

closely with those found by Denniston (1922) in lake Mendota except for the presence of *Potamogeton gramineus* inside.

Zonation as it is found at the head of Whitefish bay is similar to that described above. In most places, however, *Carex* takes the place of *Potamogeton gramineus* in the shallow water. Outside of this lies an area in which *Eleocharis palustris* and *Equisetum fluviatile* are thoroughly mixed. These may extend as far out as the water lily, *Nymphaea advena*. Nearest the deep water are scattered pond weeds, *Potamogeton Richardsonii*.

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A NEW PARASITIC UNIONICOLA

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Most of the species of the water mite genus *Unionicola* are parasites in various species of freshwater mussels. One species, however, *U. ampullariae* (Koen.), from South America, has been found as a parasite in the mantle chamber of a species of the gastropod genus *Ampullaria*, related to *Campe-loma*. Wolcott (1899) looked for parasitic mites in freshwater snails, including *Campe-loma*, without success. Recently Chandler (1934) has reported several individuals of *U. aculeata* (Koen.) from *Campe-loma decisum* (Say) collected in North Carolina.

The present paper describes a new species from an undetermined long-spined, thin-shelled species of *Campe-loma*. The material consists of forty-five individuals, males, females, and nymphs, found in twenty-two hosts, chiefly on the gills. Collections were made in November, 1931, and in May, 1932; only in the latter were found the males, eleven in all, together with a few nymphs. Only one nymph was found in the November series. Collections were made in Gun Club pond, Speed river, at Hespeler, Ontario, by Mr. J. P. Oughton, of the Royal Ontario Museum of Zoology, who sent them to the author for identification and kindly allowed her to retain them for study. This mite will be designated as *Unionicola campe-lomaicola* nov. spec.

Exact measurements cannot be made, since the preservation of the specimens caused some distortion; but the males are about 0.60 millimetre in length and the females, 0.80 millimetre. Very few striae were made out on the body surface, but the epimera showed fine reticulation. Fortunately, Mr. Oughton made a coloured sketch from living material; in this the body is seen to be broadly oval and shows heavy dark blotches on a pale yellowish background, with a central Y-shaped dorsal mark and a few pink blotches. The epimera conform closely to the pattern for the genus; the last pair, however, are unusually rounded on the posterior border and

the members of each pair are more widely separated from each other in the female than in the male. The genital areas are about equally distant from the last epimera and the body margin. In the female the genital cleft is flanked by four plates which resemble those of *U. abnormipes* (Wol.). The anterior pair are narrow, diagonally placed, and bear each two acetabula as well as a spine with a thorn on the inner angles. The broader posterior plates bear each five acetabula (sometimes six); their anterior median borders roll back and end each in a spine. In the male there are two broad lunate plates lying on either side of the genital cleft and extending beyond it posteriorly; each bears seven (sometimes eight) acetabula, the two anterior somewhat removed from the others. The capitulum is long and relatively narrow. The palpi are stout, wider than the legs, especially in the second segment, and resemble those of the related species; the last segment is quadrate in outline, produced into an angle on the ventral side, and provided with two curved claws, one in the centre and the other on the dorsal side. The legs are stout, shorter than the body in the female, increasing slightly in length from the first to the fourth, with the second and third narrower at the base than the others. All pairs bear heavy bristles. In the male the fourth leg is a little longer than the body and bears very heavy bristles on the fourth and fifth segments, with a few coarse hairs on the distal ends of the same; the sixth segment ends in very small weak claws.

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EXPLANATION OF THE PLATE

1. *Unionicola campelomaicola*, genital area, female
2. *Unionicola campelomaicola*, left palpus, female
3. *Unionicola campelomaicola*, mandible
4. *Unionicola campelomaicola*, ventral plates, male
5. *Unionicola campelomaicola*, leg IV, left, male.

