

***Dactylorhiza* (Orchidaceae) diversity  
from European Russia and Caucasus:  
insight from molecules and  
morphology**

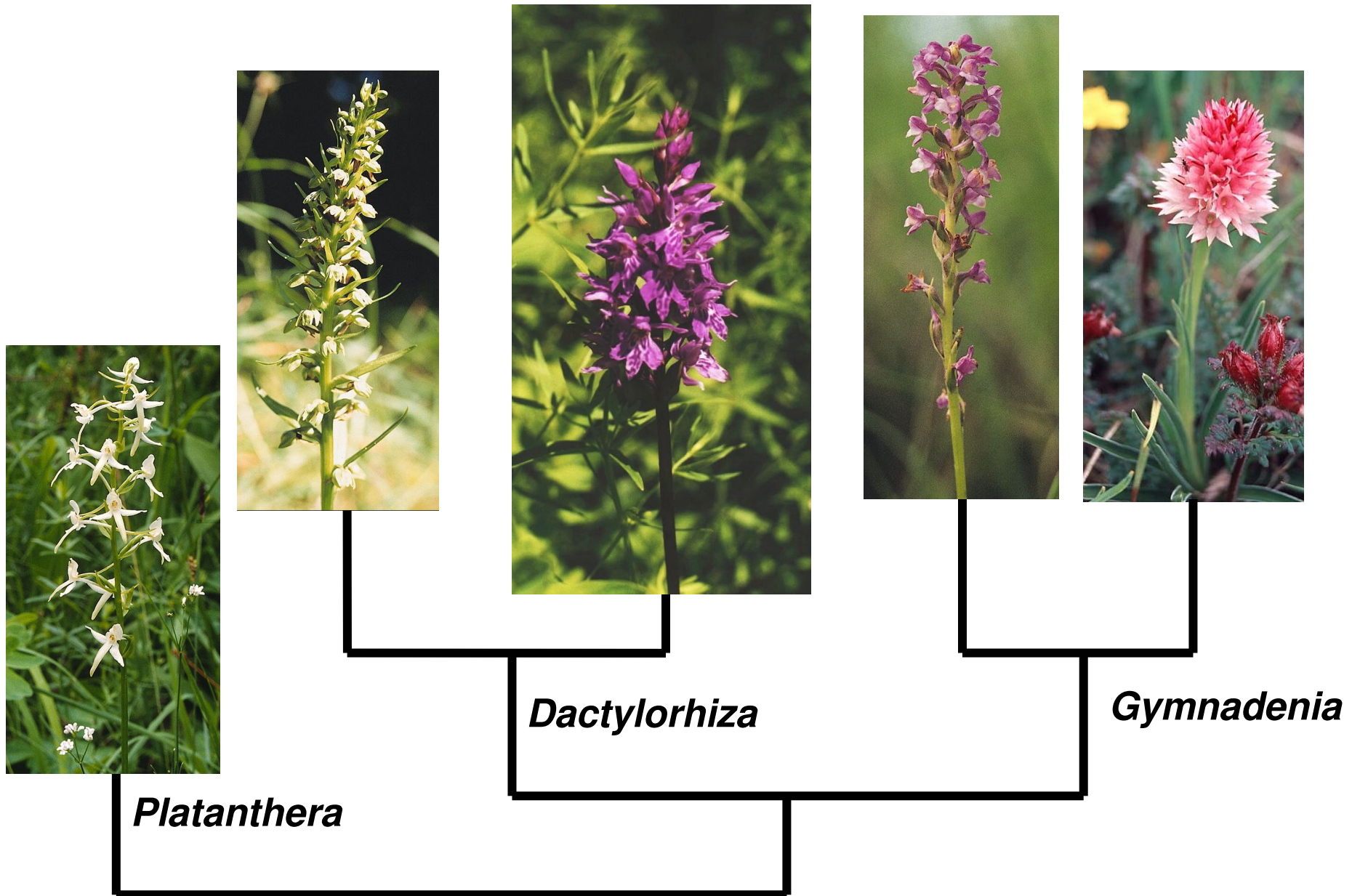
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Richard M. Bateman<sup>3</sup> and Mark W. Chase<sup>2</sup>

<sup>1</sup>Moscow South-West High School

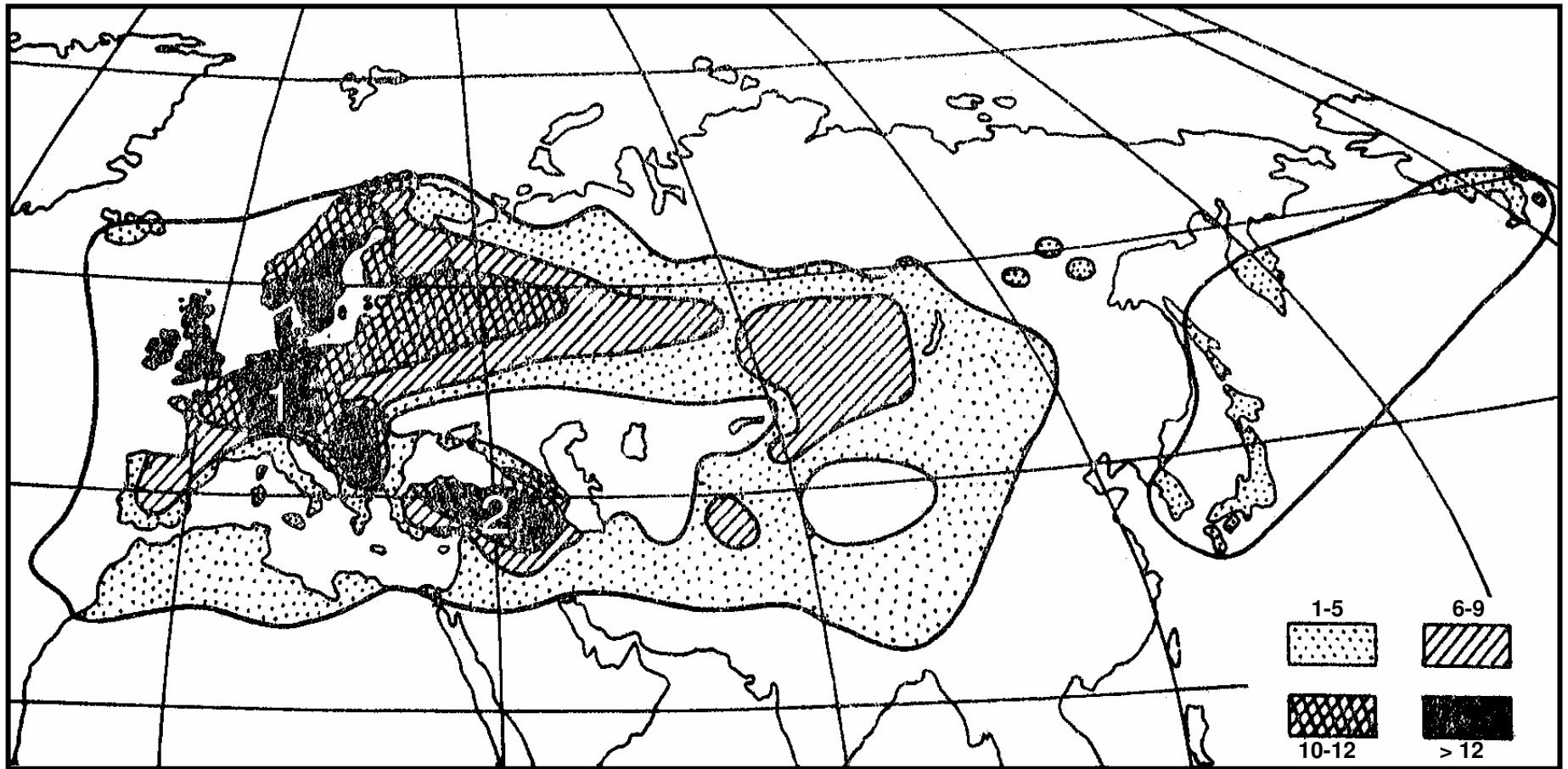
<sup>2</sup>Royal Botanic Gardens, Kew

<sup>3</sup>Natural History Museum, London

# Phylogenetic relationships (Bateman et al., 2003)



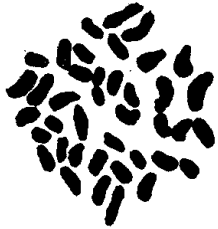
# Area and species density



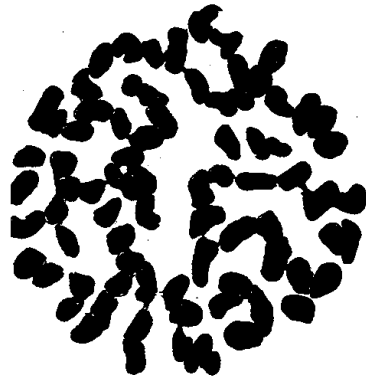
Main centres of diversity: (1) Western Europe; (2) Caucasus and Turkey

# Diploids, autotetraploids and allotetraploids

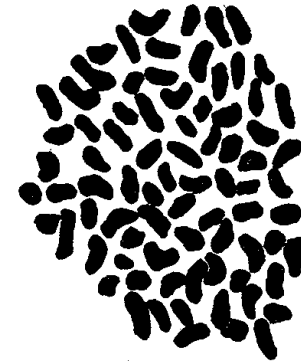
*D. incarnata*,  $2n=40$



*D. elata*,  $2n=80$



*D. praetermissa*,  $2n=80$



*D. fuchsii*,  $2n=40$



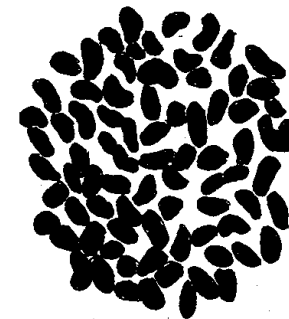
*D. purplella*,  $2n=80$



*D. maculata*,  $2n=80$



*D. majalis*,  $2n=80$



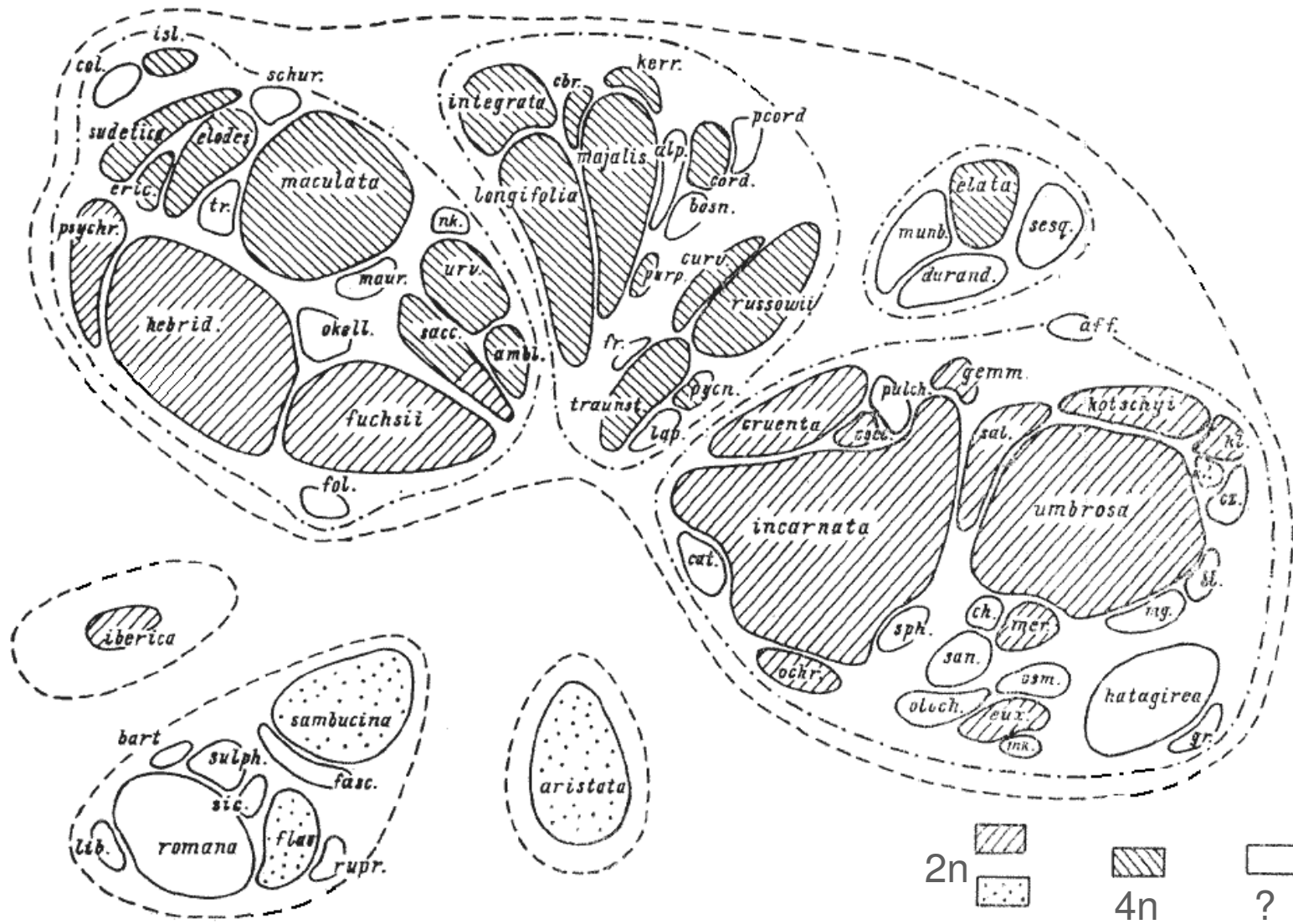
*D. foliosa*,  $2n=40$



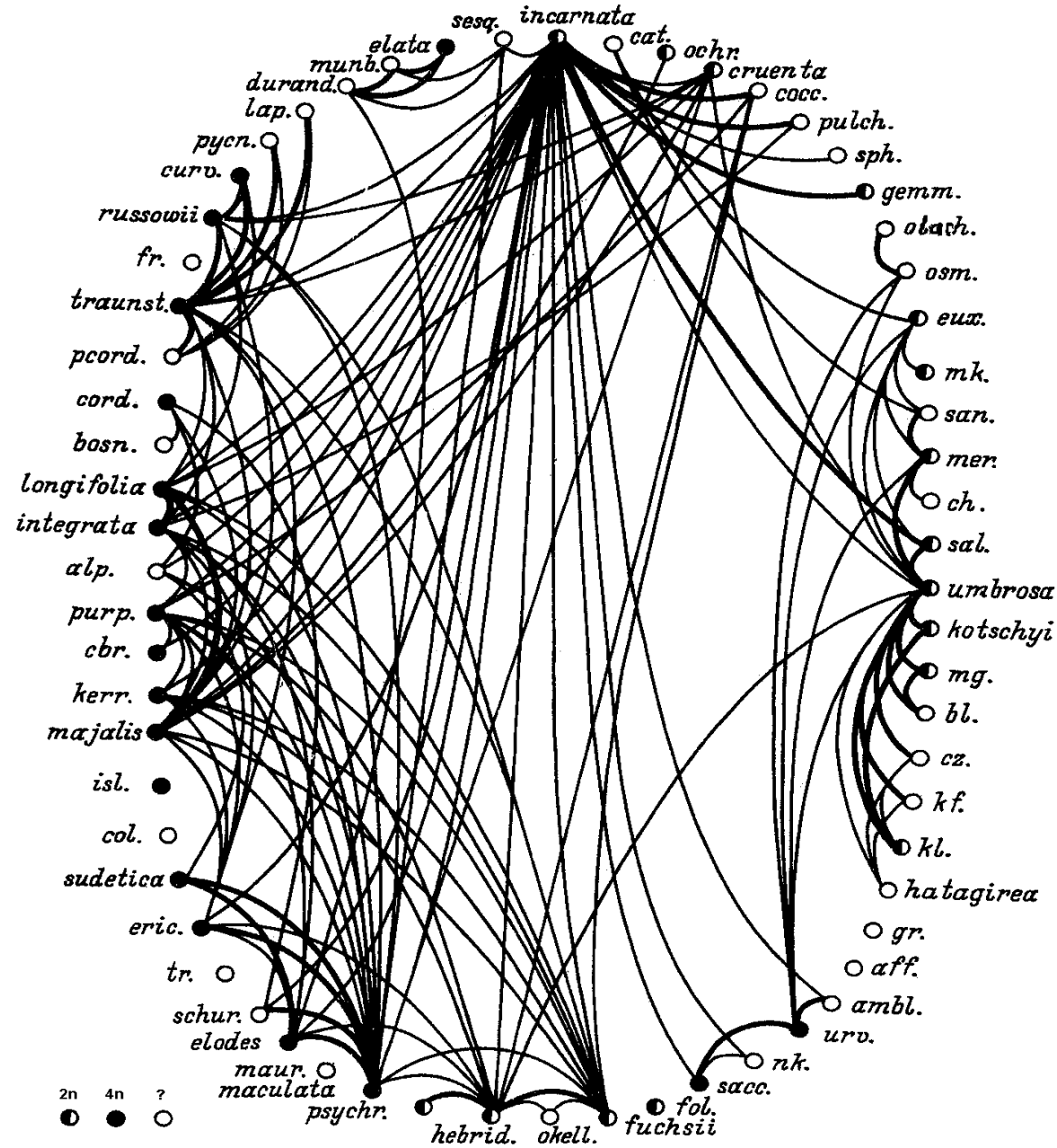
*D. traunsteineri*,  $2n=80$



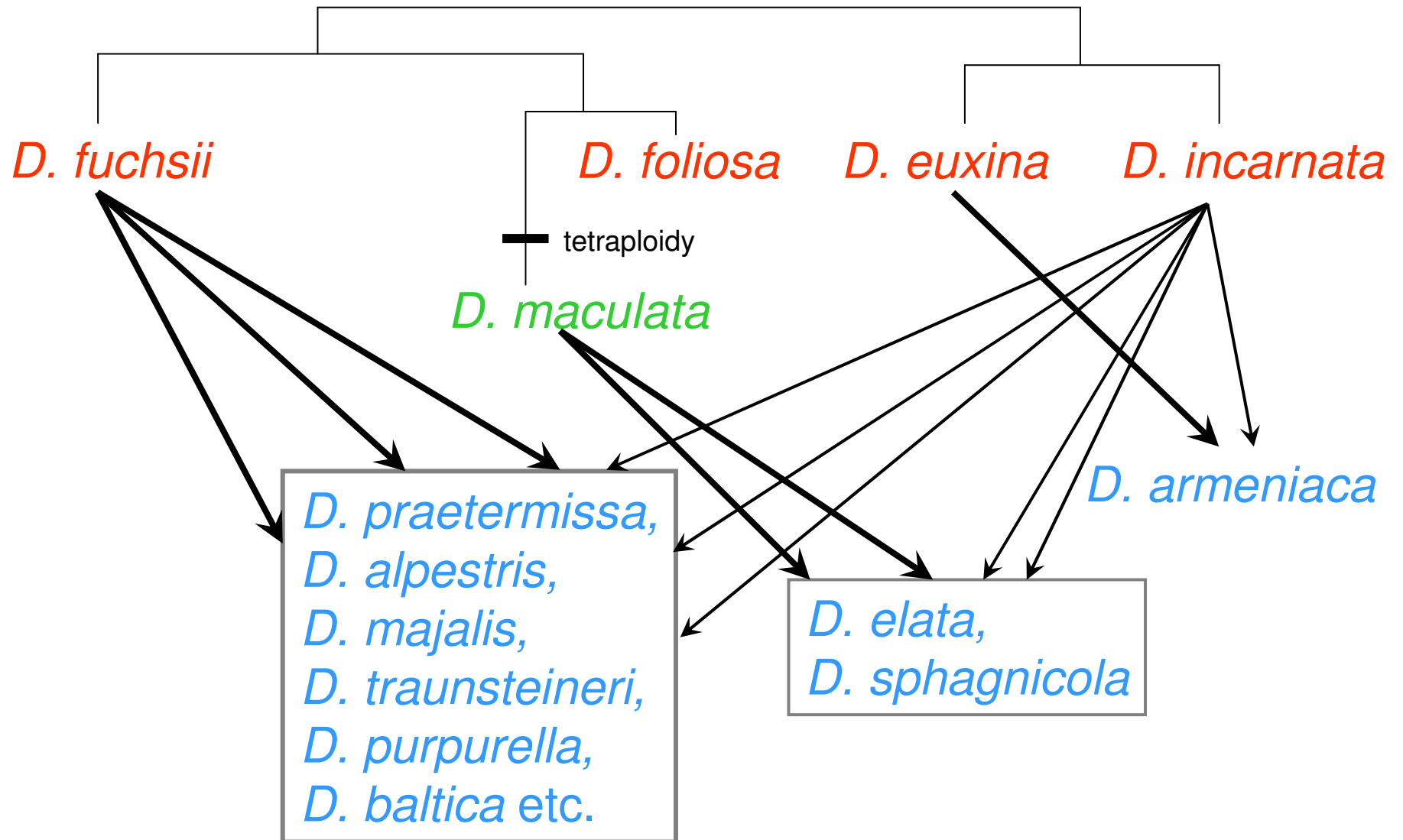
# Classification and ploidy level (Averyanov, 1990)



# The level of inter-generic hybridisation (Averyanov, 1990)

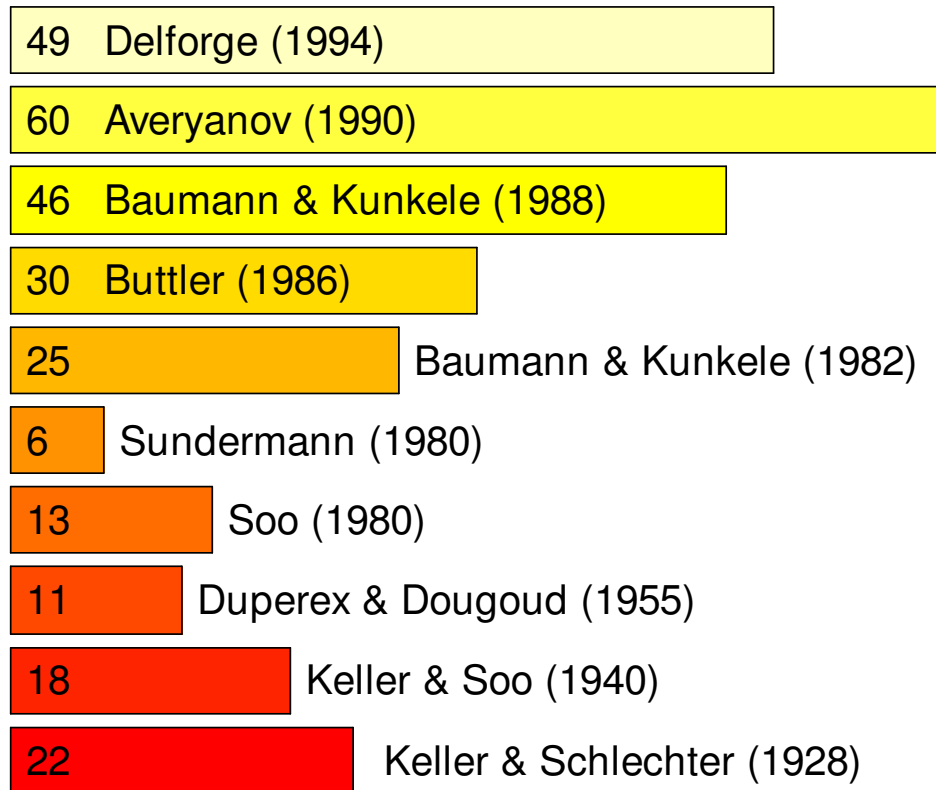


# Hybrid origin of some species (Hedrén, 2002, 2003; Pillon et al., subm.)

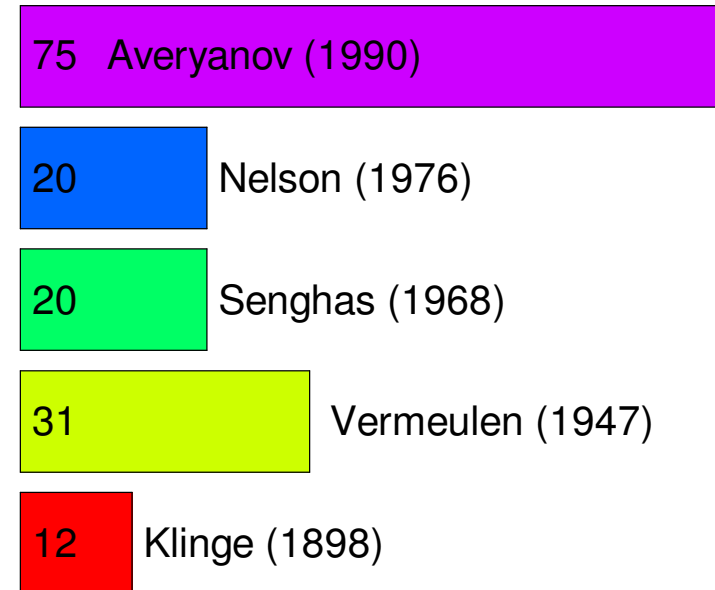




# The total species number by person and time



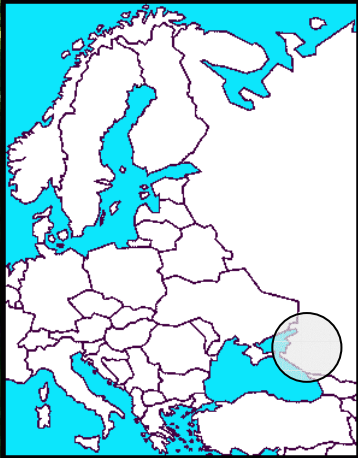
In Europe



Worldwide



Western Caucasus (Black Sea coast):  
2000 km from Moscow



*Dactylorhiza flavescens*

*Dactylorhiza xarmeniaca*

