

IX. INSTRUCTIONS FOR THE COLLECTION
OF SPECIMENS OF UTRICULARIA

Utricularia is represented in Malaysia by two main kinds of plant, i.e., aquatic and terrestrial. The aquatic species can again be divided into two main groups, those which float freely in still water and those which are more or less anchored in and beneath shallow water. All of the aquatic species consist of long branching stolons bearing leaves which are divided into capillary segments and traps. The racemes of small yellow, violet, or purple flowers arise from the stolons and project a few inches above the surface of the water. The terrestrial species (including a few which are epiphytic) consist of slender rhizoids bearing linear, spatulate or peltate leaves and traps. These grow on or just below the surface of damp soil and are usually very inconspicuous. From these rhizoids arise the flowering scapes which are erect or twine round other plants and bear a few to many small yellow, white or purple flowers. In the few epiphytic species the rhizoids grow among moss on trees or rocks. Several of the terrestrial species often grow together and as they are all superficially alike, care is necessary to avoid making mixed gatherings. Some of the

species exhibit a considerable amount of variation in the size and colouring of the flowers.

In collecting *Utricularia* spp. it is very important to ensure that the specimens are complete, i.e., with flowers, leaves and traps, and if available ripe fruits. With the aquatic species the free floating plants can be lifted complete from the water and (preferably) "floated out" on to flimsy paper before pressing. The anchored aquatic species must be lifted out with the mud which is carefully washed away before "floating out".

The terrestrial species must be carefully dug up with the point of a knife (the rhizoids usually extend some inches from the base of the scape) and the soil washed away. They should never be pulled up just by holding the flower-stem. If the soil contains a lot of fibrous matter, it is perhaps not advisable to attempt to remove it in the field, but better to preserve the specimen with it attached. In the case of epiphytic species, the rhizoids can usually be separated quite easily from the moss in which they are growing.

In collecting a *Utricularia*, in addition to complete plants, separate inflorescences should be dried and, wherever possible, ripe fruits. It is very desirable that the dried specimens should be supplemented by material preserved in liquid (a solution of 50 per cent, alcohol, not formalin). Complete plants with additional flowers of the terrestrial species and pieces of stolon (with leaves and traps) and inflorescences of the aquatic species should be so preserved. Where a species shows any variation in size of flower, a range of sizes should thus be collected.

Notes on flower colour and any variation of size and shape should always be made and the position of the various parts of the flower in relation to each other should also be recorded, particularly if it has not been possible to preserve any flowers in liquid.

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