TWO NEW SPECIES OF GYRODACTYLUS (TREMATODA: MONOGENEA) AND A REDescription AND NEW HOST RECORD FOR G. PROLONgIS HARGIS, 1955*

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ABSTRACT: Two new gyrodactyloid Monogenea, Gyrodactylus hargisi and G. mobilensis, are described from the sheepshead minnow, Cyprinodon variegatus Lacépède. Gyrodactylus prolongis Hargis, 1955, is redescribed from its original host, the gulf killifish, Fundulus grandis Baird and Girard, and from a new host, the sheepshead minnow, C. variegatus.

Hosts were collected by seine and kept alive until examined. All fishes were examined within 1 day after capture. The parasites were placed in a solution of hot 5% formalin. All measurements used in this paper followed Rogers and Wellborn's (1965) method and were made from formalin-hardened specimens mounted in glycerine jelly. Haptoral descriptions are after Mizelle and Kritsky (1967), and Kritsky and Mizelle (1968).

All measurements are in microns. Averages are to the nearest micron and ranges are in parentheses (unless otherwise noted). The illustrations were drawn with the aid of a camera lucida.

*Gyrodactylus hargisi* sp. n. (Figs. 8–10)

Synonym: Gyrodactylus sp. of Hargis, 1955.
Host and locality: *Cyprinodon variegatus* Lacépède, sheepshead minnow, tidal pool on northern side of Dauphin Island, Alabama.
Location on host: Gill filaments.
Specimens studied: 14 (10 measured).
*Type specimens:* Type and one paratype USNM Helm. Coll. Nos. 71759 and 71760. Paratypes in authors' collections.

Description

Length 201 (147 to 288), greatest width 45 (40 to 49). Haptor oval, 41 (33 to 54) long by 46 (40 to 56) wide with 16 extramural marginal hooks. Anchors stout, 30 (29 to 31) from tip of base to most distant point of curvature; length of point 8 (4 to 11). Length of dorsal bar 14 to 16, width at center 1. Length of ventral bar 18 to 20; width at center 2 to 3; with lateral anterior projections that extend from ventral bar at approximately a 45° angle. Shield of ventral bar 9 to 11 long; width at proximal end 11 to 13; with lateral marginals rapidly tapering to rounded distal end. Length of marginal hooks 6 to 7 from base to point of curvature; shaft 14 (11 to 17) long. FH (filamentous hook) loop 4. Cirrus 10 (8 to 13) in diameter, median, posterior to pharynx, with internal structure not clear. Head organs poorly developed. Pharyngeal lobes approximately equal, transverse diameter 20 (15 to 26).

Remarks


This species was originally described as *Gyrodactylus* sp. by Hargis (1955). The species was named in honor of Dr. William J. Hargis.

*Gyrodactylus mobilensis* sp. n. (Figs. 12–16)

Host and locality: *Cyprinodon variegatus* Lacépède, sheepshead minnow, tidal pool on northern side of Dauphin Island, Alabama.
Location on host: Gill filaments.
Specimens studied: 11 (10 measured).
*Type specimens:* Type and one paratype USNM Helm. Coll. Nos. 71761 and 71762. Paratypes in authors' collections.

Description

Length 262 (232 to 302), greatest width 60 (53 to 71). Haptor oval, 41 (34 to 45) long by 46 (38 to 56) wide, extramural marginal hooklets.

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Anchors stout, 30 (29 to 31) from tip of base to most distant point of curvature; length of point 1 to 2. Length of dorsal bar 17 (16 to 19), width at center 1. Ventral bar curving posteriorly at center with lateral anterior projections that extend from ventral bar at approximately a 45° angle; length 19 (18 to 21), width at center 2 to 3. Shield of ventral bar 10 (9 to 11) long; width at proximal end 11 to 13. Length of marginal hooks 4 to 5 from base to point of curvature; shank 14. FH loop 6 (5 to 7). Cirrus 9 to 10 in diameter, median posterior to pharynx, with large spine and 5 spinelets. Pharyngeal lobes approximately equal, transverse diameter 20 (19 to 25).

Remarks

*Gyrodactylus mobilensis* most closely resembles *G. stephanus* Mueller, 1937, by the anterior expansion of the anchors and an anterior anchor fold. It differs by having smaller lateral anterior projections of the ventral bar which do not extend to the anterior anchor folds as in *G. stephanus*.

*Gyrodactylus prolongis* Hargis, 1955

(Figs. 1–7)

**Hosts and localities:** *Cyprinodon variegatus* Lacépède, sheepshead minnow, north side of Dauphin Island, Alabama; and *Fundulus grandis*, Baird and Girard, Gulf killifish, Mobile Causeway, Baldwin County, Alabama.

**Previously reported hosts and localities:** *F. grandis*, Alligator Harbor, Franklin Co., Florida; and *F. heteroclitus*, mummichog, Woods Hole, Mass.

**Specimens studied:** Holotype, USNM Helm. Coll. No. 49331, certain structures indistinct; 1 from *C. variegatus* and 2 from *F. grandis*. Hypotype from *F. grandis* deposited in USNM Helm. Coll. and assigned No. 71758.

Redescription

The range of measurements is given with the original measurements in parentheses.

Greatest length 290 to 435 (312 to 376), greatest width 80 to 83 (57 to 89). Haptor oval 82 to 89 (76 to 83) long by 62 to 89 (44 to 51), with 18 extramarginal marginal hooks. Anchors large 67 to 77 (74 to 78) from tip of base to most distant point of curvature; length of point 17 to 20. Length of dorsal bar 21 to 22 (9 to 14), width at center 3 to 4 (5 to 8) with ends expanded. Length of ventral bar 21 to 23 (18 to 23); width at center 9 (5 to 7); with long relatively narrow anterior lateral projections; length 7 to 11 measured to anterior edge of ventral bar. Shield of ventral bar 27 to 29 long, width at proximal end 16 to 18, width at distal end 20 to 22; with lateral margins expanding to a straight distal margin. Length of marginal hooks 5 to 7 (41) (shaft and hook) from tip of base to most distant point of curvature; shank 33 to 38 long. FH loop 14 to 15. Sclerotized peduncular bar present on ventral surface of peduncle slightly anterior to haptor, width of bar 53 to 57 from tip to tip, height of bar 14 to 17. Peduncular bar characterized by a single row of elongate pits near the anterior margin. Cirrus pouch 12 to 16 (9 to 12) in diameter, median just posterior to pharynx. Cirrus with 1 large spine and 4 spinelets. Pharynx oblong, length 27 to 31 (22), width 18 to 27 (27).

Remarks

This is the third species of *Gyrodactylus* that possesses a peduncular bar. It differs from the other species, *G. megacanthus* Wellborn and Rogers, 1967, and *G. trematoclitrus* Rogers, 1967, in the shape of the shield and dorsal bar. It differs from *G. megacanthus* by the peduncular bar having many small oblong pits. The justification for the redescription is based on the morphology of the peduncular bar. Hargis (1955) described it as cuticularized points of a peduncular skirt when it is in reality a distinct peduncular bar with oblong pits. The occurrence of this parasite on *Cyprinodon variegatus* constitutes a new host record and the collection sites, Dauphin Island and Mobile Bay, constitute new locality records.

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LITERATURE CITED


