

an interpretation the death feint among insects falls into one or other of the three divisions which follow:

1. *The insect on receiving a shock becomes rigid without releasing its hold.*

Certain caterpillars will hold on to a twig by one or more pairs of prolegs, and elevate their bodies, assuming more or less grotesque rigid attitudes in which they will remain for a considerable time. Perhaps the best known examples are the caterpillars of the Sphinx Moths and of certain geometers. In these cases the insect seems to come to rest naturally in the immobile attitude, without the stimulus of a shock, the contraction of the muscles being probably due to an internal stimulus resulting from the active metabolism which takes place after the insect has eaten. If such is the case these reactions cannot properly be described as death feints. In other insects, however, a similar attitude can be definitely brought about by a shock. Thus if the yellow-necked apple-tree caterpillar (*Datana ministra*) be disturbed it will raise both ends of its body with a jerk, retaining hold of the twig by means of the four pairs of anterior prolegs.

2. *The insect when disturbed rolls itself into a motionless ball.*

This habit seems to be common among terrestrial forms rather than among arboreal ones. The ruby wasps or cuckoo-flies (*Chrysididae*) lay their eggs in the nests of wasps and bees. If attacked by their hosts the ruby wasps bend their abdomen beneath the thorax, and in this attitude resemble a small, metallic ball.

Sometimes the head and abdomen are bent back above the thorax. Thus Kirby and Spencer say of *Silpha thoracica* "when alarmed it turns its head and tail inwards until they are parallel with the trunk and abdomen and give its thorax a vertical direction, when it resembles a rough stone."

Certain of the rove beetles (*Staphylinidae*) combine both attitudes, bending the head beneath the thorax and the abdomen above the elytra.

Many cutworms and other caterpillars also roll themselves into a motionless ball when disturbed.

3. *The insect releases its hold, contracts its legs and antennæ and falls to the ground, where it usually remains motionless and apparently dead.*