

Paradiscogaster eniwetokensis n. sp. (Fellodistomidae: Trematoda)
from Eniwetok, Marshall Islands¹

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ABSTRACT: *Paradiscogaster eniwetokensis* n. sp. is described. It was found in the intestines of seven of nine specimens of the fish *Chaetodon strigangulus* (Gmelin) collected at Eniwetok, Marshall Islands.

ON FEBRUARY 23, 1957 one of us (W. E. M.) examined for parasites nine specimens of the fish *Chaetodon* (*Megaprotodon*) *strigangulus* (Gmelin), collected at Eniwetok, Marshall Islands. Seven of these harbored a small, orange-red trematode that contrasted with the green-gray contents of the fish intestines. The worms were fixed in cold Heidenhain's under light cover glass pressure, stained with celestine blue B, and mounted in H.S.R. microscopic mounting medium. They are described as a new species of the genus *Paradiscogaster*. The description is based on fourteen specimens and the measurements are expressed in millimeters unless indicated otherwise.

Family FELLODISTOMIDAE (Nicoll, 1913)
Genus *Paradiscogaster* Yamaguti, 1934

Paradiscogaster eniwetokensis n. sp.

Fig. 1

Body oval to pyriform, orange-red in life. Body length 0.42–0.6, body width 0.196–0.322. Tegument bearing fine spines over most of body. Oral sucker length (anterior-posterior) 0.065–0.090, width 0.087–0.106, subterminal. Acetabulum length 0.182–0.252, width 0.24, in midbody. Prepharynx very short; pharynx nearly spherical 0.028–0.037 long and 0.028–0.034 wide. Esophagus length varies with degree of extension of anterior part of body. Ceca short, saccular, reaching to acetabulum. Testes two in posterior part of body, side by side, oval, 0.062–0.078 long and 0.037–0.075 wide. Cirrus sac elongate, enclosing bipartite seminal vesicle, well-developed prostate complex and weakly

developed cirrus, length 0.098–0.182, width 0.037–0.050, extending posteriorly from genital pore to overlap acetabulum. Genital pore ventral about midway between suckers when anterior part of body is extended, serves as exit for both male and female systems. Vitellaria lateral at level of anterior portion of acetabulum, 7 to 10 follicles on each side. Seminal receptacle spherical, sometimes larger than ovary, between ovary and testes in hind body. Ovary oval to spherical, usually on right side, a short distance anterior to testes in hind body, approximately 0.043 in diameter. Loops of uterus extending from near posterior end of body to near mid-acetabular level, then anteriorly to genital pore. Eggs oval, 22–25 μ long and 12–15 μ wide, average 23 μ long and 13 μ wide.

HOST: *Chaetodon strigangulus* (Gmelin).

HABITAT: Intestine.

LOCALITY: Eniwetok, Marshall Islands.

DATE COLLECTED: February 23, 1957.

DEPOSITED: Type (circled on slide) and 5 paratypes in Hancock Foundation, Parasitology Collection, University of Southern California.

DISCUSSION

Yamaguti (1934) established the genus *Paradiscogaster* for *P. pyriformis* that he found in the small intestine of a pleuronectid fish caught in Japan, later (1951) designated *Pleuronichthys cornatus*. He has spelled this species name *piriformis* in later works (1938, 1953, 1958). Yamaguti (1938) described another species, *P. chaetodontis*, found in *Chaetodon collaris* in Japan and in *C. strigangulus* and *C. trifasciatus* in Okinawa. Srivastava

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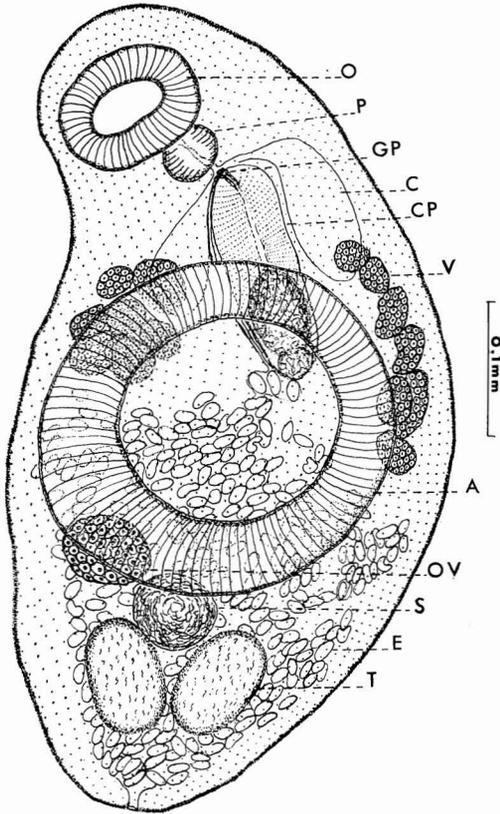


FIG. 1. *Paradiscogaster eniwetokensis*. A, Acetabulum; C, cecum; CP, cirrus pouch; E, egg; GP, genital pore; O, oral sucker; OV, ovary; P, pharynx; S, seminal receptacle; T, testis; V, vitelline follicle. Drawing made with aid of a camera lucida.

(1939) described *Discogasteroides caranxi* from the fish *Caranx kalla* obtained in the Bay of Bengal, India. Yamaguti (1953) transferred *Discogasteroides caranxi* to *Paradiscogaster*. *P. eniwetokensis* differs from all of these in having

fewer vitelline follicles, not more than 10 on each side of the body, while other species have from 15 to 38. It has smaller eggs, suckers, ovary, cirrus pouch, and body size than all the other species. These differences could not be due to a difference of host in the case of *P. chaetodontis* for it was found in the same host, *Chaetodon strigangulus*.

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LITERATURE CITED

- SRIVASTAVA, H. D. 1939. New fellodistomids (Trematoda) from Indian hosts. Part II. Three new parasites of the subfamily Discogasteroidinae from Indian marine food-fishes. *Indian Journal of Veterinary Science and Animal Husbandry*, vol. 9, pp. 91-95.
- YAMAGUTI, S. 1934. Studies on the helminth fauna of Japan. Part 2. Trematodes of fishes, 1. *Japanese Journal of Zoology*, vol. 5, pp. 249-541.
- 1938. Studies on the helminth fauna of Japan. Part 21. Trematodes of fishes, IV. Published by the author. 139 pp.
- 1951. Studies on the helminth fauna of Japan, 44. Trematodes of fishes, IX. *Arbeiten aus der Medizinischen Universität zu Okayama*, vol. 7, pp. 247-282.
- 1953. *Systema Helminthum*. Part I. Digenetic trematodes of fishes. Published by the author. 405 pp.
- 1958. *Systema Helminthum*. Digenetic trematodes. New York, Interscience Publishers. 1575 pp.