

# SIX NEW SPECIES OF GYRODACTYLUS FROM FRESHWATER FISHES OF THE PALAEARCTIC REGION

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**Abstract.** Six new species of *Gyrodactylus* are described from freshwater fishes of the Palaearctic region as follows: *G. glaeseri* sp. n. from *Alburnus alburnus* (L.), *G. sibiricus* sp. n. from *Cobitis granoei olivai* Nalbant, Holčík et Pivnička, *G. ibragimovi* sp. n. from *Varicorhinus capoeta gracilis* (Keyserling), *G. hemibarbi* sp. n. from *Barbus barbus* (L.), *B. lacerta cyri* Filippi and *Leuciscus cephalus* (L.), *G. pewzowi* sp. n. from *Oreoleuciscus pewzowi* (Herzenstein) and *O. humilis* Warpachowski, and *G. lagowskii* sp. n. from *Phoxinus lagowskii* Dybowski.

This paper offers some additional data on palaearctic freshwater members of the genus *Gyrodactylus* Nordmann, 1832 collected during the years 1962—1974.

All parasites examined were fixed either in 4 % formalin or in mixture of ammonium picrate and glycerin and mounted as permanent preparations in glycerin-gelatine or in Canadian balsam. The methods concerning observation, measurement and illustration of the species described herein were employed as given by Gussev (1955), Malmberg (1970) and Ergens and Lom (1970). All measurements are in millimeters (the measurements of the holotypes are given in parentheses). Type specimens are deposited in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences, Prague.

## *Gyrodactylus glaeseri* sp. n.

Figs. 1 a, b

Host, location and locality: *Alburnus alburnus* (L.); fins; the River Želivka (Czechoslovakia). Specimens studied: six. No. Coll. 410.

The holotype was collected from *A. alburnus* captured on May 19, 1967.

**Description:** Total length of anchors 0.051—0.057 (0.051), length of their shaft 0.036 to 0.041 (0.038), of point 0.022—0.025 (0.022), of root 0.017—0.021 (0.017). Measurements of the ventral bar with developed lateral processes and 0.011—0.013 (0.013) long shield are 0.005—0.006 × 0.020—0.024 (0.005 × 0.022). Measurements of the dorsal bar are 0.001—0.002 × 0.019—0.022 (0.002 × 0.020). Total length of marginal hooks 0.027—0.029 (0.028), of hook proper 0.005—0.006.

*G. glaeseri* sp. n., named in honour of the German ichthyoparasitologist Dr. H. J. Gläser, is most closely related to the species *G. bliccensis* Gläser, 1974, from which it differs in thinner anchors.

## *Gyrodactylus sibiricus* sp. n.

Figs. 1 c, d

Host, location and locality: *Cobitis granoei olivai* Nalbant, Holčík et Pivnička; fins and gills; the River Tul near the settlement Songino (Mongolia). Specimens studied: three. No. Coll. 411.

The holotype is represented by a specimen collected from the fin of the host caught on July 30, 1966.

**Description:** Total length of anchors 0.044—0.047 (0.046), of their shaft 0.034—0.036 (0.034), of point 0.017—0.019 (0.019), of root 0.019—0.022 (0.022). Ventral bar without lateral processes, measuring 0.005—0.006 × 0.014—0.015 (0.005 × 0.015). The length of its shield is 0.010—0.011 (0.011). Fine dorsal bar 0.001 long and 0.011—0.012 (0.011) wide. Total length of marginal hooks 0.015, of hook proper with masive base 0.006 to 0.007.

*G. sibiricus* sp. n. most closely resembles in the shape and measurements of anchors *G. misgurni* Ling Mo-en, 1962, from which it differs in the shape of hook proper of marginal hooks and in the shape of ventral bar.

These parasites were for the first time determined tentatively as *G. misgurni* (Ergens and Dulmaa 1968).

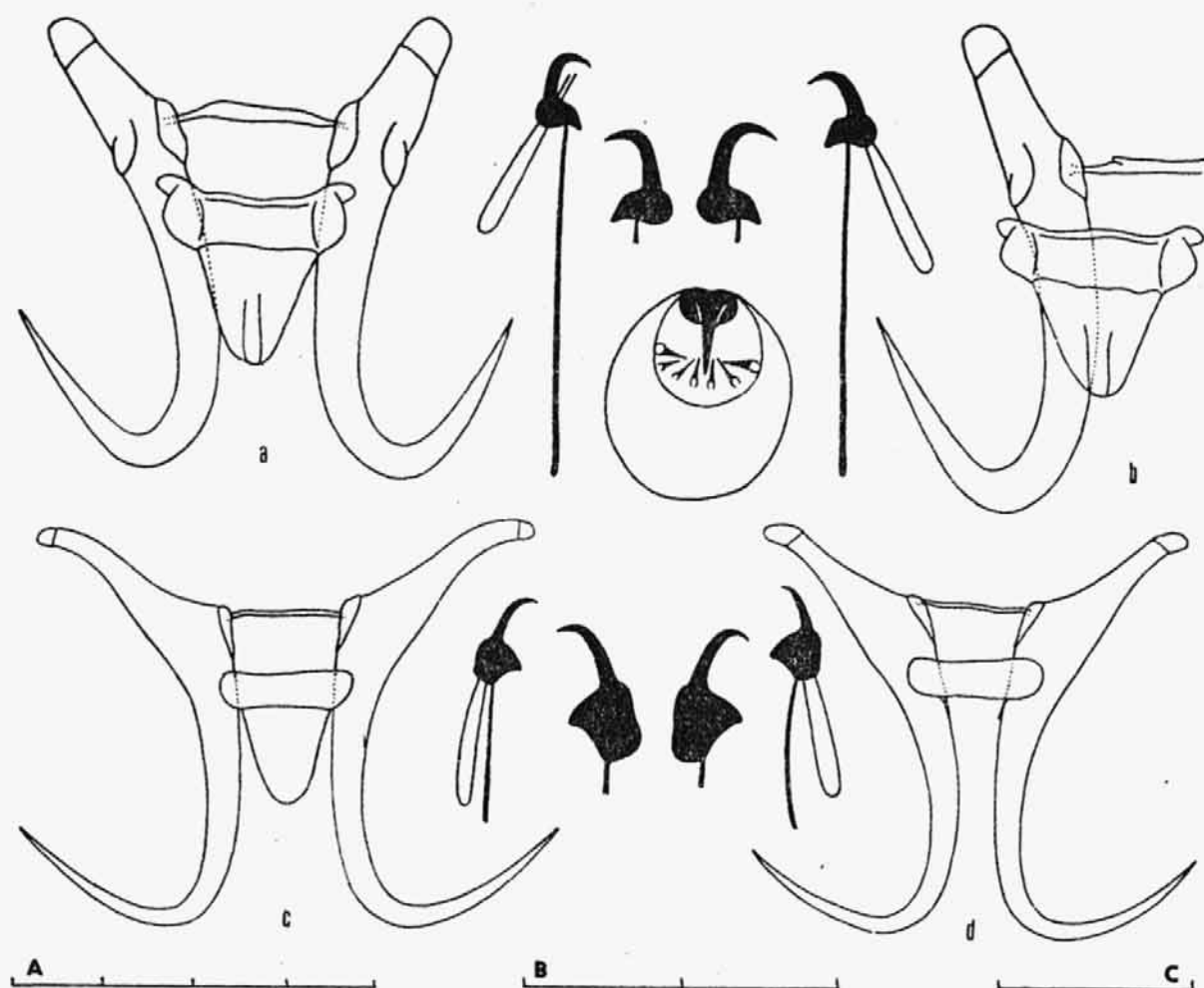


Fig. 1. Hard parts of the opisthaptor and cirrus. a,b — holotype and paratype of *Gyrodactylus glaeseri* sp.n.; c,d — holotype and paratype of *G. sibiricus* sp.n. Scales (1 part = 0.01mm): A — for anchors, B — for marginal hooks and cirrus, C — for hook proper.

### *Gyrodactylus ibragimovi* sp. n.

Figs. 2 a, b

Host, location and locality: *Varicorhinus capoeta gracilis* (Keyserling); gills, fins; the River Lenkoranka (Azerbaijan SSR). Specimens studied: three. No. Coll. 408.

The holotype is represented by a specimen collected on the fin of the host caught on April 23, 1974.

**Description:** Total length of anchors 0.058—0.060 (0.059), their shaft measures 0.047 to 0.049 (0.047), point 0.022—0.028 (0.028), root 0.015—0.016 (0.015). Ventral bar with lateral processes and with a 0.012—0.013 long shield is 0.006—0.007 (0.006) long and 0.019—0.025 (0.019) wide. Dorsal bar measures 0.001—0.002  $\times$  0.018—0.020 (0.002  $\times$  0.019). Total length of marginal hooks is 0.027—0.029 (0.029), the hook proper measures 0.006—0.007 (0.007).

*G. ibragimovi* sp. n., named in honour of the Azerbaijan ichthyoparasitologist S. Ibragimov, most closely resembles in the shape and measurements of marginal hooks

*G. markewitschi* Kulakowskaja, 1951, in the shape of anchors *G. capotai* Ergens et Ibragimov, 1976. It differs from *G. markewitschi* in the shape of anchors, from *G. capotai* in the shape of marginal hooks.

***Gyrodactylus hemibarbi* sp. n.**

Figs. 2c, d

Host, location and locality: *Barbus barbus* (L.), *B. lacerta cyri* Filippi, *Leuciscus cephalus* (L.); fins, skin; the River Bečva near Lipník (Czechoslovakia), the River Lenkoranka (Azerbaijan SSR) and the River Osoblaha (Czechoslovakia). Specimens studied: nine. No. Coll. 409.

The holotype is represented by a specimen collected on the fin of *B. barbus* caught from the River Bečva on June 17, 1962.

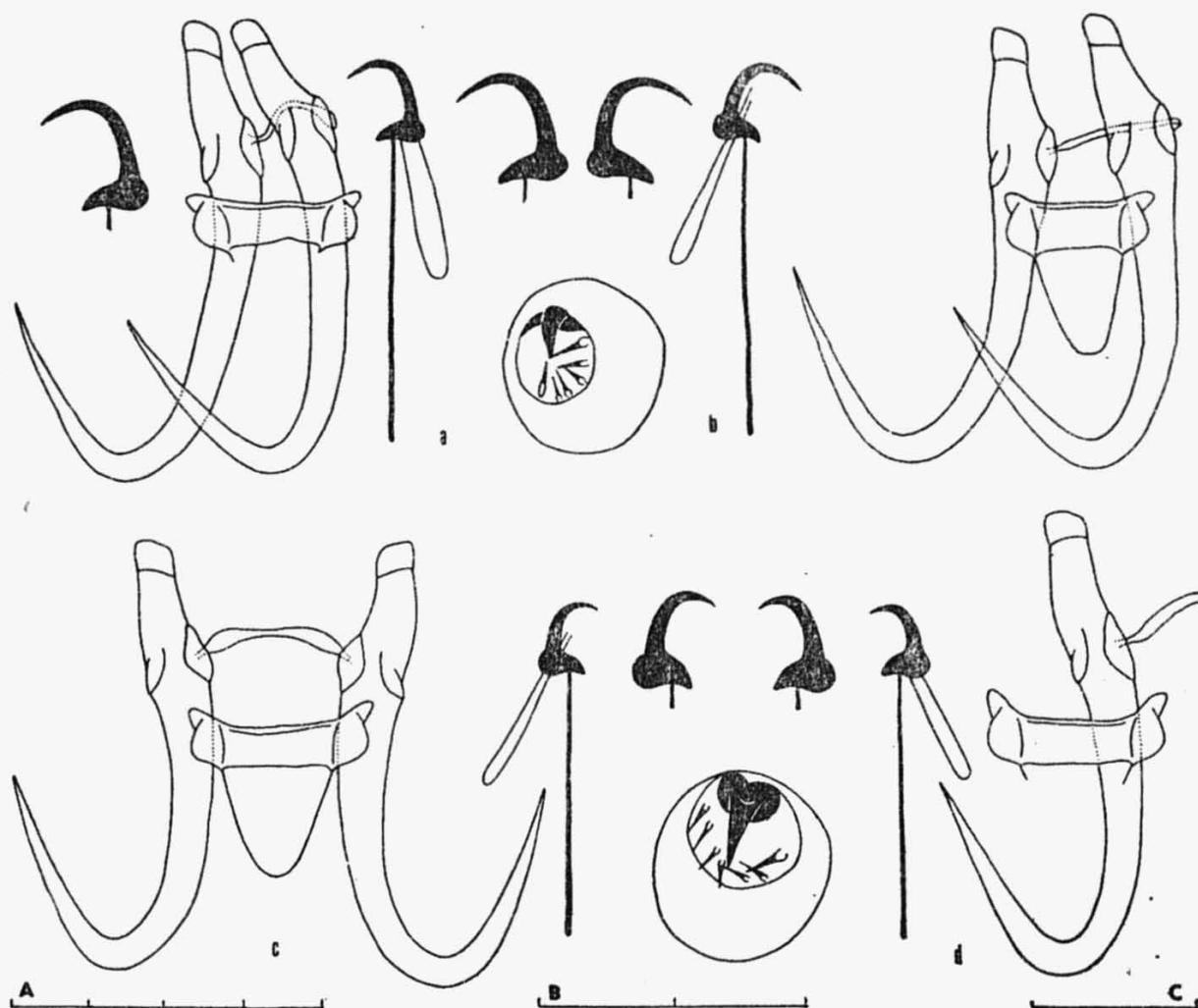


Fig. 2. Hard parts of the opisthaptor and cirrus, a, b — holotype and paratype of *Gyrodactylus ibragimovi* sp. n.; c, d — holotype and paratype of *G. hemibarbi* sp. n. Scales (1 part = 0.01 mm): A — for anchors, B — for marginal hooks and cirrus, C — for hook proper.

**Description:** Total length of anchors 0.057—0.061 (0.057), their shaft measures 0.043 to 0.045 (0.043), point 0.025—0.029 (0.026), root 0.015—0.019 (0.015). The ventral bar with lateral processes and with a 0.013—0.015 (0.015) long shield is 0.006—0.007 (0.006) long and 0.023—0.028 (0.023) wide. Dorsal bar measures  $0.002 \times 0.018$ — $0.021$  ( $0.002 \times 0.020$ ). Total length of marginal hooks is 0.024—0.028 (0.026), the hook proper measures 0.005—0.006.

*G. hemibarbi* sp. n. resembles closely the species *G. gobiensis* Gläser, 1974 in the shape of hook proper of marginal hooks, but it differs from this species in the shape and measurements of anchors.

***Gyrodactylus pewzowi* sp. n.**

Figs. 3a, b

Host, location and locality: *Oreoleuciscus pewzowi* (Herzenstein), *O. humilis* Warpachowski; gills, fins; the Lake Sangin dalay (Mongolia). Specimens studied: five. No. Coll. 263.

The holotype is represented by a specimen collected on the gills of *G. pewzowi* captured on June 13, 1966.

**Description:** Total length of anchors 0.091—0.097 (0.096), length of their shaft 0.064 to 0.068 (0.068), of point 0.033—0.034 (0.033), of root 0.033—0.034 (0.034). Ventral bar with lateral processes and with 0.019—0.021 (0.021) long shield is 0.008—0.009 (0.008) long and 0.035—0.037 (0.035) wide. Measurements of the dorsal bar are  $0.002 \times 0.025$ — $0.032$  ( $0.002 \times 0.032$ ). The total length of marginal hooks is 0.033—0.036 (0.036), the hook proper measures 0.009—0.010.

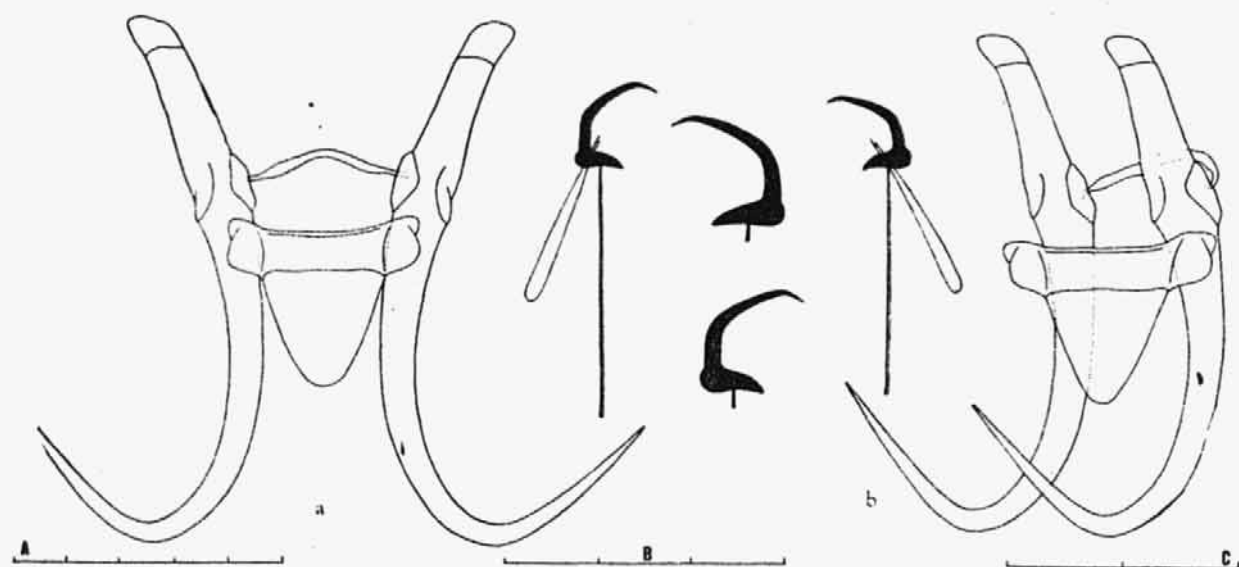


Fig. 3. Hard parts of the opisthaptor of *Gyrodactylus pewzowi* sp. n. a — holotype, b — paratype. Scales (1 part = 0.01 mm): A — for anchors, B — for marginal hooks, C — for hook proper.

*G. pewzowi* sp. n. most closely resembles in the shape of marginal hooks *G. mantschuricus* Ergens et Yuxhimenko, 1977 and *G. tincae* Malmberg, 1957, in the shape of anchors *G. longiradix* Malmberg, 1957. It differs from *G. mantschuricus* and *G. tincae* in the shape of anchors, from *G. longiradix* in the shape of marginal hooks.

These parasites were for the first time determined as *G. oreoleucisci* forma A (Ergens and Dulmaa 1970).

***Gyrodactylus lagowskii* sp. n.**

Figs. 4a, b

Host, location and locality: *Phoxinus lagowskii* Dybowski; fins; the River Selbe near Ulan Bator (Mongolia). Specimens studied: four. No. Coll. 412.

The holotype is represented by a specimen collected from the host caught on April 22, 1966.

**Description:** Total length of anchors 0.090—0.095 (0.095), length of their shaft 0.066 to 0.070 (0.070), of point 0.040—0.043 (0.043), of root 0.030—0.031 (0.031). Ventral bar with lateral processes and with a 0.018—0.019 (0.019) long shield is 0.010—0.011 (0.011) long and 0.038—0.041 (0.039) wide. Measurements of the dorsal bar are  $0.002$  to  $0.003 \times 0.030$ — $0.032$  ( $0.003 \times 0.032$ ). Total length of marginal hooks 0.043—0.045 (0.043), the hook proper measures 0.009—0.010 (0.009).

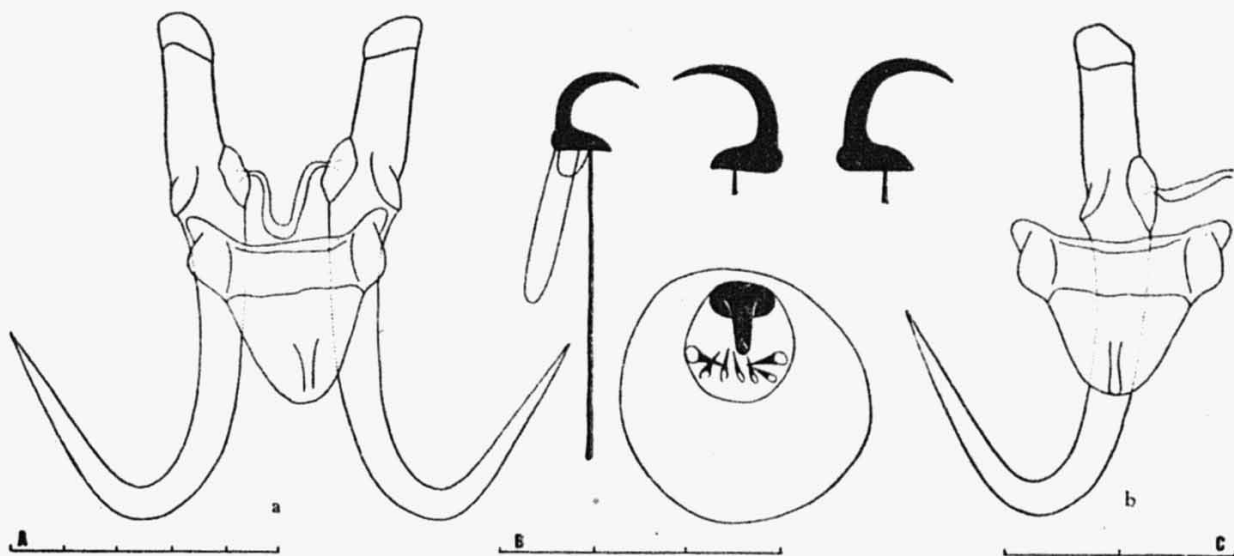


Fig. 4. Hard parts of the opisthaptor and cirrus of *Gyrodactylus lagowskii* sp. n. a — holotype, b — paratype. Scales (1 part = 0.01 mm): A — for anchors, B — for marginal hooks and cirrus C — for hook proper.

*G. lagowskii* sp. n. most closely resembles the species *G. konovalovi* Ergens, 1976 in the shape of anchors and both connecting bars, but it differs from this species in the shape of the hook proper of marginal hooks.

#### ШЕСТЬ НОВЫХ ВИДОВ РОДА *GYRODACTYLUS* ОТ ПРЕСНОВОДНЫХ РЫБ ПАЛЕАРКТИЧЕСКОЙ ОБЛАСТИ

Р. Эргенс

**Резюме.** Описано шесть новых видов рода *Gyrodactylus* от пресноводных рыб Палеарктической области: *G. glaeseri* sp. n. от *Alburnus alburnus* (L.), *G. sibiricus* sp. n. от *Cobitis granoei olivai* Nalbant, Holčík et Pivnička, *G. ibragimovi* sp. n. от *Varicorhinus capoeta gracilis* (Keyserling), *G. hemibarbi* sp. n. от *Barbus barbus* (L.), *B. lacerta cyri* Filippi и *Leuciscus cephalus* (L.), *G. pewzowi* sp. n. от *Oreoleuciscus pewzowi* (Herzenstein) и *O. humilis* Warpachowski и *G. lagowskii* sp. n. от *Phoxinus lagowskii* Dybowski.

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