



Original Research Article

A new Monogenea *Diclidophora Srivastavai* N.sp. from fresh water fish *Setipinna phasa*

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A B S T R A C T

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The fresh water fish *Setipinna phasa* was collected from local market of district Ambedkar Nagar (U.P.) for monogenean ectoparasite. Single Unique monogenea was reported from gill filaments of the fish. The present form differs from all the known species of the genus except *D. indica* in having sessile clamps and plumped body. However, it also differs from *D. indica* in having different shape of tests, having differences in composition of clamp selerite and having different size of clamps (proximal clamps are larger than distal). The present form is therefore, described as a new species viz. *D. Srivastavai* n.sp. named after Dr. C.B. Srivastava, Ex. Dy. Director, Zoological Survey of India, Kolkata.

Introduction

Monogeneans are mainly ectoparasites of fishes, occasionally they are found endoparasitic (Gussev and Fernando, 1973 reported *Enterogyrus globodiscus* and *E. papernal* from *Etroplus suratensis* at ceylone), among parasites infecting fishes, the monogeneans constitute a group, which play an important role as pathogens of severe disease. This is because they affect those organs and tissues which are vital to the normal functioning such as gill and skin, the organs of respiration. In majority of cases, monogeneans cause dual type of injury to their hosts. Through their hooks and other organs of attachment, they break the continuity at the site of attachment and result is to localize hemorrhage.

At the time they feed upon the blood and cells of ruptured tissue (Bychowsky, 1957; Uspenskaya, 1962) Researches have established that the volume of the blood sucked from the fish quire appreciable and this leads to certain conditions like anemia, mortality etc., (Lutta, 1941; Golovina, 1976).

Materials and Methods

The monogeneans were collected by Mizelle's freezing techniques. They were kept in refrigerator from 8 to 48 hours. The low temperature not only relaxes the worm but also help in automatic removal of mucous in which there flukes were

entangled. Subsequently, the gills were removed, placed in separate, tubes, half filled with water and shaken vigorously. This solution now poured in clean Petridish diluted with water and examined under binocular microscope. The worms thus collected were washed and fixed in hot 70% ethyl alcohol or 10% neutral formalin.

Study of chitinoid hard parts were made in either temporary glycerin mounts or in chromotop stained mounts. Permanent mounts were made after staining in Aceto-alum carmine, dehydrating through ascending grades of alcohol, clearing sketches were made both from temporarily and permanent preparations. All measurements were taken with the help of stage micrometer and an oculometer.

Generic diagnosis

Body marked tapering anteriorly. Clamps pedunculate; clamp skeleton consisting of three pairs of lateral sclerites and two median sclerites, one of which is asymmetrical. Intestinal crura confluent posteriorly, intestinal branches extending in to each peduncle of clamp. Testes post-ovarian, may extend in to lateral fields among intestinal branches. Genital bulb muscular, funnel shaped with wide cuticularized rim; coronet hooks variable in number. Ovary convoluted with distal end directed backwards or to the right. Genito-intestinal canal short, opening in to right intestinal crus. The Receptaculum seminis antero-lateral or anterior to ovary; Common genital pore immediately in front of genital bulb; Eggs with long polar prolongations; Vagina absent and vitellaria co-extensive with intestinal crura.

Results and Discussion

The body is plump, with tapering anterior and broad posterior end, measuring 3.55–

3.60* 1.19–1.30 mm. The head is provided with a pair of rounded suckers, each measuring 0.054–0.055 mm in diameter. The mouth is rounded and situated in between the oral suckers. The pharynx elongate, oval and muscular, measures 0.074–0.076* 0.037–0.040 mm. The oesophagus and intestine is not clearly visible in the specimen as the body of specimen is richly occupied with dense vitelline follicles and pigment granules.

The testes are two in number, transversely elongated, post-ovarian, just above the haptoral peduncle and each measures 0.17–0.20* 0.11–0.13 mm. The genital atrium is not visible. The ovary is convoluted, pre testicular, irregular and measures 1.23–1.24* 0.24–0.86 mm. The vitelline follicles dense extending from behind the pharynx up to haptor.

The haptor set off from the body proper and measures 0.66–0.71* 1.0–1.70 mm. The haptor is armed with four pairs of sessile clamps. Proximal clamps are larger than the distal. Each clamp is made up of three pairs of lateral sclerites, a pair of transverse sclerites and a median sclerite. Details of measurements are:

size of clamp: 0.006–0.018* 0.017–0.028 mm

Central sclerite: Length: 0.08–0.011 mm

Width : 0.010–0.014 mm

Lateral sclerite: First: 0.10–0.24 mm

Second: 0.090–0.120 mm

Third: 0.31–0.36 mm

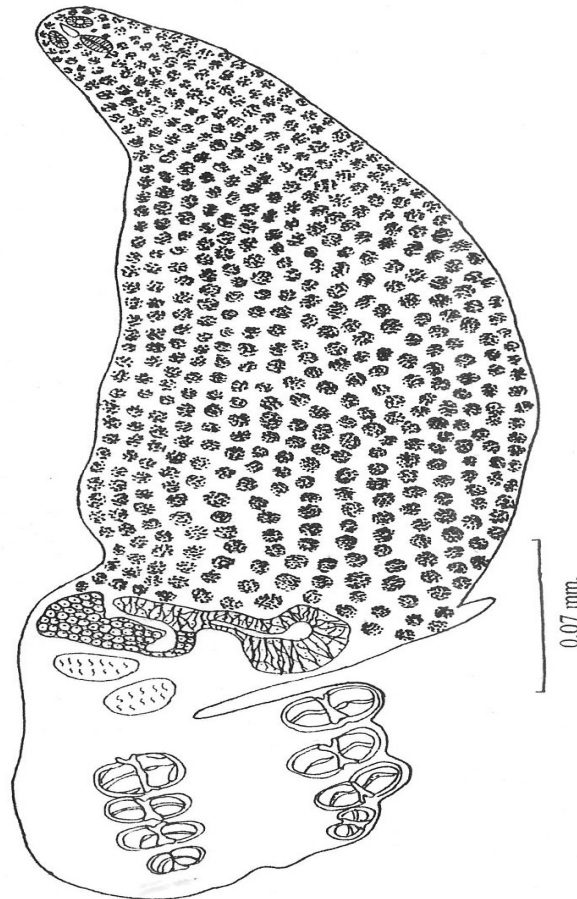
Transverse sclerite: 0.11–0.15 mm

Genus *Diclidophora* was established by Diesing (1850). The present form comes close to the genus on account of having following features in its body viz. body tapering anteriorly. Clamp skeleton consists of lateral sclerite, median sclerite and

transverse selerite. Testis post-ovarian, ovary convoluted and co-extensive vitellaria with the intestinal crura.

The best of my knowledge, following species are known under the genus viz. *D. merlangi* (Nordmann, 1832); *D. longicollis* (Diesing, 1850); *D. Codorhynchi*, (Robinson, 1961); *D. maccallumi*, (Price, 1943a,b; Sproston, 1946); *D. macruri*, (Brinkmann, 1942; Sproston, 1946), *D. minor* (Olsson, 1876; Sproston, 1946) and *D. Indica* (Tripathi, 1959).

The present form differs from all the known species of the genus except *D. indica* in having sessile clamps and plumped body. However, it also differs from *D. indica* in having different shapes of testis, having difference in composition of clamp selerite and having different size of clamps (proximal clamps are larger than distal). The present form is therefore, described as a new species viz. *D. Srivastavai* n.sp. named after Dr. C.B. Srivastava, Ex. Dy. Director, Zoological Survey of India, Kolkata.



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