

few sweeps of the net the contents may be shaken into the bottom of the bag and the whole held for a few moments in the poison bottle. On removal the specimens can be picked out from among the debris with the forceps and placed in a storing bottle; another method is to empty the whole contents of the net into a large poison bottle, the sorting to be done later at leisure.

Many Diptera, such as mosquitoes, midges and crane flies, are very fragile, and should remain in the poison bottle no longer than necessary; on removal they must be handled with great care to avoid breaking off the legs. If carefully placed between cotton wool layers they may be transported fairly well, but no heavier bodied insects should be included in the same layer. Larger specimens of both Hymenoptera and Diptera should, when possible, be pinned while fresh, but when this is impracticable they may also be packed between layers of glazed cotton wool if care be taken to place specimens of equal size in one layer and undue pressure on the insects be avoided.

*Coleoptera and Hemiptera.*—The first-named order contains the beetles, the latter the true bugs; these are mostly hard-bodied species and more tenacious of life in the poison bottle than species of other orders. For this reason *it is never advisable to place beetles or bugs in the same poison bottles with moths or flies*, although, being less delicate themselves, they suffer no great harm when placed with members of their own kind.

The ordinary net is less used when collecting in these two orders although in spring many a good specimen may be taken on the wing. Sweeping is very productive, and beating trees and bushes into an expanded umbrella held beneath them is to be recommended. Many species may be picked off flower heads or leaves and numerous others, notably the ground beetles, are attracted to light and may be found crawling on the road beneath electric lights. Wood-boring species are found beneath bark or around piles of freshly cut wood; the carrion beetles frequent the bodies of dead mammals and other decaying animal matter. Very excellent collecting both in living and dead forms is often to be had among the drift wood and other refuse along the shore of a lake, and old boards and stones, when overturned, prove to be the hiding place of numbers of species. For collecting aquatic forms a dip or sieve net is necessary, the spring and fall of the year being the most productive seasons. Many small species may be secured by sifting dried leaves, moss and decaying rubbish over a white cloth. Owing to the fact that numerous species of both these orders hibernate in the adult state sifting may be profitably engaged in during the entire winter when the temperature is above freezing; the material may be collected in large paper bags and brought home to be worked over at leisure.

Some collectors kill their specimens of beetles and bugs by placing them in a vial of 70-80 per cent alcohol, shipping the insects in the same vial when it is full. Such a method has its advantage possibly in economy of labour, but the specimens are quite apt to lose their brilliancy of colour as the alcohol tends more or less to dissolve the pigment cells of the wing cases and body. Plant lice (Aphididæ) and their allies, which belong to the Hemiptera Homoptera, should, however, *always* be killed and preserved in alcohol in order that the bodies may retain their shape and be suitable for microscopic mounts. A label in pencil giving the food plant should be inserted in the vial. Packing in dry sawdust is quite satisfactory for the larger species, but the small ones should either be placed between glazed cotton wool, as mentioned above, or in small vials and pill boxes between wads of cotton.

*Orthoptera.*—The grasshoppers, crickets and roaches, constituting the major portion of this order, are more or less hard-bodied, especially when mature, and should be treated in much the same manner as beetles and bugs. The day-lovers, such as locusts and grasshoppers, may be captured either with the net or by sweeping in meadows; the adult forms have fully developed wings and