

First Record of the Sharpnose Puffer, *Canthigaster solandri* (Teleostei: Tetraodontiformes), from Japan

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Abstract The sharpnose puffer, *Canthigaster solandri*, is formally reported for the first time from Japan based on a specimen found washed up on a beach along the west coast of Okinawa Island as well as underwater photographs from several areas in the Ryukyu Islands. The specimen and the underwater photographs of *C. solandri* from the Ryukyu Islands show that the color pattern is identical to specimens from the Philippines, which have short, pale blue lines dorsal to the eyes.

Key words: First record, *Canthigaster solandri*, Ryukyu Islands.

Sharpnose puffers of the genus *Canthigaster* are characterized by having a compressed body, a relatively elongate and pointed snout, a distinct keel from the nape to the dorsal-fin origin, and inconspicuous nostrils. Most species of *Canthigaster* inhabit shallow waters around coral reefs, rocky reefs, sand flats, rubble areas, and wharf pilings. Allen and Randall (1977) revised the Indo-Pacific *Canthigaster* with descriptions of 6 new species, recognizing 22 species in the genus from this region. Subsequently, 4 new species were reported from various areas in the Indo-Pacific, making the total number of species 26 (Lubbock & Allen, 1979; Matsuura, 1986, 1992; Randall & Cea-Egaña, 1989). Although the Atlantic *Canthigaster* has long been believed to be represented by a single species, *C. rostrata* (Bloch, 1786), Moura and Castro (2002) revised Atlantic sharpnose puffers and recognize 6 species including 3 new species. During our study of the fish fauna of Okinawa, we obtained a specimen of *C. solandri* (Richardson, 1844) that was washed up on a beach near Motobu on the west coast of Okinawa Island. This specimen represents the formal record of this species from Japan. In addition to this specimen, underwater photographs of *C. solandri* were taken at several

localities in the Ryukyu Islands. These photographs became available for our study and are included in this report. In this paper, *C. solandri* from Japan is described and illustrated on the basis of the single specimen from Okinawa and the aforementioned underwater photographs. Methods of counts and measurements follow those of Tyler (1967) and Allen and Randall (1977). The specimen is deposited at the Department of Zoology, National Science Museum, Tokyo (NSMT) and the photographs are included in the FishPix (database of underwater photographs of fishes: <http://fishpix.kahaku.go.jp/fishimage-e/search.html>).

Canthigaster solandri (Richardson, 1844)

[New Japanese name: Arare-kinchakufugu]

(Fig. 1)

Material examined. NSMT-P 71280, 1 specimen, 65.6 mm SL, Okinawa Island, Ryukyu Islands, 4 Feb. 2001, collected by M. Toda. Underwater photographs: KPM-NR 0006257, KPM-NR 0008553, KPM-NR 0036531, KPM-NR 0036642.

Description. Dorsal-fin rays 9, anal-fin rays 9, pectoral-fin rays 17.



Fig. 1. *Canthigaster solandri*, NSMT-P 71280, 65.6 mm SL, found on a beach along the west coast of Okinawa Island, Ryukyu Islands.

Body depth 3.3, body width 4.6, head length 2.6, snout length 3.9, snout to origin of dorsal fin 1.3, snout to origin of anal fin 1.2—all in SL. Eye diameter 4.5, bony interorbital width 3.6, postorbital length 4.0, depth of caudal peduncle 1.9, length of caudal peduncle 1.9, length of dorsal-fin base 5.2, length of anal-fin base 5.7, length of longest dorsal-fin ray 2.1, length of longest anal-fin ray 2.5, length of longest pectoral-fin ray 2.6, length of caudal fin 1.2—all in head length.

Ground color of head and body greenish to dark brown with many small, pale blue spots; many short, pale blue lines dorsal to eye; black ocellus located at base of dorsal fin edged with curved pale blue lines anteriorly and posteriorly; ventral surface of body pale greenish brown or pale blue without spots; head with 8–9 pale blue lines radiating from eye; dorsal surface of snout with several transverse pale blue lines; tip of snout paler with yellowish orange tinge, a curved longitudinal pale blue line coursing from corner of mouth to throat; dorsal, anal, and pectoral fins transparent with dusky edged rays; caudal fin greenish brown to dusky brown with many pale blue spots.

Remarks. *Canthigaster solandri* is commonly found in the tropical Indo-Pacific from the east coast of South Africa eastward to the Tuamotu Archipelago, northward to the Philippines, and southward to the northern Great Barrier Reef

(Allen & Rnadall, 1977; Kuitert, 1996; Allen, 1997; Randall et al., 1997). Matsuura (1997) provisionally recorded *C. solandri* from Japan on the basis of an underwater photograph taken at Iriomote-jima Island, Ryukyu Islands. *Canthigaster solandri* is distinguished from other Indo-Pacific species of *Canthigaster* by having 8–10 (typically 9) rays in the dorsal and anal fins, many pale blue spots on the head and body, and the caudal fin uniformly covered by many pale blue spots. *Canthigaster solandri* is similar to *C. margaritata* known from the Red Sea. However, *C. margaritata* is distinguished from *C. solandri* by having fewer dorsal- and anal-fin rays (typically 8 in *C. margaritata* vs. typically 9 in *C. solandri*) and the spots on the head and body larger and fewer in *C. margaritata* than *C. solandri* (Allen & Randall, 1977). Allen and Randall (1977) reported that there was considerable variation in the size and number of spots on the head and body in *C. solandri*. They stated that the spots on the upper part of the back coalesced to form narrow stripes in specimens from the Palau Islands, the Philippines, Indonesia, and western Melanesia. The specimens from the Ryukyu Islands show the same color pattern as found in those regions.

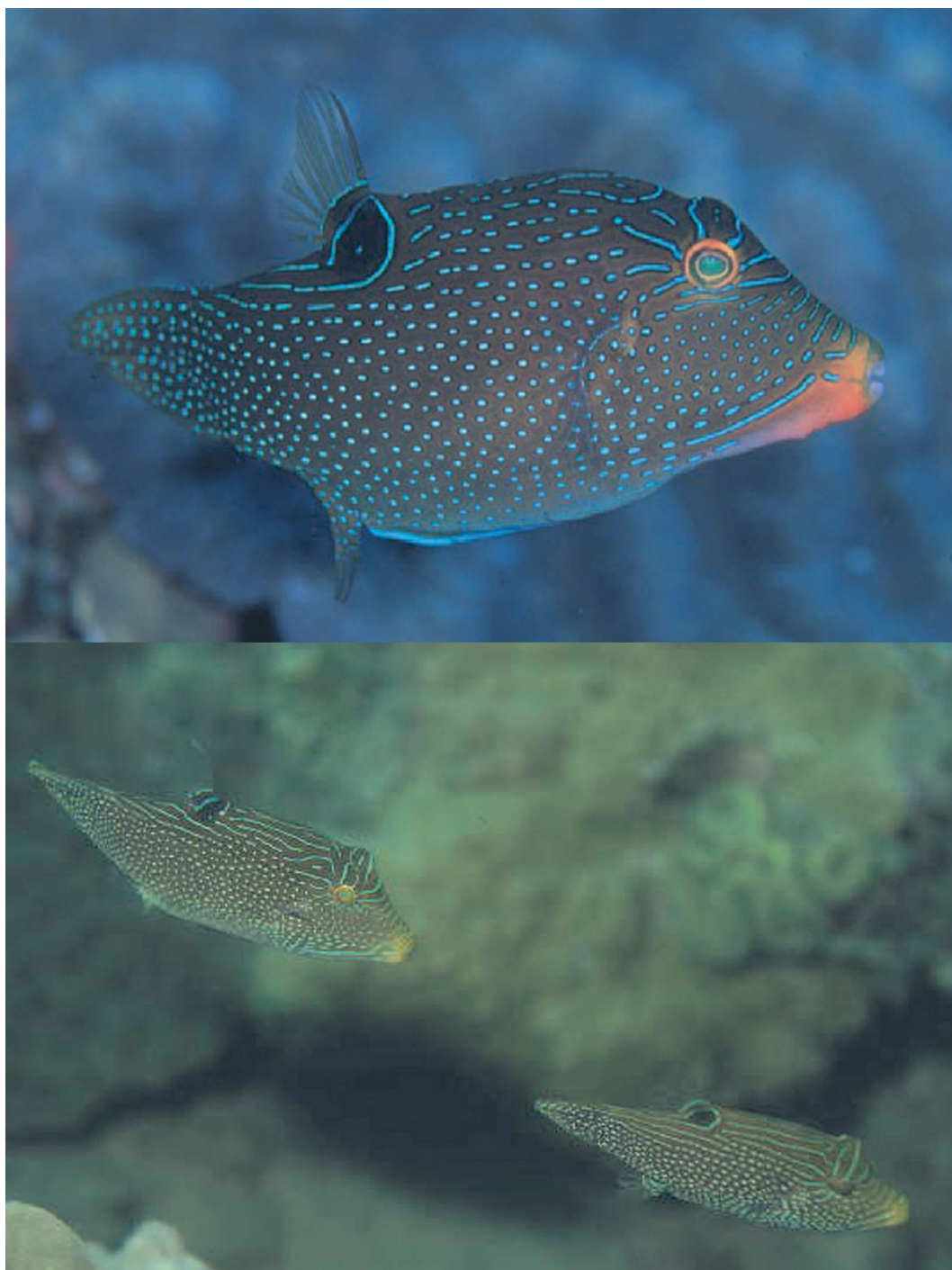


Fig. 2. Underwater photographs of *Canthigaster solandri* (top: KPM-NR 0036642, photographed by K. Yunokawa in Ie-jima Island, Ryukyu Islands on 12 September 1999; bottom: KPM-NR0008553, photographed by Y. Okata in Amami-oshima Island, Ryukyu Islands in September 1995).

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