Monogenoidea in *Cobitis taenia sibirica* from Mongolia*)

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**Abstract.** The systematic position of four species of the genus *Gyrodactylus* Nordmann, 1832 (Monogenoidea) from *Cobitis taenia sibirica*, caught in Mongolia, is given. *G. anudarin* sp. n. is new for science.

Monogenoidea parasitic in *Cobitis taenia sibirica* Gladkov, from Mongolia are represented only by species of the genus *Gyrodactylus* Nordmann, 1832. All examined fishes (13 specimens) were caught in the waters of the river Selenga at the localities: river Tul near the settlement Songino, lakes Ugii, Tirkhan tsagan and Khubsugul. The parasites were fixed in a mixture of ammonium picrate and glycerine (after Malmberg 1956). The specimens are deposited in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences, Prague, the collection of comparing material in the Biological Institute of the Mongolian Academy of Sciences in Ulan Bator.

1. *Gyrodactylus latus* Bychowsky, 1933

**Host:** *Cobitis taenia sibirica*

**Location:** fin

**Locality:** river Tul

**Weight of parasitaemia and incidence:** one and two parasites found in two fishes

**Description:** The measurements of the chitinoid parts of the haptor in the three specimens are: overall length of the anchors 0.057—0.059 mm, size of basal part 0.042—0.045 mm, of point 0.027—0.028 mm, inner root 0.020—0.022 mm. Size of principal connecting bar with the well developed lateral extensions and the 0.015 mm long, tongue-shaped membranous extension 0.008—0.009 by 0.019—0.020 mm.

*) This article is the second contribution to the parasite fauna of Mongolian fishes, examined during the Mongolian-Czechoslovak expedition in 1966.
The auxiliary connecting bar, its posterior margin forming two obliquely backwards directed finger-shaped extensions, measures in length approximately 0.002 mm, in width 0.013—0.015 mm. Overall length of the marginal hooks ranges from 0.019—0.021 mm, the proper hook with the widely developed base is 0.007—0.008 mm long.

Our specimens differ from the holotype and paratypes (deposited in the collection of the Zoological Institute of the Soviet Academy of Sciences in Leningrad) and also from all so far described specimens of *G. latus* from the typical host *Cobitis taenia* mainly in the measurements of some chitinoid parts of the haptor (Table 1).

![Fig. 1. Gyrodactylus latus Bychowsky, 1933](image)

- a—anchors and marginal hook of holotype recovered from *Cobitis taenia* L., b, c—anchors and marginal hooks from *Cobitis taenia sibirica* Gladkov.

<table>
<thead>
<tr>
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<th>Holotype + paratypes</th>
<th>Material from</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Czechoslovakia</td>
</tr>
<tr>
<td>Overall length of anchors</td>
<td>0.051—0.052</td>
<td>0.053—0.055</td>
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<tr>
<td>Length of basal part</td>
<td>0.039—0.041</td>
<td>0.040—0.042</td>
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<tr>
<td>Length of point</td>
<td>0.024—0.025</td>
<td>0.027—0.028</td>
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<tr>
<td>Length of inner root</td>
<td>0.017—0.018</td>
<td>0.016—0.018</td>
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<tr>
<td>Length of principal connecting bar</td>
<td>0.007—0.008</td>
<td>0.007—0.008</td>
</tr>
<tr>
<td>Width of principal connecting bar</td>
<td>0.016—0.017</td>
<td>0.018—0.019</td>
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Fig. 1. *Gyrodactylus latus* Bychowsky, 1933

and in the shape of the auxiliary connecting bar (compare Fig. 1a, b, c). In our opinion these differences may be in relation to changes in the organism of the host (*C. taenia* subsp. *sibirica*). As we are not certain as to what extent this fact has become genetically fixed in these parasites, we have designated this species as *G. latus*, at least for the time being.
2. *Gyrodactylus anudarini* sp. n.  

*Host*: *Cobitis taenia sibirica*

*Location*: fin, skin

*Locality*: river Tul near Songino, lakes Ugij and Khubsugul

*Weight of parasitaemia*: found in 5 fishes

*Incidence*: maxim. 11 specimens

Measurements of the body of these worms approximately 0.2 to 0.3 by 0.6—0.8 mm. Haptor armed with a single pair of anchors with two connecting bars and 16 marginal hooks.

**Holotype** (from the fin of a fish caught on June 30, 1966 in the river Tul near the settlement Songino): Measurements of the chitinoïd parts of the haptor: overall length of anchors 0.042 mm, size of basal part 0.030 mm, of point 0.025 mm, of inner root 0.015 mm. Principal connecting bar with the relatively well developed lateral extensions is 0.006 mm long and 0.022 mm wide, moderately arched. A slender, chitinoïd membranous extension, measuring 0.022 mm in length, is attached to the posterior margin of the principal connecting bar. Size of auxiliary connecting bar 0.002 by 0.014 mm. Overall length of marginal hooks 0.028 mm, of proper hook with the conceivably thickened point 0.007 mm.

The measurements of the chitinoïd haptor parts of the other examined specimens (including the paratypes) are: overall length of anchors 0.040—0.042 mm, of basal part 0.030—0.031, of point 0.024—0.026 mm, of inner root 0.014—0.018 mm. Size of principal connecting bar 0.005—0.006 by 0.022—0.023 mm, length of chitinoïd extension 0.020—0.022 mm. Size of auxiliary connecting bar 0.002 by 0.016 to 0.017 mm. Overall length of marginal hooks 0.028 mm, the hook itself measures 0.007 mm.

*Gyrodactylus anudarini* sp.n., named in honour of Anudarin Dashidorzhi, professor of Zoology at the State University in Ulan Bator, differs from all described representatives of the genus *Gyrodactylus in* the morphological character of the
whole complex of anchors and especially in the shape of the membranous extension of the principle connecting bar.


**Host:** Cobitis taenia sibirica  
**Location:** Fin, gills, skin, nasal cavities  
**Locality:** River Tul near the settlement Songino, lakes Uigi, Tirkhin tsagan and Khubsugul  
**Weight of parasitaemia:** Found in 7 fishes  
**Maximum incidence:** 39 specimens

Measurements of the chitinoid parts of the haptor in the 10 specimens are: overall length of anchors 0.035—0.040 mm, size of basal part 0.029—0.033 mm, of point 0.020—0.023 mm, of inner root 0.010—0.012 mm. Measurements of principle connecting bar 0.006—0.007 by 0.014—0.016 mm, length of membranous extension,
Overall length of anchors 0.045—0.047 mm, length of base 0.035—0.036 mm, of point 0.017—0.019 mm, of inner root 0.019—0.022 mm. Principal connecting bar, being either straight or slightly bent, measures 0.004—0.005 by 0.014 to 0.015 mm. Length of its membranous extension 0.010—0.011 mm. Measurements of auxiliary connecting bar 0.001 by 0.012—0.013 mm. Overall length of marginal hooks 0.015—0.016 mm, length of the hook 0.007 mm.

Our specimens differ from the typical worms described from the gills of *Misgurnus anguillicaudatus* only in a longer inner root of the anchors.

Fig. 4. Anchors and marginal hooks of the haptor of *Gyrodactylus misgurni* Lin Mo-en, 1962.

In conclusion I wish to thank all the colleagues from the Ichthyological Department of the Faculty of Natural Sciences, Charles University, Prague and namely Dr. Pivnička for the identification of the examined fishes.

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Received 23 October 1967.

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