

TWO NEW BRITISH MAYFLIES (EPHEMEROPTERA).

BY K. G. BLAIR, B.SC., F.E.S.

The two species now described as new have each been known to me for some time in single ♂ examples, and having tried in vain to secure further material, either myself or from their respective captors, I now describe them in the hope that other collectors may discover them among their unnamed material.

1. *Rhithrogena fradgleyi* sp. nov. (Fig. 1.)

♂ (dry). Thorax pitchy-brown, abdomen a little lighter, posterior margins of segments narrowly pale, venter similarly coloured; forceps-base brown, darker at sides, posterior margin with a sharp median excision; forceps black. Wings hyaline, faintly suffused with brown towards base and in costal area; veins brown, cross-veins darker. Fore-legs dark brown, with tarsi blackish, middle and hind-legs paler, femora with a blackish mark about middle; setae smoky. Tarsus of fore-leg about twice as long as tibia, the joints in the following proportions:—1:4:3.5:3: (wanting). Dimensions:—Body 11 mm.; wing 13.5 mm.; fore-leg 11.1 mm.; seta 20 mm. (circa).

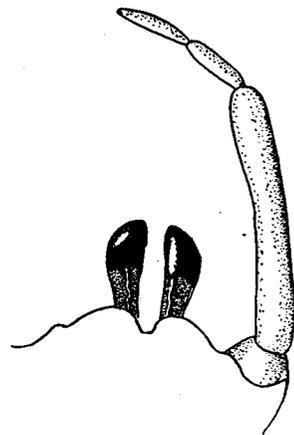


Fig. 1.—Genitalia of *Rhithrogena fradgleyi* sp. n.

One ♂ taken by Mr. K. F. Fradgley on the River Exe or Otter, but exact locality or date not known as the specimen was not recognised as different from *E. venosus* until some time after capture.

Bears a superficial resemblance to *Ecdyonurus venosus*, with a number of which species it was sent. It was at first assumed to be *R. germanica* Eat., but as the genitalia, though apparently very similar, did not quite agree with the figures either of Eaton (1) or of Klapálek (2) the accompanying drawing was sent to Dr. Georg Ulmer for confirmation. By him it was pronounced to be not *R. germanica*, of which the figure given by Klapálek is stated

to be correct, but as very close to the Danish *R. ussingi* Esb. Peters. (4). From the description of the latter and the figure of the genitalia it seems impossible that the two can be identical, and I have no choice but to describe this species as new.

Haplogenia gen. nov. (*Ecdyonuridarum*).

VENATION (fig. 2) nearly as in *Epeorus* (Eaton, Pl. xxiii, fig. 44), but with the following differences:—*Fore-wing*: union of 4 and 5 (of R₂ and R₃) markedly more distant from base than fork of 7 (M.). *Hind-wing*: union of 3 and 5 (of R and R_s) also relatively more distant from base, while 5 (R₅) is unforked.

In both wings the cross-veins are more numerous, very few cells being at all elongate.

LEGS (fig. 3). Femur and tibia of fore-leg (♂) subequal, rather longer than the first two tarsal joints; first four tarsal joints subequal, about twice as long as the 5th; claws dissimilar, one with a sharp apical hook, the other bluntly rounded.

GENITALIA (figs. 4). Penis lobes adjacent, evenly expanded towards apex, provided with a long spine on each side at base.

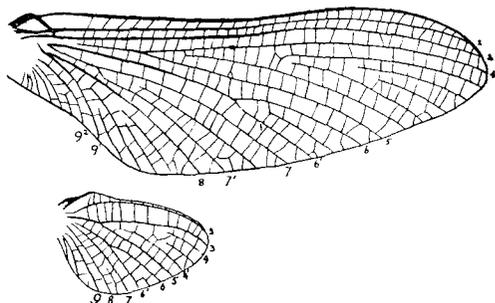


Fig. 2.—Wings of *Haplogenia southi* sp. n.

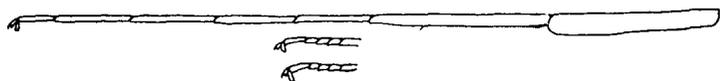


Fig. 3.—Legs of *Haplogenia southi* sp. n. ♂.

Allied to *Ecdyonurus* Eat. but differing from any genus of Eaton's Revisional Monograph in the venational characters cited. It is probably closely allied to *Arthroplea* Bengtss. (3), in which vein 5 of the hind wings is unforked (fide Bengtsson *in litt.*), but in this genus, *inter alia*, the forks of 4-5 and 7 of the fore wing are subequidistant from the base. The generic name has reference to the simple condition of vein 5 of the hind wings.

2. **Haplogenia southi** sp. n.

♂ (dry). Thorax dark piceous, lighter on sides and above wing-bases; abdomen brownish-piceous with faint aeneous reflections, each segment bordered laterally and posteriorly with paler; segments 2 to 8 each with a pair of rather deep foveae placed like a colon (:) on each side of the median line; basally these foveae are before the middle of the segment, but posteriorly they become shifted rather farther back; venter paler than the dorsum, each segment pale behind, widely in the middle but narrowly near the sides; forceps base entirely dark. Wings slightly infusate in basal half. Fore-leg dark brown, tarsi paler, middle and posterior legs brown. Setae (incomplete) smoky, with joints darker; basal segments elongate.

Dimensions: Body 11 mm.; wing 11.5 mm., fore-leg 10 mm.

Locality: Middlesex, Stanmore, 4.vi.1920 (1 ♂, R. South.).

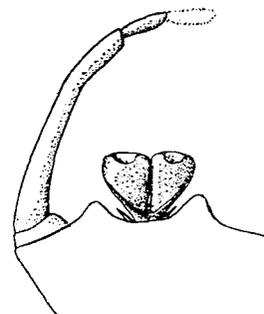


Fig. 4.—Genitalia of *Haplogenia southi* sp. n

The unique type is in a rather fragile state owing to the deprecations of Psocids, but is very different from any species known to me. Brief descriptions or figures have been referred to Prof. Bengtsson and Dr. G. Ulmer for determination, but the species is apparently unknown to either.

The types of both species have been kindly presented by their captors and placed in the National Collection.

REFERENCES.

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3. BENGTSSON, S., Beitr. zur Kenntn. der Palaearkt. Ephem. Acta Univ. Lund, V. 1909.
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5. TILLYARD, R. J., The Wing-Venation of the Order Plectoptera or Mayflies. Linn. Soc. Jnl. Zool., xxxv.1923, pp. 143-162.

120 Sunningfields Road, Hendon.

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