Monocotyledons (monocots)

- Usually 1 seed leaf (cotyledon)
- Usually parallel veined
- Flower pts gen 3’s (rarely 2-4’s)
- Scattered vascular bundles
Monocot families to know

“showy monocots”
- Iridaceae - irises
- Liliaceae - lilies
- Orchidaceae - orchids

“graminoids”
- Cyperaceae - sedges
- Juncaceae - rushes
- Poaceae - grasses

“other monocots”
- Araceae - arums
- Typhaceae - cattails
- Several aquatic families
Graminoids

- grasses and grasslike plants
- with or without perianth parts
- annual & perennial herbs (ours)
- variety in habitats
- consult Hitchcock & Cronquist
Poaceae
Grasses

• Stems (culms) hollow, solid at nodes

• Lvs 2-ranked (composed of sheath & blade)
  - ligules/auricles present at collar

• Flws (florets) w/out distinct perianth
  - spikelets (rachilla w/ 2 to many 2-ranked bracts
    (composed of palea & lemma), the lower pair empty (glumes))

• Stamens usually 3 (1-6), Pistil 1, Styles typically 2

• Fruit a caryopsis (grain)
Cyperaceae
Sedges

- Stems (culms) 3-angled to round typically solid, naked or leafy

- Leaves 3-ranked, narrow blades w/ closed sheaths, or reduced to sheaths alone

- Florets minute, borne in spikelets ea. subtended by bractlet (scale) perfect to unisexual

- Inflorescence subtended by bracts

- Styles 2 or 3 (ovary 1-loculed & 1-ovuled)

- Fruits a biconvex to 3-angled achene
Cyperaceae
Sedges

Carex hystericina

Scirpus microcarpus

Carex lenticularis
Juncaceae
Rushes

- Stems simple pithy cylindrical - usually blade & closed sheath (ours *Juncus* & *Luzula*)
- Blades round, channeled, to flattened, or reduced to sheaths
- Flws very small, w/ 6 papery (chaffy) perianth segments
- 3-6 stamens
- Fruits 3 parted capsule (many seeded)
Juncaceae
Rushes

Juncus acuminatus

Juncus effusus
“Sedges have edges
And rushes are round
Grasses have nodes
from the top to the ground”

- *Botanical mnemonic from unknown source*
Iridaceae

- Ovary inferior
- 3 chambered ovaries
- Perianth usually regular
- Herbaceous w/ 2-ranked
  +/- equitant, grasslike sheathing leaves
Liliaceae

- Ovary superior, 3-parted
- Flw parts gen 3’s (rarely 2’s)
- Perianth usually regular and similair (tepals)
  - Stamens six or less
- Herbs w/ perennial bulbs or rhizomes
- Lvs often dying after plant flowers & fruits
- Fruit capsule
Orchidaceae

- Ovary inferior, 1-chambered
- Flws irregular
- Sepals 3, Petals 3 (2 alike +1 lip) (sometimes slipper-like)
- Stamens & styles united forming column
- Lvs often sheathing or reduced to bracts
- Often monotropic
- Fruit a 3-valved capsule, numerous minute seeds
Araceae

• Mostly herbs
• Flws bi or unisexual, often with a fetid odor
• Inflorescence a spadix subtended by a spathe
• Fruit a berry
• Lvs often sheathing in bases, simple to compound

Lysichitum americanus
Typhaceae

- Monoecious herbs
- Flws unisexual, clustered into a Staminate spike above the Pistillate spike
- Fruits nutlets
- Lvs simple, alternate, long and linear
- Only one genus: *Typhus*
- Aquatic habitats