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First Record of an Extremely Small Filefish *Rudarius excelsus* from the North Pacific

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The filefish genus *Rudarius* is represented by three species: *R. ercodes* Jordan et Fowler, 1902 from Japan and Korea; *R. minutus* Tyler, 1970 from the Great Barrier Reef and Borneo; and *R. excelsus* Hutchins, 1977 from the Great Barrier Reef. The first species is commonly found along the coasts of the main islands of Japan, whereas the other two species have been known only from the type specimens. *R. minutus* and *R. excelsus* have the smallest recorded adult size (15–17 mm SL) within the order Tetraodontiformes (Tyler, 1970; Hutchins, 1977).

A specimen of *R. excelsus* was found while examining the fish collection of the Department of Zoology, University Museum, University of Tokyo (ZUMT). Because it represents the first record of this species from the North Pacific, it is described in detail.

Methods

The methods of counts and measurements follow those of Matsuura (1980) except for the body depth which is the vertical measurement taken from the origin of the anal fin to the dorsal edge of the soft dorsal fin base.

Rudarius excelsus Hutchins, 1977

(Fig. 1)

(New Japanese name: Seppari-hagi)

Material examined. ZUMT 17215, 23.6 mm SL, male, collected at Baten Port located in the southwestern part of Nakagusuku Bay (26°17′N, 127°48′E) in Okinawa Island, Ryukyu Islands, no further collection details.

Description. Dorsal fin rays II-22; anal fin rays 21; pectoral fin rays 10; caudal fin rays 12, the uppermost and lowermost rays unbranched; vertebrae 7+13=20.

Greatest body depth 0.9, body depth at anal fin origin 2.7, snout length 4.4, snout to origin of spinous dorsal fin 2.3, snout to origin of soft dorsal fin 1.2, snout to origin of anal fin 1.4, base of soft dorsal fin 2.1, base of anal fin 2.1—all in SL.

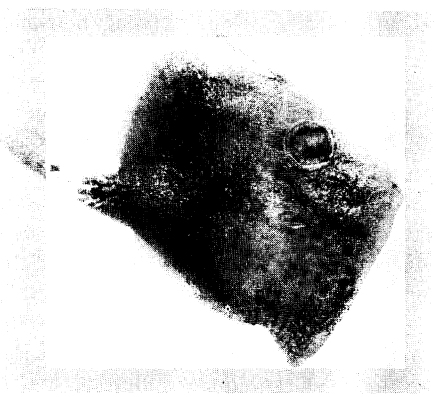

Fig. 1. *Rudarius excelsus*, ZUMT 17215, 23.6 mm, Ryukyu Islands.

Body width 2.4, eye diameter 2.3, interorbital width 2.5, gill opening length 4.6, caudal peduncle length 2.0, caudal peduncle depth 2.8, first dorsal spine length 1.1, interdorsal space 1.1, longest dorsal ray 2.8, longest anal ray 2.8, longest pectoral ray 2.4, caudal fin length 1.0—all in head length.

Body short and very deep, giving an anteroposteriorly compressed appearance. Dorsal profile of snout almost straight; profile from first dorsal spine to origin of soft dorsal fin prominently ascending. Mouth small, terminal; lips relatively fleshy. Teeth uneven, pointed distally; three outer and two inner teeth on each upper jaw; two teeth on each lower jaw. Eye relatively large, located posteriorly on head. Gill opening small, situated below posterior edge of eye, ending ventrally just above pectoral fin base. First dorsal spine moderately strong, slightly curved posteriorly, originating over posterior half of eye; no groove on back for its reception when depressed; the spine armed with two rows of 10–11 downward directed barbs on each postero-lateral edge and with two rows of 16 upward directed barbs on anterior edge. Second dorsal spine very small, hidden in skin. Soft dorsal and anal fins with slightly rounded margins, bases convexly curved. Pectoral fin short, rounded. Encasing scales at end of pelvis immovable, composed of two segments, armed with barbs. Caudal fin relatively long, rounded posteriorly. Caudal peduncle short, armed with 13 greatly elongate bristles. Scales on body moderate in size, armed

each with a small central spinule, giving skin a velvety touch.

Color in alcohol: head and body pale brown, covered with many small brown spots; a pale blotch on ventro-lateral part of body just over encasing scales; first dorsal spine pale brown; soft dorsal, anal, and pectoral fin rays hyaline; caudal fin pale brown with four vertical brown bands.

Remarks. The four type specimens of *R. excelsus* (15–17 mm SL) were collected by trawl near Lindeman Island, Great Barrier Reef (Hutchins, 1977). Hutchins stated that the 15-mm SL female paratype attained sexual maturity, with 120 relatively large eggs. He also reported sexual dimorphism; the caudal peduncle of males having extremely elongate bristles whereas that of females has small spinules only slightly larger than those on the body. The male specimen reported here has extremely elongate bristles on the caudal peduncle.

Rudarius excelsus is distinguished from its congeners by having fewer soft dorsal and anal rays: D 22–24, A 20–22 in *R. excelsus*; D 25–28, A 23–28 in *R. ercodes*; D 26–28, A 23–24 in *R. minutus* (Tyler, 1970; Hutchins, 1977; Matsuura, 1984). *R. excelsus* also differs from *R. ercodes* in having greatly elongate bristles projecting posteriorly from the caudal peduncle of the male. In *R. ercodes* the short bristles project laterally to form a patch on the caudal peduncle of the male. *R. minutus* is easily distinguished from the other two species by having dermal flaps on the body.

Acknowledgments

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北太平洋から初記録のカワハギ科魚類セッパリハギ（新称）

松浦啓一

カワハギ科のアミメハギ属は3種を含み，日本からはアメミハギ1種のみが知られていた．他の2種 *Rudarius minutus* と セッパリハギ（新称）*R. excelsus* は模式標本のみが報告されているだけの稀な種類で，前者はグレートバリアリーフとボルネオから，後者はグレートバリアリーフから知られているだけであった．この2種ともフグ目の中では最小の魚類で，体長 15–17 mm で成熟する．東大総合研究資料館の魚類標本を調査中に沖縄から採集されたセッパリハギ1個体が確認されたので報告する．本種は背鰭と臀鰭の条数が他の2種よりも少なく，雄の尾柄部に非常に長い剛毛を持つことで識別される．

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