

FIRST RECORD OF *THAMNACONUS MODESTOIDES* (BARNARD, 1927) (TETRAODONTIFORMES: MONACANTHIDAE) IN INDONESIA

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ABSTRACT

This paper gave evidence of the occurrence of *Thamnaconus modestoides* in Indonesian waters. A specimen (271.15 mm SL) was collected from the Winenet fish market at Bitung, North Sulawesi in March 2008. It was reported being caught in the depth of 20–30 m, in association with other coral-reef fishes, despite the fact that member of *Thamnaconus* has been known as deep water species. The morphological features of this new record species were discussed and illustrated.

Keywords: *Thamnaconus modestoides*, Monacanthidae, Bitung, Indonesia.

INTRODUCTION

The genus *Thamnaconus* has 9 species; *T. hypargyreus* (Cope, 1871), *T. septentrionalis* (Günther, 1874), *T. modestus* (Günther, 1877), *T. tessellatus* (Günther, 1880), *T. degeni* (Regan, 1903), *T. modestoides* (Barnard, 1927), *T. arenaceus* (Barnard, 1927), *T. fajardoii* Smith, 1953 and *T. fijiensis* (Hutchins and Matsuura, 1984). All are poorly known in Indonesian waters due to their generally deep-water habitats between 72 - 248 m (Hutchins, 2001). The deepest record is 360 m from Fiji (*Thamnaconus fijiensis* by Hutchins and Matsuura, 1984). While, Matsuura and Tyler (1997) reported specimens of *T. tessellates* from Loyalty Island which is collected at a depth of 270 m.

Thamnaconus modestoides is similar to *T. modestus* in general appearance. The differences occur in the presence of the 1st dorsal spine above the center of the eyes, and the position of the gill opening which is below the anterior half of the eyes. This paper presents the morphological characteristics of *T. modestoides* found in the North Sulawesi waters.

MATERIALS AND METHODS

A specimen of *Thamnaconus modestoides* (271.15 mm SL) was collected from Winenet Fish Market, Bitung, North Sulawesi on 1 March 2008. It was reported that the specimen was caught in the depth of 20-30 m, together with other coral fishes. Distribution records of the species were obtained from Froese and Pauly (2006).

Measurements were made on the left side of the specimen using dial-point calipers to the nearest of 0.05 mm. Length was recorded to 0.05 mm for parts of the body and fins shorter than 150 mm, those larger than 150 mm were recorded to tenths of mm. Total length was measured from the tip of snout to the tip of the caudal fin. Standard length (SL) was taken from the anterior edge of the upper lip to the base of the caudal fin (posterior end of hypural plates). Head length (HL) was measured from the anterior edge of the upper lip to the end of the dorsal end of the gill opening. Snout length was taken from the anterior edge of the upper lip to the anterior edge of the orbit. Body depth was taken as the greatest depth from the base of the dorsal fin, adjusting for any obvious malformations of preservation. Body width was the maximum width just behind the gill opening (anterior to the base of the pectoral fins). Orbit diameter was the

greatest diameter of the orbit. Interorbital width was measured between the orbits on top of the head. The length of the upper jaw was measured from the anterior edge of the upper lip to the posterior fleshy edge of the jaw. The depth of the caudal peduncle was taken at the least depth, and the length of the caudal peduncle was taken horizontally from the rear base of the anal fin to the base of the caudal fin. Lengths of the dorsal and anal spines and rays were measured from the contour of the body to the distal edge of spines and rays. Dorsal fin base was taken from the anterior base of the first dorsal ray to the posterior most dorsal fin ray. Pectoral- and pelvic-fin lengths are the lengths of the longest rays. Anal fin base were taken from the base of anterior anal fin ray to the base of the posterior most anal fin ray.

RESULTS

Taxonomic account:

Family Monacanthidae
Genus *Thamnaconus* Smith, 1949
Thamnaconus modestoides (Barnard, 1927)

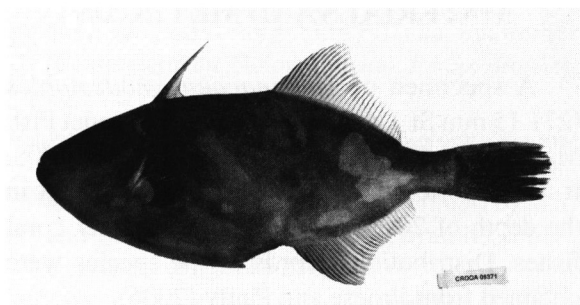


Figure 1. *Thamnaconus modestoides* (Barnard, 1927), CRDOA 6371, 271.15 mm SL

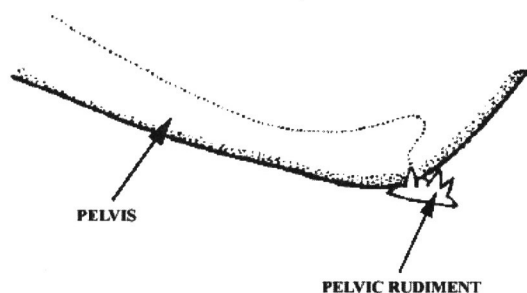


Figure 2. Pelvic-fin rudiment at posterior end of pelvis of genus *Thamnaconus* Smith, 1949 (after Hutchins, 2001)

Synonyms:

Cantherhines modestoides Barnard, 1927
Thamnaconus modestoides erythraeensis
Bauchot & Maugé, 1978; — Dor 1984:281.

Specimen Examined:

CRDOA 6371, 271,15 mm SL, 1 March 2008, Winenet Market, Bitung, North Sulawesi, Indonesia;

Description:

Meristic: D II, 33-37; A 32-36; P₁ 13-14

Counts and measurements of specimen were presented in Table 1. Body ovate and compressed. Body depth contained 2.47 times in SL. Dorsal contour of snout to anterior of eye straight, becoming convex posteriorly to first dorsal fin base. First dorsal spine long, originating over center of eye. HL less than body depth; ventral flap small to medium size; soft dorsal and anal fins noticeably higher anteriorly; caudal fin rounded, caudal peduncle less than HL. Soft dorsal and anal fins approximately equal and opposite, caudal fin with 11 principal rays. Pectoral fins small and the pelvic fin reduced to small, non-movable spine, placed at distal end of long pelvic bone. Encasing scales composed of 2 segments, immovably articulated with pelvis (Fig. 2, 3). Caudal peduncle unarmed.

Color of fresh specimen:

Body purplish brown; fins plain dusky; membrane of spinous dorsal yellowish; other fins with pale blue, rays brownish. Gloerfelt-Tarp and Kailola (1984) noted that spinous dorsal membrane yellow in male, greyish in females.



Figure 3. Pelvic-fin rudiment at posterior end of pelvis of *Thamnaconus modestoides* (Barnard, 1927), CRDOA 6371, 271.15 mm SL.

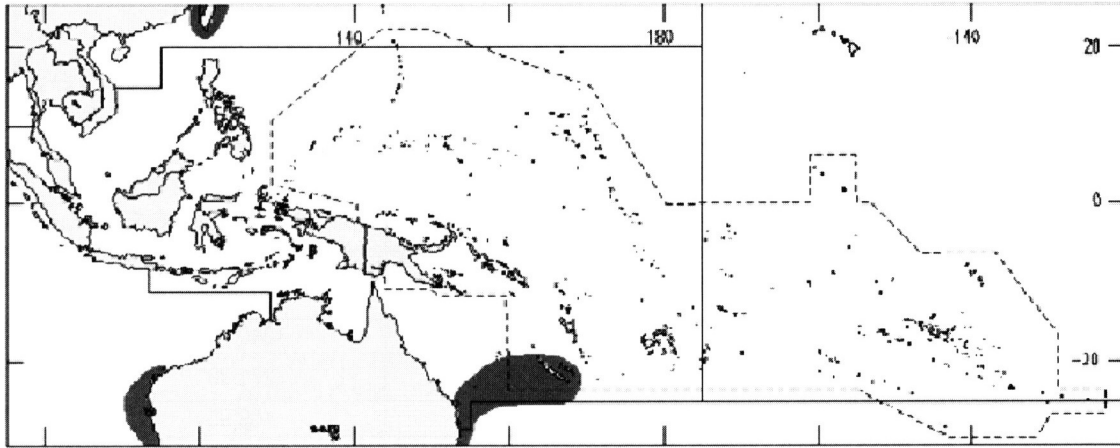


Figure 4. Geographic distribution of *Thamnaconus modestoides* (Barnard, 1927) at Western Central Pacific (after Hutchins, 2001).

Distribution :

Distributed from the Ogasawara and the Ryuku Islands south-ward to the tropical Indo-West Pacific (Matsuura, 1984). Found in many scattered locations in the Indo-West Pacific including southeastern Africa, Madagascar, Chagos Archipelago, Andaman Islands, western and eastern Australian coasts, New Caledonia, and southern Japan (Hutchins, 2001b) (Fig. 4).

The previous reports of distribution of *Thamnaconus modestoides* are as follow: New

Caledonia (Matsuura and Tyler, 1997); South Africa (Hutchins, 1986); Mozambique (Fischer *et al.*, 1990); Madagascar (Hutchins, 1984); Kuwait (Carpenter *et al.*, 1997); Mauritius, Reunion and Seychelles (Hutchins, 1984); Chagos Islands (Winterbottom and Anderson, 1997); Hong Kong (Ni and Kwok, 1999); Taiwan and Ogasawara Islands (Randall *et al.*, 1997); Japan (Masuda *et al.*, 1984); Australia (Allen and Swainston, 1988; Gloerfelt-Tarp and Kailola, 1984; Hutchins, 1986); and now Indonesia as shown in Fig. 5.

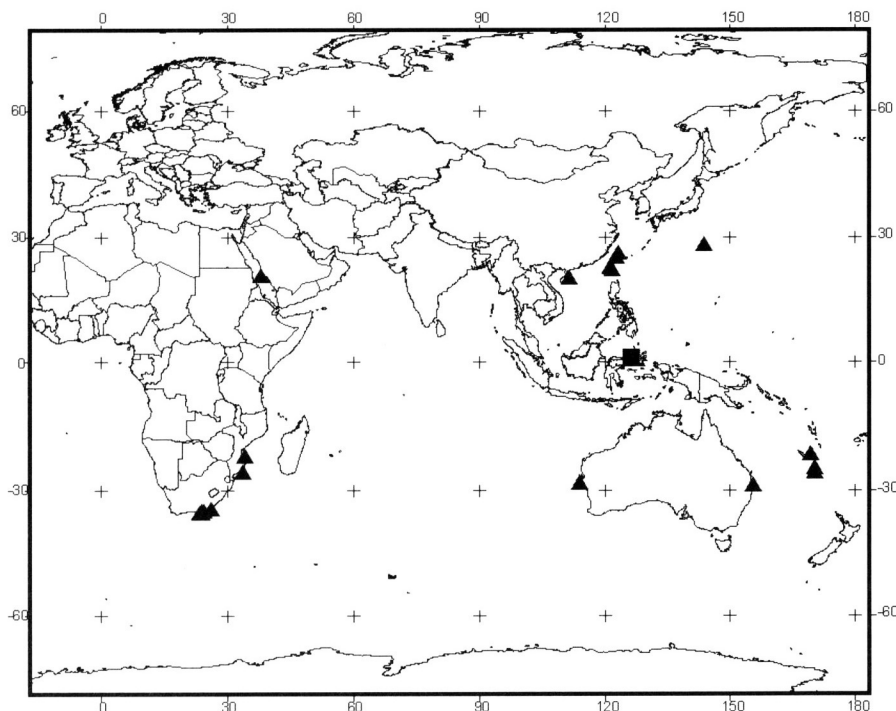


Figure 5. Geographic distribution of *Thamnaconus modestoides* (Barnard, 1927) in the world. The triangles are records from Froese and Pauly, eds. (2006), while the square indicates the collection site of the specimen from Bitung, North Sulawesi, Indonesia.

Table 1. Counts and measurements of *Thamnaconus modestoides* (Barnard, 1927)

Counts and Measurements		CRDOA 6371
Counts	Dorsal fin rays	II, 32
	Anal fin rays	31
	Pectoral fin rays	13
	Pelvic fin rays	-
	Caudal fin rays	11
Measurements	Body and Head (mm)	
	Total length	340,10
	Standard Length	271,20
	Body depth	109,95
	Body width	36,80
	Head length	86,95
	Snout length	72,60
	Orbit diameter	20,25
	Interorbital width	24,05
	Upper-jaw length	9,55
	Predorsal length	86,40
	Preanal length	180,05
	Prepelvic length	151,55
	Caudal-peduncle depth	25,95
	Caudal-peduncle length	43,75
	Dorsal fin (mm)	
	Dorsal-fin base	90,75
	First dorsal spine	56,85
	Longest dorsal ray	49,20
	Anal fin (mm)	
	Anal-fin base	81,35
	Longest anal ray	47,95
	Caudal fin (mm)	
	Caudal-fin length	54,60
	Pectoral fin (mm)	
	Pectoral-fin length	24,35

Bathymetrical Distribution:

The catch at a depth of 20-30 m is new information on the depth distribution of catch for this species. The report of minimum depth of this species is reported 73-200 m (Froese and Pauly (eds.), 2006). The deepest record for the genus is 360 m collected from Fiji (Hutchins and Matsuura, 1984). Another specimens were found by trawling at Loyalty Island at 270 m depth and New Caledonian at a depth of 230-260 m (Matsuura and Tyler, 1997) while Fishbase database noted that the depth range of this species is about 73-200 m (Froese and Pauly (2006)).

Remarks:

Thamnaconus modestoides can be easily distinguished from other species of the genus by the presence of the 1st dorsal spine above the center of the eyes and by the gill opening below anterior ½ of eyes.

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