

THREE NEW GENERA OF DACTYLOGYRIDAE (MONOGENEA) FROM FRESHWATER FISHES OF TRINIDAD

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ABSTRACT: Two new genera of Dactylogyridae, *Trinidactylus cichlasomatis* gen. et sp. n. from the gills of *Cichlasoma bimaculatum* (L.) and *Trinigyrus hypostomatis* gen. et sp. n. from the gills of *Hypostoma robinii* (Valenciennes), are described. *Curvianchoratus hexacleidus* gen. et sp. n. is described from the gills of *Curimata argentea* (Gill) and placed in Curvianchoratinae subf. n.

Price (1966), in an effort to simplify the taxonomy of the Dactylogyridae, proposed four subfamilies (Anacanthorinae, Dactylogyridae, Heteronchocleidinae, and Ancyrocephalinae). Most genera listed from freshwater fishes in the Neotropical region (Mizelle and Kritsky, 1967, 1969; Mizelle, Kritsky, and Crane, 1968; Mizelle and Price, 1964; Price, 1967) belong to the Ancyrocephalinae.

In the present study two new genera of Dactylogyridae, *Trinidactylus* gen. n. and *Trinigyrus* gen. n., are described. *Curvianchoratus* gen. n. is proposed and placed in Curvianchoratinae subf. n.

Materials, methods, and acknowledgments are identical to those given in Molnar, Hanek, and Fernando (1974).

RESULTS

Trinidactylus gen. n.

Generic diagnosis: Dactylogyridae, Dactylogyridae: Cuticle smooth, thin. Body elongate; divisible into cephalic area, trunk, peduncle, haptor. Two terminal cephalic lobes; head organs, cephalic glands inconspicuous. Eyes four. Pharynx muscular. Esophagus, gut obscure. One testis, ovary pretesticular. Seminal vesicle a dilated portion of vas deferens. Cirrus and accessory piece nonarticulated, latter functioning as cirrus guide. Vagina ventral. Peduncle distinct. Haptor subquadrate or crescent-shaped; one pair of anchors, dorsal. Single bar dorsal to anchors. Hooks ventral, 10, similar in shape and size. Pair of hooklike structures on dorsal side of haptor. Vitellaria distributed in trunk. Parasites of freshwater fishes.

Type species: Trinidactylus cichlasomatis sp. n.

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Type host: Cichlasoma bimaculatum (L.).

Type locality: Talparo River, Trinidad.

Remarks

The genus *Trinidactylus* differs from *Dactylogyrus*, its nearest relative, by possessing five pairs of haptor hooks and one pair of hooklike structures which may have originated by fusion of hooks 6 and 7.

Trinidactylus cichlasomatis sp. n.

(Figs. 1a-f)

Host and locality: Cichlasoma bimaculatum (L.); Talparo River near Brasil, Trinidad.

Specimens studied: 20.

Type specimens: Holotype, USNM Helm. Coll. No. 73180, 2 paratypes No. 73181, paratypes in senior author's collection.

Description

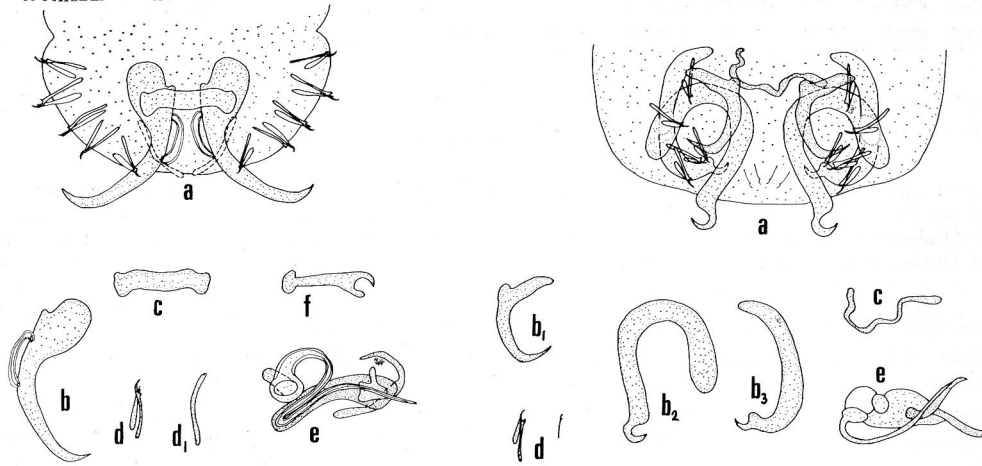
Cuticle smooth, thin. Length 210 (162 to 250), width 80 (60 to 120). Eyes subequal, about same distance apart. Pharynx spherical, 20 (16 to 26). Peduncle moderate, haptor 45 (30 to 55) long, 60 (49 to 65) wide. Anchor with inconspicuous deep root, robust superficial root, sharply curved shaft. Lengths: anchor 31 (30 to 32), basal part 28 (27 to 29), superficial root 7 (6 to 8), deep root 1 (1 to 2), point 18 (17 to 19). Bar elongate, with indentations at ends; length 19 (18 to 20), width 4 (3 to 5). Hooks 11 (10 to 12) long; hooklike structure 14 (13 to 15) long. Cirrus coil of one ring, cirrus lumen tapered anteriorly; cirrus length 31 (27 to 35). Accessory piece 27 (26 to 28) long. Vagina short, sclerotized, enlarged at both ends. Gonads round or ovate. Seminal receptacle, seminal vesicle ovate. Egg ovate, 75 by 40. Vitellaria dense, distributed as 2 bilateral bands approximately coextensive with crura.

Trinigyrus gen. n.

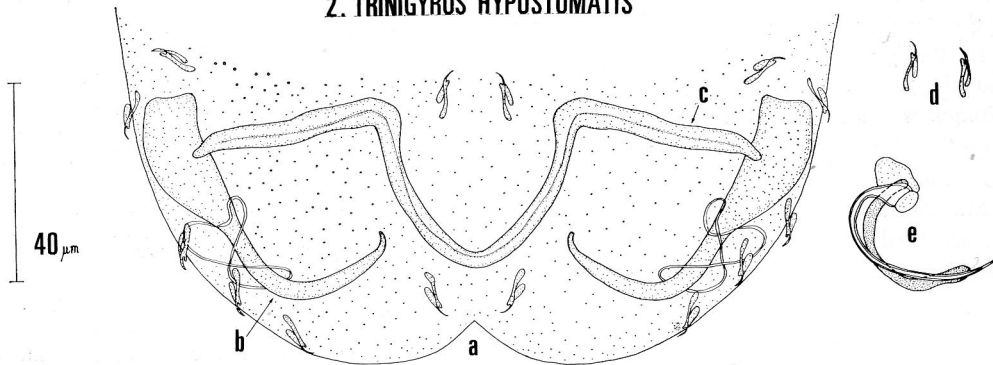
Generic diagnosis: Dactylogyridae, Dactylogyridae: Cuticle smooth, thin. Body pyriform; divisible into cephalic area, trunk widened posteriorly, and short bilobed haptor. Two terminal cephalic lobes; 2 pairs of lateral cephalic glands,

1. *TRINIDACTYLUS CICHLASOMATIS*

3. *CURVIANCHORATUS HEXACLEIDUS*



2. *TRINIGYRUS HYPOSTOMATIS*



FIGURES 1-3. New Dactylogyridae from freshwater fishes of Trinidad; species as labeled on the drawings. For all species: a, haptor; b, dorsal anchor; b₁, ventral anchor; b₂, dorsomedian anchor; b₃, dorsolateral anchor; c, bar; d, hooks; d₁, hooklike structure; e, copulatory complex; f, vagina.

head organs inconspicuous. Eyes absent. Pharynx muscular. Esophagus bifurcate, gut not observed. One testis, ovary pretesticular. Seminal vesicle a dilated portion of vas deferens. Cirrus and accessory piece articulated basally. Vagina dextral. One pair of dorsal anchors. Bar elongate, W-shaped, dorsal to anchors. Hooks 14, similar in shape and size; 5 pairs ventral, 2 pairs dorsal. Vitellaria distributed in trunk. Parasites of freshwater fishes.

Type species: *Trinigyryus hypostomatis* sp. n.
Type host: *Hypostomus robinii* (Valenciennes).
Type locality: Talparo River, Trinidad.

Remarks

Trinigyryus differs from *Dactylogyryus*, its nearest relative, by lacking eyespots and possessing a large, W-shaped bar.

***Trinigyryus hypostomatis* sp. n.**
 (Figs. 2a-e)

Host and locality: *Hypostomus robinii* (Valenciennes); Talparo River near Talparo, Trinidad.
Specimens studied: 10.
Type specimens: Holotype, USNM Helm. Coll. No. 73182, 2 paratypes No. 73183, paratypes in senior author's collection.

Description

Cuticle smooth, thin. Length 300 (280 to 325), width 167 (110 to 189). Pharynx ovate, 25 (21 to 28) by 20 (18 to 22). Haptor wide, 60 (51 to 82) long, 150 (130 to 162) wide. Anchor without roots, shaft short, point bends about 90°. Lengths: anchor 51 (55 to 61), shaft 21 (20 to 23), point 22 (20 to 24). Bar 120 (97 to 130) long, 3 (3 to 4) wide. Hooks 11 (10 to 11) long.

Cirrus curved, 28 (27 to 32) long, cirrus lumen uniform. Accessory piece curved alongside of cirrus, 26 (24 to 27) long. Vagina muscular. Gonads round or ovate. Seminal receptacle, seminal vesicle ovate. Egg ovate, 50 (46 to 53) by 35 (28 to 37), with long anterior filament. Vitellaria dense, distributed as 2 bilateral bands approximately with crura.

***Curvianchoratus* gen. n.**

Generic diagnosis: Dactylogyridae, Curvianchoridae: Cuticle smooth, thin. Body elongate; divisible into cephalic area, trunk, peduncle, haptor. Two terminal and two lateral cephalic lobes; cephalic glands and head organs inconspicuous. Eyes four. Pharynx muscular. Esophagus and gut obscure. One testis, ovary pretesticular. Seminal vesicle large, dilated portion of vas deferens. Cirrus and accessory piece articulated basally. Vagina muscular, dextroventral. Peduncle short, haptor subquadrate. Three pairs of anchors: ventral, dorsomedian, dorsolateral. Ventral anchor of dactylogyrid type with single bar. Two pairs of dorsal anchors forming full circle, so that the shaft of the lateral anchor passes through superficial root of the median anchor. Hooks 14; 5 pairs ventral, 2 pairs dorsal. Vitellaria distributed in trunk. Parasites of freshwater fishes.

Type species: Curvianchoratus hexacleidus sp. n.

Type host: Curimata argentea (Gill).

Type locality: Arouca River, Trinidad.

Remarks

This genus possesses the main characteristics of Dactylogyridae, but on the basis of the unique architecture of its haptor (3 pairs of anchors) we propose a new subfamily, Curvianchoratinae subf. n. The characters of Curvianchoratinae as for *Curvianchoratus* gen. n.

***Curvianchoratus hexacleidus* sp. n.**

(Figs. 3a-e)

Host and locality: Curimata argentea (Gill); Arouca River near D'Abadie, Trinidad.

Specimens studied: 2.

Type specimens: Holotype, USNM Helm. Coll. No. 73184, paratype No. 73185.

Description

Cuticle smooth, thin. Length 171 (180), width 78 (110). Posterior pair of eyes larger, about same distance apart. Pharynx circular, 40 (35). Haptor 40 (35) long, 65 (60) wide. Ventral anchor with well-developed superficial root. Lengths: anchor 17 (18), basal part 14 (13), superficial root 9 (8), deep root 1 (1), point 6 (7). Dorsomedian anchor with well-developed superficial root, inconspicuous deep root, sharply curved base, sickle-shaped point. Lengths: anchor 30 (28), superficial root 14 (15), deep root 1 (1), point 4 (4), anchor shaft width 4 (4). Dorsolateral anchor elongated, without deep root, with sickle-shaped point. Lengths: anchor 26 (27), point 4 (5), anchor shaft width 4 (4). Ventral bar serpentine-shaped, 16 (21) long, 1 (1) wide. Hooks of 2 types; hook length pair Nos. 1, 2, 3, 4, 5—10 (11), Nos. 6, 7—8 (9). Cirrus curved, 17 (24) long, lumen slightly tapered anteriorly. Accessory piece 27 (29) long, with 2 processes, one connected basally to cirrus. Gonads round or ovate. Seminal vesicle ovate. Vitellaria dense.

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