

ON *LEPIDAPEDON NELSONI* n. sp. FROM *PAMPAS ARGENTIUS* AND *PARASTROMATEUS NIGER* (MARINE FISHES) AT ERNAKULAM

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ABSTRACT

Lepidapedon nelsoni n. sp. has been discussed in this paper. Body: 1.027-1.29 mm. in length, 0.216-0.235 mm. in breadth. Cuticle: armed with very minute spines. Oesophagus: 0.057-0.19 mm. in length. Testes: post-ovarian, tandem. Cirrus sac: an elongate tube, a part of which is pre-acetabular and a part extends beyond the ventral sucker. Vitellaria extend laterally from the region of intestinal bifurcation up to posterior extremity. Excretory vesicle: tube-like, extending anteriorly up to level of intestinal fork.

The validity of the species has been discussed.

Family **Lepocreadiidae** Nicoll, 1935
Subfamily **LEPOCREADIINAE** Odhner, 1905
Genus *Lepidapedon* Stafford, 1904

Lepidapedon nelsoni n. sp.

(Figs. 1 and 2)

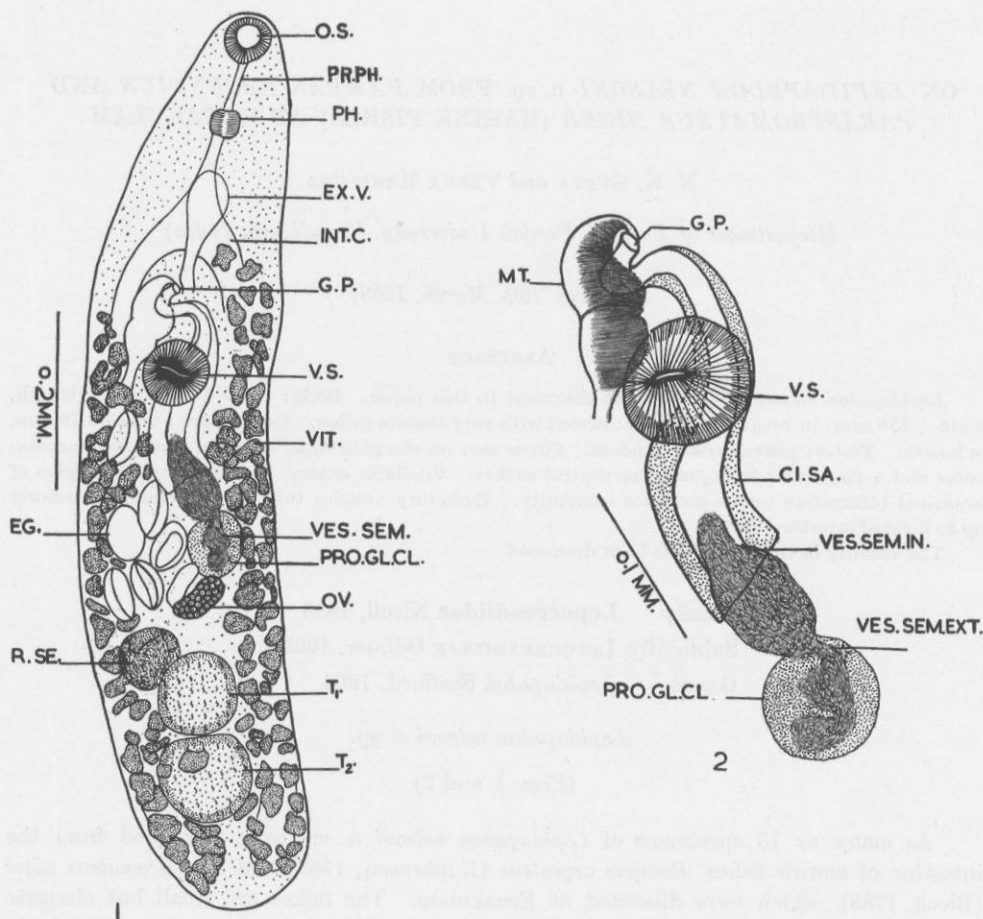
As many as 15 specimens of *Lepidapedon nelsoni* n. sp. were recovered from the intestine of marine fishes, *Pampus argenteus* (Euphrasen, 1788) and *Parastromateus niger* (Bloch, 1788), which were dissected at Ernakulam. The flukes are small but elongate and measure 1.0272-1.291 mm. in length and 0.216-0.2352 mm. in breadth. The body slightly tapers towards the anterior end. The cuticle is armed with very minute spines which can be observed only under high magnification.

The subterminal oral sucker measures 0.0432-0.0624 x 0.0528-0.0864 mm. The ventral sucker, 0.0624-0.0864 x 0.0624-0.0864 mm. in size, lies in the anterior half of the body, 0.3696-0.5664 mm. behind the anterior extremity. The average ratio of the length of the ventral/oral sucker is 1 : 1.478.

The prepharynx is quite long, measuring 0.0504-0.12 mm. in length. The pharynx, 0.0312-0.0432 x 0.0336-0.0528 mm., is a globular muscular structure. The oesophagus is 0.0576-0.1904 mm. in length and divides into two intestinal caeca which extend up to the posterior extremity of the body.

The gonads are situated in the posterior half of the body. The testes are tandem, smooth in contour and are separated from each other by a narrow space. The anterior testis measures 0.0768-0.12 x 0.0624-0.1056 mm., whereas the posterior, 0.072-0.1392 x 0.064-0.13 mm. The post-testicular space measures 0.1056-0.2064 mm. The cirrus sac is an elongate winding tube, a part of which extends posterior to the ventral sucker and

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FIGS. 1 and 2. 1, *Lepidapedon nelsoni* n. sp.; 2, *Lepidapedon nelsoni*—a portion of the whole mount showing the genital ducts and ventral sucker (magnified).

Abbreviations:

CI.SA.—cirrus sac; *EG.*—egg; *EX.V.*—excretory vesicle; *G.P.*—genital pore; *INT.C.*—intestinal caecum; *MT.*—metraterm; *O.S.*—oral sucker; *OV.*—ovary; *PH.*—pharynx; *PR.PH.*—prepharynx; *PRO.GL.CL.*—prostrate gland cells; *R.SE.*—receptaculum seminis; *T₁*—anterior testis; *T₂*—posterior testis; *V.S.*—ventral sucker; *VES.SEM.*—vesicula seminalis; *VES.SEM.EXT.*—vesicula seminalis externa; *VES.SEM.IN.*—vesicula seminalis interna; *VIT.*—vitellaria.

a part is pre-acetabular. A portion of the cirrus sac is overlapped by the ventral sucker. The cirrus sac encloses the vesicula seminalis interna, pars prostatica and cirrus. The vesicula seminalis externa is an irregularly curved tube, surrounded by the prostate gland cells and both are enclosed in membranous sac.

The ovary is pre-testicular, measuring 0.0672–0.0864 × 0.0624–0.072 mm. The receptaculum seminis, 0.0526–0.072 × 0.062–0.072 mm. in size, is sac-like and lies to the

right of the median line just in front of the anterior testis and a little behind the ovary. The uterus extends mostly in the pre-ovarian region. Its terminal muscular portion, the metraterm, opens into the genital atrium in which also opens the ductus ejaculatorius. The submedian genital pore is pre-acetabular, behind the intestinal bifurcation. The vitelline follicles extend laterally from the bifurcal zone up to the posterior extremity covering the caeca. The vitellaria, however, do not meet mesially behind the posterior testis. The eggs are large, thin-shelled, yellow and measure $0.0576-0.0672 \times 0.024-0.0528$ mm. ($57-67 \mu$ by $24-52.8 \mu$).

The excretory vesicle is in the form of a long tube extending anteriorly up to the level of intestinal fork or little in front of it. The excretory pore is subterminal at the posterior extremity of the body.

Host: *Pampas argenteus* (Euphrasen, 1788) and *Parastramateus niger* (Bloch, 1788)

Habitat: Intestine

Locality: Ernakulam (South India)

DISCUSSION

The genus *Lepidapedon* Stafford, 1904, comprises 21 already known species, namely *Lepidapedon antarcticus* Byrd, 1963; *Lepidapedon australe** Manter, 1954; *L. calli* Acena, 1947; *L. clavatum* Linton, 1940; *L. congeri* Manter, 1954; *L. elongatum* Lebour, 1908 (Syn. *L. coelorhynchi* Yamaguti, 1938); *L. epinepheli* Bravo-Hollis and Manter, 1957; *L. gadi* (Yamaguti, 1934) (Syn. *Lepodora g.Y.*); *L. garraardi* (Leiper and Atkinson, 1914); *L. genge* Yamaguti, 1938; *L. gymnacanthi* Issaitschikow, 1928 (originally *L. rachiaea gymnacanthi*); *L. hancocki* Manter, 1940; *L. holocentri* Siddiqi and Cable, 1960; *L. lebouri* Manter, 1934; *L. levenseni* Manter, 1947; *L. luteum* Yamaguti, 1938; *L. microcotyleum* Odhner, 1905; *L. nicolli* Manter, 1934; *L. pugetensis* Acena, 1947; *L. rachion* (Cobbold, 1858) Stafford, 1904; and *L. trachinoti* Hanson, 1950.

On careful study of all the known forms of the genus *Lepidapedon*, the new species *Lepidapedon nelsoni* has been found different from all of them. The new species has ventral sucker larger than the oral sucker, the average ratio being 1:1.478. Therefore, in this character it deviates from *L. epinepheli*, *L. gadi*, *L. genge*, *L. gymnacanthi*, *L. hancocki*, *L. lebouri*, *L. levenseni*, *L. microcotyleum*, *L. nicolli*, *L. pugetensis*, *L. rachion* and *L. trachinoti* in which the latter is larger than the former. Moreover, in all those species in which oral sucker is larger than the ventral sucker with the exception of *L. hancocki*, the vitellaria do not extend into the forebody. Therefore they further stand apart from the new species, *L. nelsoni*. In *L. hancocki* the vitellaria do extend into the forebody but it has a very short prepharynx.

In extent of vitellaria the new species stands close to *L. calli*, *L. garrardi* and *L. luteum*, too, but it differs from *L. calli* in which prominent cuticular denticulations are present, excretory vesicle extends up to the posterior testis, the genital pore is situated at the intestinal bifurcation and the prepharynx is very small; from *L. garrardi* in which prepharynx is very small, caeca stop far in front of the posterior end and the gonads are situated very near the ventral sucker, posterior testis and ovary overlapping a part of the anterior testis; and from *L. luteum* in which the excretory vesicle extends

* In the original paper, the name given by Manter is *L. australis*.

up to a little behind the posterior testis. *L. holocentri* also stands apart from the new species in having a distinctly lobed ovary.

L. epinepheli, *L. levense*, *L. nicolli*, *L. microcotyleum*, *L. pugetensis* and *L. trachinoti* again further differ from the new species in having a very short prepharynx. *L. antarcticus* also lacks a well-defined prepharynx.

In view of the above differences *Lepidapedon nelsoni* has been considered as a new species.

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