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A DESCRIPTION OF ERGASILUS CHAUTAUQUAENSIS,

A New Species of Copepoda, and a List of Other Entomostraca found at Lake Chautauqua, in August, 1866.

BY CHARLES S. FELLOWS, F. R. M. S., Minneapolis, Minn.

During the last session of the Society, held at Chautauqua, in August, 1866, a gathering was made of the surface-swimming entomostraca of Lake Chautauqua. This gathering was entrusted to my care for examination. For various reasons the examination has not been as thorough as it should have been, but I am able to make a partial report, and am in hopes before another meeting to supplement it with additional matter.

Among the free-swimming Copepoda one was found that attracted my attention from its remarkable beauty of form and coloring, which, upon close inspection, proved to be a new species of parasitic copepod. Its host has not yet been ascertained. This species resembles *Ergasilus sieboldii*, Nordmann, and also *E. centrarchidarum*, Wright, but differs from both in many particulars.

Its general shape is that of a rather narrow cyclops, and the egg sacs (which in this genus are usually very long) are almost a perfect counterpart of some of our species of Cyclops, being of an elongated oval form. Its length is from .86 to .90 mm., exclusive of the furcal bristles, being nearly twice as long as *E. centrarchidarum*. The abdomen is composed of five segments, the rami of the furca being as long as the three preceding segments. As in all species of this genus, the second maxilliped is absent in the female, but in the male it is a large, prehensile organ.

ERGASILUS CHAUTAUQUAENSIS n. s.

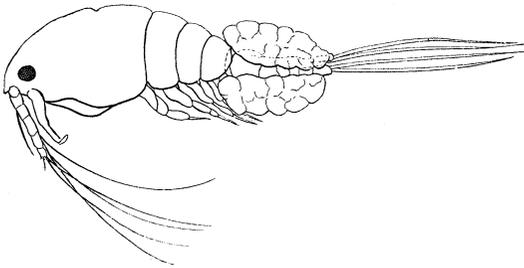
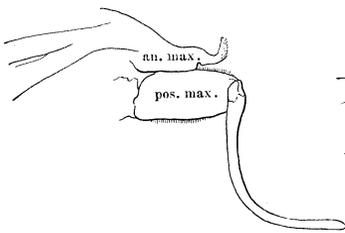


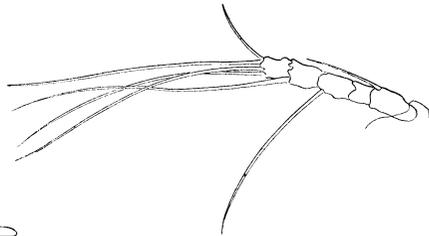
Fig. 1. Female—Side view mag. 45 dia.



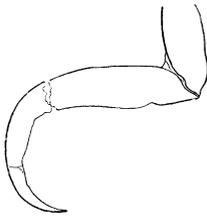
2. Mandible; maxilla and maxillepede of female.



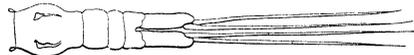
3. Anterior and posterior maxillipedes of male.



4. Anterior antenna.



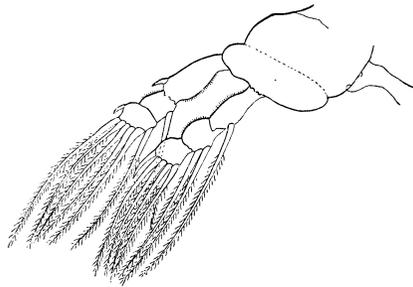
5. Posterior Antenna.



6. Abdomen, furca and furcal setae female.



7. The same male.



8. One of the third natatory feet.

(Figures 2 to 8 inclusive magnified about 125 dia.)

Ergasilus Chautauquaensis, n. sp.: Cephalothorax slender, three times as long as wide, composed of six segments, the first and second fused. The abdomen is composed of four segments, besides the furcal rami, which are as long as the three preceding segments. The furcal setæ are two, of nearly equal length, attached to the inner margin of the ramus; the outer of the two is the stoutest; they are nearly twice as long as the abdomen; the anterior antennæ are six-jointed and are armed with setæ; those on the fourth, fifth and sixth joints being very long and reaching to the last thoracic segment. The posterior pair are four-jointed and resemble those of *E. Sieboldii*. The basal joint is *not* inflated as in *E. centrarchidarum*. The mouth parts are difficult to make out, but appear somewhat similar to *E. Sieboldii*, as described by Claus. The head of the first maxilliped is much smaller and not so straight as in *E. Sieboldii*; the mandible appears to be without palp. In the female the posterior maxilliped is wanting, but in the male it is a large, three-jointed, prehensile organ; the basal joint is very short, and the second is quite long and stout and is ciliated on its margins. The third segment is long, slender and curved, its distal extremity being blunt and rounded. The natatory feet are five pairs; the four anterior being biramous, and, except the fourth (where the ramus externus is two-jointed), are three-jointed. They are variously armed with spines and *plumose* setæ. A particular description of their armature is as follows: The basal joint is not ciliated. The basal segment of the ramus externus of each of the four anterior natatory feet is armed with a spine on the outer distal extremity and ciliated inwardly. The middle segment is outwardly ciliated and inwardly carries a *plumose* seta. The apical segment of the first foot has upon its outer distal extremity two spines and apically five *plumose* setæ, while the second and third feet have each one spine and six setæ, and the fourth foot one spine and five setæ.

The basal segment of the ramus internus of each of the

four anterior natatory feet is outwardly ciliated and inwardly carries one *plumose* seta.

The middle segment of the first foot is outwardly ciliated and inwardly carries one *plumose* seta, while the second and third feet are outwardly ciliated and each inwardly carries two setæ. The apical segment of the first foot has upon its outer distal extremity two spines and apically four setæ; the second and third feet have each one spine and four setæ, and the fourth foot has one spine and three setæ.

The fifth foot is either wanting or is represented by a rather long spine attached to the sternal plate of the last thoracic segment.

The blue coloring of the entire center (longitudinally) of the otherwise very transparent body makes it a conspicuous object.

Of the other Copepoda found, one (*Epischura locustris*) is comparatively new, being described by Forbes, in 1882 (Am. Naturalist, 1882, page 648), from Lake Michigan, at Traverse Bay and Chicago, also at Geneva Lake, Wis. Only one specimen of this form was found, but as I found others in Niagara river, at Buffalo, I think it may have been overlooked in the gathering. Immature forms of this genus have been found on the surface of Lake Tahoe, California. This and one or two species of *Diaptomus* similar to those found in Lake Michigan, but with slight varietal difference, and two of *Cyclops*, one of which I think is new, comprise the Copepoda.

The most conspicuous Cladocera found was the beautiful *Leptodora hyalina*, first noticed in this country by S. I. Smith (who found, however, only a mutilated specimen) in Lake Superior, and later by Prof. S. A. Forbes in Illinois and Wisconsin. I have also found in Cedar Lake, Indiana, the same species. I found no mature specimens, however, of this genus, and therefore have not been able to study it critically; but from what I have seen of the immature forms it does not

differ from the European species as described by Liljeborg and Wiesmann.

A species of *Daphnia*, which closely resembles *D. Cederstromii*, was the most abundant of the Cladocera. All varieties of "hood" were represented, and it was evidently like that described by Forbes as a variable *Daphnia* approaching *D. hyalina* on the one hand and *D. retrocurva* on the other.

Daphnella brachyura, Levin, and *Chydorus sphaericus* O. F. Miller, were abundant, and differed but little, if any, from the European species.

I also found a species of *Ceriodaphnia*, which I am unable to determine, and think it is undescribed; also a single specimen of *Bosmina longirostris*.

I have no doubt that other forms have a place in the Chautauqua fauna, but the limited time spent at the lake, and the fact that no dredging from the bottom was examined, accounts for the few number of species.