

Echinobothrium euzeti, a New Cestode from the Spiral Valve of a Chilean Elasmobranch

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ABSTRACT: A new cestode, *Echinobothrium euzeti* sp. n. is described from the skate *Psammobatis lima* (Poëppig, 1835) taken in coastal waters off Constitución, Chile. The species is distinguished from others in the genus by attaining a size of 5.5 cm, rostellar armature of 25 large hooks flanked by six to seven hooklets per side, 100 to 107 spines per row on the cephalic peduncle, 37 to 42 testes per mature segment, and smooth ovarian lobes.

While examining the spiral valves of elasmobranchs taken in Chilean coastal waters during the summers of 1977-1978, several new cestodes were discovered. Among them were specimens of *Echinobothrium* having distinctive features indicating that it is new. The scolex is very characteristic of other species but the long cephalic peduncle and size of the worms makes the species one of the largest in the genus. The scolices were flattened at the time of collecting to facilitate display of the armature prior to fixation in 10% formalin. Specimens were stained in hematoxylin, dehydrated, and mounted in Canada balsam. Measurements made from specimens subjected to pressure will not be completely accurate but the characters upon which the species is recognized, hook and spine numbers and dimensions, testes number, and form of the ovary are unaffected. These features and other details have been verified by comparison with a smaller unflattened specimen. Illustrations were made with the aid of a drawing tube. Measurements are expressed as length by width and are in micrometers unless otherwise indicated.

HOST: *Psammobatis lima* (Poëppig, 1835); Rajidae.

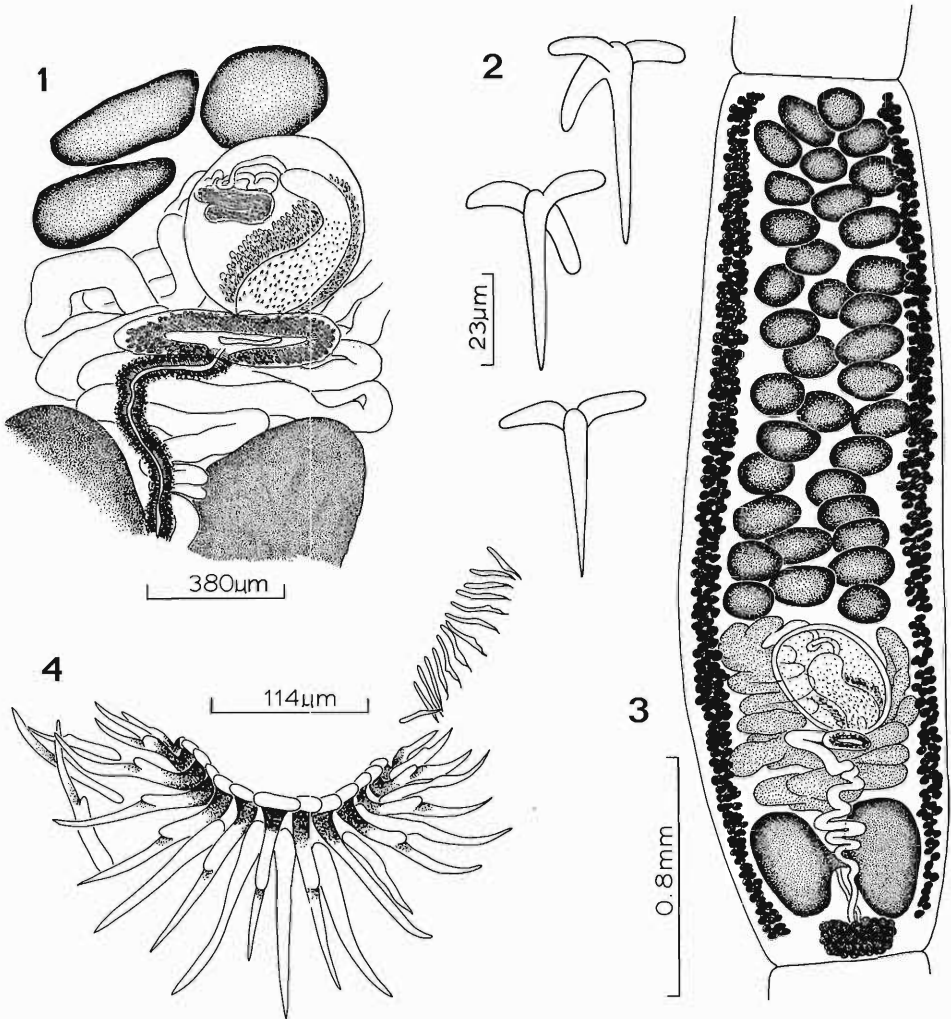
LOCALITY: Coastal waters off Constitución, Chile; 35°10'N, 72°30'W.

SITE: Spiral valve.

TYPE SPECIMENS: USNM Helm. Coll. Nos. 75773 (holotype); paratype, 75774.

Echinobothrium euzeti sp. n. (Figs. 1-4)

DESCRIPTION (based upon 4 specimens, 2 complete and 2 without scolices): Apolytic, acraspedote worms up to 5.5 cm long by 900 wide. Strobila consists of 26 to 34 segments; 26 segments contain formed reproductive organs in largest specimen. Scolex proper 1,000 to 1,040 by 640 to 860, bothridia patelliform, slightly notched on posterior margin; covered with spines, 716 long with transverse bases up to 11.4 long, arranged in longitudinal bands. Rostellum smooth. Armature consists of 25 large apical hooks per group, 13 anterior and 12 posterior. Hooks decrease in size from center to margins of group. Hooks of anterior row 55 to 133 in greatest dimension; bases transversely flattened, up to 38 wide, bent at right angle proximally and possess distinct tuberosity at mid-shaft (Fig. 4). Hooks of posterior row 49 to 139 long, slightly curved, bases rounded, handles



Figures 1–4. *Echinobothrium euzeti* sp. n. 1. Detail of reproductive terminalia. 2. Spines from anterior and posterior regions of cephalic peduncle. 3. Mature segment. 4. Rostellar armature.

straight, also with tuberosity at midshaft though less pronounced. Each group of apical hooks flanked laterally by 6 to 7 small hooks (total of 13–14 per side), 30 to 34 long, each with tiny falciform point distally and tuberosity at midlength. Cephalic peduncle up to 6.5 mm long by 289 wide, armed with eight longitudinal rows of 100 to 107 spines each; bases triradiate, blades 40 to 56 long, width across transverse processes 32 to 44, ventral processes 11 to 23. Longest spines in middle of rows. Mature segments 1,120 to 2,960 by 440 to 880. Testes subspherical 160 to 260 by 80 to 100; number varies with maturity, 37 to 42 in mature segments, 28 to 32 in gravid segments. Testes confined to median field anterior to cirrus pouch. Cirrus pouch ovoid, 288 to 440 by 168 to 296, containing tubular pars prostatica and armed cirrus surrounded by diffuse gland cells. Ovarian lobes

smooth, compact, 200 to 408 by 168 to 280. Ootype forms a compact oval mass up to 304 wide immediately posterior to ovary. Gravid uterus coils between ovarian lobes and lateral to cirrus pouch. Vagina short, sinuous, ascends to genital atrium in midline. Genital pore large, orifice transversely elongate, immediately preovarian. Eggs thin-shelled, collapsed in whole mounts; oncospheres about 20 in diameter. Vitelline follicles form wide lateral bands extending entire length of segment.

The species is named in honor of Dr. Louis Euzet of the Université des Sciences et Techniques du Languedoc, France for his contributions to cestode taxonomy.

Remarks

Of the species of *Echinobothrium* that have been described only two, *E. longicolle* of Southwell (1925) and *E. mathiasi* of Euzet (1951), have 50 or more spines per row on the cephalic peduncle. *Echinobothrium euzeti* is easily distinguished from *E. mathiasi* in having more spines per row on the cephalic peduncle (100–107 vs. 58–60), number of apical and lateral hooks (25 + 7 per side vs. 26 + 4 per side), greater number of testes (37–42 vs. 25–30), and smooth versus lobed ovary. Both *E. euzeti* and *E. mathiasi* have two forms of large hooks: (1) hooks with curved and expanded bases (Fig. 4) which alternate with; (2) hooks lacking modified bases. *Echinobothrium euzeti* is distinct from *E. longicolle* in number (180 or more per row) and form of the spines on the cephalic peduncle (triradiate base vs. irregular base), scolex hooks (about 20 per group), testes number (26–30), and form of the ovary (“radiating club-shaped acini”).

Acknowledgment

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Literature Cited

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Editor's Note

Authors submitting manuscripts of a survey or taxonomic nature for publication in the Proceedings of the Helminthological Society of Washington are urged to deposit representative specimens in a recognized depository such as the National Parasite Collection at Beltsville, Maryland and include the accession numbers in the manuscript.