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ON TWO SPECIES OF MAYFLIES OF THE GENUS *HEPTAGENIA*

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Among the *Ephemeridae* which the senior author reared at Ithaca, N.Y., from 1913—1915, were two very common species of the genus *Heptagenia*. The nymphs of both of these species are described by Needham in Bulletin 86, N. Y. State Museum, and figured in plate 9. Extensive rearings, about 50 in all, show, however, that the nymph described as *Heptagenia* sp. 3 and illustrated in Fig. 4 of plate 9, is that of *Heptagenia interpunctata*, while the nymph described for that species and illustrated in Fig. 3 of plate 9 appears to belong to a new species which we here describe.

Heptagenia ithaca sp. nov.

Nymph: The description by Needham (loc. cit.) is quite complete. The markings on the ventral surface of the abdomen are very distinctive.

Imago: Male (dried specimen). Body length 9 mm. Rather uniformly brown in colour. Brownish area on face extending from antenna to ventral margin of carina. Abdomen brownish with the posterior margins of the segments very dark dorsally. Stigmal dots not marked. Penis lobes L-shaped as in *H. tripunctata*. Wings hyaline, slightly clouded in the pterostigmatic space. Femora banded at middle and at distal ends; tibio-tarsal joints dark.

Female: Similar to male.

Holotype—♂, Ithaca, N.Y., June 24, 1913, (W. A. Clemens), in the collection of the senior author.

Allotype—♀, Ithaca, N. Y., June 28, 1923, (W. A. Clemens), in the collection of the senior author.

Paratypes in the collection of the senior author.

Heptagenia interpunctata Say.

Nymph: The nymph is fully described (as species number 3) by Needham (1905). It is very similar to the nymphs of *H. canadensis* and *H. frontalis*. In all three species there is more or less of a dorsal longitudinal striping on the abdomen and all possess oval pointed gills and certain characteristic features in the mouth parts (Clemens, 1913).

Imago: The imago is described in detail by Eaton (1888) and by Needham (loc. cit.).

This species is very close to *H. canadensis* and it is not unlikely that the two species should be considered as varieties rather than as distinct species. *H. canadensis*, as pointed out by Banks (1910), is typically a dark northern form, while *H. interpunctata* is a lighter form of more southern distribution. We have specimens of the former from Lake Nipigon and a few from Ithaca, N. Y. The undetermined nymph described by Clemens (1913) and there illustrated in Fig. 4, plate V, is undoubtedly that of *H. interpunctata*. The present known range of this species then is from Georgian Bay and Sherbrooke, Que., in the north, to Virginia and North Carolina in the south.

LITERATURE.

Banks, Nathan, 1910. Notes On Our Eastern Species of the Mayfly Genus *Heptagenia*. Can. Ent., Vol. XLIII, No. 6.

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