

Ethnobotany. Lecture 34

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April 27th, 2011

Outline

- 1 Questions and answers
- 2 Plants for eye, ear, nose and orthopharynx
- 3 Anti-cancer plants

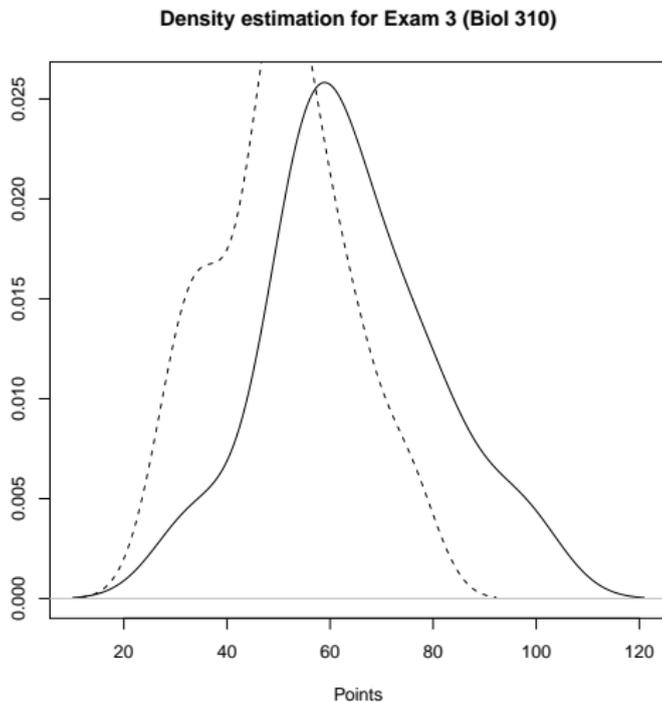
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Exam 3 distribution



Exam 3 notes

Eyebright, *Euphrasia* spp., Orobanchaceae, Eurasia

- Traditional European plant remedy
- Active components are iridoid glycosides: aucubin, euphoside etc., lignans and tannins
- Helps in conjunctivitis

Eyebright



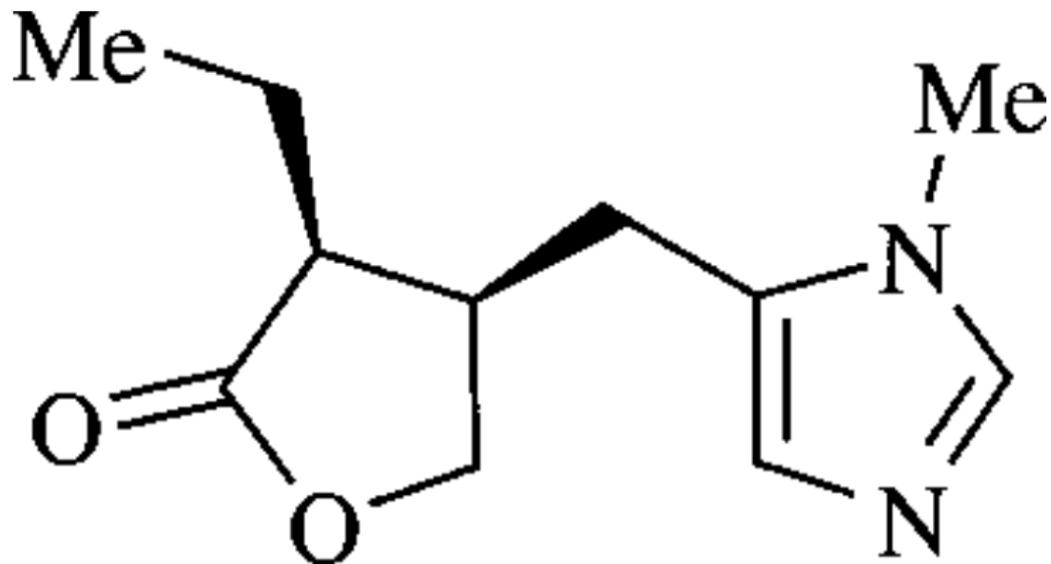
Jaborandi leaf, *Pilocarpus* spp., Rutaceae, South America

- Contains alkaloid pilocarpine
- Stimulating eye muscles, contracting pupils after atropine; used against glaucoma

Jaborandi leaf



Pilocarpine



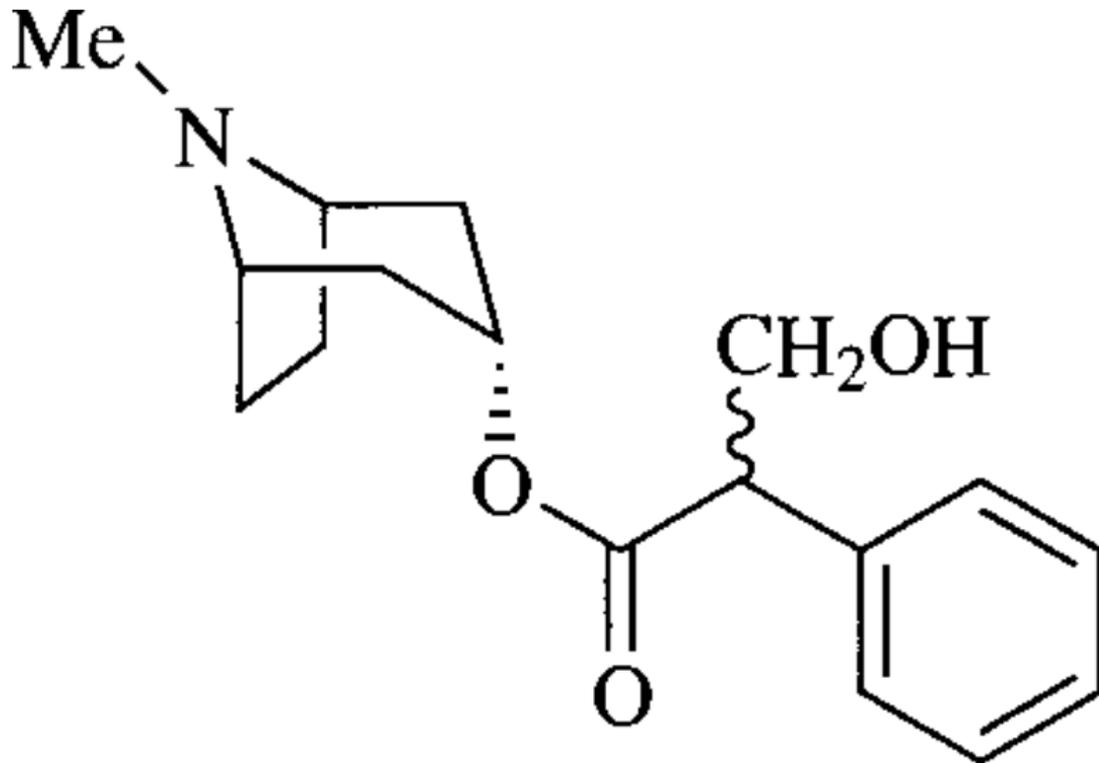
Deadly nightshade, *Atropa belladonna*, Solanaceae, Mediterranean

- Contains alkaloid atropine
- Used for medical examination to open iris

Deadly nightshade



Atropine



Essential oil plants for nose and orthopharynx

- Essential oils are using as antiseptic and anti-inflammatory agents
- Sage (*Salvia officinalis*), eucalyptus (*Eucalyptus* spp.) and peppermint (*Mentha × piperita*) are most frequently used

Clove, *Syzygium aromaticum*, Myrtaceae, Southwest Asia

- *Caryophylli flos*
- Flower buds extremely rich of eugenol
- Used also as a culinary spice

Clove



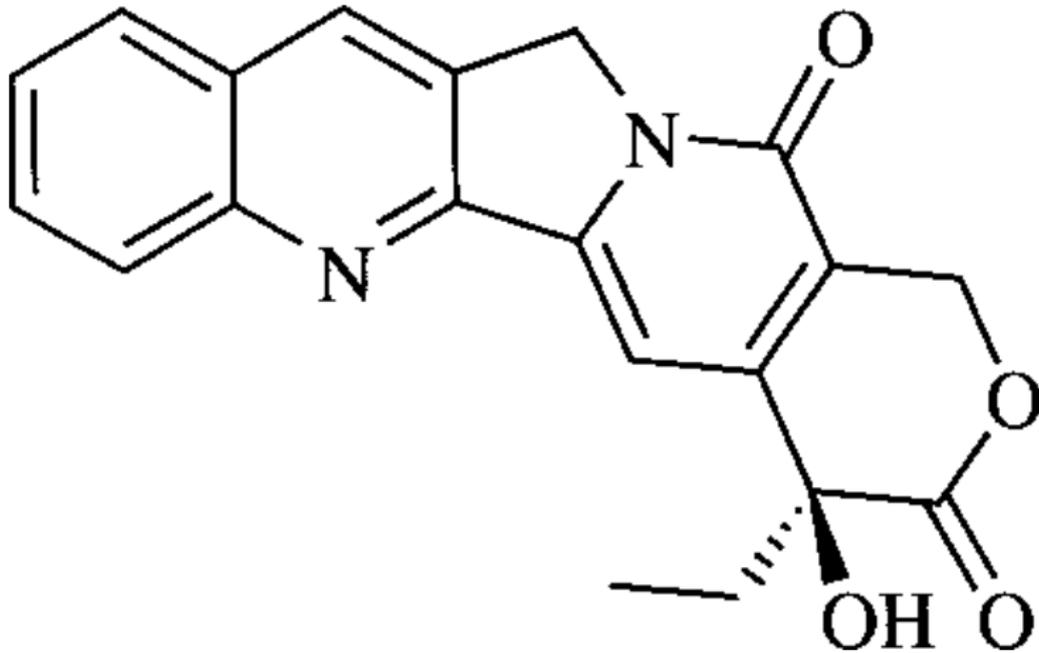
Camptotheca acuminata, Cornaceae, East Asia

- TCM plant
- Study started in the end of 1950s
- Wood and bark contain camptothecin, highly unsaturated alkaloid (toxic!)
- Active against gastrointestinal tumors of short duration

Camptotheca acuminata



Camptothecin



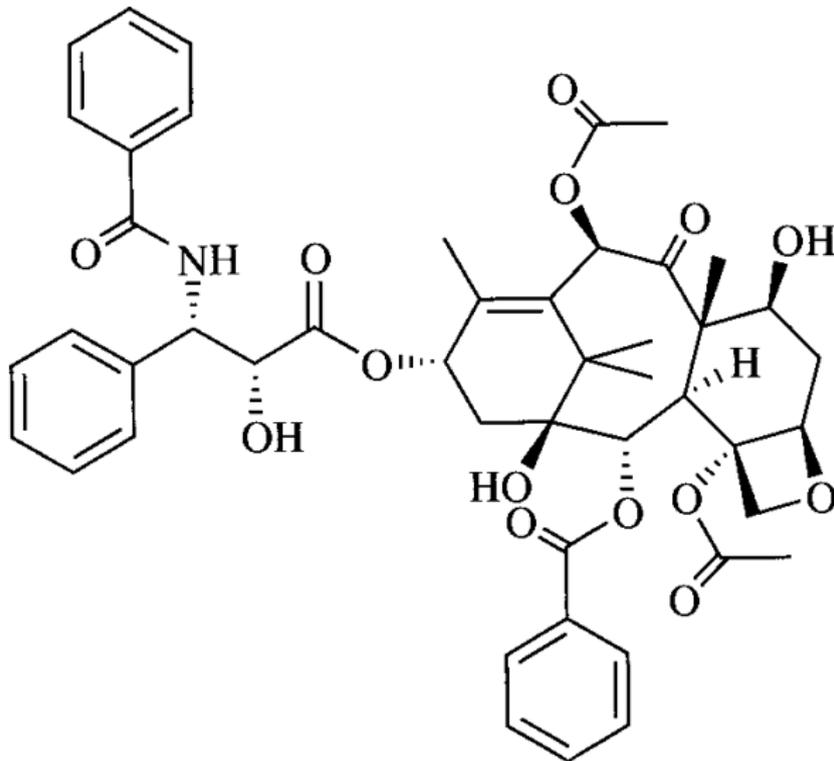
Pacific yew, *Taxus brevifolia*, Taxaceae, North America

- Conifer tree with berry-like cones
- Contains taxol which is active against leukemia: it stops mitosis due to inhibition of tubulin depolymerisation
- Actually, taxol is produced mostly by yew fungal symbiont, *Taxomyces*

Yew



Taxol



For Further Reading



A. Shipunov.

Ethnobotany [Electronic resource]. 2011—onwards.

Mode of access:

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



M. Heinrich and others.

Fundamentals of pharmacognosy amd phytotherapy (selected chapters). [Electronic resource].

Churchhill Livingstone, 2004.

Mode of access: http://ashipunov.info/shipunov/school/biol_310/heinrich2004_fund_pharm_part.djvu

Chapters 23 and 8.