

## (4.) SELECTION OF MATERIAL.

The herbarium preparations should show the various characteristics necessary for classifying the specimens. These are, or should be, based on the least-variable characters in each species.

In some plants the roots or the underground stems are of the utmost importance; in others these are of little importance in ascertaining the species. So with other characters each genus has certain structures which are considered of great importance, and if these structures are not shown on the specimen it may not be possible to fully classify it.

*Mosses* should always show the fruits (sporophytes) as well as the leafy branches.

*Ferns* should show fronds with and without spores on the under-surface, and these should not be too ripe.

*Conifers* should show twigs bearing leaves and cones attached.

*Grasses* should have their flowers well matured and show the nature of the root.

*Sedges and Rushes* should show both the flowering and fruiting conditions, including also the base of the stems and a portion of the root system.

*Orchids* should be in full flower, and where possible the tuber or root system shown.

*Willows* should show catkins and leaves from the *same tree*; it is not sufficient to say that the catkins are from one tree and the leaves from another "of the same species," because in British Columbia we have so many species which resemble each other in catkins and mode of branching, while differing in their leaves, that such a proceeding is unsafe.

*Cruciferous Plants*—those belonging to the Wallflower and Cabbage family—should show both flower and ripe fruits, because in most cases it is necessary to examine the seeds under the microscope. The basal leaves should also be shown.

*Buttercups*, and various other members of that family, should show matured fruits as well as flowers and basal leaves.

*Leguminous Plants*—those belonging to the Pea family—especially the genera *Lupinus* and *Astragalus*, should show both flowers and mature pods attached to the plant.

*Rosaceous Plants*—those belonging to the Rose, Raspberry, and Strawberry family—should also show the fruits when possible, or supply information on the colour of the so-called "berries" when ripe. It is a good plan also, when the plants have prickles—often erroneously referred to in books as spines—to cut off a piece of the bark from the stems to show whether the prickles are straight or curved, weak or strong, and whether they are accompanied by aculei (delicate prickles) or not.

*Umbelliferous Plants*—those belonging to the Carrot and Parsnip family—should show flowers, mature fruits, and roots. In some species the roots are round and tuber-like; in others they are elongated and carrot-like. Some species closely resemble each other in the size and colour of the flowers, but differ markedly in their fruits.

*The Compositae*—The Aster and Sunflower family—are usually classified by their flowers and seed-like fruits. Most of the genera in this family have their fruits furnished with a hairy float—the pappus, which is of considerable importance in classifying the various species.

It is advisable to add a note regarding the colour when fresh, because the colour of some flowers fades in drying.

There are other families and genera which might be added, but the above are amongst the most important. Correspondents will be advised of others as specimens are received.