I. Allergy-inducing plants
   - What is an allergy? How do allergies work?
   - There are three major types of allergic responses
     o Immediate Hypersensitivity
       ▪ Hayfever – Why does hayfever happen? Plants that cause hayfever: Ambrosia sp. (ragweed), pollen from various trees, Juniperus ashei, Grasses (family Poaceae)
       ▪ Food allergies – e.g., Celiac disease (allergy to proteins in wheat), Peanut allergy, allergies to Soy products (soybean = Glycine max)
     o Immune-complex hypersensitivity: allergy to penicillin caused by and abundance of antigen-antibody complexes floating in the blood
     o Delayed Hypersensitivity
       ▪ Allergic reaction to Poison Ivy, oaks, sumacs, etc. (Toxicodendron sp.)
       ▪ Allergies to Latex (e.g., plant family Euphorbiaceae)

II. Poisonous plant compounds (not due to allergic responses)
   - Alkaloids
     o Most often affect the nervous system:
     o Common alkaloids from plants: morphine, cocaine, caffeine, theobromine, ephedrine, nicotine, lobeline, coniine, quinine, strychnine
     o Examples of poisonous alkaloids from plants: Chondrodendron tomentosum (curare), Strychnos nux vomica: (Strychnine), Poison hemlock Conium maculatum: (coniine), Datura stramonium (Jimsonweed, thornapple), Nicotiana tabacum (nicotine), Senecio spp. and Echium vulgare, Colchicum autmnale (Autumn crocus), Delphinium (larkspur):
   - Glycosides
     o Cyanogenic glycosides: produce cyanide (involved in oxygen uptake – cyanide poisoning results in asphyxia). Examples of plants that have cyanogenic glycosides: Rosaceae (cherry, peach, apricot, apple, and almond), Cassava
     o Cardiac glycosides: in medicinal dose increases the contractility of heart muscle (force of heart beat), overdose is poisonous. Examples: Digitalis (foxglove), Convallaria (lily of the valley), Apocynum cannabinum (Dogbane, Indian Hemp)
     o Sapogenic glycosides: cause severe gastric irritation, can injure lining of digestive track. Examples: Phytolacca (pokeweed), Saponaria (Caryophyllaceae), Agrostemma (Caryophyllaceae)
     o Coumarin glycosides
     o Mustard oil glycosides: cause gastric distress (e.g., kolerabi, brussel sprouts)
   - Photosensitive agents: Some plants contain substances that non-pigmented or slightly pigmented skin super-sensitive to the sun. Examples: Heracleum
mantagazzianum (giant hogweed), Chenopodium album (raw fat hen), Hypericum perforatum (St. John’s Wort):
- Proteins, peptides, and amino acids: Abrin (Abrus precatorius) and Ricin (Ricinus communis), Lathyrus (vetchlings, sweet peas) have toxic amines in the seeds that cause degeneration in motor tracts of the spinal cord, Phoradendron (mistletoes) seeds have toxic amines that cause acute gastroenteritis
- Last bit: natural insecticides