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TWO NEW TETRAONCHINAE FROM SOUTHEAST ASIA
(TREMATODA: MONOGENEA: DACTYLOGYRIDAE)

with 2 illustrations

by

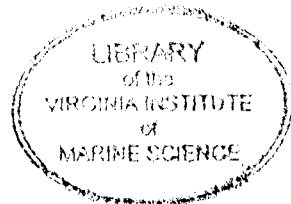
Heinz-Herman Reichenbach-Klinke

Translated by

Adrian R. Lawler

Translation Series No. 19

VIRGINIA INSTITUTE OF MARINE SCIENCE
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1968



Preface¹
to Translation

Translation of this paper was undertaken as part of a long-term research project on the systematics, host-specificity, and zoogeography of monogenetic trematodes.²

An effort has been made to keep this translation as near the original as possible. It is probably inevitable, however, that some of the nuances of meaning in the original have been distorted or lost. For this we apologize to the author and the reader.

This translation is intended as a service to researchers. Though effort has been made to make it comprehensible, accurate and useful, it is likely that improvements can be made. Should literary improvements or verification appear desirable it is suggested that the researcher make his own translation. We will appreciate constructive suggestions for improvements in this and future translations.

For convenience in referring to the German text the original pagination is given in the right margin of the translation opposite the place where the new page begins.

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Aus der Bayerischen Biologischen Versuchsanstalt (Demoll-Hofer-Institut),
München (Vorstand: Prof. Dr. H. Liebmann)

TWO NEW TETRAONCHINAE FROM SOUTHEAST ASIA
(TREMATODA: MONOGENEA: DACTYLOGYRIDAE)

by

Heinz-Herman Reichenbach-Klinke

In the past year (1958) I succeeded in observing, on (p.364)
imported fish, two new dactylogyrid species from the subfamily
Tetraonchinae. One of the species is marine.

The fresh-water species came from the gills of the Siamese sheatfish, Leiocassis siamensis Regan¹, of the family of the spiny sheatfish (Bagridae). According to N. G. Sproston's Synopsis of the Monogenetic Trematodes (1946) the species belongs to the genus Parancyrocephaloides Yamaguti (Type species P. daicoci Yamaguti from Daicocus peterseni Nyström from Japan). —The marine dactylogyrid species was found on the gills of a Chaetodon collare Bloch from the South Sea; though /in spite of?/ the shape of the eggs the erection of a new genus is not necessary, and it can be placed in the genus Daitreosoma Johnston and Teigs. —Numerous individuals of both species were attached to the gills of the named fishes. Eggs were also found in both cases, being especially numerous in the marine form. The descriptions of both trematodes, whose species' designations were selected according to the generic names of the host animals, are given in the following.

Daitreosoma chaetodontis n. sp. (Fig. 1)

Diagnosis. A dactylogyrid species from the subfamily Tetraonchinae with the following peculiarities: body length 0.28-0.34 mm, body width 0.037-0.044 mm, body color light yellow. Posthaptor not conspicuously set off from the body, with four about equal large anchors and two lateral, smaller lateral-hooks. Two of the four anchors are articulated with each other by a simple /single/ bar. Four eyes are found at the anterior end. The intestinal crura are smooth, without caeca, and are confluent posteriorly. The vagina opens on the anterior left margin. The vitellaria are laterally distributed in the body. The ovary lies somewhat above the testis. The egg has a dragon-like (p.365) flattened and laterally compressed shape of a pyramid, with an arched outward anterior end, and a pointed drawn-out posterior end with a very long filament. It resembles the egg of the genus Nitzschia Baer (family Capsalidae). The egg measures 0.03 mm in greatest width, 0.02 mm in

¹ I am obliged /to give/ great thanks to Dr. Otto Schindler, Munich, for the determination of the fish.

greatest length without filament. The filament reaches a length of up to 0.1 mm. The shell of the egg is hard and of a dark brown color.

Habitat. Gills of Chaetodon collare Bloch, South Sea. Type and paratype: Collection of the Bavarian Biological Research Institute (Demoll-Hofer-Institute), Munich.

Description. The parasite described herein as a new species is found in large numbers on the gill filaments of the coral fish species Chaetodon collare Bloch. As a whole about 10 specimens were counted on each branchia [gill arch], so that about 70-90 trematodes all together were supported by a fish. The number of eggs was very large. It sometimes amounted to 30 eggs on each branchia [gill arch]; in comparison, there was only one egg present on other branchiae [gill arches]. All together the number of eggs per fish [host] amounted to about 60 specimens.

The worm itself was fastened as a rule with the posthaptor. The anterior end was usually detached. Outside of a small focus of inflammation the gills showed no damage. The pathogenicity [ill effects] may be confined to the corresponding limits.

In addition to the anatomy, which is given in the diagnosis, the following supplementary data is given: the constrictions of the body, which were indicated at the level of the 1st and 2nd third as characteristic for the genus (N. G. Sproston, T. H. Johnston and O. W. Tiegs), were not always observed, the constriction of the 3rd third was always lacking. The cuticle was smooth. The four eyes were always present. The head organs could not be seen. The shape of the eggs is very conspicuous (Fig. 1). No eggs are described for the previously known species D. bancrofti Johnston and Tiegs, D. constristum Johnston and Tiegs, and D. parva Laird.

Relations. The new species chaetodontis differs from the three previously known species in the following characteristics: host animal, marine (other species fresh-water forms), constriction of (p.366) the last third of the body absent as with parva, anchors sturdier and wider than with the other species.

Paracyrocephaloides leiocassis n. sp. (Fig. 2)

Diagnosis. A dactylogyrid species from the subfamily Tetraonchinae with the following peculiarities: body length 0.53-0.69 mm, body width 0.03 mm. The animal has a longer shape, no constrictions and is of a yellow-white color. The posthaptor is not conspicuously set off from the body. At the posterior end are found four large, not essentially different anchors, of which two are articulated with each other by a simple [single] bar, and 14 small lateral hooks. The length of the large anchors amounts to 0.06 mm. The animal has four eyes. The intestinal crura are smooth and confluent posteriorly. The vagina opens behind the pharynx. The vitellaria are longitudinally situated along the lateral part of body. The ovary lies in front of a large testis. The egg is ovoid and of a brown color. Its size amounts to 0.013-0.025 x 0.027-0.035 mm.

Habitat. Gills of Leiocassis siamensis Regan (family Bagridae), Siam. Type and paratype: Collection of the Bavarian Biological Research Institute (Demoll-Hofer-Institute), Munich.

Description. The individuals of the trematode species described here were attached throughout the gill filaments of their host animal, Leiocassis siamensis Regan. The number of parasites per individual amounted to not more than 20, the parasitism was thus moderate. The number of eggs observed amounted to not more than the number of full-grown animals. —The parasites sit on the longitudinal lateral side of the gill filaments, fastened by the anchors, the anterior end bent aside and free for the most part. Only local inflammation could be found (p.367) as an injury to the tissue of the host.

Relations. The previously exclusively known (type-) species P. daicoci Yamaguti is Japanese. The new species is Southeast Asiatic. Both forms show great similarity to the genus Ancyrocephalus and differ from it only in that the adhesive apparatus is observed with one bar instead of two.

Leiocassis differs from daicoci in the shape of the bar insofar as the bent fore-curvatures are missing. Also the anchors are longer and do not show the extreme cleavage and separation of the parts of the basal segments. The body form is very much thinner with leiocassis. The body size amounts to only about $\frac{1}{2}$ of that of daicoci. —Evaluated all together, the new species also belongs in the large association of the genus Ancyrocephalus, according to W. J. Hargis, and can be considered new.

Summary

Two new tetraonchid species (Dactylogyridae) were described: Daitreosoma chaetodontis from Chaetodon collare Bloch and Parancyrocephaloides leiocassis from Leiocassis siamensis Regan.

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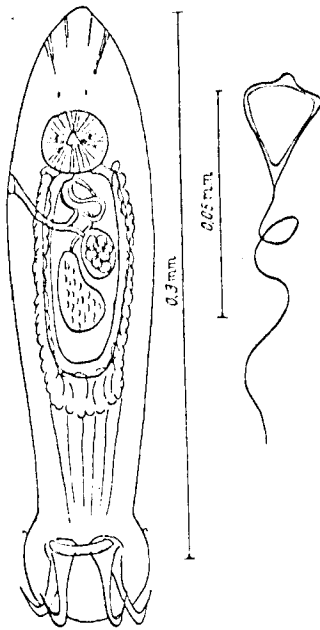


Fig. 1. Daitreosoma chaetodontis
n. sp. Left: adult specimen,
right: egg.

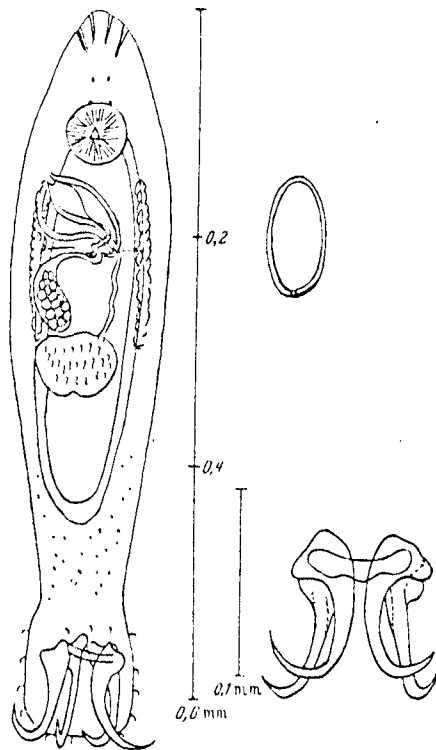


Fig. 2. Parancyrocephaloides
leiocassis n. sp. Left: adult
specimen, right above: egg,
right below: adhesive hooks.