

On Two Rare Pelagic Fishes, *Luvarus imperialis* and *Rachycentron canadum*, Recently Captured at Yoichi, Hokkaido, Japan

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Some cosmopolitan pelagic fishes which are widely distributed in the tropical and subtropical regions have often been occurred in the waters of Hokkaido in recent time. In this paper, two species which have never been recorded or rarely found from Hokkaido were reported.

A. *Luvarus imperialis* RAFINESQUE (Fig. 1)

Japanese name: Ama-shiira or Kajiki-modoki

One day in early December, 1958, a juvenile specimen of luvarid fish, 680 mm long, was turned over to the Hokkaido Central Fisheries Experimental Station for identification. This specimen had been picked up by a fisherman at the frontal beach of Yoichi, in early morning of the day after heavy storm during it having been washed ashore as a dead body. It seems that this fish may have died during storm, and then thrown up to the beach not so long time after death since the body had still kept fresh when it was found.

The present specimen is, undoubtedly, the first record from the waters of Hokkaido as well as the northernmost one from the northwestern Pacific. The luvaru is believed to be rather rare in our waters. The first definite record was given by MATSUBARA (in OKADA and MATSUBARA, 1938) based upon a photograph of a specimen taken from off Kamaishi (Iwate Pref.). Next record was made by ABE (1953) based on his examination of the head of a specimen which was shipped to the Central Wholesale Market of Tokyo, taken on a long-line for tuna, at 146°00'E., 39°25'N., around July 8, 1952. Unfortunately, he could not examine whole of the body because the most part of trunk of his specimen had already been sold out. Quite recently, KURATA and MIMURA (1964) recorded six specimens mainly captured around the waters of Izu Islands. However, this fish still to be little known in our country.

D. 22, A. 17, P. 18, V. II (?), C. 25 (in all). Gill rakers on the first arch 5+13. Branchiostegals 5.

Head 4.04 in body length (=standard length; 610 mm), depth 3.10, distance from tip of snout to vent 3.60, length of dorsal fin base 1.44, length of anal fin base 2.65. Eye 6.56 in head length (151 mm), snout 2.56, interorbital space 2.80, mouth cleft 4.72,

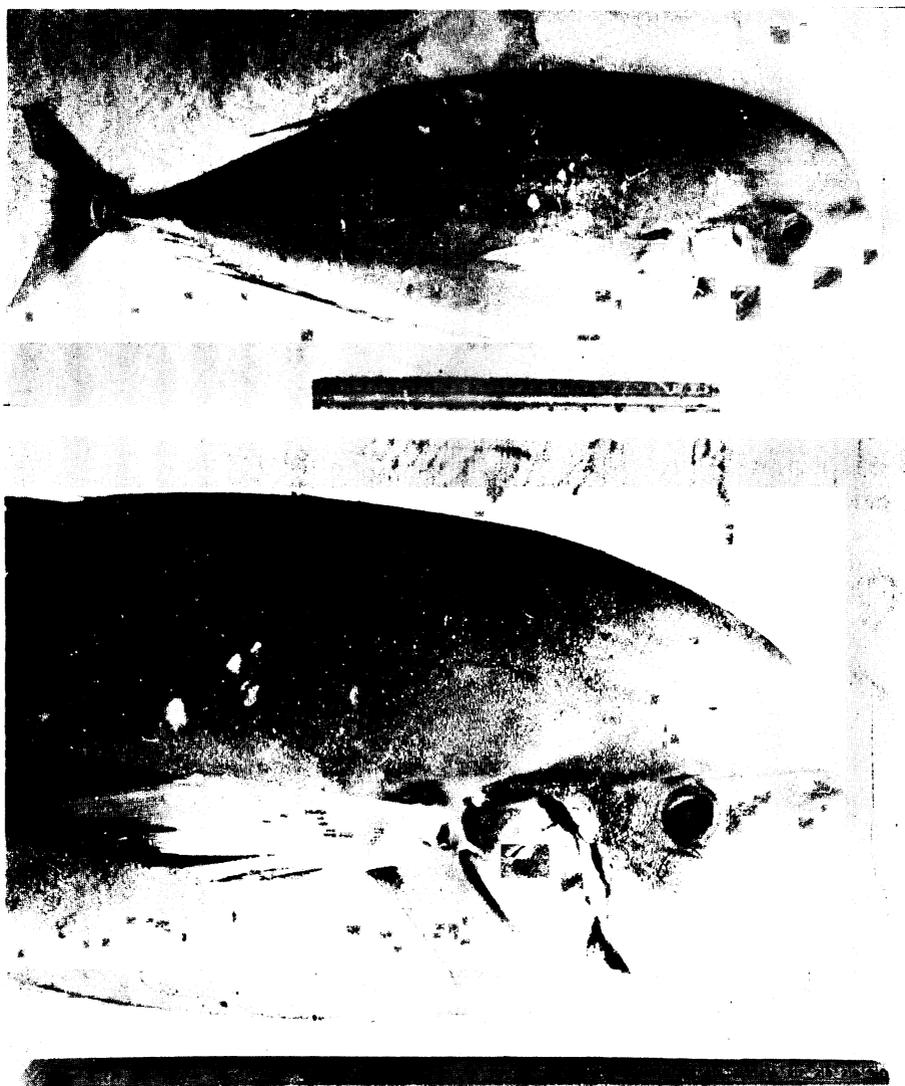


Fig. 1. *Luvarus imperialis*, 680 mm long, from Yoichi. Lateral view of whole body (above) and head and anterior part of body (below).

length of caudal peduncle 2.56, depth of the same 9.45, length of pectoral fin 1.08, length of ventral fin 10.1, longest dorsal ray 1.78, length of keel on side of caudal peduncle 2.90, length of postorbital part of head 2.25, height of occipital crest above eye 1.75.

Body elongately ovoid, strongly compressed, deepest at the origin of pectoral fin and therefrom attenuated toward tail. Caudal peduncle very narrow, its least depth less than one-third of its length, and much less than one-tenth of the depth of body. Forehead greatly elevated as a crest with strong, high trenchant median keel. Eye small, round, and located below the middle of depth of head. Snout compressed, and

elevated steeply, and with nearly vertical front in profile from side. Mouth small, horizontal. Maxillary very broad and short. Mandible scarcely protrude when the mouth is closed. Teeth on jaws minute, finely pectinate, and arranged in a single row. Palatine with a rough but narrow band of minute teeth. Vomer and tongue are toothless. Gill rakers short, broad, bluntly pointed at tip, and with several minute, weak prickles on its inner surface.

Head and body covered with minute granular scales which are very soft and deciduous. Dorsal fin occupying the almost of back of trunk, composed of unarticulated rays, but anterior ten rays are short and spine-like, widely seated in a narrow groove. The first ray of anal fin does not elongate in our specimen. Anterior five rays of anal fin similar to those of dorsal fin, and also depressible in to a groove. Pectoral fin slender, its tip reaches to ninth dorsal and fifth anal ray respectively. Ventral fin very small, composed likely two short triangular-prismatic spines, placed close to each other on the ventral keel, just below the fore-axial of pectoral fin. Vent opening immediately behind and closed to the ventral fin. Caudal fin rather small, but well forked. There is a dermal horizontal keel on each side of caudal peduncle.

Color of body in formalin, pale brown with slight silver sheen on side of belly and lower part of anal region. Dorsal and anal fins are dark brown, but other fins are pale.

B. *Rachycentron canadum* (LINNAEUS) (Fig. 2)

Japanese name: Sugi

On October 30, 1962, a large sergeantfish (1.460 mm in total length and 10.5 kg in weight) trapped in a fixed pound net for yellow-tail (*Seriola quinqueradiata*) set near by the shore of Yoichi. This may perhaps be the second record in occurrence of this species in the waters of Hokkaido as far as the author is aware. Previously, HIKITA (1951) only listed this fish from Funka-wan (Volcano Bay) with a short note as "very rare in summer in the bay".

D. IX-31, A. 25, P. 21, V. I. 5, C. 25 (in all). Branchiostegals 7. Head 4.96 in body length (=standard length; 1.080 mm), depth 6.00, distance from tip of snout to the origin of first dorsal fin 4.70, distance from tip of snout to origin of second dorsal fin 2.64, length of first dorsal fin base 6.15, length of second dorsal fin base 2.64, length of anal fin base 3.72, length of pectoral fin 5.60, distance from tip of lower jaw to origin of ventral fin 4.50, distance between origin of ventral fin and that of anal fin 3.90. Eye 7.20 in head length (218 mm), snout 2.05, upper jaw 1.85, mouth cleft 1.53, interorbital space 1.56, width of head 1.24, postorbital part of head 1.55, depth of caudal peduncle 3.00, length of the same 5.00, length of ventral fin 2.02.

Body elongate, fusiform, subcylindrical, and moderately compressed posteriorly. Head much depressed, wider than deep. Snout broad, depressed and bluntly pointed.

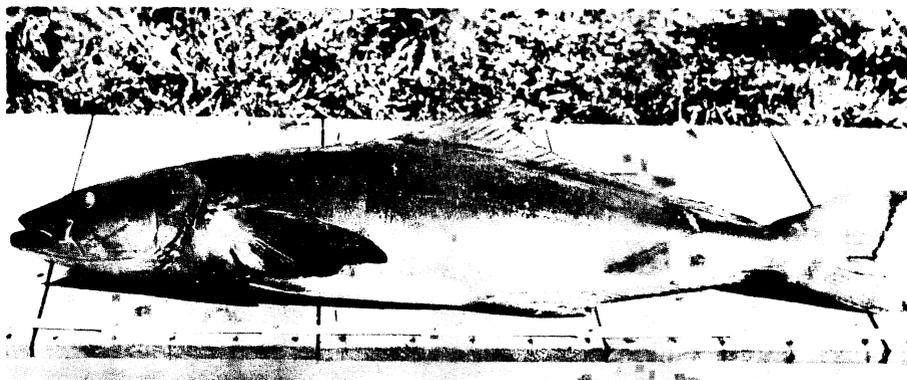


Fig. 2. *Rachycentron canadum*, 1,460 mm long, from Yoichi.
Lateral view of whole body.

Mouth rather wide, nearly horizontal. Maxillary reaches to a vertical from the front of eye, and lower jaw projected. Eye small, its diameter about one-tenth of head length. Interorbital space wide, and slightly convex. Body covered with minute, smooth, adherent scales. Lateral line complete, irregularly waved, and slopes down evenly from the shoulder region to the middle of caudal peduncle. First dorsal fin inserted well behind the pectoral fin and composed nine separated short spines which with almost equal size and depressible in a narrow groove. Second dorsal fin long and low, inserted little nearer to tip of snout than to caudal fin base, and somewhat falcate in profile. Anal fin opposite with second dorsal fin, and also somewhat falcate similar with the second dorsal fin. Anal fin with two weak spines in front, but anterior one free from the fin. Pectoral fin moderate in size, a little shorter than the head length, placed low, and broadly falcate in its posterior margin. Ventral fin thoracic, with a spine and five rays, inserted closely behind the pectoral axil. Caudal fin strong, deeply emarginate, and upper lobe slightly longer than the lower.

Color in formalin, dark brown on upper part of body, paler on side and silvery white on lower part. A dark brown lateral band on the middle of body from snout to caudal fin base. Fins are all dark except for ventral fin.

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