Grasses, sedges and rushes include:

- Juncaceae (rushes)
- Cyperaceae (sedges)
- Poaceae (grasses)
* Denotes nodes with 60-80% bootstrap support. All other nodes have >80% support.

There are direct links from all terminal taxa and all internal nodes to the relevant location in the text.
Juncaceae (rushes)

- World
  - about 7 genera
  - about 440 species
- California
  - 2 genera (Juncus and Luzula)
  - about 75 species (majority in Juncus)
- World distribution
  widespread, chiefly cool temperate or montane
- Economic uses
  baskets etc.; few ornamentals
Juncaceae distribution
Habit sketch and inflorescence of a rush (Juncus).

- inflorescence
- stem (culm)
- leaf
- involucral leaf
- culm
- stem x.s. (round)
- Many small fls. with 3 petals & 3 sepals. [called tepals]
Generalized flower & floral diagram of a rush (Juncus).
Juncus falcatus
Cyperaceae (sedges)

- World
  - about 100 genera
  - over 5000 species

- California
  - about 20 genera
  - about 250 species

- World distribution
  more or less cosmopolitan, especially wetter temperate areas

- Economic uses
  baskets etc.; some food plants; some ornamentals
Cyperaceae distribution
Generalized flower of a bulrush (*Scirpus*).
Scirpus cyperinus

photo © anbg
Generalized flower of umbrella sedge (*Cyperus*).
Unisexual flowers of a sedge (Carex).

- anther
- bract
- stigma
- style
- perigynium
- ovary
- bract

Perigynium cut lengthwise to expose ovary.

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floral diagram
Carex
Poaceae (Gramineae) (grasses)

- World
  - about 780 genera
  - about 12,000 species
- California
  - about 117 genera
  - about 328 native species and 275 non-native naturalised
- World distribution
  cosmopolitan
- Economic uses
  cereal crops (wheat, rice, maize etc.); fodder plants;
  sugar canes; garden and ornamental
Poaceae distribution
Grass spikelet
(with several florets)

Grass floret

Awn
Rachilla
1st Floret
2nd Floret
Upper Glume
Lower Glume

Awn
Lemma
Stigma
Ovary
Anther
Filament
Palea
2 fertile florets

Lemma

Glume

Spikelet

Anther

Stigma

Filament

Ovary

Lodicule

Bisexual Flower

Lodicules are minute scales (reduced perianth segments) that become water-filled and swell at anthesis. This forces lemma & palea bracts apart allowing anthers and stigma to extend out of florets, thus enabling cross pollination.
Grass floret

- palea
- anther
- filament
- stigma
- lodicule
- ovary
- pedicel

NOTE: the lemma has been removed
Sorghum
Comparison of flowers of three families

Poaceae
- awn
- stigma
- anther
- filament
- ovary
- palea
- lemma
- nerve

Cyperaceae
- bract
- stigma
- filament
- ovary

Juncaceae
- stigma
- style
- tepal
- anther
- ovary
Grasses sedges and rushes

- Sedges have edges, rushes are round, and grasses are hollow right up from the ground
- Sedges have edges, rushes are round, and grasses have knees that bend to the ground