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Description of a New Species of Argulus.

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FOUND, parasitic on *Lepidosteus osseus*, taken in the Niagara River, at Buffalo, in September, 1876, an *Argulus* which seems to be undescribed. I present the following description and figures, and propose the name:

ARGULUS LEPIDOSTEL.

Carapace obcordate, greatest breadth a little more than one-half the entire length of body; convex, transparent, its lobes barely covering the third pair of swimming legs. Eyes brown, compound, having about sixty areolæ. Antennæ, first pair two-jointed, second joint terminating in a slender hook, basal joint nearly as broad as long, having a hook on its anterior margin, also another on its posterior (difficult to show in figure); second pair slender, one-third longer than the first pair, five-jointed, first joint bears a hook at its base, second nearly at right angles to the first (articulation with the same obscure), third as long as the first two, also equal in length to the fourth and fifth together, the last articulation being very slender. There are spines at the articulations. Posterior to the antennæ, on either side of the extrem-

ity of the siphon in line with the eyes are two stout brown hooks. Abdomen one-third as long as cephalothorax, as broad as long, deeply notched, lobes acute; on the inner margin near the apex is a slender tubercle with a few hairs; bodies at the base of the lobes (female) large, brown, ellipsoidal. Legs, first pair terminated by suctional discs, second or ambulatory pair

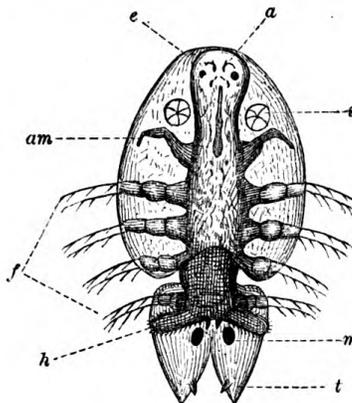


Fig. 1. (♀×8)

FIG. 1. *a*, antennæ; *e*, eyes; *s*, suctional discs of the first pair; *am*, Ambulatory or prehensile pair; *f*, natatory legs; *h*, appendages of last pair; *m*, brown bodies; *t*, tubercles.

with three strong teeth on the thighs, the outer two rising from the same base, the inner one removed from the outer two one-half its length, more slender, the last joint ends in two hooks; just back of the insertion of the second pair are two pairs of hooks directed backwards; the remaining four pairs, the natatory legs end each in

two long pinulæ, the third and fourth pairs having an extra recurved pinula; while the third, fourth and fifth pairs are three-jointed, the sixth is obscurely two-jointed, with an appendage at base, these appendicular lobes slightly curved backwards, obtuse, reaching to the margin of the abdomen, covered with hairs.

Color light yellowish green, upper part

tened to any part presented, and crawled to its place near the pectoral fins. I have reason to believe that it may also occupy the gill cavities. I have left individuals alone in a glass of water five days without any apparent loss of vigor.

The blood circulation is very well seen at many points, especially about the eyes and at the margins of the abdominal lobes.

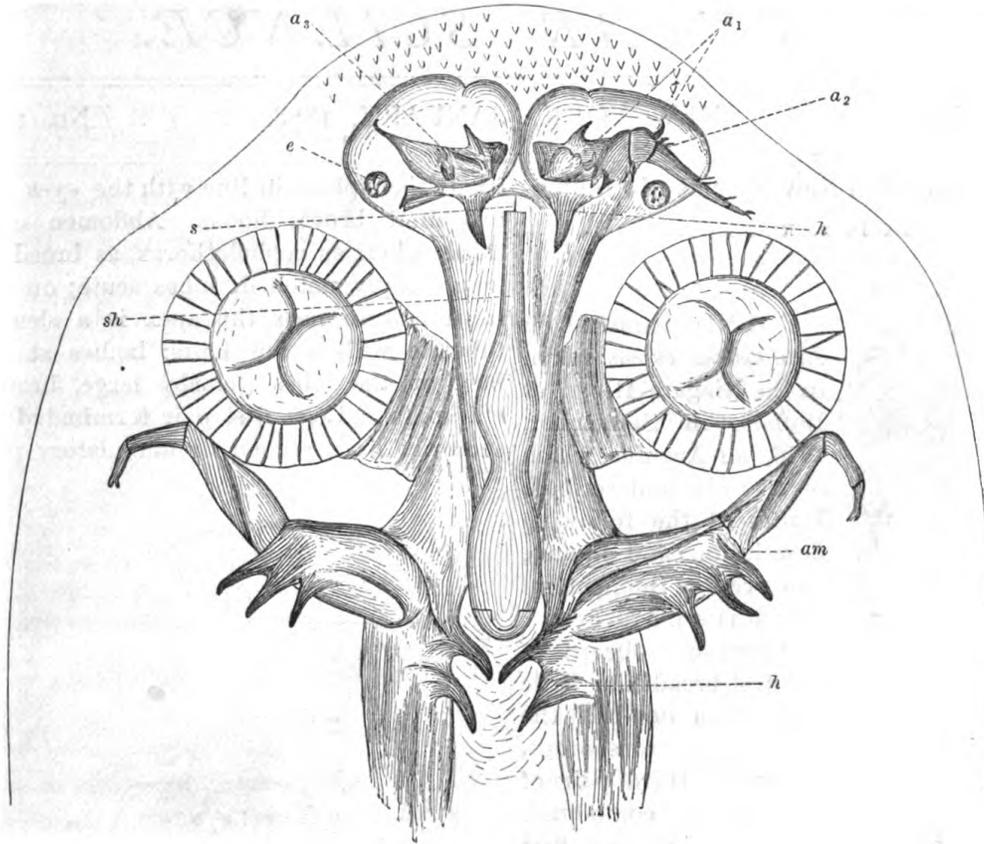


Fig. 2. ($\times 18$)

FIG. 2. *a1*, antenna of first pair; *a2*, antenna of second pair removed; *a3*, antenna of first pair, the corresponding one of second pair removed; *e*, eye; *sh*, siphon; *am*, ambulatory legs; *h*, hooks; *s*, spiculum.

of body blotched and streaked with violet brown. Length of female .36 of an inch, greatest width of carapace .19 of an inch.

Of several individuals obtained all were females.

The favorite place for the parasite to fasten is immediately back of the pectoral fins of its host. It often left the fish and swam about the tank, then returning fas-

The current passes down the inner margin, around the apex and up the outer margin; at intervals along the outer edge lateral currents are given off, which seem to occupy blood vessels proper. The corpuscles are small, apparently spherical and not numerous.

The striped muscular fibres moving the legs and antennæ can be very clearly made out with an inch objective.

The species of this genus are indeed microscopical and zoological gems whose value is not enhanced by their rarity.—*Bulletin of Buffalo Natural Science Society.*

On a New Rhizopod (*Lobularia marina*.)

A Paper read by Prof. R. Hitchcock before the New York Microscopical Society, Dec. 21, 1877.

IN looking over some of my late collections, a few evenings ago, I was pleased to find a rhizopod with which I was unfamiliar, and which further study leads me to believe has never yet been described.

At any rate the form in question is one of considerable interest, in that it seems to occupy an intermediate position between the *Lobosa* and the *Reticularia* of Carpenter.

cording to this plan the *Rhizopoda* are arranged under three heads, as follows:

No definite nucleus,	}	HERPNEMATA.
No contractile vesicle,		
Definite nucleus,	}	PROTODERMATA.
No contractile vesicle,		
Definite nucleus,	}	PROTEINA.
Contractile vesicle,		

Since Dr. Wallich's paper was published, there have been discoveries made which would necessitate some changes in his table (*e. g.* the discovery of a nucleus in some of the Foraminifera would change these organisms from the *Herpnemata* to the *Protodermata*) and we may well suspect the presence of nucleii in all these forms, although not yet demonstrated.

While it may appear from this that Dr.

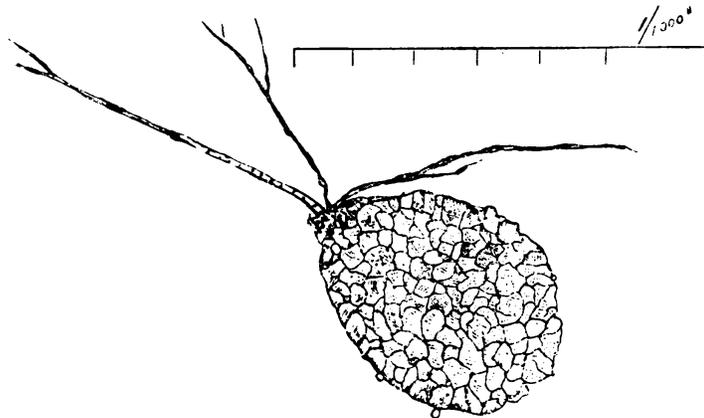


Fig. 1. × .280.

It also tends to show that the classification of Dr. Carpenter, admirable and useful as it has been, is not destined to be permanent, nor would any naturalist consider for a moment that any truly scientific or natural classification could be based on the character of the ectosarc.

Indeed Dr. Carpenter himself, with characteristic foresight, only offered his arrangement for temporary use.

It has served its purpose well, and it will be long before any better classification of the rhizopods will come into general use among microscopists. Still, there has been offered a plan which seems to the writer much better. This is the classification proposed by Dr. Wallich some time ago. Ac-

Wallich's classification leaves much to be desired, it still seems much more commensurate with present requirements than does the old division, into *Lobosa Reticularia*, *Radiolaria* and *Spongida*. As regards the form now under consideration, the figures will give a fair idea of its appearance. This notice is merely intended as a preliminary description, for the amount of material was quite limited, and some obscure points, such as the presence or absence of nucleus or contractile vesicle I have been unable to determine. The great obstacle to this was the opacity of the test. However, as soon as opportunity offers I shall procure more of them, and continue their study with reference to these points.