BIOL 301 Plant Systematics

Chapter 1: Plant Reproduction (pp. 3-17)

cross-fertilization
self-fertilization (autogamy)
"random mating in a large population"
vegetative (clonal) propagation
agamospermy
recombination systems

Chapter 3: Geographic Races (pp. 30-44)

continuous geographic variation
disjunct geographic races
ecological races
climatic races, edaphic races, agricultural races

Chapter 4: The Biological Species (pp. 45-63)

biological species concept
examples of biological species
connectivity of conspecific populations by gene flow
sibling species
examples of sibling species

Chapter 7: Types of Species (pp. 77-96)

biological species concept (definitions; pros/cons of its use)
taxonomic species concept (definition; pros/cons of its use)
use of BSC vs. TSC in plants

Chapter 9: Isolating Mechanisms (pp. 111-117)

spatial (geographic) isolation
environmental (ecological) isolation
reproductive isolation (in sympatry)
'external' mechanisms (temporal, mechanical, ethological, etc.)
'internal' mechanisms (incompatibility, inviability, sterility, etc.)

Chapter 13: Primary Speciation (pp. 153-169)

gеographic speciation
quantum speciation
sympatric speciation

Chapter 16: Natural Hybridization (pp. 193-204)

natural occurring hybrids/hybrid swarms
hybridization of the habitat
occurrence in plants vs. animals
Chapter 17: Introgression (pp. 205-233)
introgressive hybridization (definition and potential significance)
classical examples (Iris, Helianthus, Juniperus, etc.)
evolution of new lineages (races, varieties, species) by introgressive hybridization

Chapter 22: Polyploidy: Range and Frequency (pp. 283-297)
polyploid (definition)
polyploid series
variable occurrence across plant taxa
range of variation in chromosome numbers/ploidy levels
overall frequency in plants

Chapter 24: Factors Affecting Polyploidy (pp. 307-321)
polyploidy and life-form
polyploidy and altitude/latitude
polyploidy and breeding systems