

proportion of their broods by their attacks, but *S. rugulosus* was, of all the species bred, the most copiously attacked. On removing a piece of bark from a stick containing them, numerous larvæ of the parasites were visible, which had devoured the larvæ of the beetles, before they had entered their hybernacula in the wood, all those that had escaped the parasites having done so.

The parasites represented at least half the broods; I bred from them half a dozen species of *Chalcididæ*, *Cheirpachus quadrum* being much the most numerous. The greater liability of *S. rugulosus* to attacks from parasites has probably a close connection with the fact I have already mentioned, that the entrances of its galleries of oviposition are very obvious.

Mr. Rye informs me he often finds *Homalota coriaria* in the wet burrows of *S. destructor*.

Abergavenny, July, 1869.

ON *CENTROPTILUM*, A NEW GENUS OF THE *EPHEMERIDÆ*.

BY REV. A. E. EATON, B.A.

A careful comparison of the mouth organs of the nymphs of nearly all the British genera of *Ephemeridæ* leads me to modify the plan of classification which I drew up last year, in one or two important particulars. The arrangement then proposed by me was based principally upon structures of the imago, which seem to serve as a test (not altogether satisfactory) of their affinities to each other.

The most considerable changes that will have to be made are the promotion of *Cænis* and *Tricorythus* to the *Leptophlebia* group, to which they seem to be closely united by means of the S. American *Potamanthus inanis* of Kollar's M.S., Pictet, 1843-5; and the reduction of *Siphonurus* to the *Cloëon* group. Whether *Oligoneuria* and *Lachlania* should accompany *Cænis* or not, is a point I am unable to decide upon without an examination of their preparatory states; and these are at present unknown. The family seems separable into three principal groups of genera:—(1) those with fossorial nymphs, with the mandible produced externally into a porrect spine; (2) those with nymphs which crawl about the river-bed, whose females, when adult, have a ventral lamina slightly produced out of the apex of the penultimate abdominal segment; (3) those whose nymphs can run nimbly about the water-plants and river-bed, and swim rapidly.

The separation of *Centroptilum* from *Baëtis* is a mere alteration in the detail of my former plan, and does not affect the general arrangement.

Genus *CENTROPTILUM*,* n. g.

Sp. typ. *C. luteolum*, Müll.

Syn. *Ephemera*, p., Müll., 1776.

Cloëon, p., Ste., 1835-6; *Cloë*, p., Burm., 1839.

Baëtis (Leach), section A. Etn., 1868.

Diagnosis.—Nymph agile, with seven simple pairs of undivided branchial plates. Upper maxillary palpus slender, rather long, 4-jointed, with the first joint the shortest, the second long and equal in length to the other two taken together, which are sub-equal to each other.

The sub-imago assumes the same posture as *Baëtis* when reposing.

Imago similar to *Cloëon*; but with four wings. Hind-wing very narrow, with a long costal process, and two simple longitudinal veins.

Distribution.—The Palæarctic and Nearctic regions. Two European species are described, one of which (*C. luteolum*) occurs also in the Hudson's Bay Territory. Besides these, there are an English and a Carinthian species known to me, undescribed.

Unfortunately I cannot just now lay my hands upon either specimens of the nymph or preparations of the mouth organs of *C. luteolum*; therefore I am unable to speak positively about the structure of the labium and lower maxillæ; but, so far as I can recollect, these are more like those of *Baëtis* than of *Cloëon*. The labrum is widely retuse, as in *Ephemerella*.

In *Cloëon* the palpi are two-jointed, with sub-equal joints: the upper maxillary palpi are very slender, filiform, and rather longer than their maxillæ: the lower maxillary palpi are slightly depressed, and somewhat expanded towards their oblique tips; and their maxillæ are a little longer, but no broader than the divisions of the labium. The labrum is narrowly emarginate.

In *Baëtis* the palpi are likewise two-jointed, with joints sub-equal to one another: the upper maxillary palpi are slender, of tolerably even diameter throughout, and not so very long: the lower maxillary palpi are depressed and broadly expanded towards their rounded tips, the basal joints being sub-cylindrical and stout; their maxillæ are longer and much broader than the somewhat subulate divisions of the labium. The labrum is narrowly emarginate. Professor Pictet's figure of the labium and lower maxillæ with their palpi (Pict. *Ephem.*, pl. xxxvi, 9) is not accurate.

The mandibles are much alike in all of these three.

Ashbourne, Derbyshire.

15th September, 1869.

* Derivation.—(Gr.) *Kentron*, a spur, and *ptilon*, a wing; so named in allusion to the costal process of the hind-wing.

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