

A NEW MAYFLY, *CÆNIS*, FROM ONEIDA LAKE, NEW YORK

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In the course of Mr. Frank C. Baker's collecting of aquatic insects from Oneida Lake, N. Y., several specimens of nymphs of a curious little mayfly, hitherto unknown to science, were discovered. This little nymph I mistook for a member of the [similar in form and (genus *Ephemerella*, it being)] of the size of a number of species in that genus, and more than twice as large as any American species of the genus *Cænis* hitherto made known. Upon more careful examination, I find that it is *Cænis* and with conspicuous ocellar tubercles doubtless allied to the *Cænis harrisella* of Europe, the nymphs of which are figured by Eaton in the Transactions of the Linnean Society of London, second series, volume 3, plate 42.

I have encountered this American species but once before. A single specimen was collected by Professor T. L. Hankinson from the bed of Walnut Lake in Michigan on the 26th of May, 1907. In the report of the Geological Survey of Michigan, 1907, page 263, I made mere mention of it under the name "*Ephemerella* sp." as follows: "A single curious larva with prominent head tubercles was taken." This seems to be in America an inhabitant only of lakes, though its European counterpart above mentioned is not. The species is readily recognized by its remarkable head tubercles. It may be briefly characterized as follows:

Cænis lacustris sp. nov.

Length 5-6 mm., antennæ $1\frac{1}{2}$ mm., caudal filaments 3 mm. additional. An elongate species of generally pale coloration, beautifully marked with brown. Head cuboidal with prominent eyes capping the anterolateral angles. Three conspicuous pyramidal horns arise from the three ocelli, each horn surmounting a conspicuous black pigment spot. Body slender, yet having three regions of enlargement, the prominent horned

head, the swollen mesothorax, and the laterally expanded gill-bearing portion of the abdomen.

General coloration pale, head with a pair of oblique zigzag bands extending backward from the eyes to the middle of the occiput, prothorax wholly pale above. Mesothorax somewhat darker across front and rear ends, and with a pair of curved black pencilings upon the middle of the dorsum. Abdomen with basal black mid-dorsal triangles on the segments in front and at rear; the gill-bearing middle segments obscurely brownish. There is also a pale brownish transverse line on either side of each segment near the lateral margin toward the front, and there is a pair of black dashes upon the rear of segment 10 above. Caudal filaments wholly pale, but in the darkest of the specimens showing very faint rings. Legs slender, increasing in length posteriorly, pale in color with a single brown submedium band on each segment. Claws gently curved, very long and slender and attenuate to a very sharp point, about equal in length to one-half of the tarsus.

Gills on segments 1 to 6. On segment 1, a long, erect tapering, lash-like rudiment set obliquely upon a short pedicel. On 2, a pair of quadrate opercula, straight margined on the front and within, more rounded externally and at the rear, bearing an oblique ridge that runs from the basal external articulation inward; brownish in color, with paler margins and with a pale Y-spot upon the middle, opening forward, one arm of the Y lying upon the dorsal ridge. Gills on segments 3, 4, 5 and 6 thin and lamelliform with a wide border of forking filaments wider than the body of the gill, all these filaments forking unilaterally, the branches springing from the inner side of the filament and all lying in one plane. These true gills diminish in size posteriorly, that of the sixth segment being about half as large as that of the third.

The gill-bearing segments are broadly depressed and laterally expanded into huge lateral spines, which, from above, have the aspect of a segment of a circular saw. The lateral tooth on segment 2 is obtusely pointed, all the others very sharply pointed, highest on fourth and fifth and directed more strongly toward the rear of each succeeding segment. Seg-

ment 7, which lacks gills, bears a dorsal hedge of stiff erect or even recurved hairs, which rise at the rear of the true gills and doubtless protect them from the ingress of silt. A few more scattering hairs rise also from the apical margin of segments 8 and 9.

The Oneida Lake specimens collected by F. C. Baker are No. 1048; and the Walnut Lake, Michigan, specimens were collected by T. L. Hankinson.