

ANCYROCEPHALIDS (MONOGENEA) FROM FRESHWATER FISHES OF TRINIDAD

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ABSTRACT: The following species are described as new: *Urocleidoides alii*, *U. cichlasomatis*, and *U. do-bosi* from *Cichlasoma bimaculatum* (L.), *U. corydori* and *U. margolisi* from *Corydoras aeneus* (Gill), *U. curimatae* from *Curimata argentea* (Gill), and *U. kabatai* and *U. trinidadensis* from *Astyanax bimaculatus* (L.). *U. chavarriai* (Price, 1938) comb. n. and *U. travassosi* (Price, 1938) comb. n. are re-described and new host and distribution records for *U. chavarriai*, *U. costaricensis* (Price and Bussing, 1967) Kritsky and Leiby, 1972, *U. travassosi*, and *Unilatus unilatus* Mizelle and Kritsky, 1968, are reported.

A scarce literature on Monogenea from the Neotropical region was reviewed by Mizelle et al. (1968). Since then, several studies were undertaken in this region (Mizelle and Kritsky, 1969; Kritsky and Leiby, 1972). The purpose of this investigation was to determine the monogenean fauna of the freshwater fishes in Trinidad. In our study, eight new species of *Urocleidoides* are described and figured. Also, two species of the same genus are re-described and figured, and new host and distribution records reported for *Urocleidoides costaricensis* (Price and Bussing, 1967) Kritsky and Leiby, 1972, and *Unilatus unilatus* Mizelle and Kritsky, 1968.

MATERIALS AND METHODS

Fish hosts were collected by seine from several rivers and freshwater swamps in Trinidad during May 1972. The hosts were identified using the keys of Boeseman (1960). The gills were immediately separated and fixed in 7% formalin, and later examined for monogeneans. The ancyrocephalids collected were studied in a mixture of glycerol and formalin (9:1) with a few drops of picric acid. The numbering of haptor hooks is according to Mizelle and Crane (1964). Measurements are expressed in micrometers and were made from fixed specimens. In citing measurements the averages are to the nearest micrometer; those of holotypes are given first with ranges in parentheses. Observations were made with a phase-contrast interference microscope and illustrations were prepared with the aid of a camera lucida.

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RESULTS

Urocleidoides alii sp. n.

(Figs. 1a-g)

Type host and locality: *Cichlasoma bimaculatum*; Nariva swamp, Trinidad.

Other locality: Talparo River near Brasil, Trinidad.

Specimens studied: 20.

Type specimens: Holotype, USNM Helm. Coll. No. 73162, 2 paratypes No. 73163, paratypes in second author's collection.

Description

Cuticle smooth, thin. Length 220 (190 to 240), width 80 (65 to 90). Cephalic glands, head organs inconspicuous. Eyespots four, posterior pair larger, about same distance apart. Pharynx spherical, 21 (18 to 26). Peduncle short, broad. Haptor terminally divided, 45 (40 to 50) long, 80 (60 to 90) wide. Dorsal anchors simple, well-developed superficial roots. Lengths: anchor 20 (19 to 20), basal part 15 (14 to 15), superficial root 8 (7 to 9), deep root 2 (1 to 2), point 8 (6 to 9). Ventral anchors with well-developed deep roots, strongly curved shaft. Lengths: anchor 29 (26 to 30), basal part 26 (25 to 27), superficial root 4 (4 to 6), deep root 4 (4 to 5), point 19 (18 to 20). Anchor filaments dual, well developed. Dorsal bar with indentations at ends, 31 (28 to 33) long, 3 (2 to 4) wide. Ventral bar with enlarged ends, 28 (26 to 30) long, 2 (2 to 3) wide. Hook pairs 1, 2, 3, 4, 6, 7 similar, 13 (12 to 14) long; pair No. 5 embryonal type, 11 (10 to 11) long. Cirrus shaft coil of 2 rings, 28 (24 to 33) long. Accessory piece 28 (24 to 27) long. Vagina enlarged at both ends, 30 (26 to 36) long. Gonads ovate. Testis postovarian. Vitellaria moderate, randomly distributed in trunk.

Remarks

Urocleidoides alii differs from all presently known species of this genus in possessing em-

bryonic type hooks in pair No. 5. The species is named after Mr. Shazam Ali, Department of Biological Sciences, University of the West Indies, St. Augustine, Trinidad.

***Urocleidoides cichlasomatis* sp. n.**

(Figs. 2a–g)

Type host and locality: *Cichlasoma bimaculatum* (L.); Nariva swamp, Trinidad.

Specimens studied: 3.

Type specimens: Holotype, USNM Helm. Coll. No. 73164, 2 paratypes No. 73165.

Description

Body dorsoventrally flattened, cuticle smooth, thin. Length 260 (240 to 270), width 150 (110 to 190). Cephalic area obscure. Eyespots four, equal size and distance apart. Pharynx spherical, 25 (20 to 27). Peduncle short. Haptor crescentic or subquadrate, 55 (50 to 60) long, 104 (100 to 110) wide. Dorsal anchors simple, well-developed superficial roots. Lengths: anchor 22 (20 to 23), basal part 17 (16 to 18), superficial root 8 (5 to 9), deep root 3 (2 to 3), point 9 (8 to 10). Ventral anchors with strong thumblike superficial roots, bladelike shafts. Lengths: anchor 36 (35 to 38), basal part 33 (32 to 35), superficial root 8 (7 to 9), deep root 4 (3 to 5), point 15 (15 to 17). Anchor filaments dual, well developed. Dorsal bar elongate, 44 (42 to 46) long, 3 (2 to 4) wide. Ventral bar massive, 41 (39 to 44) long, 6 (5 to 7) wide. Hook pairs 1, 2, 3, 4, 6, 7 similar, 14 (13 to 15) long; pair No. 5 embryonal type, 10 (9 to 10) long. Cirrus coil of 5 rings, 47 (44 to 52) long. Accessory piece possessing additional structures at aperture, 25 (23 to 27) long. Vagina opening dextrally, 45 (33 to 55) long. Gonads ovate. Testis postovarian. Seminal receptacle ovate. Vitellaria moderate, randomly distributed in trunk.

Remarks

This species resembles *U. alii* sp. n. in the nature of hook pair No. 5; however, its sharply flattened body and shape of the ventral anchors may be used to separate the two species. The species is named after the generic name of the host.

***Urocleidoides corydori* sp. n.**

(Figs. 3a–g)

Type host and locality: *Corydoras aeneus* (Gill); Talparo River near Brasil, Trinidad.

Specimens studied: 15.

Type specimens: Holotype, USNM Helm. Coll. No. 73166, 2 paratypes No. 73167, paratypes in second author's collection.

Description

Cuticle smooth, thin. Length 280 (260 to 310), width 140 (120 to 150). Cephalic area obscure. Eyespots two. Pharynx spherical, 33 (32 to 34). Peduncle short. Haptor subquadrate or crescent-shaped, 50 (40 to 65) long, 80 (75 to 85) wide. Dorsal and ventral anchors simple with well-developed superficial roots. Lengths: anchors 19 (18 to 21), basal parts 15 (14 to 16), superficial roots 10 (10 to 11), deep roots 2 (1 to 3), points 9 (8 to 9). Anchor filaments dual, well developed. Dorsal bar V-shaped, ends directed laterally; 33 (31 to 35) long, 2 (2 to 3) wide. Ventral bar straight, slightly enlarged ends, prominent posteromedian process; 30 (28 to 31) long, 2 (2 to 3) wide. Hooks similar in shape. Hook length pair Nos. 1, 5–13 (13 to 14), Nos. 2, 3, 4, 6–15 (14 to 17), No. 7–17 (16 to 19). Cirrus a straight tube, tapered anteriorly, 37 (35 to 38) long. Accessory piece simple bar, parallel to and basally articulated with cirrus, 37 (35 to 38) long. Accessory retractor connects cirrus with accessory piece. Vaginal opening sinistral. Gonads ovate. Testis postovarian. Vitellaria moderate, randomly distributed in trunk.

Remarks

The copulatory complex of this species resembles that of *Cleidodiscus* spp. but other morphological criteria are as those of *Urocleidoides*. The species is named after the generic name of the host.

***Urocleidoides curimatæ* sp. n.**

(Figs. 4a–g)

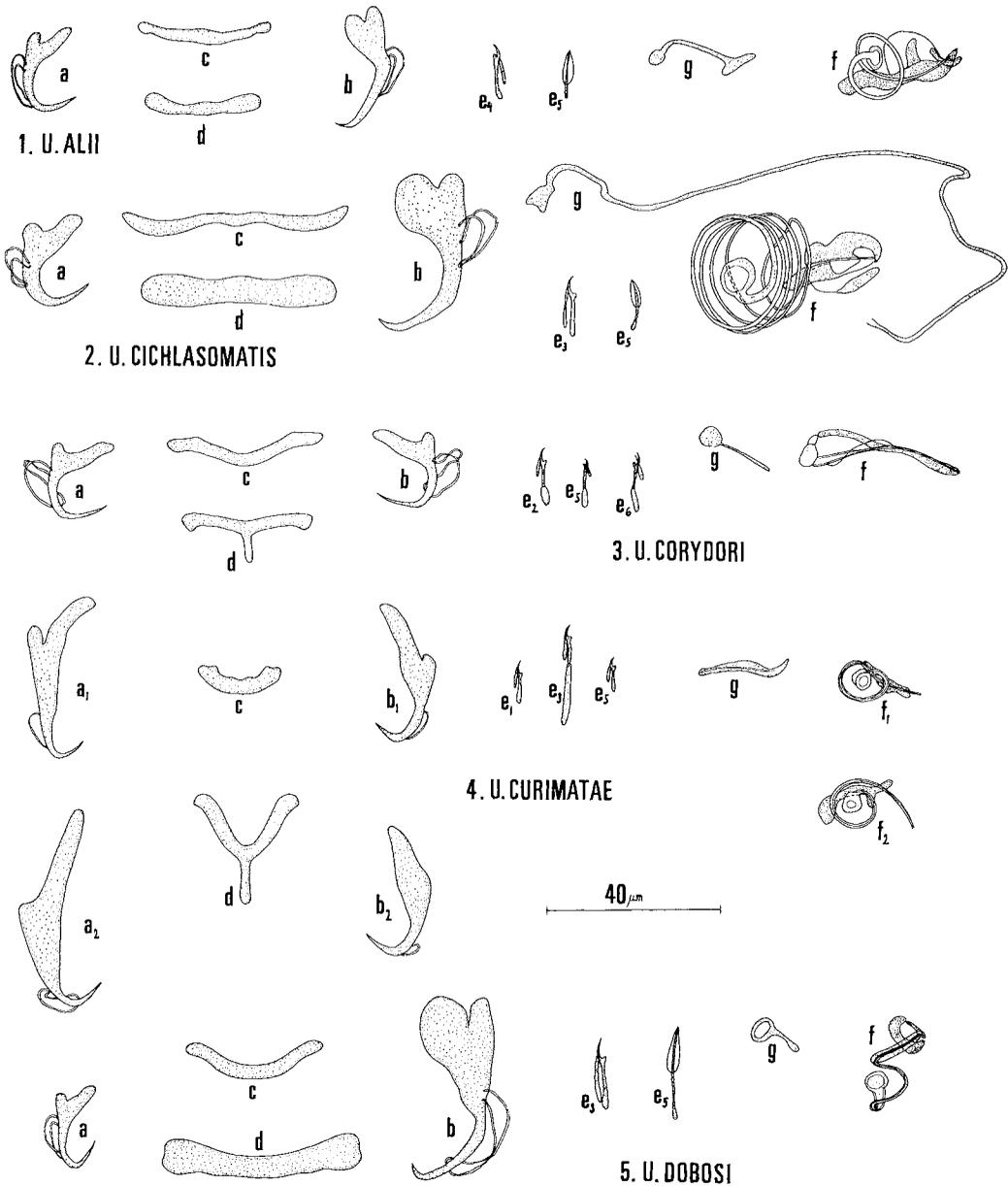
Type host and locality: *Curimata argentea* (Gill); Arouca River near D'Abadie, Trinidad.

Specimens studied: 20.

Type specimens: Holotype, USNM Helm. Coll. No. 73168, 2 paratypes No. 73169, paratypes in second author's collection.

Description

Cuticle smooth, thin. Length 230 (200 to 260), width 50 (40 to 55). Cephalic area obscure. Pharynx spherical, 13 (12 to 15). Haptor sub-tetragonal or crescent-shaped, 48 (42 to 52) long, 43 (40 to 47) wide. Dorsal anchors with well-developed superficial roots and short points. Lengths: anchor 45 (38 to 47), basal part 27 (26 to 29), superficial root 22 (14 to 26), deep root 2 (1 to 4), point 8 (7 to 9). Ventral anchors with well-developed superficial roots, sharply curved points. Lengths: anchor 32 (31 to 34), basal part 21 (20 to 23), superficial root 17 (15 to 18), deep root 1 (1 to 2), point 8 (7 to 9). Anchors of old specimens lacking deep roots. Anchor filaments dual, well developed. Dorsal bar with 4 enlargements anteriorly at ends and midportion, 11 (9 to 16) long, 4 (3 to 5) wide. Ventral bar V-shaped with prominent postero-



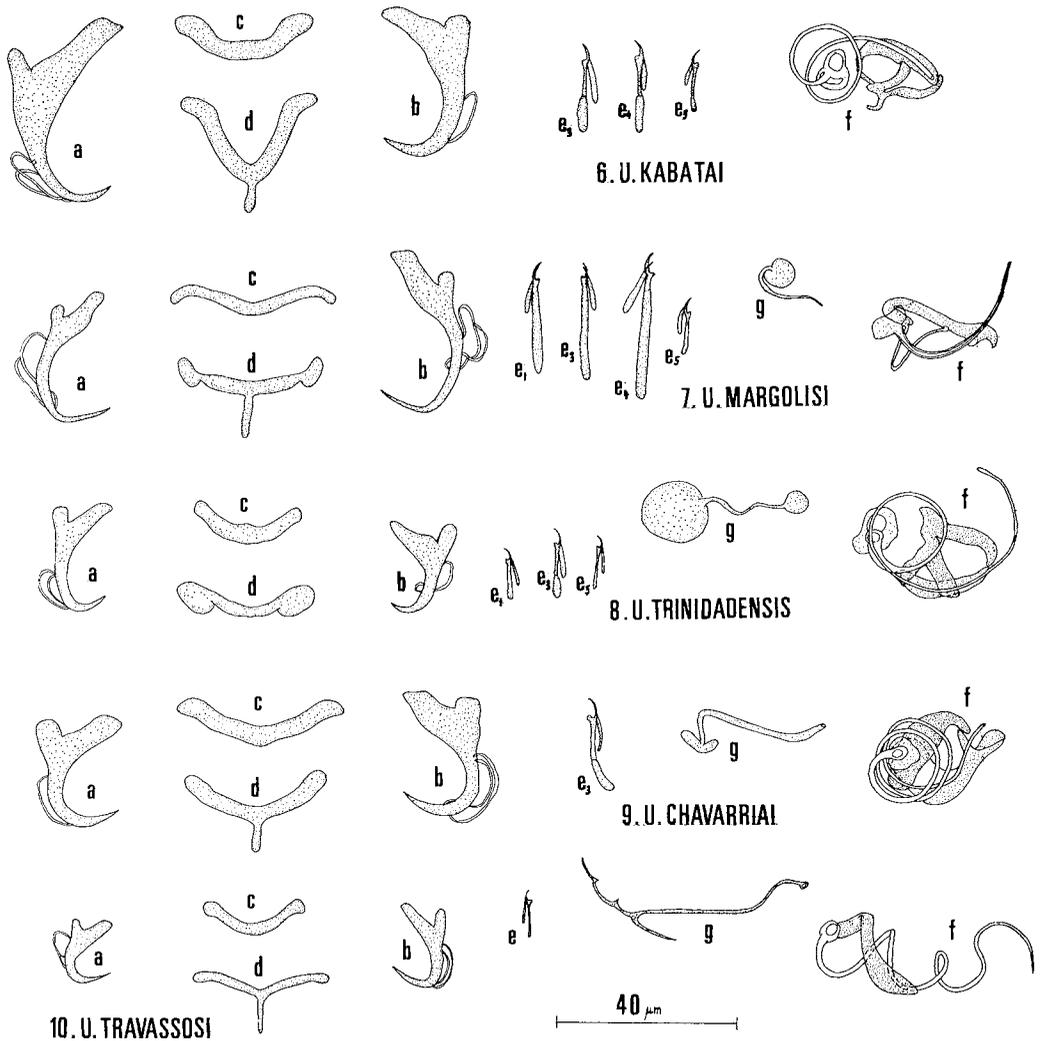
FIGURES 1-10. Ancyrocephalids from freshwater fishes of Trinidad. Species as labeled on the drawings. For all species: a, dorsal anchor (a₁—young specimen, a₂—old specimen); b, ventral anchor (b₁—young specimen, b₂—old specimen); c, dorsal bar; d, ventral bar; e, hooks (numbers indicate pair Nos.); f, copulatory complex (f₁—young specimen, f₂—old specimen); g, vagina.

median process, 27 (24 to 28) long, 4 (3 to 4) wide. Hooks similar in shape. Hook length pairs No. 1-11 (9 to 12), No. 2-13 (12 to 14), No. 3-24 (23 to 26), Nos. 4, 6-18 (17 to 20), No. 5-8 (7 to 9), No. 7-23 (22 to 24). Cirrus shaft coil of 1.5 rings, 17 (16 to 19). Accessory piece 15 (14 to 17) long. Shape of accessory piece different in young and old specimens. Va-

gina sclerotized in young specimens, 20 (19 to 22); not observed in old ones. Gonads ovate. Testis postovarian. Vitellaria dense, variable distribution in trunk.

Remarks

Urocleidoides curimatae may be distin-



FIGURES 1-10. (Continued).

guished from all other members of the genus by the structure of the anchors and bars. The species is named after the generic name of the host.

***Urocleidoides dobosi* sp. n.**
(Figs. 5a-g)

Type host and locality: *Cichlasoma bimaculatum* (L.); Nariva swamp, Trinidad.

Specimens studied: 10.

Type specimens: Holotype, USNM Helm. Coll. No. 73170, 2 paratypes No. 73171, paratypes in second author's collection.

Description

Cuticle smooth, thin. Body dorsoventrally

flattened. Length 280 (210 to 311), width 169 (130 to 201). Two cephalic lobes. Cephalic glands in 2 groups on each side. Posterior pair of eyes larger, about same distance apart. Pharynx spherical, 26 (20 to 29). Haptor subquadrate, 60 (41 to 75) long, 111 (101 to 131) wide. Dorsal anchors simple, well-developed roots. Lengths: anchor 21 (19 to 23), basal part 16 (15 to 16), superficial root 8 (7 to 8), deep root 3 (2 to 3), point 9 (8 to 9). Ventral anchors thin, prominent bases, finely pointed shafts. Lengths: anchor 40 (38 to 43), basal part 35 (32 to 36), superficial root 8 (5 to 9), point 16 (15 to 17). Anchor filaments dual, well developed. Dorsal bar slightly V-shaped, 31 (27 to 33) long, 3 (2 to 3) wide. Ventral bar massive, 45 (42 to

51) long, 6 (5 to 6) wide. Hook pairs 1, 2, 3, 4, 6, 7 similar, 14 (13 to 15) long, pair No. 5 embryonal type, 22 (21 to 23) long. Cirrus shaft coil of 1.5 rings, 21 (18 to 23) long. Accessory piece a cirrus guide, bulblike structure at aperture, 15 (13 to 17) long. Vagina with enlarged opening, 11 (8 to 13) long. Gonads ovate. Testis postovarian. Vitellaria moderate, randomly distributed in trunk.

Remarks

Urocleidoides doboosi closely resembles *U. cichlasomatis* sp. n. but differs in the nature of the copulatory complex and the shape of the ventral anchors. This species is named in honor of Dr. Peter Dobos, Department of Microbiology, University of Guelph, Guelph, Ontario.

Urocleidoides kabatai sp. n.

(Figs. 6a–f)

Type host and locality: *Astyanax bimaculatus* (L.); Cumuto River near Cumuto, Trinidad.

Specimens studied: 4.

Type specimens: Holotype, USNM Helm. Coll. No. 73172, 2 paratypes No. 73173, paratype in second author's collection.

Description

Cuticle smooth, thin. Length 501 (432 to 712), width 162 (131 to 182). Four cephalic lobes. Cephalic glands moderately developed, head organs inconspicuous. Posterior pair of eyes larger, about same distance apart. Pharynx ovate, 26 (24 to 30) by 32 (30 to 36). Haptor subquadrate or crescent-shaped, 72 (58 to 78) long, 71 (52 to 99) wide. Dorsal anchors massive, well-developed roots. Lengths: anchor 41 (39 to 43), basal part 31 (29 to 33), superficial root 21 (20 to 23), deep root 6 (5 to 7), point 9 (8 to 9). Ventral anchors massive, well-developed superficial roots. Lengths: anchor 35 (33 to 37), basal part 31 (30 to 33), superficial root 14 (13 to 15), deep root 3 (3 to 4), point 9 (8 to 10). Anchor filaments dual, well developed. Dorsal bar massive, elongate, 33 (32 to 35) long, 5 (4 to 5) wide. Ventral bar V-shaped, posteromedian process, 33 (32 to 35) long, 4 (4 to 5) wide. Hooks similar in shape, massive. Hook length pair Nos. 1, 2, 3, 6, 7—20 (17 to 21), No. 4—24 (23 to 26), No. 5—15 (14 to 16). Cirrus shaft coil of 2 rings, 32 (29 to 34) long. Accessory piece with 2 supporting processes, 21 (20 to 23) long. Vagina muscular. Gonads ovate. Testis postovarian. Vitellaria dispersed throughout trunk.

Remarks

Urocleidoides kabatai appears to be most closely related to *Cleidodiscus chavarriai* Price, 1938. It may be distinguished, however, by

the structure of the copulatory complex. The species is named in honor of Dr. Z. Kabata, Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C.

Urocleidoides margolisi sp. n.

(Figs. 7a–g)

Type host and locality: *Corydoras aeneus* (Gill); Talparo River near Brasil, Trinidad.

Specimens studied: 20.

Type specimens: Holotype, USNM Helm. Coll. No. 73174, 2 paratypes No. 73175, paratypes in second author's collection.

Description

Cuticle smooth, thin. Length 271 (182 to 311), width 102 (81 to 112). Two cephalic lobes. Eyespots two. Pharynx spherical, 20 (18 to 22). Haptor subquadrate, 55 (51 to 62) long, 65 (61 to 72) wide. Dorsal anchors slender, well-developed roots. Lengths: anchor 30 (29 to 32), basal part 24 (23 to 25), superficial root 10 (9 to 12), deep root 3 (3 to 4), point 11 (10 to 12). Ventral anchors slender, well-developed roots. Lengths: anchor 35 (33 to 37), basal part 27 (26 to 29), superficial root 13 (12 to 13), deep root 4 (3 to 4), point 11 (10 to 11). Anchor filaments dual, well developed. Dorsal bar V-shaped, laterally directed ends, 35 (34 to 37) long, 3 (3 to 4) wide. Ventral bar straight, enlarged ends, prominent posteromedian process, 33 (32 to 35) long, 3 (2 to 4) wide. Hooks similar in shape. Hook length pair No. 1—24 (22 to 27), Nos. 2, 3, 6, 7—28 (26 to 30), No. 4—34 (32 to 36), No. 5—13 (12 to 14). Cirrus curved tube, tapered anteriorly, 35 (33 to 37) long. Accessory piece simple, elongate, basal part and sickle-shaped terminal portion bent, 27 (24 to 29) long. Cirrus and accessory piece basally articulated, further connected by accessory retractor. Vagina with opening portion enlarged, 9 (7 to 13) long. Gonads ovate. Testis postovarian. Vitellaria inconspicuous. Egg flattened on one side, 58 (57 to 60) by 41 (40 to 44).

Remarks

Urocleidoides margolisi most closely resembles *U. corydori* sp. n. in the nature of the copulatory complex and eyespots; however, the shape and size of its anchors and hooks may be used to separate the two species. The species is named in honor of Dr. L. Margolis, Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C.

Urocleidoides trinidadensis sp. n.

(Figs. 8a–g)

Type host and locality: *Astyanax bimaculatus* (L.); Cumuto River near Cumuto, Trinidad.

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

Specimens studied: 20.

Type specimens: Holotype, USNM Helm. Coll. No. 73176, 2 paratypes No. 73177, paratypes in second author's collection.

Description

Cuticle smooth, thin. Length 430 (351 to 492), width 201 (111 to 262). Four cephalic lobes; cephalic glands well visible, head organs inconspicuous. Posterior pair of eyes larger, about same distance apart. Pharynx spherical, 28 (25 to 31). Haptor variable in shape, 70 (55 to 78) long, 75 (65 to 91) wide. Dorsal anchors with well-developed roots. Lengths: anchor 24 (23 to 25), basal part 20 (20 to 22), superficial root 9 (8 to 9), deep root 3 (2 to 3), point 7 (6 to 8). Ventral anchors with well-developed roots. Lengths: anchor 20 (18 to 22), basal part 18 (17 to 20), superficial root 12 (10 to 13), deep root 4 (3 to 5), point 6 (5 to 6). Anchor filaments dual, well developed. Dorsal bar with anteriorly bent ends, 26 (24 to 28) long, 3 (3 to 4) wide. Ventral bar slightly curved, enlarged ends, 28 (26 to 29) long, 2 (1 to 2) wide. Hooks normal in distribution, similar in shape. Hook length pair Nos. 1, 5—10 (9 to 11), others 14 (13 to 16). Cirrus shaft coil of 1.5 rings, doubled cirrus base, 36 (30 to 38) long. Accessory piece composed of cirrus guide and 2 supporting processes, 21 (17 to 26) long. Vaginal tube with enlarged ends, 34 (29 to 36) long. Gonads ovate. Testis post-ovarian. Vitellaria dense, distributed in trunk as two bilateral bands approximately coextensive with crura.

Remarks

The copulatory complex of *Urocleidoides trinidadensis* appears to be closely related to that of *U. kabatai* sp. n. The structure of anchors, bars, and hooks of these species, however, is quite different.

Urocleidoides chavarriai (Price, 1938) comb. n.

(Figs. 9a–g)

Synonym: *Cleidodiscus chavarriai* Price, 1938.

Hosts and locality: *Rhamdia quelen* (Quoy and Gaimard), *R. sebae* (Valenciennes): Cumuto River near Coryal, Trinidad.

Specimens studied: 7 (3 specimens—USNM Helm. Coll. No. 73178).

Redescription

Cuticle smooth, thin. Length 380 (265 to 392), width 65 (58 to 81). Four cephalic lobes; cephalic glands moderately developed, head organs inconspicuous. Eyespot granules common in cephalic area, anterior trunk. Pharynx spherical, 20 (13 to 28). Haptor crescent-shaped, 61 (52 to 71) long, 72 (61 to 82) wide. Dorsal anchors

with well-developed roots, sharply curved points. Lengths: anchor 25 (24 to 26), basal part 20 (18 to 21), superficial root 12 (9 to 13), deep root 4 (2 to 5), point 11 (10 to 11). Ventral anchors with well-developed roots. Lengths: anchor 28 (24 to 30), basal part 24 (20 to 25), superficial root 12 (11 to 12), deep root 2 (1 to 2), point 10 (9 to 12). Anchor filaments dual, well developed. Dorsal bar curved anteriorly, 32 (30 to 33) long, 3 (3 to 4) wide. Ventral bar with enlarged ends, prominent posteromedian process, 29 (27 to 30) long, 3 (3 to 4) wide. Hooks similar in shape, 19 (17 to 21) long. Cirrus shaft coil of 2.5 rings, 31 (26 to 34) long. Accessory piece composed of large cirrus guide and one supporting process, 21 (19 to 26) long. Vagina with enlarged ends, 21 (19 to 26) long. Gonads elongate. Testis postovarian. Seminal receptacle, seminal vesicle round. Vitellaria dense, distributed in trunk as 2 bilateral bands approximately coextensive with crura.

Remarks

Price (1938) described *Cleidodiscus chavarriai* from the gills of *Rhamdia rogersi* (Regan) from Costa Rica. Despite his short description, the structure of the copulatory complex and the haptor armament characteristic of *Urocleidoides* clearly places the species in this genus as emended by Mizelle et al. (1968). *Cleidodiscus chavarriai* Price, 1938, thus becomes *Urocleidoides chavarriai* comb. n.

Urocleidoides travassosi (Price, 1938) comb. n.

(Figs. 10a–g)

Synonym: *Cleidodiscus travassosi* Price, 1938.

Hosts and locality: *Rhamdia quelen* (Quoy and Gaimard), *R. sebae* (Valenciennes): Cumuto River near Coryal, Trinidad.

Specimens studied: 9 (3 specimens—USNM Helm. Coll. No. 73179).

Redescription

Cuticle smooth, thin. Length 390 (321 to 472), width 85 (75 to 91). Cephalic area obscure. Eyespots four, variable in size, about same distance apart. Pharynx circular, 26 (24 to 28). Haptor crescent-shaped, terminally divided, 45 (41 to 52) long, 55 (42 to 61) wide. Dorsal anchors with well-developed superficial roots. Lengths: anchor 17 (16 to 17), basal part 13 (12 to 14), superficial root 6 (5 to 6), deep root 3 (2 to 3), point 9 (8 to 10). Ventral anchors with well-developed roots. Lengths: anchor 20 (19 to 21), basal part 14 (13 to 15), superficial root 8 (7 to 9), deep root 5 (4 to 5), point 8 (8 to 9). Anchor filaments dual, well developed. Dorsal bar slightly V-shaped, 23 (22 to 25) long, 2 (2 to 3). Ventral bar V-shaped with prominent posteromedian process, 30 (29 to 31) long, 2 (1

to 2) wide. Hooks similar in shape, 9 (8 to 10) long. Cirrus shaft spiral, 45 (44 to 47) long. Accessory piece elongate, 29 (24 to 32) long. Vagina opening into sclerotized shield, 36 (26 to 39) long. Gonads ovate. Testis postovarian. Seminal receptacle, seminal vesicle round. Vitellaria dense, distributed in trunk as 2 bilateral bands approximately coextensive with crura.

Remarks

The copulatory complex and haptor armaments of our specimens are identical with those described as *Cleidodiscus travassosi* from the gill of *Rhamdia rogersi* by Price (1938). This species becomes *Urocleidoides travassosi* comb. n. on the basis of possession of morphological features characteristic of *Urocleidoides* as emended by Mizelle et al. (1968).

PREVIOUSLY DESCRIBED SPECIES

In addition to the eight new species and the redescription of *U. chavarriai* comb. n. and *U. travassosi* comb. n., two previously described species of ancyrocephalids were found. They are listed below, followed by their host(s), and locality.

Urocleidoides costaricensis (Price and Bussing, 1967) Kritsky and Leiby, 1972; *Astyanax bimaculatus* (L.), Cumuto River near Cumuto, Trinidad. *Curimata argentea* (Gill), Arouca River near D'Abadie, Trinidad.

Unilatus unilatus Mizelle and Kritsky, 1967, *Hypostomus robinii* (Valenciennes), Talparo River near Talparo, Trinidad.

Remarks

The present findings represent three new host records and new distribution records. The measurements of both species fall into the range given by Kritsky and Leiby (1972) and Mizelle and Kritsky (1968), respectively.

CONCLUDING REMARKS

This study is the first report on Monogenea from freshwater fishes of Trinidad. It appears that the host specificity of the reported ancyrocephalids is not as strong as exhibited by North American species of these genera. Findings of *Urocleidoides costaricensis* from *Astyanax fasciatus*, *A. bimaculatus*, and *Curimata argentea*; *U. trinidadensis* sp. n. from *Astyanax bimaculatus* and *Curimata argentea*; and *Unilatus unilatus* from *Plecostomus* sp. and *Hypos-*

tomus robinii are examples of the lack of strict host specificity. The records of *Urocleidoides costaricensis* and *Unilatus unilatus* in Trinidad and records of these parasites from Costa Rica (Kritsky and Leiby, 1972; Price and Bussing, 1967) and from the Amazon River basin (Mizelle et al., 1968), respectively, indicate a wide distribution range for these species.

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