

OUTLINE

Topic 20 - Phytochemistry of Medicinal Plants II

1. Phenolics

- a. Very broad group of plant chemicals that can have a broad range of possible medicinal effects.
- b. Antimicrobial, anthelmintic, anti-inflammatory, febrifuge, diuretic, immunostimulatory.
- c. Example--Astragalus (Astragaloside)--antimicrobial and immunostimulating.

2. Coumarins

- a. More limited distribution than phenolics (mainly in 4 plant families: Fabaceae, Asteraceae, Rutaceae, Apiaceae).
- b. Often involved in actions related to blood flow and preventing blood clotting--may act by interfering with vitamin K.
- c. Example--Sweet Woodruff leaves & stems.

3. Tannins

- a. Array of chemicals often involved in the action of "Astringents"
- b. Act by either precipitating protein or forming linkages across a surface forming a matrix.
- c. Example--Witch Hazel

4. Anthroquinones and Anthroquinone glycosides

- a. Group of chemicals often involved in action of laxatives.
- b. Laxative action based upon chemical reaching colon and exerting effect on water retention and muscle contraction.
- c. Sugar group on molecule is necessary for action.
- d. Examples--Senna, Chinese Rhubarb, Aloe

5. Flavonoids

- a. General term for a large number of compounds produced by plants.
- b. For the plant, these chemicals can act as pigments coloring flowers, fruit and sometimes leaves ("attractant" chemicals), UV protectants ("sunscreen") and antioxidants.
- c. Some flavonoids may be used medicinally to reduce blood capillary fragility and leakage; Example--Ginkgo biloba.
- d. Recent evidence suggests that some flavonoids may have sedative activity; Example--Passion flower.