

Reports

1964

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from flounders of the White Sea**

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Recommended Citation

Glukhova, V. M. (1964) A new species of the genus Gyrodactylus Nordm. (Monogenea) from flounders of the White Sea. Translation series (Virginia Institute of Marine Science) ; no. 9. Virginia Institute of Marine Science, William & Mary. <https://scholarworks.wm.edu/reports/58>

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VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT, VIRGINIA

A NEW SPECIES OF THE GENUS GYRODACTYLUS NORDM.
(MONOGENEA) FROM FLOUNDERS OF THE WHITE SEA

TRANSLATION SERIES NO. 9

December 1964

A NEW SPECIES OF THE GENUS GYRODACTYLUS NORDM.
(MONOGENEA) FROM FLOUNDERS OF THE WHITE SEA

by

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Edited

by

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Translated

by

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TRANSLATION SERIES NO. 9

VIRGINIA INSTITUTE OF MARINE SCIENCE
Gloucester Point, Virginia
1964

Preface
to Translation¹

Translation of this paper was undertaken as part of a long-term research project on the systematics, host-specificity and zoogeography of monogenetic trematodes². Translation and editing were accomplished in the following manner:

1. Oustinoff³ read translation on tape.
2. Mrs. Morales transcribed translation from tape to first typescript.
3. Hargis edited typescript.
4. Typescript retyped by Mrs. Morales.
5. Hargis again edited typescript for final corrections.

A conscious 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.

Certain passages were difficult to translate. Where a different English phrase seems to fit the author's meaning better or serves to clarify the text, it has been inserted in brackets. Certain obvious errors or misspellings in the original text were changed, less obvious ones are noted with (sic).

For convenience in referring to the Russian text the original pagination is given in the margin of the translation opposite the place where the new page begins. Occasionally figures or tables are somewhat displaced from their original page location; however, since they, themselves, are numbered sequentially, no confusion should result.

The citation of numbers for measurements and numbered structures are generally given in the translation as they were in the author's paper. This should further facilitate checking with the Russian. Unless otherwise noted, all measurements are in millimeters.

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. Pagination is arranged to facilitate such activity. We will appreciate constructive suggestions for improvements in this and future translations.

Thanks are due to Mrs. Patricia C. Morales of the Virginia Institute of Marine Science who transcribed, typed and assembled the manuscript, and to Miss Evelyn Wells who assisted with final editing.

William J. Hargis, Jr.

¹Virginia Institute of Marine Science Translation Series No. 9.

²Translation and editing supported by funds from Grant No. E-2389 of the National Institutes of Health.

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V. M. Glukhova

A NEW SPECIES OF THE GENUS GYRODACTYLUS NORDM.
(MONOGENEA) FROM FLOUNDERS OF THE WHITE SEA

During studies of the parasites of White Sea fishes conducted in p36 the summer of 1951, while on the staff of White Sea Expedition of the Karelo-Finnish Branch of the Academy of Sciences, USSR, we found a new representative of the genus Gyrodactylus Nordm. with a very unusual attaching apparatus arrangement on the gills of river and polar flounders. The type specimen of this new species (from the gills of river flounder) is stored in the collections of the Zool. Inst. of the Acad. of Sci. USSR.¹

Gyrodactylus unicopula Glukhova, sp. n.

Elongated worms, of the shape usual for the genus, of average size: body length 0.25 - 0.33 mm, width 0.06 - 0.10 mm. The rounded or slightly oval (see drawing) attaching disc /posthaptor/ is located at the posterior end of the body. The length of the attaching disc is 0.068 - 0.090 (average 0.083), the width 0.071 - 0.090 (0.078). The edge hooks are of the usual shape, their overall length is 0.020 - 0.026 (0.024). The middle hooks /anchors/ are massive, their interior outgrowths /superficial or ventral roots/ are strongly curved toward the medial line of the body. The overall length of the anchors is 0.044 - 0.047 (0.046), the length of the basal part of the anchors is 0.032 - 0.036 (0.033); the length of the superficial root is 0.014 - 0.015, the length of the point is 0.024 - 0.025 (0.025).

The exterior outgrowths /deep or dorsal roots/ are completely reduced and because of this the connecting plate /called dorsal bar by H argis, 1955/2 of the exterior outgrowth is absent; consequently we measure the length of the superficial roots, not from the beginning of the deep root as is usually done, but from the lower edge of the articulated surface to the

¹In the descriptions of the new species, terminology has been clarified. Terms in brackets after the literal translation follow the usage of W. J. Hargis, Jr., (1952. A revised, annotated list of morphological terms useful for morphological studies of monogenetic trematodes. Gloucester Point, Va. Virginia Fisheries Laboratory /Va. Institute of Marine Science/ Mimeograph, 12 p.)

²W. J. Hargis, Jr. 1955. Monogenetic trematodes of Gulf of Mexico fishes. Part I. The superfamily Gyrodactyloidea. Biol. Bull. 108(2): 125-137.

upper edge of the anchor; the length of the basal part from the lower edge of the articulated surface to the upper edge and, the length of the basal part from the lower edge of the articulated surface to the lower edge of the anchor. The basal connecting plate /ventral bar of Hargis (1955)²/ is narrow. Its widened ends are obliquely cut posteriorly and have a weakly expressed ear-shaped outgrowth anteriorly. The length of the ventral haptoral bar is 0.017 - 0.022 (0.020), the width 0.031 - 0.037 (0.033).

Hosts--River flounder (Pleuronectes flesus bogdanovi Sand.) and p37 polar flounder (Liopsetta glacialis (Pall.)).

H abitat--Gill filaments.

Locality--White Sea, Chernorechenskaia Inlet of Kandalakshskii Bay.

Samples collected from polar flounder have the same structure of the posthaptor as among worms from the river flounder, differing only in the somewhat smaller dimensions of its components as shown in the following table.

Dimensions of the body and the attaching apparatus of Gyrodactylus unicopula (mm).

Measurements	<u>Pleuronectes flesus bogdanovi</u>			<u>Liopsetta glacialis</u>		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Body length	0.2520	0.3360	0.2940	0.2352	0.2688	0.2520
Body width	0.0672	0.1008	0.0838	0.0504	0.0672	0.0616
Posthaptor length	0.0676	0.0901	0.0738	0.0544	0.0788	0.0644
Posthaptor width	0.0713	0.0901	0.0788	0.0646	0.0676	0.0661
Total length of anchors	0.0442	0.0476	0.0460	0.0391	0.0408	0.0402
Length of superficial root	0.0136	0.0153	0.0149	0.0119	0.0136	0.0127
Basal length of anchor	0.0323	0.0357	0.0325	0.0272	0.0272	0.0272
Length of point of anchor	0.0238	0.0255	0.0248	0.0170	0.0204	0.0187
Length of ventral bar	0.017	0.022	0.020	0.0255	0.0272	0.0263
Width of ventral bar	0.0306	0.0374	0.0330	0.0340	0.0340	0.0340
Length of the chitinous /sclerotized/ extension of the connecting plate	0.0119	0.0153	0.0136	--	--	--

Nevertheless, the differences indicated seem insufficient to us to consider these forms as different subspecies.

The dorsal bar of Gyrodactylus unicopula sp. n. is completely absent. In this it sharply differs from all known representatives of the genus Gyrodactylus. The indication of Markevich (1951) that Gyrodactylus gracilis Kathariner has /only/ one connecting plate /bar/ is not accurate, because Kathariner (1894), himself, noted the presence of two bars in the original description.

Sproston (1946) described Gyrodactylus sp. (sp. n.?) /also with recurved anchors/ from the gills of the marine flounder /Platessa platessa (L.)/ from Plymouth. The dimensions of the body of this species (0.27 - 0.45) and the overall length of the anchors (0.315 - 0.425) are somewhat smaller than in our species. Because of the absence of a satisfactory description and drawings /in Sproston's work/ it is impossible to establish the identity of Sproston's Gyrodactylus as that found by us.

There is also only one bar in the genus Gyrodactyloides which was described by Bychowsky (1948), but this genus differs from Gyrodactylus in a number of other important characteristics. Because of this, comparison of our species with Gyrodactyloides is not necessary.

We express our gratitude to B. E. Bychowsky and A. V. Gussev p38
for the help given us during the preparation of data on this species.

LITERATURE

- Bychowsky, B. E. 1948. On a new genus of viviparous monogenetic trematode. Koklady, Academy of Sciences USSR, 58, 9: 2139-2141.
- Markevich, A. A. 1951. Parasitofauna of freshwater fishes of the Ukrainian SSR. Kiev: 1-375.
- Kathariner, L. 1894. Die Gattung Gyrodactylus v. Nordm., Arb. Zool.-Zootom. Inst. Wurzb., 10: 125-164.
- Sproston, N. G. 1946. A synopsis of the monogenetic trematodes. Trans. Zool. Soc. London, XXV, part 4: 185-600.