

rest of the skeleton is only cartilaginous. There are also (No. 36) "the teeth of the foetal *Mysticete* preserved in alcohol;" and Dr. Knox observes, "they never cut the gums, but become gradually reabsorbed," which agrees with Professor Eschricht's account of the teeth of *Megapteron*; and further, Dr. Knox remarks, "The integumentary system furnish the baleen, which is evidently a modified form of hair and cuticle." (p. 22.)

5. I may here add, as determining the synonyma, that the *Phoca Leopardina* of Professor Jameson in Weddel's 'Voyage,' from the specimen preserved in the museum of the Edinburgh University, is the same animal as I described under the name of *Leptonyx Weddellii*, figured in the 'Zool. Ereb. and Terror.'

A foetus extracted from a specimen of the Pilot Whale (*Globiocephalus Svieval*) was six feet long.

In *Lagenorhynchus leucopleurus* the first, second and third cervical vertebræ are united by their spinous process, the rest free.

In *Globiocephalus Svieval* the second and third cervical vertebræ are united, the rest free.

In *Monodon monoceros* the second and third cervical vertebræ are united by the spinous process, not by the body, and the rest are free.

In *Delphinus Tursio* the atlas and the second cervical vertebra are united by the body, the spinous and lateral processes, and the rest are free and thin.

There is a perfect specimen of *Hyperoodon latifrons*, brought from Greenland by Capt. Wareham, in the museum at Newcastle, rather smaller (seven feet long) than the one from Orkney in the British Museum. There is the skeleton of an adult *Hyperoodon* from the Firth of Forth in the anatomical museum of Edinburgh University with the skull sixty inches long; the crests are very thick, but quite separate, and with flat perpendicular walls on the inner side.

There is another skull of the same species, from a specimen stranded on the coast of Lancashire, in a garden near Newly Bridge.

MISCELLANEOUS.

THE ROSE CADDICE SAW-FLY.

A work devoted to the investigation of the manners and œconomy of the species of insects which feed upon the Rose-tree would extend to several volumes; there is, in fact, scarcely any one kind of vegetable, the Oak, perhaps, excepted, which supports so many distinct kinds of insects, the natural history of many of which is still unrecorded: and we know no more interesting subject of garden-leisure than the examination and publication of the details of their habits, as many of them furnish remarkable details which could not fail to be highly instructive.

The insect which is the subject of the present communication is one of these Rose-feeding insects whose singular œconomy renders it very worthy of attention. For many years we have regularly noticed in our garden at Hammersmith, during the last week of May and

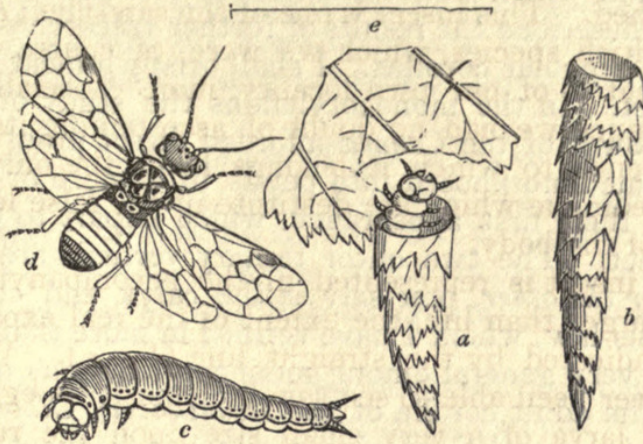
the first of June, a remarkably brilliant, golden-winged fly settling on the leaves in the hot sunshine, and darting off with great velocity on being approached. This insect is one of the saw-flies (*Lyda inanita*), a very rare British species, which we were, of course, glad to perceive to be a native of our own locality, more especially as from its regular appearance we had no doubt of ascertaining its habits; the larvæ of the genus to which it belongs being the only ones in the family Tenthredinidæ which are destitute of the false legs along the ventral parts of the body.

The perfect insect is represented in the accompanying woodcut, fig. *d*, rather larger than life, the extent of the real expansion of the wings being indicated by the straight line (fig. *e*). We have unfortunately never been able to see this fly deposit its eggs, but as we have found its larva of a very small size upon the rose-trees, we have no doubt that it is upon the leaves or stems of those trees that they are laid. Towards the end of June and through the month of July we have observed, upon different varieties of the Rose, some curious cases formed of bits of rose-leaves cut into strips, and carefully rolled up into a long cylinder, or rather a very elongated cone, one end of which remains attached to the leaf, whilst from the wider orifice there issued forth the head and fore-part of the body of a caterpillar, which we at once recognized as that of a species of *Lyda*, and which there can be no doubt is that of the species which we find in the winged state.

The mode in which these terrestrial caddice insects form their cases is very remarkable. The larvæ by degrees cut off one edge of the leaf, thereby forming a strip about one-eighth of an inch wide, at the same time eating a portion of the leaf immediately adjoining the slit which they make. The strip of the leaf is gradually lengthened as the insect proceeds upwards or downwards along the edge of the leaf. Its mode of action will however be best learned by our fig. *a*, which represents part of the underside of a leaf with its attached case and inclosed insect. One end of the strip is, in fact, rolled round the insect's body (the roll being fastened by silken threads of great delicacy, which the insect spins), whilst the other end of the strip is only detached from the leaf when the larva has arrived at its extremity. As however the insect would be very liable to the attacks of ichneumon-flies and other insects, if the strip were bent upwards, the insect has the singular instinct to roll it downwards, so that the insect whilst feeding is entirely protected from being seen from above by the part of the strip nearest to the body of the leaf, seen in our fig. *a*, to the left of the head of the insect, the uneven edge of the leaf above its head being the part from which it has already detached a portion of the strip which it has wrapped round its body; it will also be seen that it has the further instinct to arrange the serrated edge of the leaf outside of its case, so that wet is thrown off just as by the tiles of the roof of a house. There is a still farther display of instinct in the strip being rolled *spirally*, so as to form a long case.

The roll or case when the larva is full-grown is two inches long

(fig. *b*) ; this however is formed by the addition of strips cut off several leaves. This it effects by fastening the tip of a fresh leaf to



the top of its half-formed case, and then thrusting its head and fore-part of its body out of its case, it commences biting off the fresh strip, bending it downwards and twisting it round in the same direction as the part already formed.

The full-grown larva is nearly an inch long, of a green dirty colour, with two six-jointed antennæ, two moderate-sized globose black eyes, three pairs of thoracic legs, and a pair of laterally porrected slender three-jointed feeler-like organs attached to the extremity of the underside of the last segment of the body, which is flattened beneath. Fig. *c*. represents the larva taken out of its case and magnified. When taken out of their cases they appear for a considerable time very uneasy, writhing about without any regularity, but spinning a number of very delicate silken threads on the underside of the leaves, pushing themselves by degrees between the under surface of the leaves and this bundle of threads ; they then draw the threads more tightly at the edges of the leaves, causing them to curl a little, this being effected by passing the head from side to side, and then returning, fastening the thread, spun from the mouth, at each extremity.

We have been particular in describing the proceedings of this insect, as it is the only instance we have ever met with in which a case-making larva does not at once detach the particles of which it constructs its case from the leaves or twigs, previous to attaching them to its case, thereby rendering the case portable. In the present instance, of course, the case is only strictly portable when the entire strip is detached from the leaf. Moreover this insect differs very greatly in its habits from those of the previously noticed species of the genus to which it belongs*.

As the larva disappears at the end of July and the imago does not appear till the following May, there is no doubt that the intervening time is passed in the pupa state, most probably underground.—

I. O. W.—*Gardeners' Chronicle for Oct. 16.*

* A Memoir, by Huber, on a species with precisely similar habits, but which forms its roll of hazel-leaves, is given in the 'Mémoires de la Société de Physique et d'Histoire Naturelle de Genève,' tom. ix. 1842, of which a



1847. "The Rose caddice saw-fly." *The Annals and magazine of natural history; zoology, botany, and geology* 20, 437-439.

<https://doi.org/10.1080/037454809496084>.

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