



1. Mature nymph of *Baetis focmina* n. sp.; 2, Foreleg of nymph with enlarged claw; 3, Third nymphal gill; 4, Tenth abdominal segment with bases of tails; 5, Adult hindwing; 6, Apex of adult forewing.

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A NEW ARCTIC BAETID (EPHEMEROPTERA)*.

BY J. MCDUNNOUGH,

Ottawa, Ont

During the month of August, 1935, Mr. W. J. Brown, who accompanied the Arctic trip of the S. S. Nascopie, was enabled to make insect collections at Lake Harbor, on the south coast of Baffin Island.

The only species of Ephemeroptera obtained were two Baetids which were plentiful in both nymphal and adult state and for which definite associations between nymph and adult were secured.

The one species, which occurred in both sexes, bears so much resemblance to *Acentrella lapponica* Bengtssn. that I am holding it under this name pending an examination of some of the material by Professor Bengtsson.¹ The second species, a typical *Baetis*, could only be found in the female sex, nor could Mr. Brown, in spite of diligent searching, discover any males amongst the mature nymphs in the brook; it would seem that the species was parthenogenetic, at least as far as the cycle emerging in August was concerned. On nymphal characters it falls in the *bicaudatus* group, with the middle tail reduced to a stub, but can at once be separated by the much larger and relatively narrower type of gill. The following description is offered as the species appears to be undescribed.

Baetis foemina n. sp.

Nymph. (Fig. 1). Very slender, gray-brown, with little trace of maculation; length exclusive of tails slightly over 4 mm. *Head* slightly deeper in color than thorax, with fine medio-dorsal pale line and a pale area anterior to the mid-ocellus; antennae and palpi pale. *Thorax* with obsolescent maculation; there is a fine pale median line continuing that of head; the prothorax shows slight darker shading along posterior margin which curves cephalad in median area forming two broad comma-like marks between which the central area is somewhat paler; mesothorax slightly variegated with paler and darker streakings, a largish pale area at base of wing-pad being the most noticeable. *Abdomen* dorsally almost uniform gray-brown with the usual double row of small submedian dark dots, two to a segment; there are traces of darker shadings in median areas of segments on both anterior and posterior margins, forming lunate patches which, however, are so faint as to be frequently scarcely visible; segments 6-8 seem slightly deeper in color than the others. *Gills* long and rather narrowly oval, without definition of tracheation but with a distinct fine chitinous edging around practically the entire gill, that of the dorsal edge being somewhat heavier than ventrally; the first gill is minute, the second well-defined and extending slightly over the base of the following one; gills 3, (Fig. 3) 4 and 5 large, subequal and extending across the two following segments so that, in consequence each one overlaps fully the basal half of the succeeding gill; gill 6 somewhat smaller and gill 7 quite small and extending only slightly beyond posterior margin of segment VIII. Ventrally the whole thorax and abdomen is much paler than above. *Setae* two in number, the median one being reduced to a mere stub, (Fig. 4) the outer ones

*Contribution from the Division of Systematic Entomology, Entomological Branch, Department of Agriculture, Ottawa.

¹Professor Bengtsson has since confirmed this identification after a careful comparison of European and North American material.

about equal to the body length and only weakly hairy along inner edges. *Legs* (Fig. 2) rather short and slight; femora laterally compressed, gray-brown with a paler L-shaped mark at base and paler shading apically; a row of short spine-like hairs along their dorsal margin; tibia subequal to femur and about half its width; apex of tarsus and claw darker in color. Mouth parts showing nothing very distinctive of the species; the labial palp has the apical inner portion of the second joint broadly expanded, forming a blunt projection, the margin of which is practically at right angles with the inner margin of the third joint; this accords with other species in the *bicaudatus* group to which the species evidently belongs.

Adult. ♀ Head chocolate brown, paler along the eye-margins and with some blackish shades along posterior margin. Thorax chocolate-brown, posterolateral edges of mesothorax and scutellum shaded with paler; pleura paler, faintly tinged with ruddy and with slight ochreous streak at base of forewing. Abdomen dorsally dull brown with the posterior margins of segments slightly darker, giving a faint ringed appearance; ventrally dirty gray brown, last two segments shaded with light ochreous. Legs pale dirty amber contrasting quite strongly with the more chocolate brown color of thorax and abdomen dorsally; there is a tendency for tibiae and tarsi to pale almost to a whitish-gray. Tibiae slightly longer than femora. Setae pale dirty white with scarcely more than a trace of annulations. Forewings hyaline with faint brownish veins and crossveins and rather long, distinct intercalaries (Fig. 6) which, however, are obsolescent in the first interspace below apex. Hindwing (Fig. 5) with distinct basal tooth on costa, evenly narrow, with three veins of which the third is very close to the hind margin; there may occur traces of an intercalary below vein 2, but this is not constant. Length of body (dried), about 3 mm.; of forewing, 6 mm.; of hindwing, rather over $\frac{1}{2}$ mm.

Holotype—♀, Lake Harbor, Baffin Island, Aug. 7, 1935 (W. J. Brown) (bred from nymph); No. 4069 in the Canadian National Collection, Ottawa.

Paratypes—Numerous ♀'s from same locality, Aug. 7-19, most of which were captured as subimagos emerging from the stream.

It might be mentioned that a few much larger females (forewing length 8 mm.) were taken by Mr. Brown at odd times sitting on the sides of buildings but he could find no nymphs with which these could be associated; they show no characters, other than size, by which they could be separated from the balance of the specimens and I incline to think that they may represent the left-overs of an earlier cycle, occurring possibly in July.