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HYDRACARINA FROM GLACIER NATIONAL PARK

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Material for this study consisted of collections of water mites made by Dr. R. M. Muttkowski in Lake McDonald, Glacier National Park, Montana, during the months of July and August, 1925. The author wishes here to express her thanks to Dr. Muttkowski for the opportunity to examine this material and thus to add a little to our scanty knowledge of the Hydracarina of the Rocky Mountain region.

Nearly five hundred individuals were secured; these represented seven genera and ten species, one of which is new and one undetermined. About three fourths of the number were Pionas and Limnesias, each genus with two species. The number of species is therefore low, and most of them are common farther east. The size of the individuals was notable; many specimens reached the maximum length recorded for the species.

None of the "red mites" were present. Of the Arrhenuri, only one male was present; this proved to be *A. prominulus* Mar., already recorded for Oregon and Lake Nipigon. In addition to this there were several female Arrhenuri, which were not identified. The cosmopolitan species *Lebertia porosa* Thor, widely distributed over North America, was abundant here; about sixty individuals were secured, including several nymphs, many adults attaining the length of nearly two millimeters. With this species was recognized one specimen of *Lebertia ontarioensis* Mar., heretofore known only for Canada. The Limnesias comprised nearly one fourth of all specimens and they were divided about equally between the two common species, *L. fulgida wolcottii* Piers. and *L. maculata americana* Piers.; males, females, and nymphs were present, the adults often of great size. In two of the collections were found three specimens of *Hygrobates longipalpis* (Herm.); this is another cosmopolitan species, probably widely distributed throughout the United States and Canada. The Neumanias were found in only one of the collections (July 7-8), and females only were present; these were identified as the common species *N. semicircularis* Mar. Twenty-nine were found and they were large individuals. One specimen, a female, found Aug. 19, appears to belong to the genus Pionopsis, judging by the genital area; the palpi were gone. A further determination is withheld until more material is secured. The Pionas claimed over one half of the total number of individuals; the larger number were recognized as *P. interrupta* Mar.; the rest are referred to a new species, *P. socialis*. Descriptions of these species follow.

***Piona interrupta* Mar.**

Pl. 39, figs. 1-4,11

The species is probably widely distributed throughout the northern states and Canada. The male has been recognized but heretofore undescribed. It closely resembles *P. americanus* Mar. but is larger (1.20 mm.) and differs in details of the genital area and the legs. The body is elliptical, slightly indented anteriorly. The epimera resemble those of the female, the third being very narrow. The fourth epimeral pair are united along their inner borders; the genital plates touch them at the mid-line and at their posterior corners. The genital orifice is trifoliate in form. The genital plates are broad and extend laterally beyond the last epimera; their inner posterior borders are separated by a deep bay which nearly encloses the anal spot. The genital acetabula are numerous and small; two on either side are usually slightly larger than the others. The palpi are large and slim; the papillae of segment four are somewhat more developed than in the female. The third leg has a very long fifth segment and a short club-shaped sixth segment bearing short claws. The fourth leg has a deep concavity on the fourth segment which is bordered with many heavy bristles.

The nymph has epimera like those of the female. The genital plates are set obliquely, touch at the mid-line and bear each two acetabula.

This species was found in all of the collections; there were ninety-two males and forty-nine females, with a number of nymphs. Specimens found July 7-8, were all large and old females. In the August collections young males and nymphs began to appear and later came young females. Copulation probably occurs soon after emergence, since the youngest males always had the ends of the third legs inserted in the genital pouch (fig. 3).

***Piona socialis* nov. spec.**

Pl. 39, figs. 5-10

The body of the male is oval, 0.55 mm. long, with the posterior end somewhat projecting. The antennary bristles are very short. The epimera cover most of the ventral surface and are very close together but the groups do not join. The genital area is close to the fourth epimera and slightly attached to it; the plates extend laterally beyond the epimera and reach nearly to the posterior end of the body. The genital acetabula are numerous, variable in size and somewhat indistinct. The palpi are moderately stout and wider at the base than the first pair of legs. The third leg has a long fifth segment with several large bristles; the short sixth segment is slightly enlarged distally and bears a long hair and a claw at the end. The fourth leg has a deep concavity on the fourth segment which bears only a small number of bristles. Six males were found (July 7-8).

The females are considerably larger than the males (1.10 mm.) and oval in shape. The epimera present no unusual features; the fourth pair show a moderate concavity on the posterior borders. The genital cleft is close to the last epimera. The lunate plates are large and bear numerous scattered and somewhat indistinct acetabula which do not quite fill the area on the inner side. The females far outnumbered the males, sixty-four being secured. They were present in all collections but about half of them were found with the males.

PLATE XXXIX

FIGS. 1 to 4. *Piona interrupta*, male

1. ventral view
2. leg IV
3. end of leg III on the genital orifice
4. end of leg III

FIGS. 5 to 10. *Piona socialis* nov. spec.

5. male, 4th segment of leg IV
6. male, ventral view
7. female, ventral view
8. female, genital area enlarged.
9. palpus
10. male, end of leg III

FIG. 11. *Piona interrupta*, nymph, ventral plates.

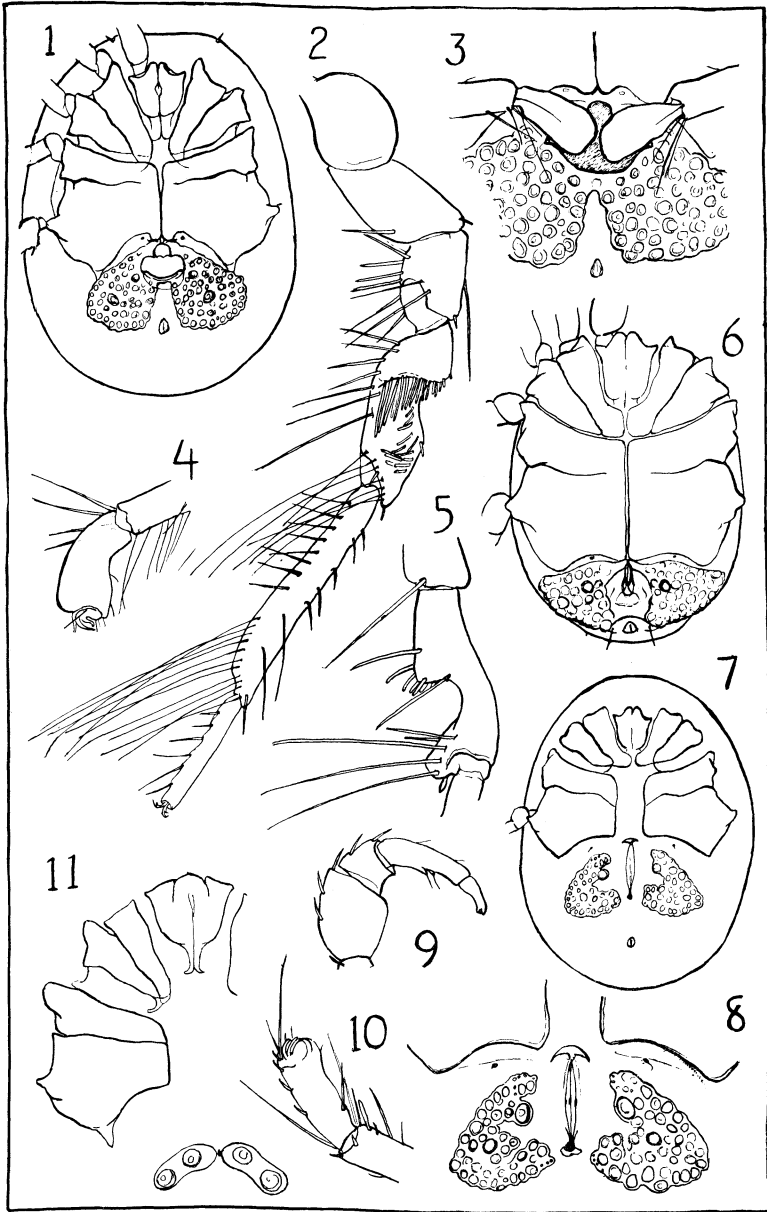


PLATE XXXIX