

Entomological Department.

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PRACTICAL ENTOMOLOGY

III.

Netting.—There are three kinds of nets required, one strong and shallow for use in the water, one for beating bushes, grass, etc., deeper and lighter in texture, and one for air captures, or an air net. A round brass wire as thick as a lead pencil, is made into a ring 12 or 14 inches in diameter, and fastened to a handle three or four feet long or longer if you like. To this ring is attached a conical sugar loaf of thin veiling or cheese cloth by means of a narrow band of stout cotton run over the ring; the net is to be sewed to the cotton band and is cut so as to run to a point about two feet and a half from the mouth. If the insects are small they will be found at the bottom part of the net which can be put into the cyanide bottle, net and all and corked, this is the surest way of securing them. A figure-8 motion quickly executed will secure and keep down in the net any capture, small or great. If the insect should be large and active secure it gently while in the net with your finger and thumb, and if you have a little vial of the saturated solution of the cyanide before mentioned, dip a match or little splinter into it and hold it under the insect, or near the bronchi under the wing, and instantaneous death will follow. You may try chloroform, if you have it, but put your large captures into pill boxes, or pocket case of some kind, not in the cyanide bottle; they are easier put in than got out, and the cyanide makes them brittle.

The ring of the *water net* which is stouter may be flat on the side farthest from the handle as it is occasionally used in dredging. There is much in the

water which must be scooped or dug up and put into the net and strained through by shaking it about in the water. One must go out specially with this net, and take a tin pail or pickle bottles in which to carry his captures. A botanist's pocket shovel is also necessary. Stones are to be turned over, for under them are frequently to be found larvæ and beetles, the study of which will prove very interesting to you.

The *beating net*, as its name indicates, is used in conjunction with a small sheet or umbrella for beating shrubs, branches, grass, &c. It is surprising what a vigorous figure-8 movement of the net worked about, over, under, indiscriminately, in and out among foliage and branches of every kind, will bring forth. Look in the bottom of your net and you will find it has secured much which your eye could never have detected. Transfer net and all quickly into the cyanide bottle, as described before. Numerous small insects are to be secured in this manner only, and though a beginner instinctively seeks after the largest and most showy ones, his collection is not so valuable as the one which contains those referred to. The sheet or umbrella is spread out under trees, shrubs, &c., and then by a blow on the trunk or branch, numbers of insects will drop into it; others, alarmed, must be caught up by the net.

The air net. This is similar in all respects to the one used in beating, except that is lighter in material and will not stand rough usage. A beginner can dispense with the beating net, using a stick in conjunction with the air net.

Forceps will be also very necessary and are used to force the pin on which the insect is mounted into the cork or wood of the case. They are also handy for picking up fragments of insects which have been broken through carelessness or in transmission by mail.