

Ethnobotany. Lecture 32

Alexey Shipunov

Minot State University

April 22, 2015



Outline

Pharmacognosy

Plant remedies for neural system



Pharmacognosy

Plant remedies for neural system



Sedatives

- ▶ Are often calling “hypnotics”, difference is mainly in a dose
- ▶ Plant sedatives are much safer than synthetic



Valerian, *Valeriana officinalis*, Caprifoliaceae, Eurasia

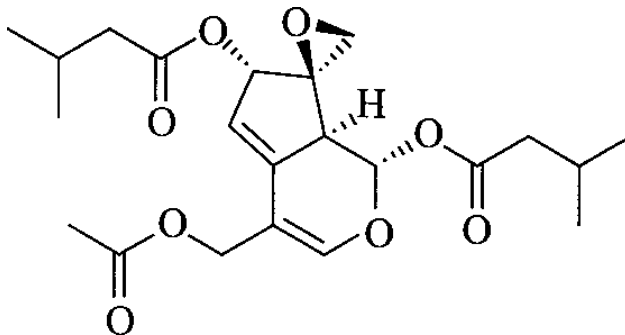
- ▶ *Valerianae radix*
- ▶ Active components are valerian oils and iridoids valepotriates
- ▶ Interact with GABA receptors



Valerian



Valtrate valepotriate



Hops, *Humulus lupulus*, Cannabaceae, Eurasia

- ▶ *Lupuli flos*
- ▶ Active components are unusual organic acids humulone and lupulone and their derivatives
- ▶ Helps to normalize sleep, also have antibacterial effects



Hops (female inflorescences)



Lemon balm, *Melissa officinalis*, Labiatae, Eurasia

- ▶ *Melissae folium*
- ▶ Active components are multi-component volatile oils including aldehydes
- ▶ Improve nervous disorders and also gastrointestinal problems; has antibacterial effects



Melissa



Red passion flower, *Passiflora incarnata*, Passifloraceae, South America

- ▶ Dried leaves are used pharmaceutically
- ▶ Active components suspected to be flavonoids
- ▶ As effective as oxazepam (serax) in treating nervous disorders (e.g., hysteria)



Mandrake, *Mandragora officinarum*, Solanaceae, Central Asia

- ▶ Dried root contains atropine, scopolamine, hyoscyamine and podophyllin: all alkaloids
- ▶ Poisonous and hallucinogenic in large doses, hypnotic/sedative in small doses



Mandrake, from Tacuinum Sanitatis (1474)



Mandrake



Mandrake roots



Summary

- ▶ Sedative and hypnotic chemicals are often non-alkaloids
- ▶ Mandrake is real!



For Further Reading



A. Shipunov.

Ethnobotany [Electronic resource].

2011—onwards.

Mode of access:

http://ashipunov.info/shipunov/school/biol_310



Heinrich et al. 2012.

Fundamentals of Pharmacognosy and Phytotherapy.

Churchill Livingstone, Edinburgh.

