

THE  
ENTOMOLOGIST'S  
MONTHLY MAGAZINE:

CONDUCTED BY

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VOL. XXIV.

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Nunquam aliud natura, aliud sapientia dicit.

*Juvenal.*

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LONDON:  
GURNEY & JACKSON (MR. VAN VOORST'S SUCCESSORS),  
1, PATERNOSTER ROW.

1887-88.

*Aulacochilus* and the present genus. The type of the genus *Megalodacne* is the species *fasciata*, Fab., and it measures 17 mm., and some of the species are larger. Fig. 3 represents the sterna of *Megalodacne bellula*, Lewis, from Japan. In *Microsternus* no species is known at present which measures over 7 mm., and 4 to 6 mm. is the average length of the individuals now under examination. There are lateral striæ on the prosternum of *Aulacochilus*, shorter or longer in various species, and in *algerinus*, Bedel, they converge at the apex, but in *violaceus*, Germ., the lateral striæ are interrupted as shown in the figure.

Of course the almost total disappearance of the mesosternum in *Microsternus*, and the comparative small size of it in *Aulacochilus*, are very important characters, and if systematists should hereafter consider this structure one of superior value for classification, it will be necessary to bring the genus *Erotylus* nearer to *Megalodacne*. At present *Aulacochilus* stands between *Megalodacne* and *Erotylus*, yet the last two alone have a conspicuous mesosternum.

Wimbledon: April 15th, 1887.

#### NOTES ON THE ENTOMOLOGY OF PORTUGAL.—IX. EPHEMERIDÆ.

BY THE REV. A. E. EATON, M.A., F.E.S.

This Family of insects has hitherto received no attention from Portuguese entomologists; and the species here noticed were captured for the most part on only chance opportunities. The list is, therefore, unduly short: for unless a collector can make it his business to visit suitable localities at the right seasons, and at times when the flies are on the wing (which can only be done where quarters are obtainable within convenient proximity to those places), he cannot thoroughly investigate the May-fly fauna of a country. Neither spiders' webs, nor nymph catching, can fully compensate for his absence during the hours of the flights. Some species, however, can be advantageously collected in sub-imago earlier in the day; and a netsman learns to value a lantern if he stays out until nightfall in mountainous districts.

*Oligoneuria rhenana*, Imh.—Nymph captured in the swift shallows above Ponte de Morcellos.

*Ephemerella glaucops*, Pict.—A ♀ imago, caught in the evening at São Marcos da Serra, was devoured by a moribund dragon-fly in the killing-bottle. There is a specimen from central Portugal in Lisbon Museum.

*Leptophlebia*, sp. —?—Nymph in a hill-stream west of Villa Real, Traz-os-Montes.

*Choroterpes Picteti*, Etn. [the *Ch. lusitanica* of Ent. Mo. Mag., xvi, 194 (Feb.,

1881)].—Nymph locally abundant in the main stream below Cintra, in April; nymph and fly common near Aldea das Neves, Almodovar, the nymph harbouring under stones at the outflow of pools in the stream, where its identification was effected by means of the sub-imago in the afternoon; also common at fords crossed in the sierra between Saõ Marcos da Serra and Almodovar.

*Thraululus bellus*, Etn.—Nymph local in the main stream below Cintra, residing under stones on fine gravel and sand near the edge, where the current is gentle, at the end of April. Fly found at the same place, in a spider's web, early in the morning, a month later.

*Habrophlebia nervulosa*, Etn.—Cintra, at the same stream as the preceding species, and also on the hill-top outside the palace grounds; also at similar altitudes near Silves and Ponte de Morcellos, and at higher elevations on Foia, the Estrella, and near Villa Real, Traz-os-Montes.

*Calliarcys humilis*, Etn.—Fly common on the northern slopes of Foia, at altitudes a little over 2000 feet, at the end of May, thronging in the shelter of bushes, and near the ground; captured also by beating *Erica* overhanging a stream on the Estrella, south of Sabugueiro, at an altitude of 4100 feet, early in June.

*Ephemerella ignita*, Poda.—The stream below Cintra, at the end of April.

*Canis halterata*, F.—Fly captured at the same place and time, near a bridge, early in the morning. *C.*, sp. —?—Nymph figured in Trans. Linn. Soc. (2) Zool., iii, pl. xlii, 3, caught at the same place.

*Baëtis binoculatus*, L.—Abundant lower down the same stream. *B. scambus*, Etn., ?.—A species, which may be this, was abundant at Cintra with the preceding; eight specimens from Cintra, Salamonde, and Silves stand together in McLach. Mus. *B. rhodani*, Pict., ?.—Three ♀ specimens from Foia may possibly belong to this species: the ♂ was not observed. *B. Bocaqii*, Etn.—Captured, chiefly in sub-imago, along the streamlet between Aleantara and Bemfico, Lisbon. *B.*, sp. —?—Five specimens, captured in the early morning in descending the opposite side of the hill above Cea in the Estrella, probably represent an undescribed species; two other specimens in McLach. Mus.—one from the Estrella, south of Sabugueiro, and the other from Caldas da Monchique,—are likewise of undetermined species. *B. pumilus*, Burm.—Common at Cintra; single specimens also were caught at Cea, in the Estrella, and near Villa Real, Traz-os-Montes.

*Centroptilum luteolum*, Müll.—Captured on the same occasion as *Canis*. *C. pennulatum*, Etn., ?.—Two imagos at Ponte de Morcellos.

*Cloëon dipterum*, L.—A ♀ imago from a hedge in the vineyards under Cintra, by beating, and another in a house at Casevel Railway Station: the former specimen is lost. *C. simile*, Etn.—Slow and shallow streamlets at Almodovar, Saõ Marcos da Serra, and Silves. *C. concinnum*, Etn.—In flight, shortly before sunset on June 1st, at the stream near Porcalhota, where the roads meet from Lisbon, Cintra, and Mafra.

*Siphylurus flavidus*, Ed. Pict. (*Baëtis flavida*, Ed. Pict.). ?—Nymphs, very probably, of this species (figured in Trans. Linn. Soc. (2) Zool., iii, pl. L, 2, 3, and 20—26), were plentiful in a small stream by Saõ Barnabe, a hamlet near the sierra south-west of Almodovar: they match Pictet's species in size; the fly had begun to emerge early in May, although none were seen, for a few empty nymph-skins were clinging to stones in the water a little above the surface.

*Epeorus sylvicola*, Ed. Piet. (*Baëtis sylvicola*, Ed. Piet.; *Epeorus geminus*, of Trans. Linn. Soc. (2) Zool., iii, 238).—In flight, at 10.30 a.m. on June 7th, over a stream in the Estrella, south of Sabugueiro, at an altitude of 4200 feet.

*Rhithrogena aurantiaca*, Burm.—A ♀ imago at Ponte de Morecellos; other species of this genus no doubt occur in the Estrella, but none of the most likely streams were visited in the evening, being far from Cea.

*Heptagenia sulphurea*, Müll.—Ponte de Morecellos; the specimens have been noted as a variation in *op. cit.*, p. 270.

*Ecdyurus fluminum*, Piet.—A ♀ sub-imago from the stream flowing south of Monehique was captured on May 19th.

This list is based almost entirely upon specimens now in the collection of Mr. R. McLachlan.

Lyme Regis: *March 11th*, 1887.

OCCURRENCE OF BOTH *STEGANOPTYCHA PYGMEANA*, HB., AND *S. ABIEGANA*, DUP., IN ENGLAND, AND THE LATTER SPECIES IDENTIFIED AS THE *TORTRIX SUBSEQUANA* OF HAWORTH.

BY WILLIAM WARREN, F.E.S.

In vol. ii, p. 207, of the Manual, Mr. Stainton describes an insect, *Asthenia pygmæana*, as follows:—

“Fore-wings *glossy*, pale grey, with reddish-brown markings; ocellus edged with silvery, enclosing three longitudinal black lines; hind-wings with the base pearly-white. Two specimens formerly in Haworth’s collection; locality unknown.”

I am not aware that any more specimens of the insect were taken until a few years since, when Mr. Boden came across them somewhere in the London district; of these insects I possess a pair.

A fortnight or so ago, a friend showed me on his setting-board three *Tortrices* which he had lately taken, and made out from the description in the Manual to be *pygmæana*, “except that the ocellus had no black lines.” On comparing one of these insects with those captured by Mr. Boden, it was at once evident they were distinct species: Mr. Boden’s being *abiegana*, Dup.; the others, *pygmæana*, Hb.

Of *pygmæana* a very accurate description is to be found in Snellen’s *De Vlinders van Nederland*, p. 342, and in Ratzburg’s *Forst-Insekten*, p. 226, who also figures the insect in all its stages, T. 12, fig. 9. Both species are described in Heinemann, p. 217, and by Herrich-Schäffer, iv, p. 281, who also figures *abiegana*, fig. 128.

I give here a short description of each:—

*Pygmæana*, Hb.—Fore-wings greyish-brown, with a few rust-coloured scales intermixed, especially towards the hind-margin. Markings dark blackish-brown; basal patch with its outer edge consisting of two distinct curves, which at their