



# Annals and Magazine of Natural History

Series 4

ISSN: 0374-5481 (Print) (Online) Journal homepage: <http://www.tandfonline.com/loi/tnah10>

## Notice of some new freshwater rhizopods

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To cite this article: J. Leidy (1874) Notice of some new freshwater rhizopods, Annals and Magazine of Natural History, 14:83, 383-385, DOI: [10.1080/00222937408680997](https://doi.org/10.1080/00222937408680997)

To link to this article: <http://dx.doi.org/10.1080/00222937408680997>



Published online: 13 Oct 2009.



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males could only be complementary males, the existence of which is by no means probable.

2. The difference noticed between the embryos of the same species is due to the fact that the embryo when scarcely hatched undergoes a first metamorphosis. Sometimes, even, this metamorphosis is accomplished so rapidly that embryos of two different forms are expelled simultaneously from the maternal organism in which the incubation has taken place. As the differences between the embryo just issuing from the egg and that which has undergone a first moult are altogether very slight, this moult has passed unobserved. It is, on the contrary, very manifest in the Cirripedes proper, as in *Lepas*, where the difference is enormous and very curious.

The supposed primitive ovary indicated with doubt by M. Gerbe, and with certainty by M. Balbiani, is, as I have formerly pointed out, a mass of cells, which after the second moult becomes differentiated to form the six pairs of natatory feet, homologous with the cirri of the Cirripedes.

An error similar to that of M. Gerbe has been made by Professor Semper, who describes as furnishing a larva of a very peculiar form a *Peltogaster* of the Philippine Islands, of which he has evidently observed the embryos only after the first moults, when they already affected the Cypridine form (*Zeitschr. für wiss. Zool.* xiii. pl. 38. fig. 3).

I may add that the larvæ of the Rhizocephala are very imperfectly known. I can nowhere find a description of their trilobate rostrum, comparable to that of the embryos of Cirripedes (an acute median lobe and two rounded lateral lobes). M. E. van Beneden, who has recently paid attention to these animals, does not notice this apparatus; nor does he mention the voluminous frontal glands, the product of secretion of which traverses a canal opening at the trifid extremity of the lateral anterior appendages of the carapace. He is equally silent respecting the organs situated on each side of the middle part of the animal, and generally coloured yellow or red (primitive kidneys?). He denies the existence of the muscles; and yet nitric acid brings to view most distinctly striped muscular fibres, the arrangement of which is interesting to study. On the other hand, he admits the existence of a mouth situated very far back. This mouth does not exist in any of the species examined by me (*Sacculina carcini*, *Peltogaster paguri*, and *P. Prideauxii*). It is possible that this organ exists in other types, especially in the *Sacculina* of *Xantho florida*, in which M. Gerbe asserts that he has met with a pretty highly organized digestive tube.—*Comptes Rendus*, July 6, 1874, p. 44.

*Notice of some new Freshwater Rhizopods.* By J. LEIDY.

Prof. Leidy remarked that, besides the ordinary species of *Amœba* which he had observed in the vicinity of Philadelphia, he had discovered what he suspected to be a new generic form. It has all the essential characters of *Amœba*, but, in addition, is provided

with tufts of tail-like appendages or rays, from which he proposed to name the genus *Ouramœba*.

The rays project from what may be regarded as the back part of the body, as the animal always moves or progresses in advance of the position of those appendages. The rays are quite different from pseudopods, or the delicate rays of the Actinophryens; they are not used in securing food, nor is their function obvious. The *Ouramœba* moves like an ordinary *Amœba*, and obtains its food in the same manner. The tail-like rays are not retractile, and they are rigid and coarse compared with those of Actinophryens. They are simple or unbranched, except at their origin, and they are cylindrical, of uniform breadth, and less uniform length; when torn from the body they are observed to originate from a common stock attached to a rounded eminence.

Several forms of the *Ouramœba* were observed; but it is uncertain whether they pertain to one or to several species. One of the forms had an oblong ovoid body about  $\frac{1}{8}$  of a line long and  $\frac{1}{12}$  of a line broad. The tail-like rays formed half a dozen tufts, measuring in length about the width of the body. The latter was so gorged with large diatoms (such as *Navicula viridis*), together with desmids and confervæ, that the existence of a nucleus could not be ascertained. The species may be distinguished by the name of *Ouramœba vorax*.

A second form, perhaps of a different species, moved actively and extended its broad pseudopods like *Amœba princeps*. When first viewed beneath the microscope it appeared irregularly globular, and about  $\frac{1}{4}$  of a line in diameter; it elongated to  $\frac{1}{8}$  of a line, and moved with its tail-like appendages in the rear. These appendages formed five tufts about  $\frac{1}{25}$  of a line long. The interior of the body exhibited a large contractile vesicle and a discoid nucleus. This second form may be distinguished by the name of *Ouramœba lapsa*.

Another *Ouramœba* had two comparatively short tufts of rays; and a fourth, of smaller size than the others, had a single tuft of three moniliform rays.

It is possible that *Ouramœba* is the same as the *Plagiophrys* of Claparède, though the description of the latter does not apply to it. *Plagiophrys* is said to be an Actinophryen, furnished with a bundle of rays emanating from a single point of the body; but the rays are described as of the same kind and use as those of *Actinophrys*. *Plagiophrys* is further stated to be provided with a distinct tegument like *Corycia* of Dujardin or *Pamphagus* of Bailey; but the body of *Ouramœba* is as free from any investment as an ordinary *Amœba*, and the rays are fixed tail-like appendages, with no power of elongation or contraction.

The species of *Ouramœba* were found among desmids and diatoms, on the surface of the mud at the bottom of a pond, near Darby Creek, on the Philadelphia and West-Chester Railroad.

Two of the commonest species of *Diffugia* of our neighbourhood I had until recently confounded together as *D. proteiformis*; and

perhaps the two forms may be included under the latter name in Europe. In one the mouth is deeply trilobed, and the animal is usually green with chlorophyl-globules. In the other the mouth is crenulate, usually with six shallow crenulations, and the animal is devoid of chlorophyl. The former is usually the smaller, and may be distinguished by the name of *D. lobostoma*; the latter may be named *D. crenulata*.

In an old brick-pond, on the grounds of Swarthmore College, Delaware County, among *Diffugia pyriformis*, *D. spiralis*, *D. corona*, *D. acuminata*, and others not yet determined, there occurs an abundance of a large species, apparently undescribed. It is sometimes the fourth of a line in length, and is compressed pyriform; but is quite variable in its relation of length to breadth and in the shape of the fundus of the shell. This is often trilobate; but, from the non-production of one or more or all the lobes, differs in appearance in different individuals. The animal is filled with chlorophyl-grains, from which it might be named *D. entochloris*.

Another large *Diffugia*, allied to *D. lageniformis*, is not unfrequent about Philadelphia. The shell is beautifully vase-like in shape; it has an oval or subspherical body, with a constricted neck and a recurved lip to the mouth; the body of the shell opposite the mouth is acute and often acuminate. The animal contains no chlorophyl. One shell measured  $\frac{1}{8}$  of a line long by  $\frac{1}{8}$  of a line broad; another measured  $\frac{1}{4}$  of a line long by  $\frac{1}{7}$  of a line broad. The species may be named *D. amphora*.

A Diffugian, found in a spring on Darby Creek, is interesting from its transparency, which allows the structure of the animal to be seen in all its details. The investment is membranous and apparently structureless; the soft granular contents occupy about one half of the investment, and are connected with this by long threads; the pseudopods are protruded in finger-like processes. The form of the animal is compressed ovoid, with the narrow pole truncate and forming the transversely oval mouth. It is probably the species *Diffugia ligata*, described by Mr. Tatem, of England. Its length is about  $\frac{1}{33}$  of a line. The character of the investment is so different from that of ordinary Diffugians that the species may be regarded as pertaining to another genus, for which the name of *Catharia* would be appropriate.—*Proc. Acad. Sci. Philad.* 1874, p. 77.

*On the Skull of the Leopard (Leopardus pardus).*

By Dr. J. E. GRAY, F.R.S. &c.

The skulls of the leopard in the British Museum, from different localities, vary very much in size, and I think will probably, if they are carefully studied, prove to belong to more than one species when specimens, obtained from well-ascertained localities, are accompanied by the skins of the animals from which they are obtained.

The skulls received from Southern Africa are much the largest. The specimens from Continental India are of intermediate size; and a series of skulls which were formerly contained in M. Lidth de