

New host and geographical record for *Mooleptus rabuka* (Nematoda: Gnathostomatidae) in the largenose catshark *Apristurus nasutus* (Carchariniformes: Scyliorhinidae) off Juan Fernández Archipelago, Chile

Nuevo hospedador y registro geográfico para *Mooleptus rabuka* (Nematoda: Gnathostomatidae)
en el pejegato hocicón *Apristurus nasutus* (Carchariniformes: Scyliorhinidae)
del Archipiélago Juan Fernández, Chile

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Abstract.- The adult stage of the gnathostomatid nematode *Mooleptus rabuka*, is recorded for the first time from the stomach and intestine of the largenose catshark *Apristurus nasutus*, off Juan Fernández Archipelago, Chile. Morphology and morphometry showed small mild differences (*i.e.*, body size, oesophagus length and caudal alae) when compared with specimens previously recorded at Japan. Possibly the host species and locality may have some effects on the nematode morphology.

Key words: Elasmobranch host, *Metaleptus*, new record, Southeastern Pacific Ocean

INTRODUCTION

Studies on the natural history of deep-sea Chondrichthyes heavily rely on incidental catches (Ando *et al.* 2002), consequently the knowledge is scarce in many aspects. Deep-sea parasitic fauna also remains poorly studied in several aspects, including the composition of parasite assemblages, geographic distribution, life cycles and host relationships (Rohde 2005). As such, when new deep-sea material is studied, new parasitic species from fishes (see Klimpel *et al.* 2001) and noteworthy new records of parasites (see Rodríguez *et al.* 2010) are often published.

Elasmobranchs in the southeastern Pacific Ocean are a highly diverse group, with at least 96 species reported off the coast of Chile, 53 of which are sharks (Lamilla & Bustamante 2005). Among them, the largenose catshark *Apristurus nasutus* de Buen, 1959, and the brown catshark *A. brunneus* (Gilbert) (both Scyliorhinidae) are the only species in the genus reported from Chile (Lamilla & Bustamante 2005, Andrade & Pequeño 2008). These are deep-water catsharks known to inhabit continental slopes, trenches and submarine ridges at depths of 500-2000 m in

all oceans except for polar seas (Nakaya 1975, Sato *et al.* 1999). Reports on parasites of elasmobranchs in Chile deal mainly with cestodes, and only 4 records exist on adult nematodes (see Muñoz & Olmos 2008). The present study describes the nematodes found in the gut of *A. nasutus* and compares it with previous records.

MATERIALS AND METHODS

Three pregnant females of the largenose shark *Apristurus nasutus* (total length: 570-592 mm), were caught between 400-950 m deep in the submerged ridge off Juan Fernández Archipelago, southeastern Pacific Ocean, Chile, during April-May 2006. They were examined for endoparasites.

Nematodes collected were fixed and stored in 70% ethanol and cleared in lactophenol for examination. Drawings were made under a light microscope Hund Wetzlar H600 (40-1000x) and binocular dissecting scope Coleman (10-40x), both coupled with a camera lucida. One female and five male nematode specimens were examined

under scanning electron microscopy (SEM) to reveal anatomical characteristics. Host taxonomy is in accordance with Compagno *et al.* (2005) and Lamilla & Bustamante (2005). Measurements are in mm. Vouchers were deposited at the Museum of Zoology, Universidad de Concepción, Concepción, Chile (MZUC 34210 and MZUC 34211).

RESULTS AND DISCUSSION

Two of three largenose catshark *Apristurus nasutus* harboured the nematode *Mooleptus rabuka* Machida, Ogawa & Okiyama, 1982, (prevalence 67%, abundance 41.3, range 0-100).

General description. Medium sized, brownish nematodes. Female larger than male. Body with thin cuticle with very fine transverse striations. Cephalic end rounded, mouth with two large lateral pseudolabia. Inner surface of pseudolabia somewhat trilobed in apical view, each lobe bearing small teeth, one larger situated medially and two small on either side. Four large submedian labial papillae situated at base of the pseudolabia near their margins; pair of lateral amphids present. Cephalic collarette absent. Two marked, rather wide lateral bands of hypodermal cells, extending along body. Oesophagus muscular with anterior end somewhat swollen, undivided. Ventriculus-like formation opening into intestine through

distinct valve. Nerve ring encircling oesophagus approximately between anterior and middle thirds. Excretory pore and simple deirids at about same level, somewhat posterior to level of nerve ring. Intestine straight and dark brown in color only near its anterior end. Tail of both sexes conical, gradually tapering, with tip truncated. Reproductive system concentrated in short section of posterior part of body (Figs. 1 and 2).

MALE (SIX ADULT SPECIMENS, MEASUREMENTS IN TABLE 1)

Ventral cloacal region extending to the middle of the tail. Nine pairs of papillae, one unpaired papilla and one pair of phasmids arranged as follows. Preanal papillae: three pairs of large, wide and equally spaced subventral papillae; one pair of small ventral papillae located just below the last pair of subventrals; and one large unpaired median papilla situated anterior to level of ventral papillae. Adanal papillae: one pair of small subventral papillae located on both sides of the cloaca. Postanal papillae: one pair of small ventral papillae and three pairs of subventral papillae situated at the anterior half of the tail; of these last three, the second pair is situated more ventrally and is larger than the other two which are smaller. One pair of small lateral phasmids present near to end of the tail. Spicules equal in size (Fig. 1 and 2D-E).

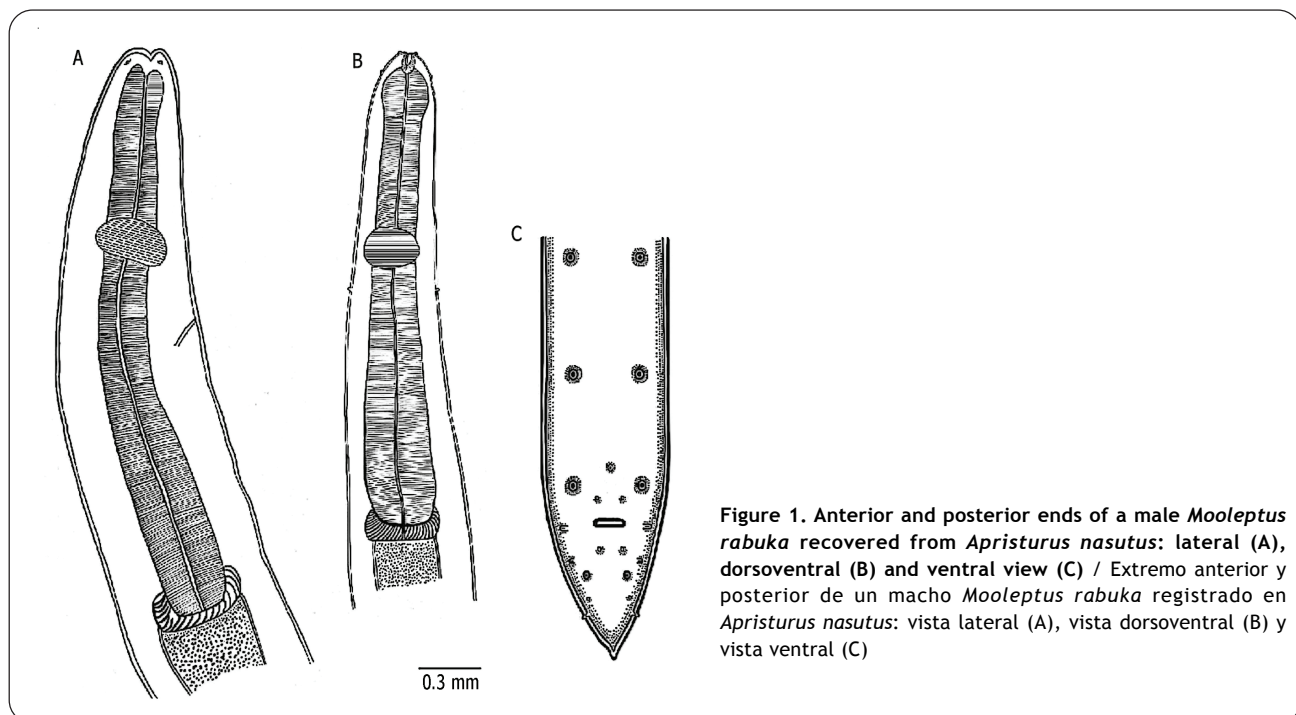


Figure 1. Anterior and posterior ends of a male *Mooleptus rabuka* recovered from *Apristurus nasutus*: lateral (A), dorsoventral (B) and ventral view (C) / Extremo anterior y posterior de un macho *Mooleptus rabuka* registrado en *Apristurus nasutus*: vista lateral (A), vista dorsoventral (B) y vista ventral (C)