

The Graminoids - An Introduction

The graminoids or “grass-like” plants are more difficult to identify than most of the other groups you will encounter. Although the structure of the flowers is important for identification, they are highly modified in most of these groups. Also, the structures are usually small and often require a hand lens, or better yet, a dissecting microscope.

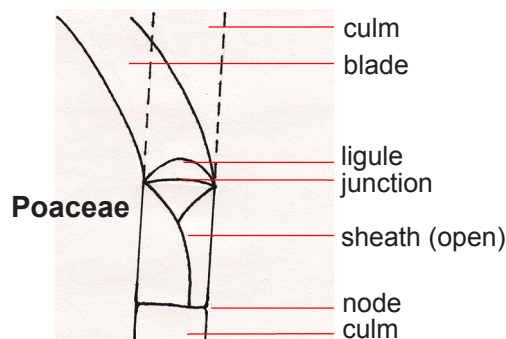
The only saving grace is that because we are dealing with relatively few species, field identification is often possible using vegetative characteristics a regular taxonomist could not consider. Positive identification in these groups is always chancey and in these groups you should always bring a sample back to allow confirmation of your field identification.

There are three families. Each family is described below to allow you to place your specimen in the appropriate family. These brief descriptions are followed by a description of the genera in each family found in our wetlands. In the family descriptions below be aware that all of the statements should be prefixed by “usually”.

Juncaceae (Rushes): These are somewhat grass-like in general appearance, but when the flowers are viewed close-up it becomes apparent that these species are different. The flowers appear to be more similar to traditional flowers: they are definitely 3-parted, with a 3-parted style, 3 or 6 stamens, 3 small “petals”, and 3 small “sepals”. The “petals” and “sepals” are bract-like in appearance, but their number indicates that they are rushes. The fruit is a capsule but the remnants of the “petals” and “sepals” are usually seen. So far we have found only the single species, *Juncus effusus*, in our wetlands.

Cyperaceae (Sedges, Bullrushes, etc.): The flowers lack both petals and sepals. They have a **single bract** arising just below the flower. The flowers are usually arranged in spikes or clusters. The **flowers are usually single sex** and are usually **located on different spikes or on different parts of the same spike**. The **stems**, especially near the base, are often **triangular in cross-section** and are **solid** (not hollow). The leaves on the stem are arranged in 3 rows. Except in the genus *Carex* there is **no ligule** where the blades come off the stems (see diagram below) and the **sheaths are “closed”**. The description of the genera and species is in the section labelled Cyperaceae.

Poaceae (Grasses): The flowers lack both petals and sepals. They have **two bracts, the palea and the lemma**, which arise on alternate sides just below the flower (be warned, however, that in some species one or the other of these bracts may be reduced or absent). The **flowers are usually bisexual**, i.e. perfect, so **sexually differentiated spikes do not usually occur** as they do in the Cyperaceae. The **stems**, especially near the base, are **round in cross-section** and are hollow. The leaves on the stem are arranged in 2 rows. There is a **ligule** where the blades come off the stems (see diagram below) and the **sheaths are “open”**. The description of the genera and species is in the section labelled Poaceae.



the leaf begins at the node and is divided into the sheath (where it is wrapped around the culm) and the blade (where it is free)

the ligule is a collar-like structure, either a membrane or hairs, arising on the leaf at the junction where the sheath becomes the blade

in the illustration the culm (above the node) is transparent and indicated by the dotted lines

the sheath is “open” if the two edges overlap as they wrap around the culm or is “closed” if the two edges abut, whether they fuse or not

