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Zoologischer Anzeiger

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Inhalt:

I. Wissenschaftliche Mitteilungen.

1. On some Acoelous Flatworms from the Gulf of Naples.

By Florence Peebles, Ph. D., Bryn Mawr College.

(With 3 figures.)

eingeg. 13. August 1913.

During the months of February and March 1913, while working in the Zoological Station at Naples, I found several species of acoelous flatworms among the Algae collected on the rocks, and under old boats in the Mergellina, a small harbor at the west end of the city. Two of these are, undoubtedly, new species hitherto undescribed, while a third is *Aphanostoma pulchella* discovered in 1869 by Uljanin[1] and named by him *Nadina pulchella*. Later (1892), Pereyaslawzewa[2] described a species under the name *Aphanostoma pulchella*, which is probably closely related, but not identical with the form which I found in Naples.

A brief description of one of the new species will be given here,

[1] Uljanin, W., Turbellarien der Bucht von Sewastopol. Arbeiten der II. Versammlung russischer Naturforscher zu Moskau. 1869.

[2] Pereyaslawzewa, S., Monographie des Turbellariés de la Mer Noire. 1892.

and later a fuller account will be published. At the present writing it is impossible to determine with absolute exactness, whether or not, the second form belongs to the new genus *Monochoerus*[3]. A further study of material will probably settle the question definitely.

I.

Fam. Convolutidae.

3. Gen. *Amphiscolops* Graff.

Amphiscolops fuligineus n. sp.

The body of the mature individual is larger than the Neapolitan form *Amphiscolops cinereus* to which it is closely related, and with which it was found. The length varies from 2,0 to 3,0 mm., the breath from 0,8 to 1,2 mm. When swimming the body assumes a cylindrical shape, rounded at each end. At rest it is almost quadrangular, rounded anteriorly, and square at the posterior end except in the middle where a small knob-like projection is seen (fig. 1). On the dorsal surface the body is convex, on the ventral side it is flat. The edges do not turn under when the animal swims.

Fig. 1a.

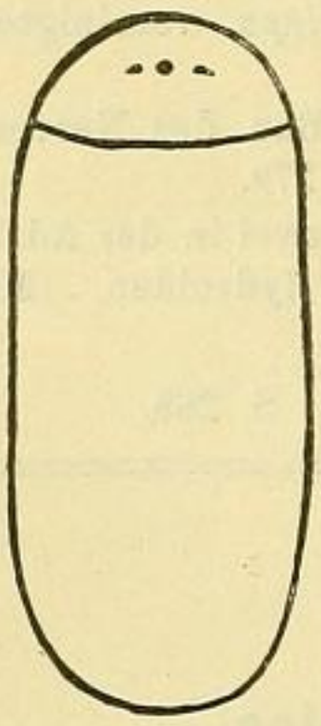

Fig. 1b.

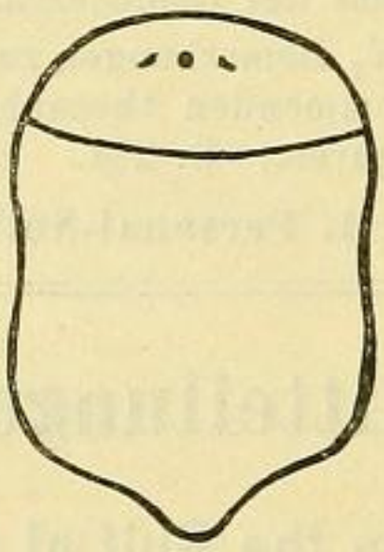

Fig. 1. Diagram showing form of *Amphiscolops fuligineus* n. sp. a. form when swimming; b. at rest.

The deep brown color of the dorsal surface is so characteristic, that I have given this worm the specific name *fuligineus* from the table of colors compiled by Saccardo[4]. The anterior end is a brilliant white, and the remaining $^4/_5$ of the dorsal surface shades form dark brown anteriorly to light brown at the posterior end. Some individuals are much lighter in color than others. The ventral surface is marked with, a more or less, definite pattern of brown and white. The brown color is due to masses of pigment cells, the white is caused by the presence of concrement.

The entire surface of the animal is ciliated. The integument is richly supplied with slime glands, but no true rhabdites have been observed. The frontal gland is highly developed, filling the entire anterior end of the body. Two small eyes and the statocyst lie in the white area near the anterior end. The mouth opening lies much further back than that of *A. cinereus*.

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[3] Löhner und Micoletzky, *Convoluta pelagica* n. sp. und *Monochoerus illardatus* n. g. n. sp., zwei neue Plankton-Acoela der Adria. Zool. Anz. Bd. XXXVII. 1911.

[4] Saccardo, P. A., Chromotaxia seu nomenclator Colorum Patavii. 1894.

The reproductive organs open on the ventral surface. The female orifice, which is just back of the mouth, leads into an antrum femininum into which two chitinous "mouth-pieces" open. These "mouth-pieces" lie symmetrically on each side of a large bursa seminalis (fig. 2, *mp* and *bs*) and are slightly curved in the characteristic horn-shape found in *A. cinereus*. The ovaries extend, on each side as far forward as the frontal gland.

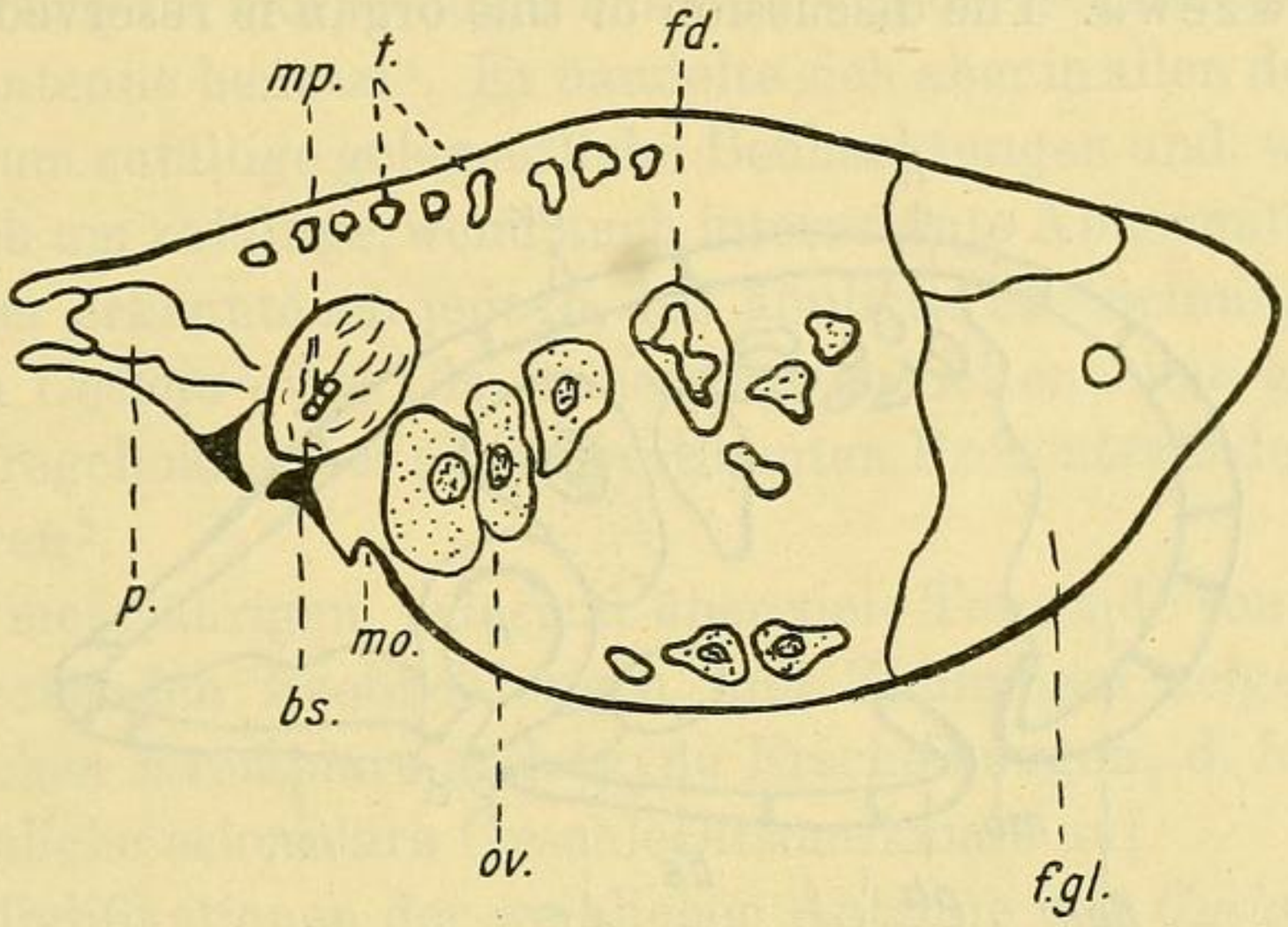

Fig. 2. Diagram of sagittal section of *Amphiscolops fuligineus*, showing *f.gl*, frontal gland; *ov*, ovaries; *t*, testes; *p*, penis; *bs*, bursa seminalis; *mp*, "mouth-piece"; *mo*, mouth; *fd*, ingested food.

The male reproductive apparatus consists of a compact ovoid penis surrounded by a sheath and glands. The canal of the penis leads into the vasa deferentia. The testes are follicular and scattered. The spermatozoa are long and threadlike in form.

II.

Fam. **Convolutidae.**

1. Gen. ***Aphanostoma*** Oerst.

Aphanostoma pulchella (Uljanin, non *A. pulchella* mihi, Pereyaslawzewa).

This small and very lively form occurs at intervals in great numbers, and then disappears to return again after a brief period. It is extremely sensitive, remaining alive in the laboratory less than 24 hours. The species found by Uljanin and named by him *Nadina pulchella* seems to correspond exactly to the Neapolitan form, while that termed by Pereyaslawzewa *Aphanostoma pulchella* differs in form and color.

The body is characteristically pear-shaped (fig. 3) tapering posteriorly to a small tail. The length is 0,5 mm. The color is a pale canary yellow, and in the region of the statocyst much concrement and small drops of oil are found. In transmitted light the concrement appears

dark, and is therefore probably what Uljanin described as "masses of black pigment". The surface is covered with cilia, and the extremely thick integument contains sline glands. The frontal gland is highly developed surrounding brain and statocyst. Eyes are lacking.

The mouth opening lies on the ventral surface immediately behind the frontal gland. It opens into a pharynx the walls of which are composed of muscle. This peculiar pharynx is indicated in the plates of Pereyaslawzewa. The discussion of this organ is reserved for a later paper.

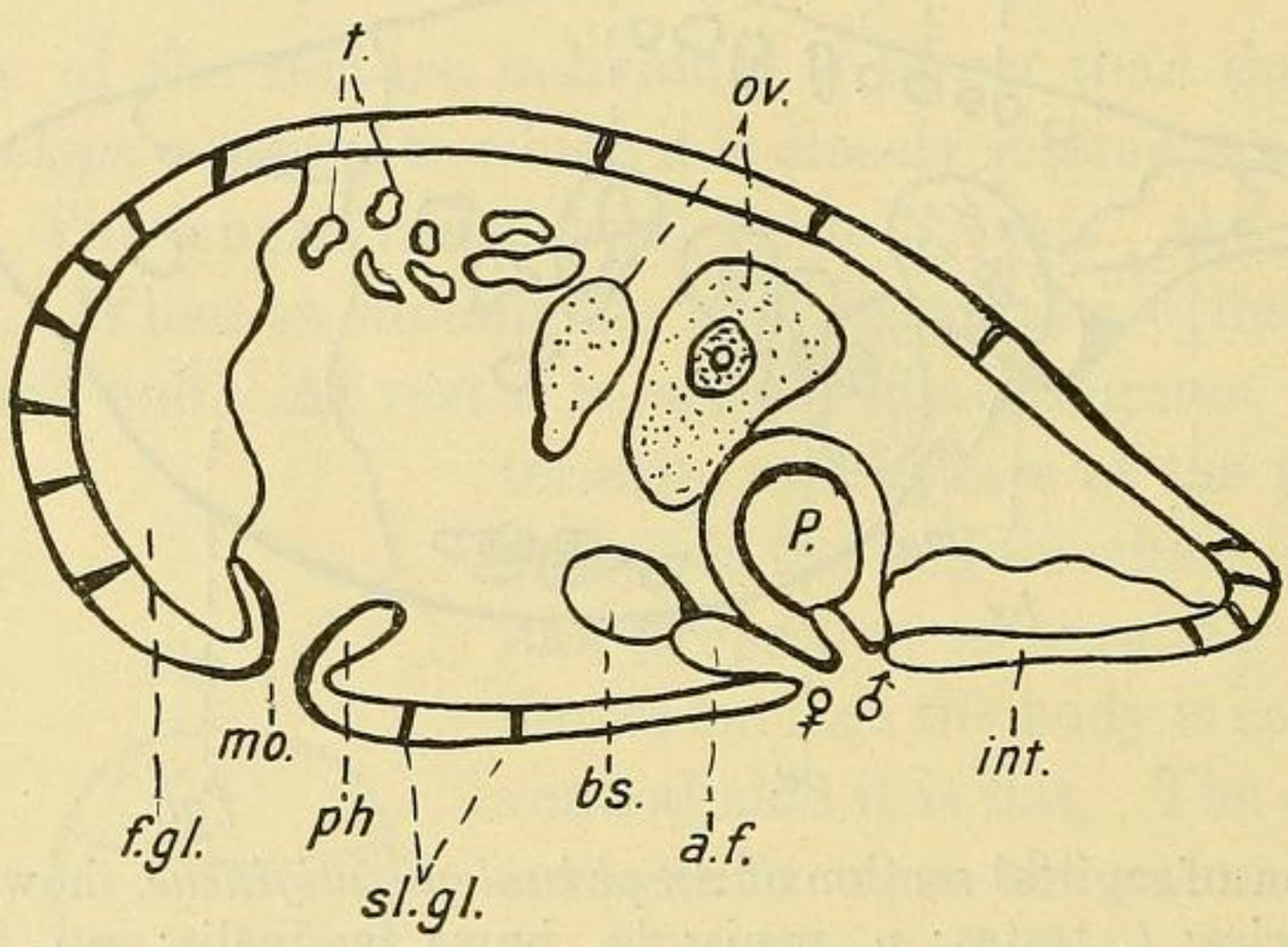

Fig. 3. Diagram of sagittal section of *Aphanostoma pulchella* (Uljanin) with *f.gl*, frontal gland; *sh.gl*, slime glands; *int*, integument; *ov*, ovaries; *t*, testes; *p*, penis; *a.f*, antrum femininum; *bs*, bursa seminalis; *mo*, mouth; *ph*, pharynx.

The reproductive orifices are situated close together on the ventral surface in the posterior half of the body (fig. 3 ♂ and ♀). The antrum femininum opens into a simple saclike bursa seminalis. The ovaries are on each side near the ventral surface, and extend forward to the level of the frontal gland. The penis is a compact organ surrounded by a thick muscular wall. The testes are follicular occupying the space dorsal to the ovaries.

In general the Neapolitan form resembles that found by Uljanin with the exception of the black pigment and the oblique rows of rhabdites, which I have not observed. It differs from the *Aphanostoma pulchella* of Pereyaslawzewa in color, pigment stripes, and in the structure of the pharynx. We must conclude, therefore, that the form from the Black Sea is a closely related variety.

Other Acoela found at Naples in February and March are *Aphanostoma diversicolor*, *Otocelis rubropunctata*, *Convoluta hipparchia* and *Amphiscolops cinereus*.