6-1976

*Neodeuterobaris pritchardae* gen. et sp. n. (Digenea: Microscaphidiidae) in a Sideneck Turtle, *Podocnemis lewyana* Dumeril 1852, from Colombia

Daniel R. Brooks  
*University of Toronto, dnlbrooks@gmail.com*

Follow this and additional works at: [https://digitalcommons.unl.edu/parasitologyfacpubs](https://digitalcommons.unl.edu/parasitologyfacpubs)  
Part of the [Parasitology Commons](https://digitalcommons.unl.edu/parasitologyfacpubs)

[https://digitalcommons.unl.edu/parasitologyfacpubs/215](https://digitalcommons.unl.edu/parasitologyfacpubs/215)

This Article is brought to you for free and open access by the Parasitology, Harold W. Manter Laboratory of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications from the Harold W. Manter Laboratory of Parasitology by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
NEODEUTEROBARIS PRITCHARDAE GEN. ET SP. N. (DIGENEA: MICROSCAPHIDIIDAE) IN A SIDENECK TURTLE, Podocnemis lewyana Dumeril 1852, FROM COLOMBIA*

Daniel R. Brooks
Gulf Coast Research Laboratory, Parasitology Section, Ocean Springs, Mississippi 39564

ABSTRACT: Neodeuterobaris pritchardae in the stomach of the freshwater turtle, Podocnemis lewyana, from Colombia resembles members of Deuterobaris in possessing ventral glands, a dorsal oral hood, and vitelline follicles confluent posteriorly, but apparently differs from them by possessing 5 rather than 7 rows of ventral glands; by lacking ventral spines, extracecal uterine loops, and a muscular esophageal bulb; and by inhabiting the stomach of freshwater turtles rather than the intestine of marine turtles. Those characters are considered significant enough to erect a new genus. Diagnosis of the Deuterobaridinae is emended to accommodate the new species.

This report describes a new species of digenean belonging to the family Microscaphidiidae Travassos 1922 found in the stomach of Podocnemis lewyana Dumeril 1852 (Chelonia: Pelomedusidae) in Colombia. The genus Podocnemis Wagler is composed of seven species of sideneck turtles found in South America and one species found in Madagascar. Digeneans have previously been reported for five of the South American species: P. expansa (Schweigger) (8 sp.), P. cayanensis (Schweigger) (= P. erythrocephala and P. tracaza) (3 sp.), P. unifilis (Troschel) (2 sp.), P. dumeriliana (Schweigger) (1 sp.), and P. vogli (Müller) (1 sp.).

Three specimens of Podocnemis lewyana were collected at night with the aid of a throw net and headlamp from the Quebrada Doña Juana in the vicinity of La Dorada, Caldas, Colombia, and examined within 12 hr. Five specimens of the digenean were found in the stomach of one turtle. They were examined live with the aid of a stereoscope, then flattened with slight coverslip pressure, fixed with AFA, and stored in 70% ethanol. All were stained with Mayer’s hematoxylin. Four were mounted in Canada balsam for study as whole mounts. The fifth was retained as an alcoholic specimen for study of the ventral glands, which are not visible in the whole mounts. Host specimens are in the Kansas University Museum. All measurements are in micrometers unless otherwise stated; figures were drawn with the aid of a drawing tube.

Deuterobaridinae Looss 1902 Emended

Diagnosis: Body oval, with or without 2 posterior projections of the body, with or without spines on ventral surface, with longitudinal rows of ventral glands. Dorsal cephalic lobe containing oral sucker projecting over dorsal body surface. Oral diverticula present or lacking. Muscular esophageal bulb at posterior end of esophagus present or absent. Ceca terminating near posterior end of body. Testes tandem or oblique, in middle third of body. Cirrus sac absent. Ejaculatory duct short, straight, tubular. Pars prostatica relatively short. Metraterm shorter or longer than pars prostatica. Genital pore ventral to esophagus. Ovary posttesticular. Vitellaria follicular; follicles extracecal and intercecal in posterior half of body, confluent near cecal tips. Lymphatic system accompanying ceca, branched at periphery of body. Excretory system with V-shaped vesicle. Parasites in stomach and intestine of marine and freshwater turtles.

Type genus: Deuterobaris Looss 1902.

Other genus:

Neodeuterobaris gen. n.


Type and only species:

Neodeuterobaris pritchardae sp. n. (Figs. 1–6)

Description (based on 4 mounted and 1 unmounted stained specimens): Body elongate, extremely muscular, 3.08 to 4.18 mm long by 1.70 to 2.02 mm wide; with 2 weakly developed pro-

Received for publication 12 November 1975.

* Funds for this study were provided through a grant from the National Geographic Society to Dr. Thomas B. Thorson, University of Nebraska.

THE JOURNAL OF PARASITOLOGY
Figures 1-6. *Neodeuterobaris pritchardae*, from a sideneck turtle from Colombia. 1. Holotype, ventral view. 2. Ventral glands of unmounted specimen. 3. Ootype, dorsal view. 4. Terminal genitalia, ventral view. 5. Oral sucker, ventral view. 6. Oral hood, dorsal view. Legend: Ga, genital atrium; Gp, genital pore; L, Laurer’s canal; M, Mehlis’ gland; Me, metraterm; O, ovary; Pp, pars prostatica; S, seminal vesicle; V, vitelline receptacle.

jections at posterior end. Ventral glands in posterior 3/4 of ventral surface. Oral sucker terminal, protrusible, 28 to 48 long by 36 to 48 wide; diverticula large, glandular, 192 to 216 long by 240 to 300 wide; walls muscular. Esophagus 144 to 280 long, dilated at intestinal bifurcation; bifurcation 1/4 body length from anterior end. Ceca sinuous, extending to within 13 to 15% body length of posterior end. Testes intercical, tandem to slightly oblique, deeply lobed; anterior testis 466 to 564 long by 600 to 640 wide, posterior testis 384 to 660 long by 552 to 708 wide; anterior testis 15 to 19% body length from bifurcation. Seminal vesicle saccate, winding, 400 to 500 long; pars prostatica extremely short. Genital pore ventral to esophagus, 1/2 distance from bifurcation to oral sucker. Genital atrium simple, 80 to 100 long. Metraterm ventral to and as long as seminal vesicle. Uterus coiled, extending posteriorly between testes and slightly postovarian, recurving to ootype. Ovary posttesticular, median, 132 to 193 long by 132 to 156 wide, 28 to 35% body length from posterior end of body. Ootype immediately postovarian; uterine seminal receptacle present; Laurer’s canal and Mehlis’ gland present. Extracceal pair of vitelline follicles extend to midline of posterior testis, posterior pair confluent at cecal tips. Vitelline receptacle dorsolateral to ootype. Eggs 138 to 149 long by 58 to 92 wide. Excretory pore dorsal, postcecal; excretory plexus present. Lymphatic system composed of 2 pairs of tubules accompanying ceca.

Host: *Podocnemis lewiskyana.*

Site: Stomach.

Locality: Quebrada Doña Juana, vic. La Dorada, Caldas, Colombia.

The species is named in honor of Mary Hanson Pritchard, curator of the Harold W. Manter Laboratory of Parasitology, in recognition of her contributions to digenean taxonomy.

DISCUSSION

Brandes (1891) described Monostomum proteus from Chelone virdis L. (= Chelonia mydas L.) from an undisclosed locality; Looss (1902) erected the genus Deuterobaris and subfamily Deuterobardinæ for it, characterized by the presence of oral diverticula, spination on the ventral body surface and ventral glands. Neodeuterobaris pritchardæ resembles Deuterobaris more closely than any other microscaphidiid genus since it possesses ventral glands, a dorsal oral hood, and vitelline follicles confluent posteriorly. It differs in having two projections of the posterior end of the body and five rather than seven rows of ventral glands; by lacking ventral spines, extracecal uterine loops, and an esophageal bulb; and by inhabiting the stomach of a freshwater turtle rather than the intestine of a marine turtle.

Gupta (1961) described Deuterobaris chelonei from Chelone mydas (= Chelonia m.) from Trinidad, placing it in the genus without discussing the presence of ventral glands, or the absence of oral diverticula. No type specimens were designated, nor was any record of deposition of type material given in the publication. I have tried unsuccessfully to obtain specimens from the Canadian National Museum and from Dr. S. P. Gupta.

Yamaguti (1971) gave an expanded diagnosis of the Deuterobardinæ, listing Deuterobaris proteus and D. chelonei as its only members, but his diagnosis clearly excludes the latter species. Despite an incomplete knowledge of D. chelonei, I believe the species should be retained in the subfamily at the present time. Accordingly, with the description of N. pritchardæ, the subfamily diagnosis has been emended to include all species presently associated with it.

Of the 14 species of digeneans known to parasitize species of Podocenemis, seven belong in the superfamily Paramphistomoidea (Stiles and Goldberger 1910) Yamaguti 1971: five in the Paramphistomidae Fischoder 1901 and two in the Microscaphidiidae Travassos 1922. Podocenemiteræa papillosum Alho and Vicente 1964, the only microscaphidiid besides Neodeuterobaris pritchardæ known from freshwater turtles in South America, was described from the stomach of Podocenemis expansa from Brazil (Alho and Vicente 1964). Despite sharing the same genus of host and site of infection, P. papillosum differs greatly from N. pritchardæ since it has an oral sucker sunken into the anterior portion of the body which communicates with the exterior through a tube, no ventral glands, testes extending extracecally, and vitelline follicles not confluent posteriorly.

ACKNOWLEDGMENTS

The author appreciates the assistance of Dr. John D. Lynch, University of Nebraska, for host identifications; Dr. Rita O'Clair, Curator of Invertebrates of the Canadian National Museum, for her aid in attempting to find specimens of Deuterobaris chelonei; and Dr. Robin M. Overstreet, Gulf Coast Research Laboratory, for his aid in the preparation of this manuscript.

LITERATURE CITED