

A New Sharpnose Puffer, *Canthigaster punctata* (Teleostei: Tetraodontidae), from the Mascaren Submarine Ridge, Western Indian Ocean

By

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Abstract A new sharpnose puffer, *Canthigaster punctata*, is described on the basis of two specimens collected from 92 m depth in the western Indian Ocean. This species is similar to *C. callisterna* and *C. flavoreticulata* from the South Pacific; it differs from the former in having fewer pectoral rays (15 vs 16–18), and from the latter in having many dark spots on the dorsal half of body instead of irregular dark lines.

ALLEN and RANDALL (1977) reviewed the sharpnose puffers of the genus *Canthigaster*, recognizing 22 species in the Indo-Pacific and one in the Atlantic. Since their revisional paper was published, three species have been described: *C. leoparda* LUBBOCK et ALLEN, 1979 from the central Indo-Pacific, *C. flavoreticulata* MATSUURA, 1986 from the South Pacific, and *C. cyanetron* RANDALL et CEA, 1989 from Easter Island.

Two specimens of unidentified sharpnose puffer have been recently donated to the National Science Museum from the Japan Marine Fishery Resources Research Center. They were collected in the western Indian Ocean by FV *Ryuyo-maru No. 2*. The examination of these specimens revealed that they represent a new and 27th species of *Canthigaster*. They are described below under the name of *Canthigaster punctata*.

The methods of counts and measurements follow those of TYLER (1967) and ALLEN and RANDALL (1977). The counts and proportions of the paratype are shown in parentheses when different from the holotype. The type specimens are deposited at the Fish Section, National Science Museum (Nat. Hist.), Tokyo (NSMT).

Canthigaster punctata sp. nov.

(Figs. 1, 2)

Holotype: NSMT-P 35305, 87.3 mm SL, Mascaren Submarine Ridge (10°23'S, 61°40'E), 92 m depth, trawl, FV *Ryuyo-maru No. 2*, 7 Dec. 1978. Paratype: NSMT-P 35306, 78.6 mm SL, collected with holotype.

Diagnosis. A species of *Canthigaster* with the following combination of characters: dorsal rays 10; anal rays 10; pectoral rays 15; dorsal half of body light brown

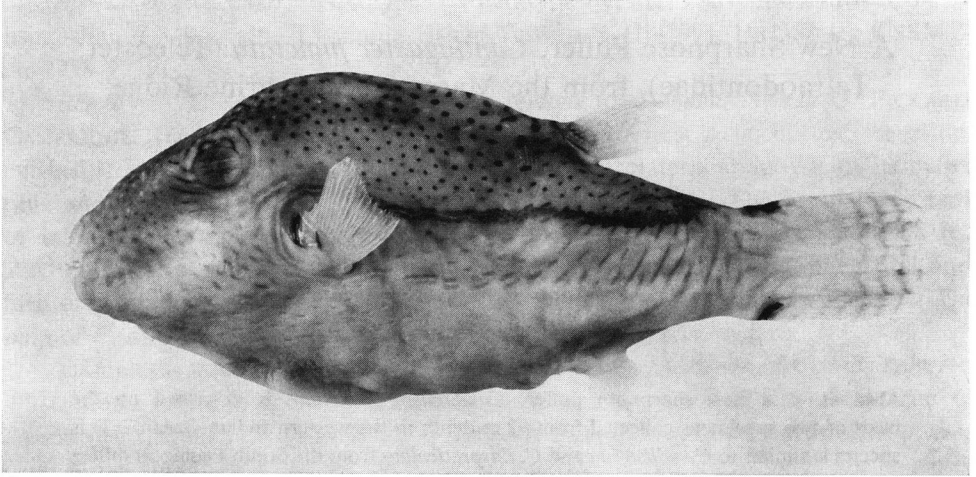


Fig. 1. *Canthigaster punctata*, holotype, NSMT-P 35305, 87.3 mm SL, western Indian Ocean.

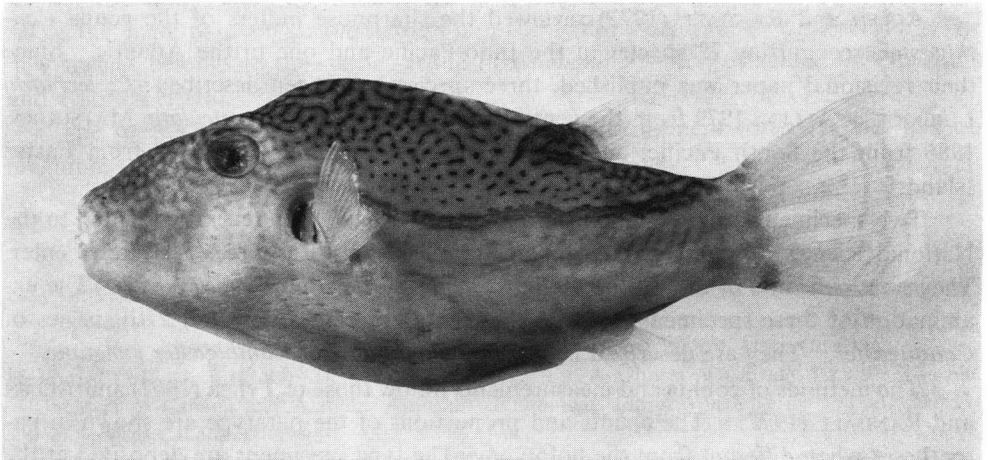


Fig. 2. *Canthigaster punctata*, paratype, NSMT-P 35306, 78.6 mm SL, western Indian Ocean.

in alcohol with many small dark brown spots; an elongate horseshoe-shaped brown band on side of body; caudal fin pale with several vertical brown lines; a dark brown spot on upper and lower caudal-fin base.

Description. Body depth 2.6 (3.0), head length 2.7 (2.6), distance from snout to dorsal-fin origin 1.3, distance from snout to anal-fin origin 1.3 — all in SL (see also Table 1).

Snout length 1.4 (1.5), body width at pectoral-fin base 1.6 (1.5), eye diameter 4.9 (5.0), interorbital width 3.2 (4.1), postorbital length 3.7 (4.3), depth of caudal peduncle

Table 1. Morphometric measurements (in thousandths of standard length) for type specimens of *Canthigaster punctata*.

Morphometric measurement	Holotype NSMT-P 35305	Paratype NSMT-P 35306
Standard length (mm)	87.3	78.6
Body depth	369	331
Body width at pectoral-fin base	238	252
Head length	372	384
Snout length	263	254
Snout to dorsal-fin origin	759	743
Snout to anal-fin origin	787	775
Eye diameter	77	76
Interorbital width	116	93
Postorbital length	102	89
Depth of caudal peduncle	160	160
Length of caudal peduncle	213	215
Length of dorsal-fin base	88	74
Length of anal-fin base	80	79
Longest dorsal ray	174	160
Longest anal ray	139	131
Longest pectoral ray	134	135
Length of caudal fin	281	290

2.3 (2.4), length of caudal peduncle 1.7 (1.8), length of dorsal-fin base 4.2 (5.2), length of anal-fin base 4.6 (4.9), length of longest dorsal ray 2.1 (2.4), length of longest anal ray 2.7 (2.9), length of longest pectoral ray 2.8, length of caudal fin 1.3 — all in head length (see also Table 1).

Body moderately compressed, covered with scattered prickles. Snout long and conical. A raised skin fold on back extending from above posterior edge of eye to dorsal-fin origin. A single nostril on each side of snout, surrounded with an elevated rim. Interorbital space flattened. Caudal peduncle greatly compressed, slightly tapering toward caudal-fin base. Dorsal and anal fins slightly rounded. Pectoral fin broad and short. Caudal fin slightly rounded.

Color in alcohol: head and body light brown dorsally, pale ventrally; many small dark brown spots scattered on dorsal half of body from nape to dorsal-fin origin (in paratype short wavy dark brown lines around raised skin fold); dorsal fin base with short wavy dark brown lines; dorsal half of caudal peduncle with small dark brown spots and short wavy dark brown lines; an elongate horseshoe-marking on mid-side of body from gill opening to caudal peduncle, which is formed by a brown line dorsally and dashed brown lines ventrally; many oblique short brown lines running inside horseshoe-marking posterior to dorsal fin; dorsal half of head from interorbital space to snout covered with many white spots; cheek with many short brown lines forming several oblique rows; several short brown lines running from eye anteriorly and posteriorly; two or three short brown lines running longitudinally just below

eye; caudal fin pale with several vertical wavy lines posteriorly; a short dark brown line on pectoral base; a dark brown spot on upper and lower caudal fin base; dorsal, anal and pectoral fins pale. Color in life unknown.

Remarks. *Canthigaster punctata* resembles *C. callisterna* from the northern Tasman Sea and Kermadec Islands, and *C. flavoreticulata* from the Tonga Submarine Ridge. The former species differs from the new species by having a higher pectoral-fin ray count (16–18 vs 15). *Canthigaster flavoreticulata* is closer to the new species than *C. callisterna* in color and fin-ray counts; it differs from the new species by having many wavy lines instead of small spots on the dorsal half of body.

Most species of sharpnose puffers inhabit coral or rocky reefs in shallow waters. Five species, *C. epilampra*, *C. flavoreticulata*, *C. inframacula*, *C. investigatoris* and *C. rivulata*, are known to go to depths in excess of 60 m (ALLEN & RANDALL, 1977; MATSUURA, 1986). The latter four species were collected by trawl or dredge from depths over 90 m. *Canthigaster punctata* is a sixth sharpnose puffer collected from depths in excess of 90 m.

The specific epithet, *punctata*, refers to many small spots on the dorsal half of body.

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Literature Cited

- ALLEN, G. R., & J. E. RANDALL, 1977. Review of the sharpnose pufferfishes (subfamily Canthigasterinae) of the Indo-Pacific. *Rec. Aust. Mus.*, **30**: 475–517.
- LUBBOCK, R., & G. R. ALLEN, 1979. *Canthigaster leoparda* a new sharpnose pufferfish (Teleostei: Tetraodontidae) from the central Indo-Pacific. *Rev. Fr. Aquariol.*, **6**: 87–90.
- MATSUURA, K., 1986. A new sharpnose pufferfish, *Canthigaster flavoreticulata*, collected from the South Pacific. *Japan. J. Ichthyol.*, **33**: 223–224.
- RANDALL, J. E., & A. CEA EGAÑA, 1989. *Canthigaster cyanetron* a new toby (Teleostei: Tetraodontidae) from Easter Island. *Rev. Fr. Aquariol.*, **15**: 93–96.
- TYLER, J. C., 1967. A diagnosis of two transversely barred Indo-Pacific pufferfishes of the genus *Canthigaster* (*valentini* and *coronatus*). *Proc. Acad. Nat. Sci. Philad.*, **119**: 53–73.