

Flowers—such as dogwood, or many of the Composite (Sunflower family)—with a high or cushion-like centre should be pressed by the use of a number of pieces of drying-paper cut as shown in Fig. 7, sufficient to ensure equal pressure on the showy parts around the centre.

POISONING.

Many plants are liable to the attacks of insects which lay their eggs in the flowers or flower-heads. These eggs often hatch during or after the drying operations, and if laid past at once caterpillars may play havoc with the specimens, frequently eating their way through the herbarium sheets. The presence of small pellets like grains of gunpowder in the vicinity of the flowers indicate that the specimens need to be attended to at once.

In addition to this, specimens are liable to be attacked by mites (Acarid), sometimes, but erroneously, referred to as small insects. These are most frequently found in the flowers and hollow stems of herbaceous plants, and on account of their feeding in the interior of the plant they may be at work long before they are discovered. If the minute creatures are not noticed running over the paper, their presence may be suspected when a fine powdery dust—often accompanied by the disintegration of flowers or the crumbling of stems—is observed on a herbarium sheet.

In order to avoid such attacks it is advisable, though not absolutely necessary, to poison the specimens after they have been pressed and dried. It should be mentioned that some specimens lose a little of their brilliant colouring after being poisoned; the majority, however, are unaltered if rapidly dried again.

No specimens are incorporated in the Provincial Herbarium until they have been poisoned. All specimens after being pressed and dried, and all pressed specimens received from correspondents, are poisoned at the first opportunity. It is therefore unnecessary for correspondents to poison specimens sent to the Botanical Office.

The following is the method adopted in this Department, and can be recommended as probably the best for all herbarium purposes:—

From 20 to 40 oz. of poisoning solution are poured into a large flat enamel or earthenware dish (the solution corrodes metal). The specimens are dipped one by one for a few seconds in this, then placed directly on the drying-paper and again returned to the pressing-frame to dry. After twenty-four hours the drying-paper should be quickly changed; the rapid evaporation of spirit from petals or thin leaves tends to make them curl up.

During the poisoning operation it is necessary to see that every part of the specimen is submerged in the solution; specimens with large flower-heads should remain long enough to become permeated, so that any eggs, caterpillars, or mites may be destroyed.

To prepare the solution: Dissolve 1 oz. corrosive sublimate (powder or crystals) in 3 pints of methylated spirit, and add 1½ oz. strong carbolic acid. Keep corked to prevent evaporation of spirit. (NOTE.—As this solution is dangerously poison it should be labelled so, and kept out of the reach of children.)

The specimens may be moved in the fluid by means of thin pieces of wood. The skin and finger-nails become hardened by frequent handling of specimens while in the solution; this may be obviated by the use of rubber gloves or finger-stalls.

When a bundle of specimens has been poisoned, the remaining solution may be poured back for future use.

If traces of a white deposit are found on the specimens after they have been poisoned and dried, this indicates that the solution has become too strong through the evaporation of spirit; add sufficient spirit to ensure that no deposit is left.

Specimens thus prepared are practically proof against moths, mites, and mould, and are ready to be mounted as permanent preparations.