

like moths of large size, with partly-developed wings, from the roots of plants." Small *Poduræ* were not uncommon. With these exceptions, no members of this order were observed during our stay, although often sought for, particularly at night.*

DIPTERA.

FAM. ACALYPTERA.

(IDENTIFIED BY C. R. OSTEN SACKEN.)

Calycopteryx mosleyi, Eaton, g. and sp. nov.;

Anatalanta aptera, Eaton, g. and sp. nov.;

Amalopteryx maritima, Eaton, g. and sp. nov.—Entom. Mag., Aug., 1875.

Early in November, the first species named above was found on the leaves of the Kerguelen cabbage (*Pringlea antiscorbutica*), and thereafter in increasing numbers. The insects are of considerable size, dark brown in color, with long legs, and considerable activity of movement, looking not unlike large ants. This species is distinguished on superficial examination by its long ovipositor, and by the prominent pubescence covering its abdomen. Upon the approach of the observer the insects drop from the leaves in great numbers, doubling up their legs and counterfeiting death. As the axils of these large leaves always contain a considerable quantity of water, the utility of the pubescence with which the insects are covered becomes very apparent, protecting them from getting wet by the film of air entangled in the hairs. Footless larvæ, supposed to belong to these insects, were found in abundance among the damp roots of moss and grass.

On the 27th of November, I set a jar with its rim even with the surface of the earth and baited it with carrion in the hope of catching beetles. It contained, in the morning, large numbers of *Diptera* of the second species (*Anatalanta aptera*), differing superficially from the preceding by their lesser size, darker color, less pubescence, and much less distinct ovipositors. They were also much more active in their movements, and almost always found upon dead animal matter. They were not observed to counterfeit death on being approached.

It was not until late in December that the third species was discovered on wet rocks at the edge of the sea. These are smaller than either of the others, quite black, not visibly pubescent, and provided

* Mr. Eaton describes only the tineid moth, viz: *Embryonopsis halticella*, gen. et sp. nov. Ent. Mag., loc. cit.

with small, triangular rudiments of wings. They cannot fly, but seem to use the wings in jumping, which they do with great activity, making it quite difficult to catch them. They do not appear to jump in any definite direction, but spring into the air, buzzing the small winglets with great activity, and seem to trust to chance for a spot on which to alight, tumbling over and over in the air. I never observed them jumping when undisturbed.

These three genera of wingless flies present several anomalies not heretofore observed. With the structure of flies, they possess many of the habits of beetles, such as that of counterfeiting death when in danger, and seem to represent this order in the economy of the locality. The carrion-feeder (*Anatalanta aptera*) has no vestige of either wings or balancers (halteres), "*Aptera anhalterata*," Mr. Eaton calls them. The leaf-feeders show small scale-like bodies, which Mr. Eaton supposed to represent the balancers ("halteribus brevibus et parvis"). Baron Osten Sacken, however, finds that these scales are really representatives of the wings. The third genus (*Amalopteryx maritima*) represents a further step in the progress of development, possessing both wings and balancers, but still unable to fly. A small gnat, observed only during the time of flowering of the "Kerguelen tea" (*Acæna affinis*, Hook. fil.), was the only flying insect observed by me while on the island. Even the common house-fly had not yet been naturalized. Mr. Eaton mentions also a species of *Tipulidæ*,* with imperfect or abortive wings.

PSEUDO-NEUROPTERA.

BY H. A. HAGEN.

RHYOPSOCUS ECLIPTICUS.

Head large, triangular, scarcely longer than broad, flattened above; occipital margin straight, very little notched in the middle. Eyes black, scarcely prominent, placed in the hind angle of the head; half as long as the head, half as broad as long, slightly rounded externally, with very large facets, only 15 along the external margin; ocelli wanting (Note 1). Nasus large, tumid, nearly straight before, the angles rounded; labrum half as long as broad, front margin straight, angles rounded; antennæ inserted between the base of the clypeus and the eyes, long, nearly as long as the body, thin, 26-jointed; the two basal joints much larger, of equal length, cylindrical; the six following ones nearly equal, cylindrical, a little shorter than the second one; the eight following ones a little shorter, somewhat ovoid; the last of them (the 16th) a

* Described as *Halyritus amphibius*, Eaton, Entom. Mag., Aug., 1875.

little shorter and more dilated; the following ten cylindrical, a little longer, except the shorter terminal one. Fine hairs are inserted around the joints, sometimes two on each side, sometimes more—up to four or six. In the basal part of the antennæ the hairs are longer (Note 2). Mouth-parts strong; mandibulæ hooked, the base interiorly dilated and denticulated; maxillæ with an elongated interior lobe, with two series of teeth at the base; the long horny stem straight, bifid on tip, exterior branch a little longer; maxillar palpus 4-jointed, large, last joint longer, hatchet-shaped, with numerous hairs in small holes on the apical margin; labium with two triangular inner lobes, and 2-jointed palpæ, the first very short, the last large, similar to the last joint of the maxillary ones, but smaller. Prothorax more than half as broad as the head; the hind angles protracted into triangular lobes. Mesothorax and metathorax not very distinct, seemingly as broad as the prothorax, side lobes more rounded.

Fore wings shorter than the abdomen, three times longer than broad, rounded on tips, anterior margins in a very flat curve, posterior nearly straight; base of the wing a little narrower than the tip, rounded posteriorly. The whole margin around the wing is bordered by a strong vein, thickly beset with oblique darker stripes or tubercles; and at larger intervals with longer stiff hairs, set in holes, mostly on the veins, some near by in the membranous part of the wings. One middle vein is soon furcated beyond the base into a superior and an inferior branch. The superior branch provides the anterior half of the wing; it is furcated very soon again, the two branches running parallel and uniting at about the middle of the length of the wing by an oblique vein. From the upper end of this oblique vein goes a short branch straight to the anterior margin of the wing, and two longer ones to its rounded apex, the inferior of them again furcated at about its middle; from the inferior end of the oblique vein goes one branch, furcated half-way to the inferior part of the wing-apex; the inferior branch of the two last ones is, in the other wing, furcated again a short distance from the margin. The inferior branch of the furcation just beyond the base of the wing is again furcated just before the middle of the wing, and its superior branch again; so it goes, somewhat incurved, with three veins, to the apical half of the hinder margin. There go one (or two) straight veins from the basis in an oblique line to the basal half of the posterior margin. I am not sure whether a short oblique vein goes from the basis to the anterior margin. The right wing is more irregular, and it seems that

the inferior branch, distributed to the apical half of the hinder margin, comes from the superior one, somewhat in front of the oblique vein, and that its two inferior branches are derived, as in the other wing, from the basis. All veins are beset at intervals with stiff hairs, like the marginal vein.

The hind wings are similar in shape to the fore wings, but shorter and narrower. The surrounding marginal vein similar but not so strong. There are none of the long hairs in the hind wing. A middle vein gives off in the first third an oblique branch to the hind margin. This is the only vein in the hind wings reaching the marginal vein. All others cease more or less abruptly before reaching them. Shortly after a similar oblique vein goes to the anterior margin. In the middle of the length of the wing the main vein is branched, and gives a long inferior branch going to the hind margin near the tip without reaching it; then, the superior branch furcates in two parallel branches going to the tip; the inferior one shows posteriorly an indication of the beginning of a branch.

Legs long, stout, the posterior longer than the abdomen; femurs stout and thick (perhaps the species jumps like many *Psocidæ*); tibia cylindrical, as long as the femur, slightly hairy, with two movable spines on the apex below; tarsi 3-jointed, one-third shorter than the tibia, cylindrical, the last joint long, the two others equal, and together two-thirds of the length of the basal joint; at the apex of the last joint two claws, thicker at their bases, the apex fine, a little bent at tip; between the claws a rounded plantula.

Abdomen ovoid, more pointed toward the apex. The egg-valves very clearly visible (the specimen is a female); two exterior membranous, elongated lobes, two horny interior stems, long, narrow, perhaps articulated; the apical part bent inward, and the tip again outward; between the two horny ones are two smaller elongated, pointed, horner stems, much shorter than the others.

The color is pale brownish-yellow, darker on head and mandibles; antennæ grayish; wings hyaline, colorless, the long hairs of the forewings dark.

Length of the body a little less than 2 millimeters; expanse of fore wing $1\frac{1}{2}$ millimeters. Locality Kerguelen Island, October, 1874.*

* The only specimen noticed during the stay of the Transit Party at Kerguelen was captured October 17, within doors, and was mounted in balsam upon a microscopic slide. Shortly before its capture some instrument-boxes, brought from Washington and containing a quantity of packing-straw, had been unpacked in the same room; a circumstance rendering the habitat of the insect very doubtful at the time.—J. H. K.

The specimen belongs, doubtless, to the so-called micropterous forms of *Psocidæ*, which occur occasionally and are observed in many species. Mr. Westwood has founded upon such specimens the genus *Lachesis* proved by M'Lachlan to be, probably, a micropterous condition of *Cæcilius pedicularius*. In the Kerguelen specimen the shortness of the wings (the fore wings are shorter than the body), and the reticulation not identical in both wings, show an aborted condition. The systematic place is rather doubtful.

Within the section of *Psocidæ* with ocelli (I have stated that I believe the Kerguelen specimen to be *without* ocelli) two genera have legs with 3-jointed tarsi. But in both (*Myopsocus* and *Elipsocus*) the second joint is much shorter than the third, and the antennæ only 13-jointed. Of the species described for those genera *E. pumilis* from New York is not very much larger, and is similar in colors. But the reticulation is very different and ocelli are present. In my two specimens the antennæ and tarsi are broken.

Among the *Psocidæ* without ocelli only *Psoquilla* could be taken into account. The tarsi are of the same shape, the palpi also; the antennæ are equally multiarticulate, but *Psoquilla* possesses no hind wings, and the reticulation is scarcely related. I should add that *Psoquilla* is known only by three specimens of uncertain locality, and not in good condition.

The genus *Psyllipsocus*, founded by Baron De Selys Longchamps on *Psocus pedicularius* Rambur, approaches this species more nearly in regard to the reticulation of the fore-wings, and has 3-jointed tarsi, but nothing is stated about their length, or about the presence of ocelli, or the number of joints of the antennæ. The single specimen, in bad condition, is perhaps also exotic, that is, imported into Paris with plants or merchandise.

Therefore the specimen, not agreeing with any known species or genus, must belong to a new genus, which I name *Rhyopsocus*. The character of the genus would be sufficiently established; *ocellis nullis; antennis 26-articulatis palpis maxillaribus articulo apicali magno, truncato; tarsis triarticulatis, articulis duobus apicalibus æqualibus; alis quatuor*.

The question whether the species is introduced from America, is not to be answered with certainty. All species hitherto known from America differ from one another. The only species I have not seen is *P. pusillus* Harris, but the description differs. Now it is certain that not more than ten per cent. of the species living in North America are known, probably even less.

The introduction of the Psocidæ into foreign countries is very easy. Two species, living in Ceylon upon the coffee-tree, have been collected near Rio de Janeiro by Mr. B. P. Mann, on the coffee-trees introduced long ago from Ceylon. Perhaps they are also introduced in Ceylon. *Atropos oleagina* occurred in Ceylon, and was stated to have been imported with oil-cake from England; but there is no evidence that the species is British. Other species of *Atropos* and *Psocus* occur in many parts of the world. The curious instance that *R. eclipticus* has aborted wings, like most of the Kerguelen insects, would in this case not be a certain proof for the habitat. But it is certainly not impossible.

NOTES.

NOTE 1.—As the presence or the absence of the ocelli is a very important character, I have spent a considerable time in examining those organs. I confess that there are still some doubts about this matter. In the middle of the head, and in the same direction with the upper ends of the eyes, is a transverse air-bubble, or better, a hole filled with air, assuming the shape of the cerebrum, narrower toward the middle from behind, rounded at the end. But the two sides differ in shape. The left side is cylindrical, rounded at the outer end, with a cup like a watch-glass, imitating well the cornea of an ocellum; the right side has a similar shape, but the outer end is in some way extravasated, beginning from the place where on the left side the cornea-like cup begins. The place filled with the extravasation is represented on the left side by a hollow space, to be seen well marked in the interior of the head. A third anterior ocellus is entirely wanting, although the parts are all quite visible, and I see two little prominences which would represent the beginning of the two nervous commissures encircling the œsophagus. Though the whole interior of the body is transparent, and the digestive organs are quite visible, I cannot distinguish anything belonging to the nervous system, not even the ganglia; probably they are too transparent. After all, I consider the above transparent, transversal organ to be the cerebrum, and the ocelli as wanting, the more so since the Psocidæ known have either three ocelli or none, but never two. And even here, if the two posterior ocelli only were represented, they are much more separated from each other than in any species hitherto known.*

NOTE 2.—The antennæ were broken; on one side only eight joints remained, on the other, twelve; but lying near by was the apical part of

* So large a number of joints in the antennæ is only to be found in species without ocelli.

fourteen joints. The joints are covered with numerous fine pores; but commonly one much larger pore on each side, below the middle, is very conspicuous in the middle joints of the antennæ, principally in the sixteenth and preceding joints. Such a large pore contains the insertion of a sensitive hair.

No other order of insect proper seems to be represented on Kerguelen Island than those already mentioned. Neither was any member of the class *Myriapoda* observed. Spiders of the wandering sort are abundant, their tents being numerous under almost every large stone. There are no web-builders, however, and, although individuals are numerous, the variety in form is slight. The collection has been sent to Mr. William Holden, of Marietta, Ohio, for identification.

A small red acarinus was very plentiful upon the leaf-stalks of the Kerguelen cabbage, and, indeed, wherever succulent vegetation was luxuriant. Broad yellow bands, observed on the sides of rocks frequented by cormorants, were found to consist almost entirely of another variety of acarinus, yellow in color, and spotted on the back, somewhat like the "lady-bird" (*Coccinella*).

CRUSTACEANS.

DESCRIBED BY S. I. SMITH.

DECAPODA.

PINNOTHERIDÆ.

HALICARCINUS PLANATUS, White.

Cancer planatus, J. C. Fabricius, *Entomologia Systematica*, ii, 446, 1793.

Leucosia planata, J. C. Fabricius, *Supplementum Entomologiæ Systematicæ*, 350, 1798.

Hymenosoma tridentatum, Lucas, in Hombron et Jacquinot, *Voyage de l'Astrolabe au pôle sud*, 60, pl. 5, figs. 27-33.

Halicarcinus planatus, White, *Annals and Magazine Nat. Hist.*, vol. xvii, 178, 1846, pl. 2, fig. 1; *Catalogue Crust. British Museum*, 33, 1847.—Dana, *United States Exploring Expedition*, *Crust.*, 385, pl. 24, fig. 7, 1852.—Edwards, *Annales des Sciences naturelles*, 3me série, xx, 1853, 223.—Heller, *Reise der österreichischen Fregatte Novara um die Erde*, *Crust.*, 66, 1865.

Specimens of this species were collected at Kerguelen Island, on rocky beaches, and others were dredged in five fathoms. It was previously known from Tierra del Fuego and New Zealand. The males are nearly equal in size to the females, and have very much stouter chelipeds.