5 Broadleaved swamp woodland on acid peat; G3.E Nemoral bog conifer woodland, G4.1 Mixed swamp woodland.
Land use: nature conservation and research – 100%.
Protected areas: includes Vtenskyi state botanical reserve (130 ha), included in biosphere reserve "West Polesie", included in Shatskyi national nature park, included in Emerald Site "Shatskyi".
Threats: water (drainage) – low.
General description. Wooded bog. The tree layer is dominated by low *Pinus sylvestris*, often with admixture of *Betula pubescens*. Dominant species of the lower layers are *Sphagnum magellanicum*, *Sphagnum angustifolium*, *Eriophorum vaginatum*, *Vaccinium oxycoccos*

(*Oxycoccus palustris*). Other frequent species: *Ledum palustre*, *Andromeda polifolia*, *Drosera rotundifolia*, *Calluna vulgaris*.
Botanical significance. Important site of *Pinus sylvestris* bogs.

Criterion C

- G3.E Nemoral bog conifer woodland; area: 90 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Природно-заповідний фонд Волинської області / Упор.: М. Химин та ін. – Луцьк: Ініціал, 1999. – 48 с.

2. Фіторізноманіття Українського Полісся та його охорона / Під заг. ред. Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2006. – 316 с.

Vymushiv

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Вимушів.
Area: 8.8 ha.
Altitude: 258–282 m.
Latitude: 48°38'31" N (48.6418°).
Longitude: 25°39'37" E (25.6602°).
Administrative regions. Chernivtsi region: Zastavna raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1: E – 90.0%, F – 9.0%, H – 1.0%.
Habitats. Level 2: E1 Dry grasslands – 90.0%; F3 Temperate and mediterranean-montane

scrub – 9.0%; H3 Inland cliffs, rock pavements and outcrops – 1.0%.
Futher habitat description: E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; H3.2 Basic and ultra-basic inland cliffs.
Land use: agriculture (animals) – minor.

Protected areas: –.
Threats: abandonment/reduction of land management – low, extraction (mineral/quarries) – low.
General description. Steep slopes with dry grasslands and outcrops of gypsum and limestone. Grasslands are dominated by *Lembotropis nigricans*, *Elytrigia intermedia*. Frequent species: *Adonis vernalis, Agrimonia eupatoria, Anthericum ramosum, Arrhenatherum elatius, Asyneuma canescens, Campanula glomerata, Centaurea jacea, Clematis integrifolia, Crinitaria linosyris, Cruciata glabra, Dactylis glomerata, Eryngium campestre, Falcaria vulgaris, Filipendula vulgaris, Galium verum, Inula ensifolia, Knautia arvensis, Medicago romanica, Salvia pratensis, Salvia verticillata, Scabiosa ochroleuca, Securigera varia, Thalictrum simplex, Trifolium montanum.*
Botanical significance. Important area for the endemic species *Aconitum pseudanthora*.
Criterion A

- *Aconitum pseudanthora* Błocki ex Pacz. A(iii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Conservation proposals. Create a state botanical reserve or nature monument.

Vyshnivka

I.I. Chorney, A.I. Tokaryuk, V.V. Budzhak

Ukrainian name: Вишнівка.
Area: 309 ha.
Altitude: 244–329 m.
Latitude: 48°34’31” N (48.5751°).
Longitude: 25°23’53” E (25.3981°).
Administrative regions. Ivano-Frankivsk region: Horodenka raion, Sniatyn raion.
Ownership: state, private.
Biogeographic regions: continental.

Habitats. Level 1: C – 1.7%, E – 97.3%, F – 1.0%.
Habitats. Level 2: C1 Surface standing waters – 1.3%, C3 Littoral zone of inland surface waterbodies – 0.4%, E1 Dry grasslands – 75.3%; E2 Mesic grasslands – 19.0%, E3 Seasonally wet and wet grasslands – 3.0%; F3 Temperate and mediterranean-montane scrub – 1.0%.
Futher habitat description: E1.2 Perennial calcareous grassland and basic steppes; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; F3.1 Temperate thickets and scrub.

Land use: agriculture (animals) – minor.
Protected areas: –.
Threats: agricultural intensification/expansion (arable) – medium.
General description. Grasslands dominated by *Brachypodium pinnatum* with presence of *Arrhenatherum elatius*, *Briza media*, *Cirsium pannonicum*, *Festuca rupicola*, *Filipendula vulgaris*, *Galium boreale*, *Galium verum*, *Inula salicina*, *Iris hungarica*, *Koeleria cristata*, *Lathyrus pannonicus*, *Potentilla alba*, *Prunella grandiflora*, *Pyrethrum corymbosum*, *Salvia pratensis*, *Salvia verticillata*, *Sanguisorba officinalis*, *Serratula lycopifolia*, *Trifolium montanum.*
Botanical significance. One of the largest areas of dry grasslans in western Ukraine with presence of *Pulsatilla grandis*, *Iris hungarica*, *Serratula lycopifolia*.
Criterion A
- *Serratula lycopifolia* (Vill.) A. Kern.; A (ii); abundance: rare; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C
- E1.2 Perennial calcareous grassland and basic steppes; area: 70 ha; trend: stable; area data quality: good; trend data quality: medium.

Conservation proposals. Do not allow land plowing. Create a state botanical reserve and an Emerald Site.

Yaiko Perehinske

V.A. Onyshchenko

Ukrainian name: Яйко Перегінське.
Area: 358.0 ha.
Altitude: 1000–1596 m.
Latitude: 48°40’03” N (48.6674°).
Longitude: 23°54’05” E (23.9014°).
Administrative regions. Ivano-Frankivsk region: Rozhniativ raion.
Ownership: state.
Biogeographic regions: alpine.
Habitats. Level 1. F – 2.4%; G – 95.0%; H – 2.6%.
Habitats. Level 2. F2 Arctic, alpine and subalpine scrub – 2.4%; G1 Broadleaved deciduous woodland – 0.5%; G3 Coniferous woodland – 92.0%; G4 Mixed deciduous and coniferous woodland – 2.5%; H2 Screes – 2.5%; H3 Inland cliffs, rock pavements and outcrops – 0.1%.
Futher habitat description. F2.4 Conifer scrub close to the tree limit; G1.6 *Fagus* woodland; G3.1 *Abies* and *Picea* woodland; G4.6 Mixed *Abies* – *Picea* – *Fagus* woodland; H2.3 Temperate-montane acid siliceous screes; H3.1 Acid silicious inland cliffs.
Land use: forestry – major; nature conservation and research – major.
Protected areas: includes Yaikivskyi state botanical reserve (270 ha), included in Emerald Site “Dolynsko-Rozhniatynskyi”.
Threats: forestry (intensified forest management) – low.
General description.
Predominant vegetation is *Picea abies* forests with admixture of *Pinus cembra*. Lower layers are dominated by *Vaccinium myrtillus*, *Homogyne alpina*, *Oxalis acetosella*, *Calamagrostis arundinacea*. Other species of high constancy are *Dicranum scoparium*, *Doronicum austriacum*, *Dryopteris dilatata*, *Dryopteris carthusiana*, *Gentiana asclepiadea*, *Luzula pilosa*, *Luzula sylvatica*, *Polytrichum formosum*, *Prenanthes purpurea*, *Sorbus aucuparia*, *Vaccinium vitis-idaea*. *Pinus cembra* is the main dominant in an area of 18 ha. Besides there are *Pinus mugo* scrub and coarse sandstone screes.

Botanical significance. Important area for Carpathian *Pinus cembra* forests.
Criterion C
- G3.25 Carpathian *Larix* and *Pinus cembra* forests; area: 18 ha; trend: decreasing; area data quality: good; trend data quality: medium.

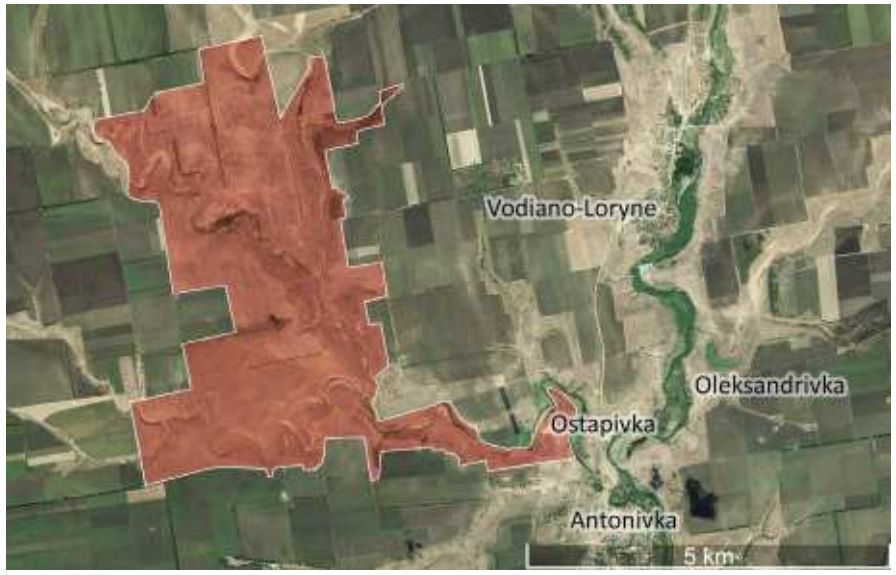
Literature
1. Природно-заповідні території та об’єкти Івано-Франківщини. – Івано-Франківськ, 2000. – 272 с.

Yelanetskyi Step

V.A. Onyshchenko

Ukrainian name: Єланецький степ.
Transliteration/Translation variants: Yelanets Steppe.
Area: 1675.7 ha.
Altitude: 30–100 m.
Latitude: 47°33’31” N (47.5586°).
Longitude: 32°01’27” E (32.0242°).
Administrative regions. Mykolaiv region: Yelanets raion, Nova Odesa raion.

Ownership: state.
Biogeographic regions: steppic.



Habitats. Level 1. E – 98.1%; F – 0.2%; G – 1.5%; H – 0.2%
Habitats. Level 2. E1 Dry grasslands – 87.1%; E2 Mesic grasslands – 11.0%; F3 Temperate and mediterranean-montane scrub – 0.2%; G1 Broadleaved deciduous woodland – 1.5%; H3 Inland cliffs, rock pavements and outcrops – 0.02%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.2%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; G1.C Highly artificial broadleaved deciduous forestry plantations; I1.5 Bare tilled, fallow or recently abandoned arable land.
Land use: agriculture (animals) – minor; nature conservation and research – 100%.
Protected areas: same as Yelanetskyi Step nature reserve and Emerald Site "Yelanetskyi Step Nature Reserve".
Threats: –.
General description. Valleys of intermittent streams, mainly with the steppe vegetation. Mesic grasslands occupy bottoms of the valleys. There are ourcrops of limestone and granite. Dry grasslands are dominated by *Stipa capillata* (major), *Stipa lessingiana* (major), *Festuca valesiaca* (major), *Botriochloa ischaemum* (major), *Stipa ucrainica*, *Stipa pulcherrima*, *Stipa tirsa*. A significant part of steppes (about 75 ha) are co-dominated by *Caragana frutex*, rarely by other shrub species (*Caragana scythica*, *Chamaecytisus graniticus*). Other typical specis of the steppe communities: *Achillea nobilis*, *Bromopsis riparia*, *Eryngium campestre*, *Euphorbia seguierana*, *Euphorbia stepposa*, *Koeleria cristata*, *Koeleria lobata*, *Marrubium praecox*, *Securigera varia*, *Teucrium polium*. In petrophytic variant of the steppe, *Thymus dimorphus* co-dominates. Main species of calcareous outcrops and screes are *Thymus dimorphus*, *Jurinea multiflora*, *Jurinea brachycephala*, *Centaurea marschalliana*, *Koeleria brevis*. Dominants of other vegetation types: mesic grasslands – *Elytrigia repens*, *Poa*

angustifolia, *Bromopsis inermis*, reedbed – *Phragmites australis*, *Typha latifolia*; shrubs – *Crataegus curvisepala* s.l., abandoned arable lands – *Elytrigia repens*, *Artemisia absinthium*, *Cirsium arvense*, *Melilotus officinalis*, *Bunias orientalis*.
Botanical significance. Important for conservation of *Chamaecytisus graniticus* and *Tulipa hypanica*. One of the best steppe areas west to the Dnipro river.
Criterion A

- *Chamaecytisus graniticus* (Rehmann.) Rothm.; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.
- *Tulipa hypanica* Klokov et Zoz; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 1300 ha; trend: stable; area data quality: good; trend data quality: good .

Literature

1. Бойко М.Ф. Анотований список мохоподібних заповідника "Єланецький степ" та прилеглих територій (Миколаївська область, Україна) // Чорноморськ. бот. журн. – 2009. – 5, № 4. – С. 583–588.
2. Бойко Т.О. Лишайники та ліхенофільні гриби вапнякових відслонень природного заповідника "Єланецький степ" // Чорноморськ. бот. журн. – 2008. – 4, № 1. – С. 84–89.
3. Бойко Т.О. Анотований список лишайників та ліхенофільних грибів природного заповідника "Єланецький степ" // Чорноморськ. бот. журн. – 2009. – 5, № 3. – С. 448–458.
4. Бойко Т.О. Нові та рідкісні для України лишайники з природного заповідника "Єланецький степ" // Чорноморськ. бот. журн. – 2009. – 5, № 2. – С. 241–247.
5. Воронова С.М. Фітораритети судинних рослин міжнародного та державного природоохоронного статусу у природному заповіднику "Єланецький степ" // Вісник Національного науково-природничого музею України. Серія ботанічна. Частина друга. – 2005–2007. – № 4–5. – С. 298–333.
6. Воронова С.М. Раритетний фітофлорофонд та природно-заповідна мережа Єланецько-Інгульського регіону // Заповідна справа в Україні. – 2008. – Т. 14, вип. 1. – С. 66–70.
7. Коломійчук В.П., Мойсієнко І.І., Деркач О.М., Бойко Т.О. ПЗ Єланецький степ // Фіторізноманіття заповідників і національних природних парків України. Ч. 1. Біосферні заповідники. Природні заповідники / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 124–138.
8. Костильов О.В. Рослинність запроектованого заповідника "Єланецький" // Укр. ботан. журн. – 1987. – 44, № 2. – С. 77–81.
9. Костылев А.В. Еланецкий (заповедник) / Перспективная сеть заповедных объектов Украины. – Киев: Наукова думка, 1987. – С. 199–204.
10. Мойсієнко І.І., Соломаха В.А., Драбинюк Г.В., Соломаха Т.Д. Еколого-ценотичні особливості *Scutellaria verna* Besser в умовах природного заповідника "Єланецький степ" // Чорноморський ботанічний журнал. – 2005. – 1, № 2. – С. 83–91.
11. Ткаченко В.С. Структурні зміни в рослинному покриві "Єланецького степу" за перше десятиліття заповідання // Чорноморський ботанічний журнал. – 2009. – 5, № 3. – С. 319–332.
12. Ткаченко В.С. Зміни ектопічних характеристик заповідника "Єланецький степ" в першому десятилітті його існування // Чорноморський ботанічний журнал. – 2009. – 5, № 4. – С. 475–490.

13. Ткаченко В.С., Сиротенко П.О. Вихідний стан рослинності “Єланецького степу” в системі фітоценотичного моніторингу // Укр. ботан. журн. – 1999. – 56, № 6. – С. 623–629.

Yemilchynski Lisy

O.O. Orlov, V.A. Onyshchenko

Ukrainian name: Ємільчинські ліси.
Transliteration/Translation variants: Yemilchyne Forests.
Area: 2645.0 ha.
Altitude: 192–203 m.
Latitude: 50°59’28” N (50.9911°).
Longitude: 27°36’43” E (27.6118°).
Administrative regions. Zhytomyr region: Yemilchyne raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. D – 0.6%; F – 0.5%; G – 97.9%; H – 1.0%.

Habitats. Level 2. D2 – Valley mires, poor fens and transition mires – 0.6%; F9 Riverine and fen scrubs – 0.5%; G1 Broadleaved deciduous woodland – 32.0%; G3 Coniferous woodland – 29.0%; G4 Mixed deciduous and coniferous woodland – 34.2%; G5 Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice – 2.7%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. D2.3 Transition mires and quaking bogs; F9.2 *Salix* carr and fen scrub; G1.5 Broadleaved swamp woodland on acid peat; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland; G5.6 Early-stage natural and semi-natural woodlands and regrowth; H5.6 Trampled areas.
Land use: forestry – major; nature conservation and research – 17%.
Protected areas: includes Yuzykhivka regional forest reserve (439 ha).
Threats: forestry (intensified forest management) – medium.
General description. Vegetation is represented by acidophilous *Pinus sylvestris*, *Quercus robur*, *Betula pendula* woods, and *Betula pubescens* swamps. Dominants of the wet pine woods are *Franula alnus*, *Molinia caerulea*, *Pteridium aquilinum*, *Vaccinium myrtillus*, *Dicranum polysetum*, *Pleurozium shreberi*. Other frequent species are *Dryopteris carthusiana*, *Trientalis europaea* (*Lysimachia europaea*), *Vaccinium uliginosum*, *Vaccinium vitis-idaea*. On the drier soils, there are species rich *Pinus sylvestris* woods with dominance of *Rhododendron luteum* in the shrub layer. Dominants of the herb layer are *Convallaria majalis* and *Pteridium aquilinum*. Constant species: *Calamagrostis arundinacea*, *Carex montana*, *Galium intermedium*, *Maianthemum bifolium*, *Polygonatum odoratum*, *Primula veris*, *Serratula coronata*. Differential species of the swamped pine woods are *Andromeda polifolia*, *Carex nigra*, *Ledum palustre*, *Sphagnum fallax*, *Sphagnum palustre*. In acidophilous *Quercus robur* woods, there are the shrub layer consisting of *Frangula alnus*. The herb layer is dominanted by *Anemone nemorosa*, *Luzula pilosa*, *Lysimachia vulgaris*, *Oxalis acetosella*. Dominants of the mesotrophic swamps are *Betula pubescens*, *Carex lasiocarpa*, *Juncus conglomeratus*, *Molinia caerulea*, *Sphagnum fallax*.
Botanical significance. Important for conservation of *Rhododendron lutem* and acidophilous oak forests.
Criterion A

- *Rhododendron luteum* Sweet; A(ii); abundance: frequent; trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- G1.8 Acidophilous *Quercus*-dominated woodland; area: 800 ha; trend: stable; area data quality: medium; trend data quality: medium.

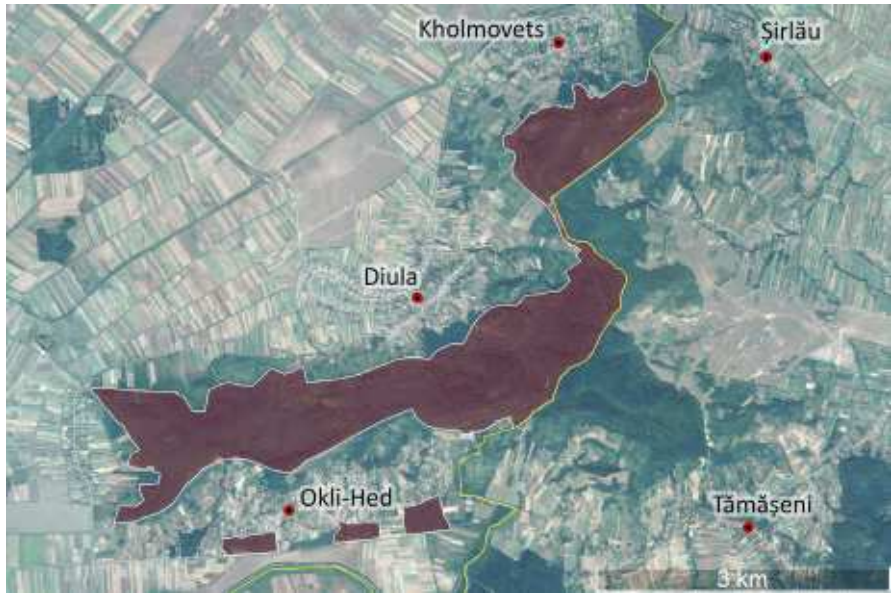
Literature

1. Орлов О.О., Сіренький С.П., Якушенко Д.М., Жижин М.П., Степаненко М.А., Тарасевич О.В. Природно-заповідний фонд Житомирської області. Довідник / За заг. ред. О.О. Орлова. – Житомир – Новоград-Волинський: Вид-во НОВОград, 2015. – 404 с.
2. Орлов О.О., Якушенко Д.М., Воробйов Є.О. Флористична класифікація лісів із участю *Rhododendron luteum* Sweet та радіоекологічна оцінка їх асоціацій в Поліссі України. І. Синтаксономія лісів із участю *Rhododendron luteum* // Укр. фітоцен. зб. – 2000. - Серія А, Вип. 1 (16). – Київ: Фітосоціоцентр. – С. 94–113.

Yulivski Hory

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Юлівські гори.
Transliteration/Translation variants: Yulivski Gory, Yulivs'ki Hills.
Area: 601 ha.
Altitude: 129–318 m.
Latitude: 48°01'35" N (48.0265°).
Longitude: 23°05'06" E (23.0849°).
Administrative regions. Zakarpatska region: Vynohradiv raion.
Ownership: state.
Biogeographic regions: pannonian.



Habitats. Level 1. E – 0.3%; F – 0.1%; G – 99.0%; H – 0.6%.
Habitats. Level 2. E1 Dry grasslands – 0.3%; F3 Temperate and mediterranean-montane scrub – 0.1%; G1 Broadleaved deciduous woodland – 99.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.6%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes – 0.3%; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.6 *Fagus* woodland; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.
Land use: forestry – 99%, nature conservation and research – 82%.
Protected areas: overlaps (176 ha) with Carpathian biosphere reserve (UNESCO) (includes cluster "Yulivskai Hora" of the biosphere reserve), overlaps (176 ha) with the Karpatskyi biosphere reserve (national caregory), includes state botanical reserve "Yulivska Hora" (176 ha, belongs to the biosphere reserve), includes regional botanical reserve "Kholmovetska Hora" (95.4 ha), overlaps (176 ha) with Emerald Site "Carpathian Biosphere Reserve", overlaps (227 ha) with Emerald Site "Okli-Hed", overlaps (32.4 ha) with proposed regional botanical reserve "Dibrovy Zatysianshchyny".
Threats: abandonment/reduction of land management – low, consequences of invasive species – low, forestry (intensified forest management) – low.
General description. Hills composed of tuff, andesite, basalt, and sedimentary rocks. The major vegetation type is the termophilous oak wood. The tree layer consists of *Quercus petraea*, *Cerasus avium*, *Carpinus betulus*, *Acer tataricum*, sometimes with *Quercus dalechampii*, *Quercus polycarpa*, *Quercus cerris*, *Tilia tomentosa*. In the shrub layer there are *Acer tataricum*, *Corylus avellana*, *Crataegus monogyna* s. l., *Euonymus europaeus*, *Sambucus nigra*, *Swida sanguinea* (*Cornus sanguinea*). Typical species of the herb layer are *Anthericum ramosum*, *Brachypodium pinnatum*, *Campanula persicifolia*, *Carex michelii*, *Clinopodium vulgare*, *Digitalis grandiflora*, *Hieracium murorum*, *Hylotelephium polonicum*, *Inula ensifolia*, *Lathyrus niger*, *Melittis melissophyllum*, *Poa nemoralis*, *Polygonatum odoratum*, *Potentilla alba*, *Pyrethrum corymbosum*, *Veronica teucrium*, *Vincetoxicum hirundinaria*, *Viscaria viscosa*. In woods on steep southern slopes, there occur *Brachypodium pinnatum*, *Festuca valesiaca*, *Galium campanulatum*, *Inula hirta*, *Phleum phleoides*, *Poa angustifolia*, *Stachys recta*, *Veronica spicata*. Besides there are beech forests (with *Allium ursinum*, *Asarum europaeum*, *Dentaria bulbifera* (*Cardamine bulbifera*), *Lamium galeobdolon*, *Mercurialis perennis*, *Pulmonaria obscura*), oak-hornbeam forests and small areas of dry grasslands (dominated by *Festuca rupicola*, *Festuca pseudodalmatica*) and shrubs.
Botanical significance. The largest location of termophilous oak woods in Transcarpathian part of Ukraine.
Criterion C

- G1.7 Thermophilous deciduous woodland (*91H0, *91I0, 91M0); area: 400 ha; trend: stable; area data quality: medium; trend data quality: medium.

Conservation proposals. Remove alien tree species. Do not allow the expansion of shrubs in grasslands. Create proposed botanical reserve "Dibrovy Zatysianshchyny".
Literature

1. Стойко С.М. Дубові ліси Українських Карпат: екологічні особливості, відтворення, охорона. – Львів, 2009. – 220 с.
2. Фіторізноманіття заповідників і національних природних парків України. Ч.1. Біосферні заповідники. Природні заповідники / Колектив авторів під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – 406 с.

Zaplava Desny

V.A. Onyshchenko, O.V. Lukash

Ukrainian name: Заплава Десни.
Transliteration/Translation variants: Floodplain of the Desna River.
Area: 185741 ha.
Altitude: 95–130 m.
Latitude: 51°23'17" N (51.3881°).
Longitude: 32°11'12" E (32.1865°).

Administrative regions. Chernihiv region: Borzna raion, Chernihiv city, Chernihiv raion, Kozelets raion, Korop raion, Kulykivka raion, Mena raion, Novhorod-Siverskyi city, Novhorod-Siverskyi raion, Sosnytsia raion; Kyiv region: Brovary raion, Vyshhorod raion; Sumy region: Krolevets raion, Shostka raion, Seredyna-Buda raion.
Ownership: state, private.
Biogeographic regions: continental.

Habitats. Level 1. C – 5%; D – 15%; E – 68%; F – 1%; G – 9%; H – 1%; I – 1%.
Habitats. Level 2. C1 Surface standing waters – 2%; C2 Surface running waters – 3%; C3 Littoral zone of inland surface waterbodies – 1%; D5 Sedge and reedbeds, normally without free-standing water – 15%; E2 Mesic grasslands – 33%; E3 Seasonally wet and wet grasslands – 35%; E5 Woodland fringes and clearings and tall forb stands – 5.3%; F9 Riverine and fen scrubs – 1%; G1 Broadleaved deciduous woodland – 6%; G3 Coniferous woodland – 3%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%; I1 Arable land and market gardens – 1%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; C3.5 Periodically inundated shores with pioneer and ephemeral vegetation; C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E2.1 Permanent mesotrophic pastures and aftermath-grazed meadows; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E5.4 Moist or wet tall-herb and fern fringes and meadows; F9.1 Riverine scrub; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga.
Land use: agriculture (animals) – 15%; agriculture (arable) – 1%; forestry – 9%; mowing/hay making – 45%; nature conservation and research – 5%; urban/industrial/transport – minor.
Protected areas: overlaps (3743 ha) with Desniansko-Starohutskyi national nature park, overlaps (14038 ha) with Desnianskyi biosphere reserve, overlaps (about 5007 ha) with Mezynskyi national nature park, overlaps with Mizhrichynskyi regional landscape park (about 11200 ha), includes Desna River Floodplains Ramsar Site (4270 ha), includes Kamoretskyi state zoological reserve (515 ha), Obolonskyi state botanical reserve (400 ha), Putyvskyi state botanical reserve (150 ha), Muravyivska state hydrological nature monument (40 ha), Ozero Trubyn state hydrological nature monument (40 ha), Vaden' state hydrological nature monument (20 ha),
includes Babakove regional hydrological reserve (12 ha), Boloto Kolodlyve regional hydrological reserve (13.3 ha), Blystovskyi regional landscape reserve (400 ha), Deminka regional landscape reserve (1431 ha), Fedorove regional hydrological reserve (14 ha), Horytskyi landscape hydrological reserve (796 ha), Kovchynskyi regional landscape reserve (311 ha), Kyslyche regional hydrological reserve (178 ha), Lebedynske regional hydrological reserve (184 ha), Makoshynskyi regional landscape reserve (1533 ha), Mialyne regional hydrological reserve (102 ha), Oryvtsiove regional hydrological reserve (12 ha), Paika-Kryvcha regional hydrological reserve (216 ha) Popovychove regional hydrological reserve (11 ha), Smolianske regional hydrological reserve (15 ha), Spaskyi regional landscape reserve (543 ha), Spaskyi–1 regional hydrological reserve (214 ha), Synychne regional hydrological reserve (10 ha), Urochyshche Kuty regional botanical reserve (122 ha), Vuzke regional hydrological reserve (11 ha), Zadesniansly regional landscape reserve (940 ha), Zolotynka regional landscape reserve (527 ha),
includes Ramsar Site "Desna river floodplains" (4270 ha), includes proposed Ramsar Site "Floodplains between town Oster and village Smolyn", overlaps (82511 ha) with Emerald Site "Chernihivske Podesennia", overlaps (3743 ha) with Emerald Site "Desniansko-Starohutskyi National Nature Park", overlaps (14038 ha) with Emerald Site "Desnianskyi Biosphere Reserve", overlaps overlaps (5340 ha) with Emerald Site "Kyivske Podesennia", overlaps (13660 ha) with Emerald Site "Verhnie Podesennia", overlaps (5007 ha) with Emerald Site "Mezynskyi National Nature Park", overlaps (1824 ha) with Emerald Site "Dolyna Seimu", overlaps (50750 ha) with Emerald Site "Nyzhnie Podesennia", overlaps (7058 ha) with Emerald Site "Mizhrichynskyi Regional Landscape Park", overlaps with proposed national nature parks "Prydesnianskyi" and "Shostkynskyi".
Threats: abandonment/reduction of land management – low, agricultural intensification/

expansion (general) – low; burning of vegetation – low, development (urbanization) – low, water (drainage) – low.

General description.

338 km section of the floodplain of the Desna river. This is the largest floodplain with natural water regime in Ukraine. Its average width is about 5 km. Floods are regular. The riverbed has natural meanders. There are many oxbows and lakes. Major vegetation types are mesic meadows dominated by *Alopecurus pratensis*, *Poa pratensis*, *Festuca pratensis*, *Festuca rubra*, *Agrostis gigantea*; drier sandy meadows dominated by *Poa angustifolia*, *Agrostis vinealis*, *Calamagrostis epigeios*; moist medadows dominated by *Deschampsia cespitosa*, *Phalaroides arundinacea*, *Filipendula ulmaria*, *Geranium palustre*; mires and littoral vegetation dominated by *Phragmites auistralis*, *Glyceria maxima*, *Carex acuta*, *Carex acutiformis*, *Carex appropinquata*, *Carex juncella*, *Carex elata*, *Carex rostrata*, *Carex vesicaria*, *Carex vulpina*. There are forests (*Salix alba*, *Quercus robur*, *Alnus glutinosa*, *Populus nigra*, *Populus alba*, *Pinus sylvestris*) and shrubs (*Salix cinerea*, *Salix triandra*, *Salix acutifolia*). Aquatic vegetation is very diverse. Main dominants are *Ceratophyllum demersum*, *Lemna minor*, *Lemna trisulca*, *Hydrocharis morsus-ranae*, *Nuphar lutea*, *Nymphaea alba*, *Nymphaea candida*, *Potamogeton natans*, *Sagittaria sagittifolia*, *Sparganium emersum*, *Stratiotes aloides*, *Utricualaria vulgaris*.

Botanical significance. This area is most important for conservation of floodplain complexes in Ukraine.

Criterion C

- C1.223 Floating *Stratiotes aloides* rafts; area: 30 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.224 Floating *Utricularia australis* and *Utricularia vulgaris* colonies; area: 20 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C1.3411 *Ranunculus* communities in shallow water; area: 1 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C2.33 Mesotrophic vegetation of slow-flowing rivers; area: 200 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation ; area: 30 ha; trend: stable; area data quality: poor; trend data quality: medium.
- C3.51 Euro-Siberian dwarf annual amphibious swards; area: 30 ha; trend: stable; area data quality: poor; trend data quality: medium.
- D5.2 Beds of large sedges normally without free-standing water; area: 25000 ha; trend: stable; area data quality: poor; trend data quality: medium.
- E2.2 Low and medium altitude hay meadows; area: 30000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E3.4 Moist or wet eutropic and mesotrophic grassland; area: 65000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E3.5 Moist or wet oligotrophic grassland; area: 1000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.4 Moist or wet tall-herb and fern fringes and meadows; area: 300 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F9.1 Riverine scrub; area: 5000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.11 Riverine *Salix* woodland; area: 2000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.21 Riverine *Fraxinus* – *Alnus* woodland, wet at high but not at low water; area: 200 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.22 Mixed *Quercus* – *Ulmus* – *Fraxinus* woodland of great rivers; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: poor.

Conservation proposals. Create Emerald Sites including the entire IPA.

Literature

1. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 216 с.
2. Водно-болотні угіддя України / Під ред. Г.Б. Марушевського, І.С. Жарук. – К.: Wetlands International Black Sea Programme, 2006. – 312 с.
3. Деснянський екологічний коридор / під заг. ред. В.Костюшина, Є.Прекрасної. – К.: НЕЦУ, 2010. – 164 с.
4. Карпенко О.Ю. НПП Мезинський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 312–320.
5. Панченко С.М. НПП Деснянсько-Старогутський // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 215–229.
6. Панченко С.М., Андрієнко Т.Л., Гаврись Г.Г., Кузьменко Ю.В. Екологічна мережа Новгород-Сіверського Полісся. – Суми: Університетська книга, 2003. – 92 с.
7. Перспективная сеть заповедных объектов Украины / под ред. Ю.Р.Шеляг-Сосонко. – К.: Наук. думка, 1987. – 292 с.
8. Смарагдова мережа в Україні / Колектив авторів під ред. Проценка Л.Д. – Київ: Хімджест, 2011. – 192 с.

Zaplava Latorytsi

V.A. Onyshchenko

Ukrainian name: Заплава Латориці.

Transliteration/Translation variants: Floodplain of the Latorytsa River.

Area: 4752 ha.

Altitude: 99–110 m.

Latitude: 48°27’54” N (48.4649°).

Longitude: 22°21’15” E (22.3541°).

Administrative regions. Zakarpatska region: Uzhhorod raion, Mukachevo raion.

Ownership: state.

Biogeographic regions: pannonian.

Habitats. Level 1. C – 2.3%; D – 1.5%; E – 22.0%; F – 6.0%; G – 68.2%.

Habitats. Level 2. C1 Surface standing waters – 0.8%; C2 Surface running waters – 0.9%; C3 Littoral zone of inland surface waterbodies – 0.6%; D5 Sedge and reedbeds, normally without free-standing water – 1.5%; E3 Seasonally wet and wet grasslands – 22.0%; F9 Riverine and fen scrubs – 6.0%; G1 Broadleaved deciduous woodland – 68.2%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.5 Periodically inundated shores with pioneer and ephemeral vegetation; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E3.4

Moist or wet eutrophic and mesotrophic grassland; F9.1 Riverine scrub; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.

Land use: agriculture (animals) – minor, forestry – 50%; mowing/hay making – minor, nature conservation and research – major.
Protected areas: overlaps (about 4752 ha) with Prytysianskyi regional landscape park, includes Velykodobronskyi state zoological reserve (1736 ha), overlaps (about 4493 ha) with Emerald Site "Prytysianskyi".
Threats: –.
General description. A part of the floodplain of the Latorytsia river. Moist *Fraxinus pannonica* and *Quercus robur* forest occupies about half of the territory. There is also a large area of wet meadows.
Botanical significance. Important area for floodplain ash-oak forests.
Criterion C

- G1.22 Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers; area: 3000 ha; trend: stable; area data quality: medium; trend data quality: poor.

Literature

1. Регіональний ландшафтний парк "Притисянський" – збереження природної спадщини рівнинного Закарпаття / Р. Кіш, Б. Проць, А. Поляновський, Т. Башта та ін.. – Ужгород: Мистецька лінія, 2009. – 20 с.

Zaplava Prypiati

V.A. Onyshchenko

Ukrainian name: Заплава Прип'яті.
Transliteration/Translation variants: Floodplain of the Prypiat' (Pripet) River.
Area: 44488 ha.
Altitude: 137–154 m.
Latitude: 51°51'59" N (51.8664°).
Longitude: 25°25'08" E (25.4188°).
Administrative regions. Rivne region: Zarichne raion; Volynska region: Liubeshiv raion, Ratno raion.
Ownership: state.
Biogeographic regions: continental.

Habitats. Level 1. C – 3.5%; D – 59%; E – 15%; F – 13%; G – 9%; I – 0.5%.
Habitats. Level 2. C1 Surface standing waters – 3%; C2 surface running waters – 0.1%; C3 littoral zone of inland surface waterbodies – 0.4%; D2 Valley mires, poor fens and transition mires – 10%; D5 Sedge and reedbeds, normally without free-standing water – 49%; E2 Mesic grasslands – 3%; E3 Seasonly wet and wet grasslands – 12%; F9 Riverine and fen scrubs – 13%; G1 Broadleaved deciduous woodland – 6%; G3 Coniferous woodland – 1%; G4 Mixed deciduous and coniferous woodland – 2%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D2.2 Poor fens and soft-water spring mires; D2.3 Transition mires and quaking bogs; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E1.9 Open non-Mediterranean dry acid and neutral grassland including inland dune grassland; E2.1 Permanent mesotrophic pastures and aftermath-grazed meadows; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; E3.5 Moist or wet oligotrophic grassland; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant

Alnus, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.5 Broadleaved swamp woodland on acid peat; G1.7 Thermophilous deciduous woodland; G1.8 Acidophilous *Quercus*-dominated woodland; G1.9 Non-riverine woodland with *Betula*, *Populus tremula* or *Sorbus aucuparia*; G1.B Non-riverine *Alnus* woodland; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.4 Mixed *Pinus sylvestris* – *Betula* woodland; G4.7 Mixed *Pinus sylvestris* – acidophilous *Quercus* woodland.

Land use: forestry – minor, nature conservation and research – 71%.

Protected areas: overlaps (about 26400 ha) with Prypiat-Stokhid national nature park; overlaps (about 11300 ha) with Prypiat-Stokhid regional landscape park (Rivne region); overlaps (about 23400 ha) with Ramsar site "Prypiat river floodplains", includes Birkivskyi regional hydrological reserve (850 ha), Hirkivskyi regional hydrological reserve (400 ha), Zalukhivskyi regional hydrological reserve (839 ha), Velykohlushanskyi regional hydrological reserve (360 ha), Vetlivskyi regional hydrological reserve (850 ha), Nobelskyi regional ornithological reserve (510 ha), Prypiatski regional ichthyological reserve (3155 ha), regional hydrological reserve "Prypiatskyi–1" (340 ha), regional hydrological reserve "Prypiatskyi–2" (220 ha), regional hydrological reserve "Prypiatskyi–3" (320 ha), Tsyrskyi regional hydrological reserve (210 ha), overlaps (about 26817 ha) with Emerald Site "Prypiat-Stokhid National Nature Park", overlaps (about 9664 ha) with Emerald Site " Stokhid-Nobel".

Threats: –.

General description.

The floodplain of the Prypiat river with fragments of a higher terrace. The area includes lakes Liubiaz (430 ha), Nobel (470 ha), Volianske (405 ha). Eutrophic sedge mires occupy the largest area. Main dominants are *Carex appropinquata* and *Carex elata*, other typical species are *Potentilla palustris*, *Lythrum salicaria*, *Thelypteris palustris*, *Iris pseudacorus*. Large areas are covered by *Alnus glutinosa* and *Salix cinerea* swamps. There occur poor fens with *Carex nigra*, *Carex panicea*, *Carex flava*, *Agrostis canina*. Floodplain meadows are dominated mainly by *Deschampsia cespitosa*, *Molinia caerulea*, sometimes by *Agrostis capillaris*, *Poa pratensis*, *Agrostis stolonifera*. The most typical dominants of aquatic vegetation are *Stratiotes aloides*, *Potamogeton nodosus*, *Potamogeton lucens*. Main dominants of the littoral vegetation are *Phragmites australis*, *Typha angustifolia*, *Glyceria maxima*. *Pinus sylvestris* and *Quercus robur* forests on the sand terrace are dominated by *Vaccinium myrtillus*, *Pteridium aquilinum*, *Molinia caerulea*. There are several areas od sand dunes. There are complexes of unvegetated sands with communities of *Corynephorus canescens* (predominanly), *Calamagrostis epigeios*, *Koeleria glauca*, *Filago minima*, *Polytrichum piliferum* with presence of *Centaurea stoebe*, *Helichrysum arenarium*, *Thymus serpyllum*.

Botanical significance. The IPA includes the largest eutrophic sedge mire in Ukraine, important for conservation of *Aldrovanda vesiculosa*.

Criterion A

- *Aldrovanda vesiculosa* L.; A(i), A(ii); abundance: occasional; trend: unknown; species data quality: medium; trend data quality: poor.

Criterion C

- C1.223 Floating *Stratiotes aloides* rafts; area: 50 ha; trend: stable; area data quality: poor; trend data quality: poor.
- C1.226 Floating *Aldrovanda vesiculosa* communities; area: <0.1 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- D5.2 Beds of large sedges normally without free-standing water; area: 15000 ha; trend: stable; area data medium: poor; trend data quality: poor.

- E3.4 Moist or wet eutropic and mesotrophic grassland; area: 5000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E3.5 Moist or wet oligotrophic grassland; area: 1000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- X35 Inland sand dunes; area: 38 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Андрієнко Т.Л., Прядко О.І. Флористичне та ценотичне різноманіття проектованого національного природного парку "Прип'ять-Стохід" // Науковий вісник Волинського державного університету імені Лесі Українки. І Міжнародна науково-практична конференція "Шацький національний природний парк: регіональні аспекти, шляхи та напрями розвитку". – 2007. – 11, ч. 2. – С. 132–140.

2. Андрієнко Т.Л., Прядко О.І. НПП Прип'ять-Стохід // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 429–439.

3. Андрієнко Т.Л., Прядко О.І., Арап Р.Я., Коніщук М.О. Національний природний парк "Прип'ять-Стохід". Рослинний світ / Під заг. ред. Т.Л.Андрієнко. – К.: Фітосоціоцентр, 2009. – 86 с.

4. Прядко О.І. Рослинний покрив водно-болотних угідь РЛП "Прип'ять-Стохід" // Сучасний стан водно-болотних угідь регіонального ландшафтного парку "Прип'ять-Стохід" та їх біорізноманіття. – К:, 2001 – С. 70–75.

Zaplava Siverskoho Dintsia

V.A. Onyshchenko

Ukrainian name: Заплава Сіверського Дінця.

Transliteration/Translation variants: Floodplain of the Siverskyi Donets' River.

Area: 16679 ha.

Altitude: 49–70 m.

Latitude: 48°54'07N (48.9020°).

Longitude: 37°50'05" E (37.8347°).

Administrative regions. Donetsk region: Sloviansk raion, Lyman (Krasnyi Lyman) raion; Luhansk region: Kreminna raion.

Ownership: state.

Biogeographic regions: steppic

Habitats. Level 1. C – 6.8%; D – 1.9%; E – 20.9%; G – 69.9%; H – 0.5%.

Habitats. Level 2. C1 Surface standing waters – 2.6%; C2 Surface running waters – 3.6%; C3 Littoral zone of inland surface waterbodies – 0.6%; D5 Sedge and reedbeds, normally without free-standing water – 1.9%; E2 Mesic grasslands – 19.0%; E3 Seasonally wet and wet grasslands – 1.9%; G1 Broadleaved deciduous woodland – 68.6%; G3 Coniferous woodland – 1.2%; G4 Mixed deciduous and coniferous woodland – 0.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.5%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.2 Mixed riparian floodplain and gallery woodland; G1.3 Mediterranean riparian woodland; G1.4 Broadleaved swamp woodland not on acid

peat; G3.4 *Pinus sylvestris* woodland south of the taiga; G4.C Mixed *Pinus sylvestris* – thermophilous *Quercus* woodland; H5.6 Trampled areas.
Land use: agriculture (animals) – 10%; mowing/hay making – 25%; forestry – 70%; nature

conservation and research – 34%.
Protected areas: overlaps (about 7403 ha) with Sviati Hory national nature park and Emerald Site "Sviati Hory ", overlaps with Emerald Site "Kreminski Lisy" (5252 ha).
Threats: agricultural intensification/expansion (general) – low; development (recreation/ tourism) – low; forestry (intensified forest management) – low.
General description. The floodplain of the Siverskyi Donets river. Its major vegetation is represented by broadleaved forests and meadows. The largest area is occupied by *Quercus robur* forests with co-domimanance of *Tilia cordata*, *Populus tremula*, *Fraxinus excelsior*. Other typical species are *Euonymus europaeus*, *E. verrucosus*, *Corylus avellana*, *Crataegus avellana*, *Acer tataricum*, *Aegopodium podagraria* (dominant), *Convallaria majalis* (dominant), *Stellaria holostea* (dominant), *Anemone ranunculoides*, *Corydalis solida*, *Ficaria verna*, *Glechoma hederacea*, *Lysimachia nummularia*, *Pulmonaria obscura*, *Scilla siberica*, *Tulipa quercetorum*, *Viola odorata*, *Viola mirabilis*. Besides there occur *Alnus glutinosa* and *Populus alba* forests. Floodplain meadows are dominated by *Festuca pratensis*, *Elytrigia repens*, *Koeleria delavignei*, *Phleum pratense*, *Poa pratensis*. Dominants of eutrophic mires are *Phragmites australis* (major), *Carex acuta*, *Carex acutiformis*, *Carex riparia*, *Carex vesicaria*. Dominants of littoral vegetation: *Phragmites australis*, *Acorus calamus*, *Schoenoplectus lacustris*, *Typha angustifolia*, *Typha latifolia*. Dominants of aquatic vegetation: *Lemna minor*, *Potamogeton natans*, *Nuphar lutea*, *Nymphaea alba*, *Salvinia natans*.
Botanical significance. Important for conservation of *Quercus robur* floodplain forests, black alder woods and floodplain meadows.
Criterion C

- E2.2 Low and medium altitude hay meadows; area: 2700 ha; trend: stable; area data quality: good; trend data quality: medium.
- G1.22 Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers; area: 9000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- G1.3 Mediterranean riparian woodland; area: 140 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- G1.414 Steppe swamp *Alnus glutinosa* woods; area: 700 ha; trend: stable; area data quality: medium; trend data quality: medium.

Literature

1. Бурда Р.І., Остапко В.М., Глухов А.З., Шпилева Н.В. Національний природний парк "Святі Гори": біологічна різноманітність рослинного покриву // Заповідна справа в Україні. – 1997. – Т. 3, вип.1. – С.10–17.
2. Морозова І. Міксоміцети Національного природного пароку "Святі Гори" // Матли IV Міжн. наук. конф. студентів та аспірантів "Молодь і поступ біології" (м. Львів, 7–10 квітня 2008 р.). – Львів: ЛНУ ім. І. Франка, 2008. – С.106–107.
3. Надєіна О.В. Лишайники національного природного парку "Святі Гори" // Чорноморський ботан. журн. – 2007. – 3, № 2. – С. 100–108.
4. Остапко В.М., Шпилева Н.В., Дьякова О.В. НПП Святі гори // Фіторізноманіття заповідників і національних природних парків України. Ч. 2. Національні природні парки / під ред. В.А. Онищенка і Т.Л. Андрієнко. – Київ: Фітосоціоцентр, 2012. – С. 440–456.

Zaplava Tysy

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Заплава Тиси.
Transliteration/Translation variants: Floodplain of the Tysa (Tisza) River.
Area: 7930 ha.
Altitude: 115–204 m.
Latitude: 48°11'03N (48.1841°).
Longitude: 23°10'57" E (23.1823°).
Administrative regions. Zakarpatska region: Khust city, Khust raion, Tiachiv raion, Vynohradiv raion.
Ownership: state.
Biogeographic regions: pannonian.

Habitats. Level 1. C – 20.0%; D – 3.0%; E – 16.0%; F – 3.0%; G – 57.0%; H – 1.0%.
Habitats. Level 2. C1 Surface standing waters – 0.3%; C2 Surface running waters – 7.7%;

C3 Littoral zone of inland surface waterbodies – 12.0%; D5 Sedge and reedbeds, normally without free-standing water – 3.0%; E2 Mesic grasslands – 2.0%; E3 Seasonally wet and wet grasslands – 14.0%; F9 Riverine and fen scrubs – 3.0%; G1 Broadleaved deciduous woodland – 57.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.3 Permanent eutrophic lakes, ponds and pools; C2.2 Permanent non-tidal, fast, turbulent watercourses; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments; E3.4 Moist or wet eutrophic and mesotrophic grassland; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; H5.6 Trampled areas; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland.

Land use: agriculture (animals) – minor; forestry – minor; mowing/hay making – minor; nature conservation and research – minor; tourism/recreation – minor.

Protected areas: overlaps (about 4596 ha) with Prytysianskyi regional landscape park, includes Ehresh regional botanical reserve (37.4 ha), overlaps (4669 ha) with Emerald Site "Vynohradivska Tysa".

Threats: construction/impact of dike/dam/barrage – low; eutrophication – low.

General description. Floodplain of the Tysa river. Vegetation is represented by *Salix alba* and *Populus nigra* forests, *Salix* shrubs, moist and mesic grasslands. Significant parts of total area are running waters and unvegetated alluvial deposits (pebble, gravel). Besides there are standing waters, *Alnus glutinosa* swamps, sedge beds. Water is predominantly eutrophic.

Botanical significance. Important for floodplain forests, shrubs, aquatic and ephemeral littoral vegetation.

Criterion C

- C2.34 : Eutrophic vegetation of slow-flowing rivers; area: 5 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C2.28 : Eutrophic vegetation of fast-flowing streams; area: 3 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; area: 10 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- C3.51 Euro-siberian dwarf annual amphibious swards (but excluding C3.5131 Toad-rush swards); area: 10 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- E5.4 Moist or wet tall-herb and fern fringes and meadows; area: 50 ha; trend: unknown; area data quality: poor; trend data quality: poor.
- G1.11 Riverine *Salix* woodland; area: 600 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.3 Mediterranean riparian woodland; area: 3000 ha; trend: unknown; area data quality: poor; trend data quality: poor.

Zaplavni Lisy na Borzhavi

R.Ya. Kish, V.A. Onyshchenko

Ukrainian name: Заплавні ліси на Боржаві.
Transliteration/Translation variants: Floodplain Forests on the Borzhava.
Area: 2775 ha.
Altitude: 113–130 m.
Latitude: 48°13'00" N (48.2166°).
Longitude: 22°48'13" E (22.8034°).
Administrative regions. Zakarpatthia region: Berehove raion, Vynohradiv raion.
Ownership: state.
Biogeographic regions: pannonian.

Habitats. Level 1. C – 0.3%; D – 0.2%; E – 1.8%; F – 0.0%; G – 97.0%; H – 0.7%.

Habitats. Level 2. C1 Surface standing waters – 0.2%; C2 Surface running waters – 0.1%; C3 Littoral zone of inland surface waterbodies – 0.0%; D5 Sedge and reedbeds, normally without free-standing water – 0.2%; E2 Mesic grasslands – 0.1%; E3 Seasonally wet and wet grasslands – 1.7%; F9 Riverine and fen scrubs – 0.0%; G1 Broadleaved deciduous woodland – 97.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 0.7%.

Futher habitat description. F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H5.6 Trampled areas.

Land use: forestry – major, nature conservation and research – minor.
Protected areas: overlaps (2506 ha) with Prytysianskyi regional landscape park, includes regional preserve ("zapovidne urochyshche") "Borzhava" (153 ha, included in the regional landscape park), includes regional botanical reserve "Velykyi Lis" (1.5 ha, included in regional preserve "Borzhava"), overlaps (2152 ha) with Emerald Site "Ponyzzia Borzhavy".
Threats: forestry (intensified forest management) – low.
General description. Major vegetation types are moist floodplain *Quercus robur - Fraxinus pannonicus* forest and mesic *Quercus robur - Carpinus betulus* forest. Dominants of the herb layer of the moist forests are *Filipendula ulmaria*, *Glechoma hederacea*, *Impatiens noli-tangere*, *Phalaroides arundinacea*, *Rubus caesius*, *Urtica dioica*. In the mesic forests, there prevail *Anemone nemorosa*, *Aegopodium podagraria*, *Hedera helix*, *Lamium galeobdolon*. Besides there are *Alnus glutinosa* wet forests and *Alnus glutinosa* swamps, small areas of *Salix alba* and *Salix fragilis* woods, sedge and reedbeds, *Salix cinerea* swamps, meadows.
Botanical significance. One of the best riverine forests in Ukraine and Central Europe.
Criterion C

- G1.22 Mixed *Quercus – Ulmus – Fraxinus* woodland of great rivers; area: 1400 ha; trend: stable; area data quality: medium; trend data quality: medium
- G1.414 Steppe swamp *Alnus glutinosa* woods; area: 40 ha; trend: stable; area data quality: medium; trend data quality: medium.

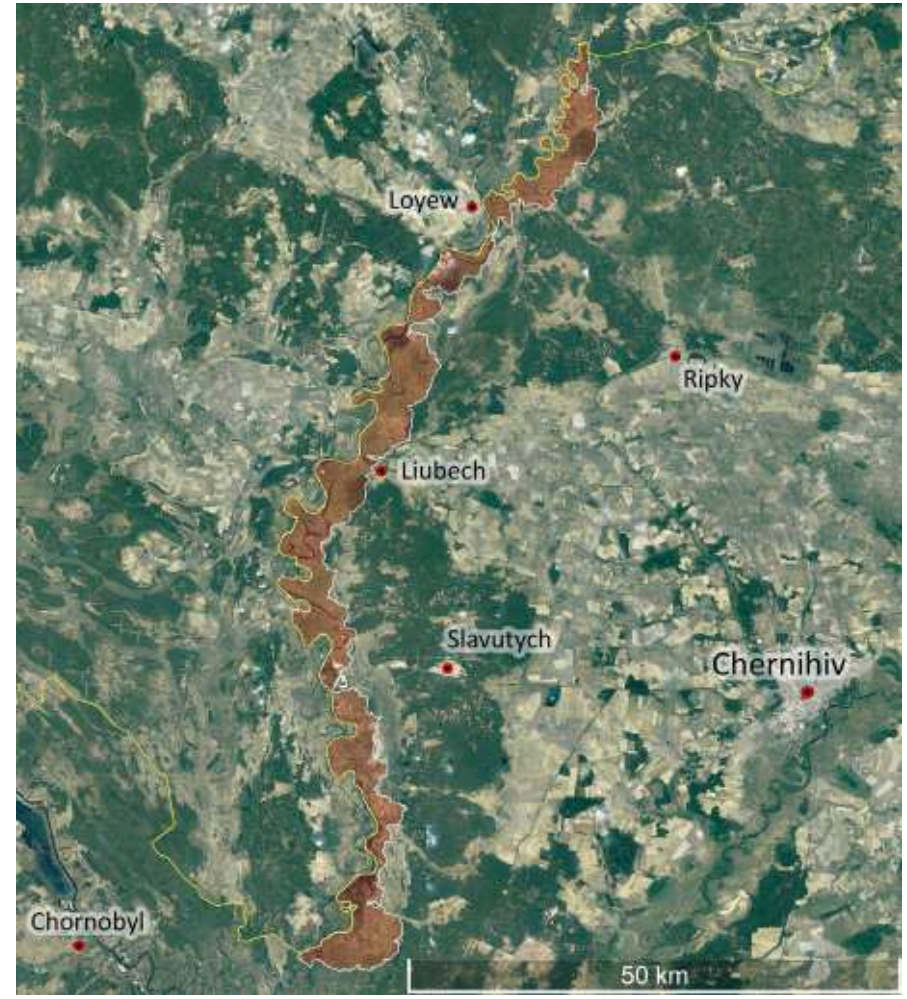
Conservation proposals. Stop clear felling and create a state botanical reserve including the entire IPA.

Zaplavy Dnipra i Sozha

V.A. Onyshchenko, O.V. Lukash

Ukrainian name: Заплави Дніпра і Сожа.
Transliteration/Translation variants: Floodplain of the Dnipro and the Sozh.
Area: 34967 ha.
Altitude: 104–120 m.
Latitude: 51°43'50" N (51.7304°).
Longitude: 30°39'05" E (30.6515°).
Administrative regions. Chernihiv region: Chernihiv raion, Ripky raion.
Ownership: state, private.
Biogeographic regions: continental
Habitats. Level 1. C – 11%; D – 15%; E – 44%; F – 8%; G – 22%.
Habitats. Level 2. C1 Surface standing waters – 3.0%; C2 Surface running waters – 7.2%; C3 Littoral zone of inland surface waterbodies – 0.8%; D5 Sedge and reedbeds, normally without free-standing water – 15%; E3 Seasonally wet and wet grasslands – 44%; F9 Riverine and fen scrubs – 8%; G1 Broadleaved deciduous woodland – 18%; G3 Coniferous woodland – 4%.
Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C1.6 Temporary lakes, ponds and pools; C2.3 Permanent non-tidal, smooth-flowing watercourses; C3.2 Water-fringing reedbeds and tall helophytes other than canes; C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E3.4 Moist or wet eutrophic and mesotrophic grassland; C3.5 Periodically inundated shores with

pioneer and ephemeral vegetation; F9.1 Riverine scrub; F9.2 *Salix* carr and fen scrub; G1.1 Riparian and gallery woodland, with dominant *Alnus*, *Betula*, *Populus* or *Salix*; G1.2 Mixed riparian floodplain and gallery woodland; G1.4 Broadleaved swamp woodland not on acid peat; G3.4 *Pinus sylvestris* woodland south of the taiga.



Land use: agriculture (animals) – 10%; agriculture (arable) – 1%; forestry – 20%; mowing / hay making – 30%; nature conservation and research – minor%.
Protected areas: includes regional hydrological reserve "Kryvi Hriady" (129.2 ha), includes regional zoological reserve "Kryvi Hriady – 2" (7 ha), includes regional hydrological reserve "Ozera Sympol, Sviate ta Prylehli Bolota" (140 ha), includes regional hydrological reserve "Urochyshche Dor" (166 ha), overlaps (6679 ha) with Emerald Site "Ripkynskyi", overlaps

(6406 ha) with Emerald Site “Liubetskyi”, overlaps (3840 ha) with Emerald Site “Pakulskyi”, overlaps with proposed Liubechskyi national nature park, overlaps with proposed Dniprovskyi national nature park.

Threats: abandonment/reduction of land management – low, agricultural intensification/expansion (general) – low; burning of vegetation – low, development (urbanization) – low.

General description. Ukrainian part of the floodplains of the Dnipro and Sozh rivers length of 104 km. Western boundary runs along the state border between Ukraine and Belarus. This is one of the largest floodplains with natural water regime in Ukraine. Floods are regular. The riverbed has natural meanders. There are many oxbows and lakes. Meadows occupy the largest area. Sandy meadows on high elements of relief are dominated by *Calamagrostis epigeios*, *Agrostis vinealis*, *Poa angustifolia*. Dominants of meadows of a lower level are *Alopecurus pratensis*, *Poa pratensis*, *Festuca pratensis*, *Festuca rubra*, *Agrostis gigantea*. Moist meadows are dominated by *Deschampsia cespitosa* and *Phalaroides arundinacea*. Mires and littoral vegetation are dominated by *Phragmites auistralis*, *Glyceria maxima*, *Carex acuta*, *C. elata*, *Carex juncella*, *C. appropinquata*. There are forests (*Quercus robur*, *Alnus glutinosa*, *Salix alba*, *Pinus sylvestris*) and shrubs (*Salix cinerea*, *Salix triandra*, *Salix acutifolia*). Main dominants of aquatic vegetation are *Lemna minor*, *Spirodela polyrrhiza*, *Sagittaria sagittifolia*, *Hydrocharis morsus-ranae*, *Nuphar lutea*, *Nymphaea alba*, *Potamogeton perfoliatus*, *Potamogeton lucens*, *Stratiotes aloides*.

Botanical significance. This area is important for conservation of floodplain complexes in Ukraine.

Criterion C

- C1.223 Floating *Stratiotes aloides* rafts; area: 6 ha; trend: stable; area data quality: poor; trend data quality: poor.
- C1.224 Floating *Utricularia australis* and *Utricularia vulgaris* colonies; area: 4 ha; trend: stable; area data quality: poor; trend data quality: poor
- C1.3411 *Ranunculus* communities in shallow water; area: 0.2 ha; trend: stable; area data quality: poor; trend data quality: poor.
- C2.33 Mesotrophic vegetation of slow-flowing rivers; area: 80 ha; trend: stable; area data quality: poor; trend data quality: poor.
- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation; area: 6 ha; trend: stable; area data quality: poor; trend data quality: poor.
- C3.51 Euro-Siberian dwarf annual amphibious swards; area: 6 ha; trend: stable; area data quality: poor; trend data quality: poor.
- D5.2 Beds of large sedges normally without free-standing water; area: 5000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E2.2 Low and medium altitude hay meadows; area: 5000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E3.4 Moist or wet eutropic and mesotrophic grassland; area: 10000 ha; trend: stable; area data quality: medium; trend data quality: medium.
- E3.5 Moist or wet oligotrophic grassland; area: 100 ha; trend: stable; area data quality: poor; trend data quality: poor.
- E5.4 Moist or wet tall-herb and fern fringes and meadows; area: 6 ha; trend: stable; area data quality: poor; trend data quality: poor.
- F9.1 Riverine scrub; area: 5000 ha; trend: stable; area data quality: poor; trend data quality: poor.
- G1.11 Riverine *Salix* woodland; area: 1000 ha; trend: stable; area data quality: poor; trend data quality: poor.

- G1.21 Riverine *Fraxinus* – *Alnus* woodland, wet at high but not at low water; area: 150 ha; trend: stable; area data quality: poor; trend data quality: poor.

Literature

1. Андриенко Т.Л., Шеляг-Сосонко Ю.Р. Растительный мир Украинского Полесья в аспекте его охраны. – Киев: Наук. думка, 1983. – 216 с.

2. Водно-болотні угіддя України / Під ред. Г.Б. Марушевського, І.С. Жарук. – К.: Wetlands International Black Sea Programme, 2006. – 312 с.

3. Лукаш А.В., Андриенко Т.Л. Ботанически ценные охраняемые природные территории Полесья. – Чернигов: Десна Полиграф, 2014. – 104 с.

4. Перспективная сеть заповедных объектов Украины / под ред. Ю.Р.Шеляг-Сосонко. – К.: Наук. думка, 1987. – 292 с.

5. Смарагдова мережа в Україні / Колектив авторів під ред. Проценка Л.Д. – Київ: Хімджест, 2011. – 192 с.

Zelena Balka

V.A. Onyshchenko

Ukrainian name: Зелена Балка.

Transliteration/Translation variants: Green Ravine.

Area: 1339.0 ha.

Altitude: 40–104 m.

Latitude: 47°47’29” N (47.7914°).

Longitude: 33°11’30” E (33.1915°).

Administrative regions. Dnipropetrovsk region: Shyroke raion.

Ownership: state.

Biogeographic regions: steppic.

Habitats. Level 1. C – 3.8%; D – 0.5%; E – 93.7%; F – 0.1%; G – 0.9%; H – 1.0%.

Habitats. Level 2. C1 Surface standing waters – 3.4%; C3 Littoral zone of inland surface waterbodies – 0.4%; E1 Dry grasslands – 92.1%; E2 Mesic grasslands – 0.5%; E5 Woodland fringes and clearings and tall forb stands – 0.1%; E7 Sparsely wooded grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 0.1%; G1 Broadleaved deciduous woodland – 0.9%; H2 Screes – 0.0%; H3 Inland cliffs, rock pavements and outcrops – 0.0%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.

Futher habitat description. C1.2 Permanent mesotrophic lakes, ponds and pools; C3.2 Water-fringing reedbeds and tall helophytes other than canes; D5.1 Reedbeds normally without free-standing water; E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G1.C Highly artificial broadleaved deciduous forestry plantations; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs; H5.6 Trampled areas.

Land use: agriculture (animals) – major.

Protected areas: –.

Threats: –.

General description. Grasslands dominated by *Festuca valesiaca*, *Stipa capillata*, *S. lessingiana*, *Botriochloa ischaemum*, *Koeleria cristata*, *Stipa ucrainica* (rarely) with presence of *Teucrium polium*, *Euphorbia seguierana*, *Euphorbia stepposa*, *Salvia nutans*, *Eryngium*

campestre, *Marrubium praecox*, *Veronica barellieri*, *Artemisia austriaca*, *Medicago falcata*. In more mesic habitats, there prevail *Poa angustifolia*, *Bromopsis inermis*, *Elytrigia intermedia*, *Elytrigia trichophora*, *Carex praecox*, frequent species are *Achillea pannonica*, *Marrubium*

praecox, *Galium ruthenicum*, *Plantago urvillei*. In shrub steppes, *Amygdalus nana*, *Caragana frutex*, *Caragana scythica* predominate. On stony calcareous soil, there prevail *Jurinea brachycephala*, *Teucrium chamaedrys*, *Potentilla incana*, *Stipa asperella*, *Galatella villosa*, *Elytrigia stipifolia*, *Chamaecytisus graniticus* with presence of *Alyssum tortuosum* (*Odontarrhena tortuosa*), *Cephalaria uralensis*, *Convolvulus lineatus*. Communities of *Elytrigia repens*, *Calamagrostis epigeios*, *Festuca regeliana*, *Galega officinalis*, *Puccinellia distans* occupy bottoms of the valleys. In wetter habitats, dominant species are *Phragmites australis*, *Typha angustifolia*, *Schoenoplectus tabaernaemontani*, *Bolboschoenus maritimus*, *Juncus gerardii*, *Agrostis stolonifera*. In the most saline habitats, there are communities of *Limonium alutaceum* and *Artemisia santonica*. Typical lichens of outcrops are *Caloplaca aurantia*, *C. saxicolsa*, *C. variabilis*, *Candellariella aurella*, *Lecanora dispersa*, *Verrucaria nigrescens*. Communities of high shrubs are represented by thickets of *Crataegus fallacina*, *Prunus stepposa*.

Botanical significance. One of the best steppe areas west to the Dnipro river.

Criterion A

- *Chamaecytisus graniticus* (Rehmann.) Rothm.; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: medium.
- *Tulipa hypanica* Klokov et Zoz; A(iii); abundance: occasional; trend: stable; species data quality: medium; trend data quality: poor.

Criterion C

- E1.2 Perennial calcareous grassland and basic steppes; area: 1000 ha; trend: stable; area data quality: medium; trend data quality: good.

Conservation proposals. Create a state reserve and an Emerald Site..

Literature

1. Красова О.О., Сметана О.М. Матеріали до оцінки перспективних степових компонентів екомережі Кривбасу (“Балка Зелена”) // Чорноморський ботанічний журнал. – 2012. – 8, № 4. – С. 459–470.

Zholoby

H.I. Oliiar, H.P. Protsiv

Ukrainian name: Жолоби.
Area: 60.0 ha.
Altitude: 308–387 m.
Latitude: 49°29’04” N (49.4845°).
Longitude: 24°53’20” E (24.8888°).

Administrative regions. Ternopil region: Berezhany raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 25.0%; F – 10.0%; G – 64.0%; H – 1.0%.

Habitats. Level 2. E1 Dry grasslands – 22.0%; E7 Sparsely wooded grasslands – 3.0%; F3 Temperate and mediterranean-montane scrub – 10.0%; G1 Broadleaved deciduous woodland – 12.9%; G3 Coniferous woodland – 52.1%; H5 Miscellaneous inland habitats with very sparse or no vegetation – 1.0%.
Futher habitat description. E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; F3.2 Submediterranean deciduous thickets and brushes; G3.F Highly artificial coniferous plantations; H5.6 Trampled areas.
Land use: forestry (major), mowing/hay making – minor.
Protected areas: overlaps (60 ha) with Emerald Site "Berezhanske Opillia", same as proposed state botanical reserve "Zholoby".
Threats: abandonment/reduction of land management – high, forestry (afforestation) – low.
General description. Semi-dry grasslands, plantations of *Pinus sylvestris*, natural deciduous woods and shrubs (*Prunus spinosa*, *Crataegus* spp.). Grasslands are dominated by *Brachypodium pinnatum*, *Calamagrostis epigeios*, *Carex humilis*. Other frequent species: *Centaurea stricta*, *Filipendula vulgaris*, *Teucrium chamaedrys*.
Botanical significance. Large population of *Orchis militaris*.
Criterion C

- E1.2 Perennial calcareous grassland and basic steppes (6210, *Important orchid site); area: 13 ha; trend: decreasing; area data quality: good; trend data quality: good. Size of population of *Orchis militaris*: 2000–4000 individuals.

Conservation proposals: remove all pine trees, do not allow expansion of trees and shrubs, mow grasslands, non-intensive grazing.
Literature

1. Оліяр Г.І., Процiв Г.П. Флористичні особливості деяких урочищ Бережанського Опілля // Науковий вісник Національного університету біоресурсів і природокористування України. Серія "Лісівництво та декоративне садівництво" – К.: ВЦ НУБіП України, 2012. – Вип. 171, ч. 1. – С. 131–134.

Zhyzhava

V.A. Onyshchenko

Ukrainian name: Жижава.
Area: 107.0 ha.
Altitude: 146–300 m.
Latitude: 48°41'54" N (48.6983°).
Longitude: 25°39'11" E (25.6531°).
Administrative regions. Ternopil region: Zalishchyky raion.
Ownership: state.
Biogeographic regions: continental.
Habitats. Level 1. E – 36.0%; F – 13.0%; G – 40.0%; H – 11.0%.
Habitats. Level 2. E1 Dry grasslands – 35.0%; E2 Mesic grasslands – 1.0%; F3 Temperate and mediterranean-montane scrub – 13.0%; G1 Broadleaved deciduous woodland – 40.0%; H2 Screes – 2.0%; H3 Inland cliffs, rock pavements and outcrops – 9.0%.
Futher habitat description. E1.1 Inland sand and rock with open vegetation; E1.2 Perennial calcareous grassland and basic steppes; F3.1 Temperate thickets and scrub; G1.7 Thermophilous deciduous woodland; G1.A Meso- and eutrophic *Quercus*, *Carpinus*, *Fraxinus*, *Acer*, *Tilia*, *Ulmus* and related woodland; H2.6 Calcareous and ultra-basic screes of warm exposures; H3.2 Basic and ultra-basic inland cliffs.

Land use: agriculture (animals) – minor, forestry – minor, nature conservation and research – major, tourism/recreation – minor.
Protected areas: overlaps (37 ha) with Zhyzhavskyi state botanical reserve, included in national nature park "Dnistrovskyi Kanion", included in Emeral Site "Dnistrovskyi Kanion National Nature Park".
Threats: agricultural intensification/expansion (grazing) – low, development (recreation/tourism) – low.
General description. A steep slope of the Dnister valley with broadleaved forest, steppe vegetation, shrubs, calcareous rocks and screes. The tree layer of the forest consists of *Carpinus betulus*, *Quercus robur*, *Quercus petraea*, *Fraxinus excelsior*. The shrub vegetation is dominated by *Prunus spinosa*, *Staphylea pennata*, *Crataegus* sp. Dominants of the steppe are *Carex humilis*, *Festuca valesiaca*, *Stipa capillata*. There are a lot of protected species: *Chamaecytisus podolicus*, *Iris hungarica*, *Pulsatilla grandis*, *Pulsatilla pratensis*, *Spiraea*

polonica etc.

Botanical significance. Important for narrow endemic species *Spiraea polonica* (locus classicus), Podolian steppes, shrubs and rocks with many rare species.

Criterion A

- *Spiraea polonica* Błocki; A(iii); abundance: occasional (about 200 individuals in one compact population); trend: stable; species data quality: good; trend data quality: medium.

Criterion C

- E1.11 Euro-Siberian rock debris swards; area: 12 ha; trend: stable; area data quality: poor; trend data quality: good.
- F3.247 Ponto-Sarmatic deciduous thickets; area: 14 ha; trend: stable; area data quality: medium; trend data quality: medium.
- H2.6 Calcareous and ultra-basic screes of warm exposures; area: 0.5 ha; trend: stable; area data quality: poor; trend data quality: good.

Literature

1. Федорончук М.М., Белемець Н.М., Волуца О.Д. Рідкісні види роду *Spiraea* L. (*Rosaceae*) флори України та стан їхньої України // Укр. ботан. журн. – 2013. – 70, № 2. – С. 164–167.

2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Zolochivka

O.T. Kuzyarin, V.A.Onyshchenko

Ukrainian name: Золочівка.

Area: 398.0 ha.

Altitude: 265–280 m.

Latitude: 49°46′43″ N (49.7786°).

Longitude: 24°58′20″ E (24.9721°).

Administrative regions. Lviv region: Zolochiv raion.

Ownership: state (major), private

Biogeographic regions: continental.

Habitats. Level 1. C – 0.7%; D – 50.0%; E – 40.3%; F – 1.0%; G – 8.0%.

Habitats. Level 2. C1 Surface standing waters – 0.4%; C3 Littoral zone of inland surface waterbodies – 0.3%; D4 Base-rich fens and calcareous spring mires – 30.3%; D5 Sedge and reedbeds, normally without free-standing water – 10.0%; E2 Mesic grasslands – 4.3%; E3 Seasonally wet and wet grasslands – 36.0%; F9 Riverine and fen scrubs – 1.0%; G1 Broadleaved deciduous woodland – 8.0%.

Futher habitat description. D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; D5.1 Reedbeds normally without free-standing water; D5.2 Beds of large sedges normally without free-standing water; E2.2 Low and medium altitude hay meadows; E3.4 Moist or wet eutrophic and mesotrophic grassland; F9.2 *Salix* carr and fen scrub.

Land use: mowing/hay making – minor.

Protected areas: –.

Threats: abandonment/reduction of land management – low, agricultural intensification/

expantion (general) – low, water (drainage) – low.

General description. Partially drained fen. Major vegetation types are rich fens and wet grasslands. Dominant species of rich fen are *Carex davalliana*, *Carex flacca*, *Carex hostiana*, *Carex panicea*, *Molinia caerulea*, *Pragmites australis*, *Schoenus ferrugineus*, *Sesleria caerulea*, *Calliergonella cuspidata*, *Campylium stellatum*, *Limprychtia revolvens*. Other frequent species are *Epipactis palustris*, *Eupatorium cannabinum*, *Lythrum salicaria*, *Parnassia palustris*, *Pinguicula vulgaris*, *Potentilla erecta*, *Rinanthus serotinus*, *Sanguisorba officinalis*, *Tofieldia calyculata*, *Valeriana simplicifolia*. Meadows are dominated by *Briza media*, *Deschampsia cespitosa*, *Festuca rubra*, *Molinia caerulea*. Besides there are marshes dominated by *Carex acuta* and other large sedges without significant presence of calciphile species.

Botanical significance. One of the largest rich fens in Ukraine with rare species (*Sesleria caerulea, Juncus subnodulosus, Dactylorhiza ochroleuca, Dactylorhiza traunsteineri*).

Criterion C

- D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks; area: 140 ha; trend: stable; area data quality: poor; trend data quality: medium.

Conservation proposals. Do not allow recovery of reclamation ditches, include in Pivnichne Podillia national nature park and Emerald Site “Pivnichne Podillia”.

Literature

1. Кузярін О.Т. Перспективні природоохоронні території басейну верхів’я Західного Бугу // Наукові записки державного природохнавчого музею. – Львів. – 2012. – Вип. 28. – С. 121–130.

2. Червона книга України. Рослинний світ / за ред. Я.П. Дідуха. – К.: Глобалконсалтинг, 2009. – 900 с.

Contents

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