

made of various material, such as grass-cloth, coarse millinet, fine brass, concave, and full of small holes. Aquatic beetles can be fished up in mud, which will strain through the net, leaving them to be picked up. For beetles, a collecting bottle is necessary—one with a wide mouth is best; it should have a good cork, and it is better to encase it in tin to prevent its being broken. The bottle should be half-filled with fine pine sawdust, previously baked in an oven, to destroy any vegetable moisture; the sawdust is then moistened with spirits of wine or good alcohol, and it is then ready for use. After an excursion, the contents of the bottle are emptied out on a piece of white paper, and the new captives selected therefrom, mounted on pins suitable to the size of the insects.

2. Grasshoppers and crickets have the mouth parts free, and the organs of nutrition very highly developed. The first pair of wings are still partly hardened, to protect the broad net-veined hind pair, which fold up like a fan underneath them. Their transformations are not complete, the *larva* and *pupæ* resembling closely the *imago*, both being active. All the species are terrestrial.

"The transformation of grasshoppers need careful study. For this purpose their eggs should be sought for, and the development of the embryo in the egg be noted; the date of deposition of the egg; the manner of laying them; how long before the embryo is hatched; the date of hatching; how many days the pupæ lives; also, so of the pupæ and of the imago; while the intervening changes should be carefully observed. Birds feed on them in all their stages. Ichneumon parasites prey on them, and also the lower worms. Orthoptera can be easily preserved in strong alcohol, and can afterwards be taken out and pinned and set at leisure. They can be killed with ether or benzine without losing their colors. Many of the species can be collected in the same way as Coleoptera; they are both numerous and destructive in Lower Canada, but, up to this instant, nothing has been done to collect them and study their habits.

The different sounds produced by crickets and locusts should be carefully studied; every species can be distinguished by its peculiar note; and as in different families the musical apparatus varies