

Rexichthys Parin and Astakhov, 1987

GEMP Rexi

Rexichthys Parin and Astakhov, 1987:149. Type species, ***Rexichthys johnpaxtoni*** Parin and Astakhov, 1987, by original designation.

Synonyms: None.

Diagnostic Features: See species.

Species: A single species recognized so far.

Rexichthys johnpaxtoni Parin and Astakhov, 1987

Fig. 90

GEMP Rexi 1

Rexichthys johnpaxtoni Parin and Astakhov, 1987:149-1 52, figs 1, 2 (Tasman Sea: 32°18'S, 153°00'E).

Synonyms: None.

FAO Names: En - Paxton's escolar; Fr - Escolier becune; Sp - Escolar de Paxton.

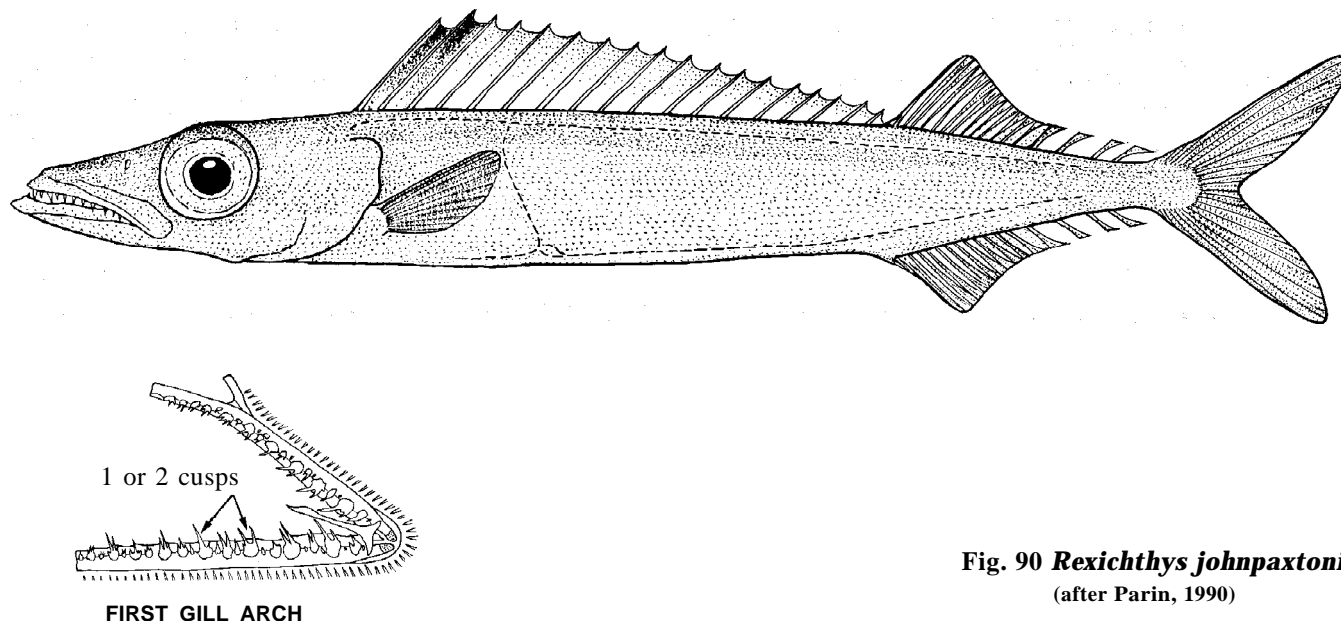


Fig. 90 *Rexichthys johnpaxtoni*
(after Parin, 1990)

Field Characters: Body moderately elongated and compressed; its depth 7 or 8 times in standard length. Two lateral lines, the lower originating below sixth to seventh spine of first dorsal fin, descending sharply to ventral contour of body, dividing into a short anterior branch and a much longer posterior branch. Dorsal and anal finlets present.

Diagnostic Features: Body moderately elongate and compressed; its depth 7 to 8 times in standard length; body width 1.8 to 2.1 times in body depth. Head length 3.2 to 3.3 times in standard length; lower jaw extends anterior to upper jaw; tip of both jaws without dermal processes; strong jaw dentition including 3 immovable and 1 to 3 movable fangs anteriorly in upper jaw, 1 shorter fang anteriorly on each side of lower jaw and numerous lateral compressed teeth; no vomerine teeth (present in juveniles); palatine with 20 to 25 teeth. Spinescent gill rakers on first arch with 1 or 2 cusps. First dorsal fin with XVIII spines, second dorsal fin with I spine and 14 or 15 soft rays followed by 3 finlets, base of first dorsal fin 2.3 to 2.4 times longer than base of second dorsal fin; anal fin with I free and I comprised spine and 12 or 13 soft rays followed by 3 finlets; pectoral fins with 13 soft rays, shorter than half of head length; pelvic fins entirely absent at more than 10 cm standard length (represented by I spine and 2 tiny soft rays in smaller specimens), underskin articulation on pelvic girdle below pectoral-fin base. Two lateral lines, the upper following dorsal contour of body and terminating below last dorsal finlet, the lower originating below sixth to seventh spine of first dorsal fin, sharply descending to supraventral position, dividing into a short anterior branch and a long posterior branch reaching origin of caudal fin. Body entirely naked. Pyloric caeca 9 or 10. Vertebrae total 34, including 19 precaudal and 15 caudal; epineurals to 27th or 28th vertebra; no epipleurals. **Colour:** Body brownish; fins hyaline except the first dorsal fin bearing a black blotch distally on two anterior membranes.

Geographical Distribution: Known from east coast of Australia between 17°31' and 32°34'S, and from New Caledonia (Fig. 91).

Habitat and Biology: Adults are probably benthopelagic from 400 to 470 m while juveniles are pelagic from 270 to 400 m.

Size: Maximum known standard length is 22 cm.

Interest to Fisheries: No special fisheries for this species.

Local Names: AUSTRALIA: Paxton's gemfish;
RUSSIA: Reksikht.

Literature: Parin and Paxton (1990); Parin (1990a).

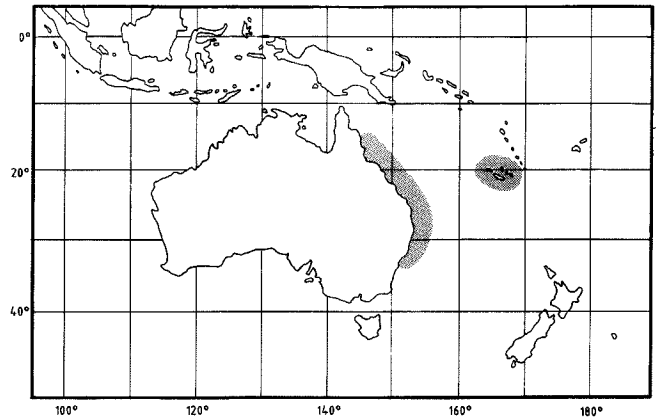


Fig. 91

Ruvettus Cocco, 1829

GEMP Ruv

Ruvettus Cocco, 1829:21. Type species, *Ruvettus pretiosus* Cocco, 1829, by monotypy.

Synonyms: *Rovetus* Cantraine, 1835. *Acanthoderma* Cantraine, 1835. *Aplurus* Lowe, 1838.

Diagnostic Features: See species.

Species: A single species recognized so far.

Ruvettus pretiosus Cocco, 1829

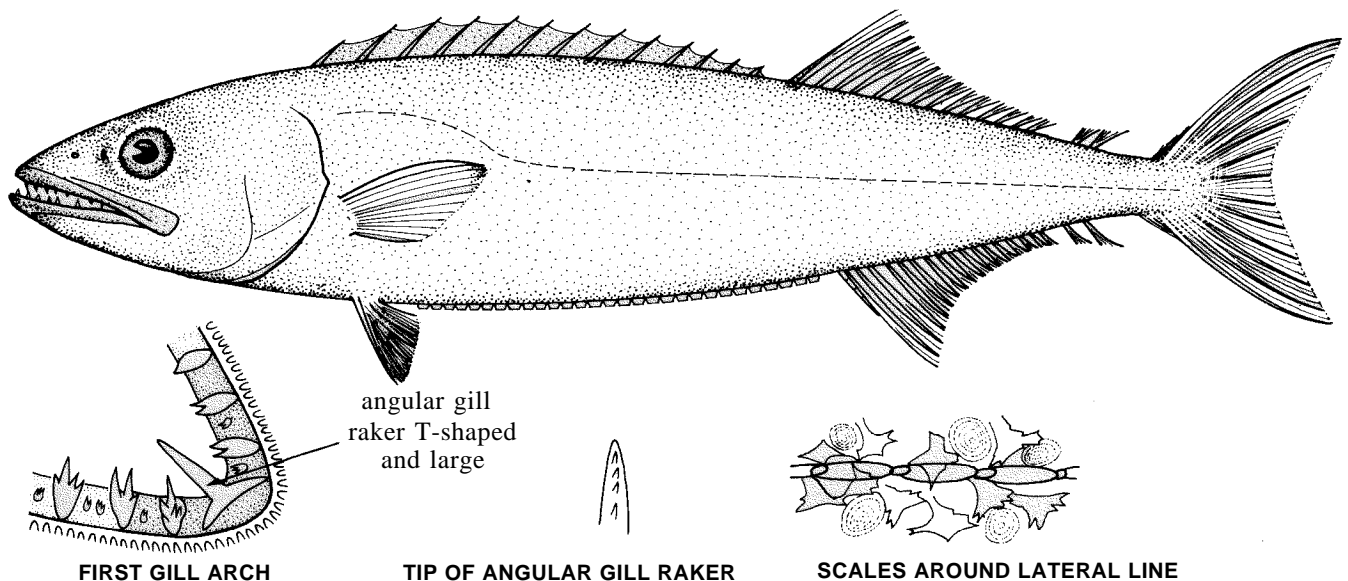
Fig. 92

GEMP Ruv 1

Ruvettus pretiosus Cocco, 1829:21 (Messina, Italy).

Synonyms: *Rovetus temminckii* Cantraine, 1833. *Tetragonurus simplex* Lowe, 1834. *Thyrsites acanthoderma* Lowe, 1839. *Thyrsites scholaris* Poey, 1854. *Ruvettus tydemani* Weber, 1913. *Ruvettus pacificus* Jordan and Jordan, 1922. *Ruvettus whakari* Griffin, 1927.

FAO Names: En - Oilfish; Fr - Rouvet; Sp - Escolar clavo (= Escolar).

Fig. 92 *Ruvettus pretiosus*

Field Characters: Skin very rough, scales interspersed with spinous bony tubercles. Mid-ventral (abdominal) keel on ventral contour.

Diagnostic Features: Body semifusiform and slightly compressed; its depth 4.3 to 4.9 times in standard length. Head length 3.3 to 3.7 times in standard length; lower jaw extends slightly anterior to upper jaw; tip of both jaws without dermal processes; fang-like teeth in both jaws present in juveniles but indistinct in adults; uniserial small teeth on vomer and palatines. Gill raker at angle of first arch T-shaped and larger than other gill rakers. First dorsal fin low, with XIII to XV spines, second dorsal fin with 15 to 18 soft rays followed by 2 finlets; anal fin with 15 to 18 soft rays followed by 2 finlets; pectoral fins with about 15 soft rays; pelvic fin well developed, with I spine and 5 soft rays; caudal fin widely forked without caudal keels. Lateral line single, often obscure; belly keeled by bony scales between pelvic fins and anus. Small cycloid scales, interspersed with rows of sharp spiny tubercles. Vertebrae total 32, including 16 precaudal and 16 caudal. **Colour:** Body uniformly brown to dark brown, tip of pectoral and pelvic fins black, margins of second dorsal and anal fins white in young specimens.

Geographical Distribution: Widely distributed in tropical and temperate waters of the world (Fig 93).

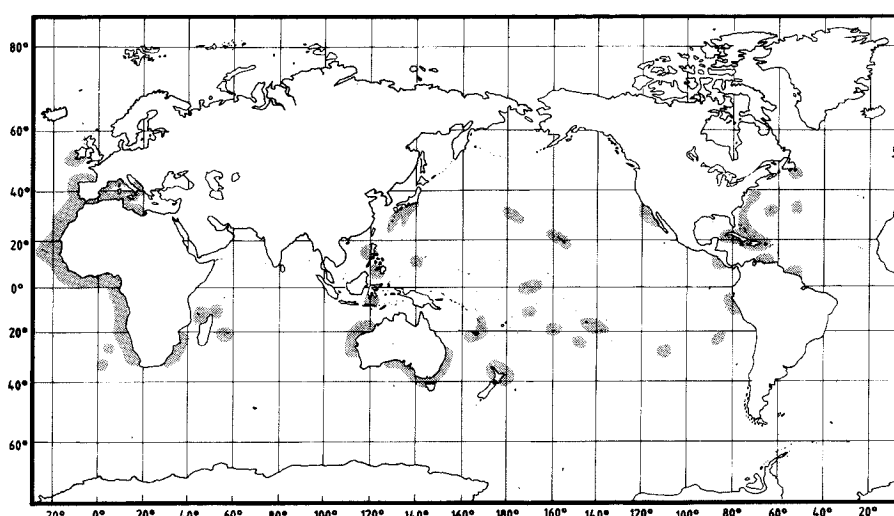


Fig. 93

Habitat and Biology: Oceanic, benthopelagic on continental slope and sea rises from about 100 to 700 m. Usually solitary or in pairs near sea bottom; feeds on fish, squid and crustaceans.

Size: Maximum 3 m total length, common to 150 cm standard length.

Interest to Fisheries: No special fishery for this species, but appears as bycatch in the tuna longline fishery, caught usually at depths from 200 to 400 m. The peculiar wooden "palu" or *Ruvettus* hook is used to catch this species in the southcentral Pacific. Flesh very oily, with purgative properties, if eaten much.

Local Names: CANADA: Oilfish; FRANCE: Rouvet; ITALY: Ruvetto; JAPAN: Bara-mutsu, Tama-kamasu; SPAIN: Escolar clavo; UK: Oilfish; USA: Oilfish; RUSSIA: Ruveta.

Literature: Bigelow and Schroeder (1953); Herre (1953); Wheeler (1969); Forster et al. (1970); Mago (1970); Fourmanoir and Griessinger (1971); Quero (1973); Chirichigno (1974); Parin and Golovan (1976); Parin (1976b, 1986, 1990c); Gorbunova (1977); Nakamura (1977, 1981, 1984b, 1986b,c); Fourmanoir (1979); Fourmanoir and Rivaton (1979); Pakhorukov (1981); Kukuev (1982); Fujii (1983); Randall and Egaña (1984); Wass (1984); Machida (1985); Parin and Prutko (1985); Borets (1986); Hutchins and Swainston (1986); Lloris (1986); Paulin et al. (1989).

Thyrsites Cuvier, 1831

GEMP Thyrs

Thyrsites Cuvier in Cuv. and Val., 1832:196. Type species, *Scomber atun* Euphrasen, 1791, by subsequent designation by Gill, 1862.

Synonyms: *Leionura* Bleeker, 1860a.

Diagnostic Features: See species.

Species: A single species recognized so far.

Thyrstes atun (Euphrasen, 1791)

Fig. 94

GEMP Thyrs 1

Scomber atun Euphrasen, 1791:315 (Cape of Good Hope, South Africa).

Synonyms: *Scomber dentatus* Bloch and Schneider, 1801, *Thyrsites chilensis* Cuvier in Cuv. and Val., 1832. *Scomber lanceolatus* Cuvier in Cuv. and Val., 1832. *Thyrsites altivelis* Richardson, 1839. *Scomber splendens* Richardson, 1842. *Scomber dentex* Richardson, 1842.

FAO Names: En - Snoek; Fr - Escolier; Sp - Sierra.

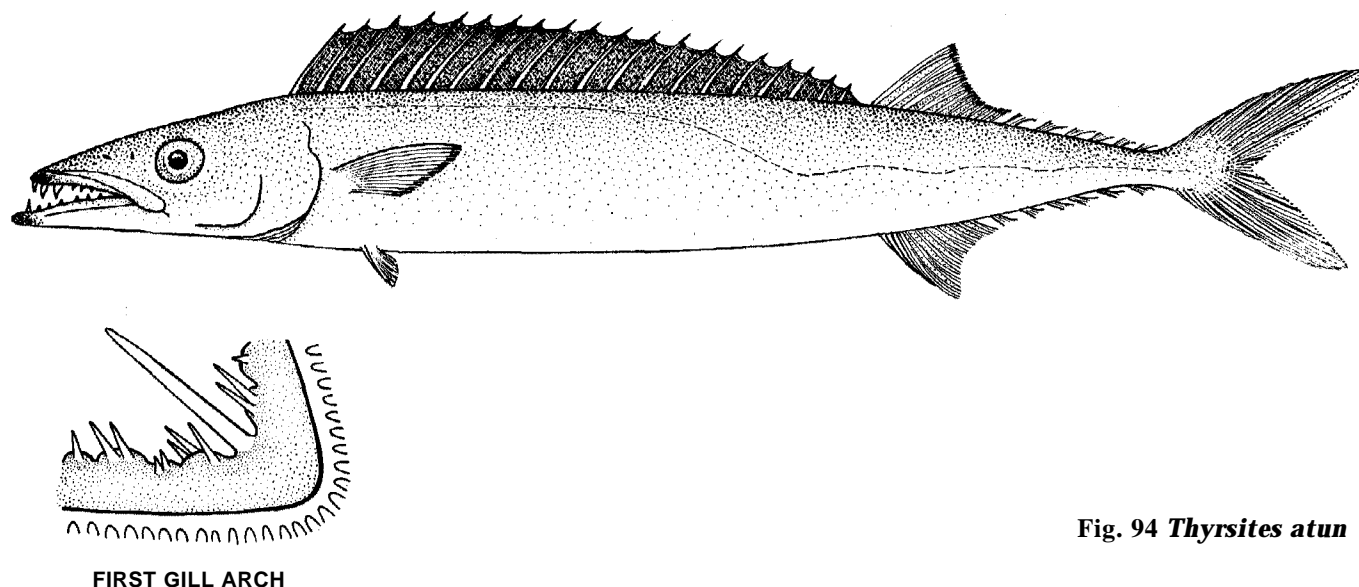


Fig. 94 *Thyrsites atun*

Field Characters: Second dorsal fin as large as anal fin, both followed by 6 or 7 finlets. Pelvic fins small, but well developed. Lateral line single, running close to upper contour of body, below most of first dorsal-fin base.

Diagnostic Features: Body fairly elongate and considerably compressed; its depth 7.5 to 9.2 times in standard length. Head length 3.8 to 4.2 times in standard length; two well separated nostrils, posterior nostril slit-like; mouth large, posterior end of upper jaw reaches to anterior margin of eye, lower jaw projects anterior to upper jaw; no dermal processes on tips of both jaws; several large fangs in anterior part of upper jaw; 2 minute teeth on vomer; fine uniserial teeth on palatines. Gill rakers on first arch short and spinescent, one raker at angle slightly larger than others. First dorsal fin high, and its base long, with XIX to XXI spines, second dorsal fin also high with 11 to 13 soft rays followed by 5 to 7 finlets; anal fin slightly smaller than second dorsal fin, with I spine and 10 to 12 soft rays followed by 5 to 7 finlets; pectoral fins slightly longer than snout, with 13 to 15 soft rays; pelvic fins small but well developed, with I spine and 5 soft rays. A single lateral line, running close to upper contour of body below most of first dorsal-fin base, then abruptly curving below. Vertebrae total 35, including 21 precaudal and 14 caudal.

Colour: Body dark blue, slightly paler on belly; first dorsal-fin membrane black.

Geographical Distribution: Distributed in the coastal regions from 35° to 55°S latitude, penetrating north only in the waters of cold streams: Chile, southern Peru, Argentina, Uruguay, Tierra del Fuego, Tristan da Cunha, South Africa, Islands of St. Paul and Amsterdam, Tasmania, New Zealand, southern coast of Australia (Fig. 95).

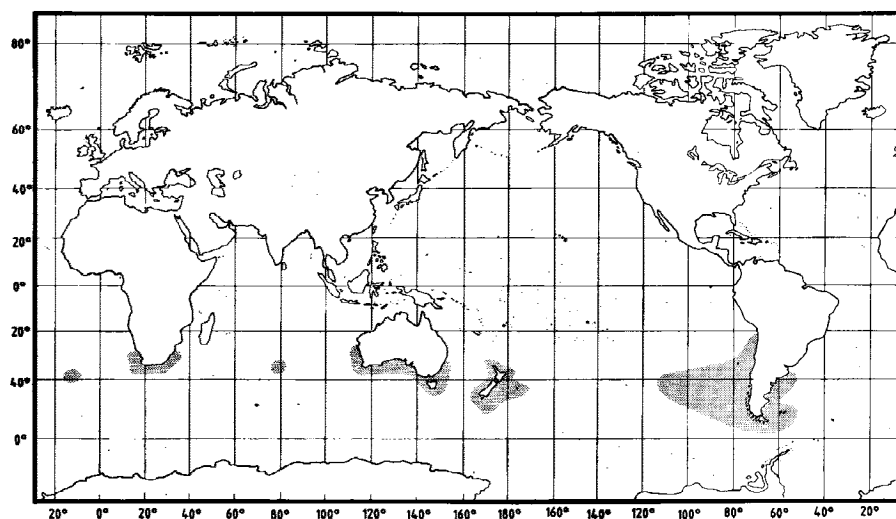


Fig. 95

Habitat and Biology: Neritic benthopelagic species, mostly inhabiting continental shelves or around islands. Preferred temperature range believed to be 13° to 18°C. Feeds on pelagic crustaceans (Euphausia, Nyctiphanes etc.), cephalopods, and fishes such as anchovies, sardines, herrings, carangids, and mugilids (Blackburn, 1957). Spawning occurs from late winter through autumn at Mernoo Bank, off the northwestern coast of the South Island and Chatham Island, New Zealand. Nursery grounds are located in the Hauraki Gulf, Tasman Bay and the Counterbury Bight, New Zealand. Schooling may occur either close to the sea bottom or midwater, and sometimes even at surface at night. Growth in the first 3 years is fast, reaching 29 cm fork length after the first year, 58 cm after the third years, and 90 cm after the tenth year (Hatanaka, 1990).

Size: Maximum 150 cm standard length and more than 6 kg weight, common from 50 to 100 cm.

Interest to Fisheries: Mostly caught by trolling lines and handlines, and sometimes by trawls in Australia, New Zealand, Chile, Argentina and South Africa. The fishing grounds in New Zealand are located around the South Island, especially off Stewart Island, Canterbury Bight and the northwest coast. The total world catch varied considerably from 1974 to 1990, from lowest catch in 1974 of 24 497 t to 101 548 t in 1983. The main fishing areas are off southwestern Africa (FAO Fishing Area 47) and around New Zealand (FAO Fishing Area 81). More than 90% of the 25 000 t to 35 000 t catches reported off South Africa and Namibia are taken by South Africa and Russia. The total catch by New Zealand, Japan and to a lesser extent Australia varies from 20 000 t to 30 000 t in the FAO Fishing Area 81 (FAO, 1992). Good for fish and chips or smoking. In Japan, made for fillet or fish cake.

Local Names: ARGENTINA: Pez sierra, Barracuda; CHILE: Sierra, Sierra comun; JAPAN: Ooshibikamasu; RUSSIA: Snek; SOUTH AFRICA: Snoek.

Literature: Angot (1951); Haedrich and Nielsen (1966); Movillo and Bahmonde (1971); Parin and Becker (1972); Robertson (1975); Chirichigno (1974); Shuntov (1979); Nakamura (1981, 1984a, 1986a, 1990a,b); Last et al. (1983); Hutchins and Swainston (1986); Lloris (1986); Parin (1990c).

Thyrsitoides Fowler, 1929

GEMP Thyrsd

Thyrsitoides Fowler, 1929:255-256. Type species, *Thyrsitoides marleyi* Fowler, 1929, by original designation (also monotypic).

Synonyms: *Mimasea* Kamohara, 1936.

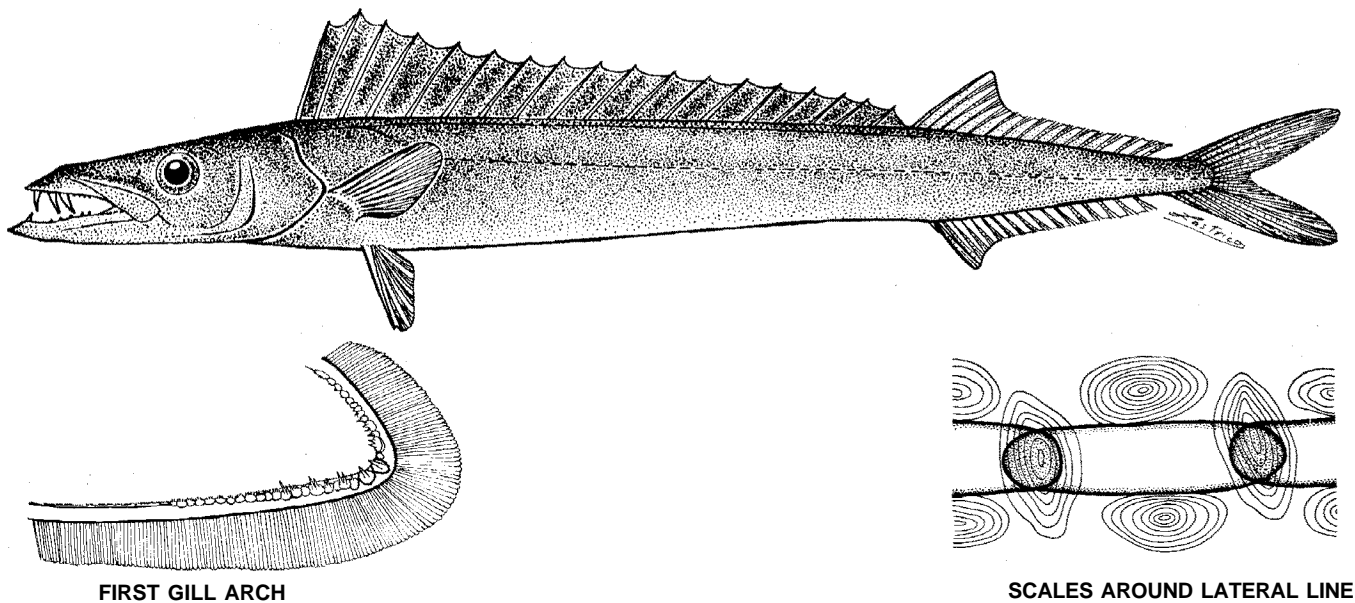
Diagnostic Features: See species.

Species: A single species recognized so far.

Thyrsitoides marleyi Fowler, 1929

Fig. 96

GEMP Thyrsd 1

Thyrsitoides marleyi Fowler**Synonyms:** *Mimasea taeniosoma* Kamohara, 1936.**FAO Names:** En - Black snoek; Fr - Escolier gracile; Sp - Sierra grácil.Fig. 96 *Thyrsitoides marleyi*

Field Characters: Pelvic fins well developed, about as long as pectoral fins. Two lateral lines, originating above upper angle of gill opening, bifurcating below fourth dorsal-fin spine or slightly behind it, upper line running along first dorsal-fin base and terminating below about end of first dorsal fin, lower line abruptly curved backward from bifurcation, running along middle of body to base of middle caudal-fin ray.

Diagnostic Features: Body greatly elongate and compressed; its depth 8.3 to 10.5 times in standard length. Head length 3.8 to 4.1 times in standard length; snout sharply conical, lower jaw sharply pointed and extends considerably beyond upper jaw; tip of both jaws with small conical dermal processes; 3 fangs anteriorly in each side of upper jaw, usually 3 fangs depressible and remaining ones immovable; 1 pair of slightly elongate tooth anteriorly on each side of lower jaw; lateral teeth in jaws conical, those in lower jaw much larger than those in upper jaw; vomer edentate; small teeth on palatines. First dorsal fin rather high and its base long with XVII to XIX spines, the second dorsal fin about as high as first dorsal fin, with I small spine and 16 or 17 soft rays; anal fin a little smaller than second dorsal fin, with I small spine and 16 or 17 soft rays; pectoral fin length a little shorter than snout length, with I small spine and 13 or 14 soft rays; pelvic fins well developed, about as long as pectoral fins with I spine and 5 soft rays. Two lateral lines, the upper following dorsal contour of body, the lower originating below fourth dorsal-fin spine or slightly behind it, running mid-laterally. Body covered with small, thin cycloid scales. Vertebrae total 34, including 20 precaudal and 14 caudal. **Colour:** Body dark brown with slightly metallic reflections, sometimes slightly paler on belly; black markings on first dorsal-fin membrane, other fins without any markings.

Geographical Distribution: Distributed in the Indo-West Pacific: around Japan except Hokkaido (Northern Island), Kyusyu-Palau Ridge,

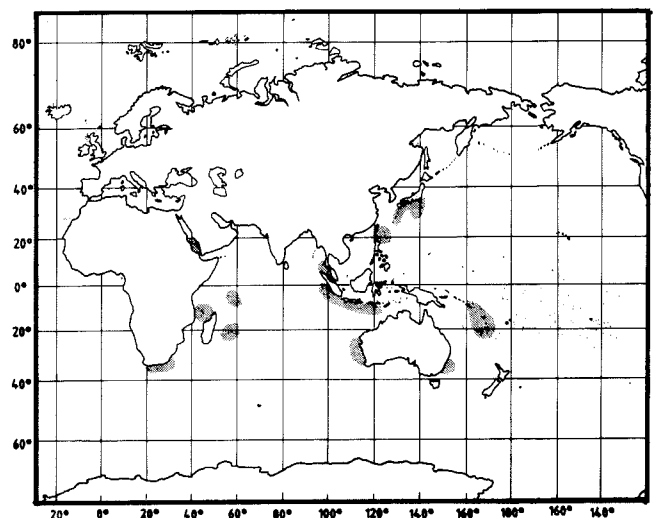


Fig. 97

Taiwan, New Caledonia, New Hebrides, Malacca Straits, Andaman Sea, western Australia, around Madagascar, La Reunion, Saya de Malha Bank, east coast of South Africa and Red Sea (Fig. 97).

Habitat and Biology: Mesobenthopelagic, down to depths of 400 m or more, often at surface at night around Okinawa. The largest populations are probably on the slope of seamounts or ridges. Sporadically recorded. Feeds on a variety of mesopelagic fish, squid and crustaceans.

Size: Maximum 1.5 m standard length, common 50 to 100 cm.

Interest to Fisheries: No special fishery for this species. Marketed fresh in Okinawa, Japan, but rarely caught.

Local Names: JAPAN: Nagatachi-kamasu, Naganja; THAILAND: Pla Insee Saak.

Literature: Matsubara and Iwai (1952); Forster et al. (1970); Fourmanoir and Rivaton (1979); Nakamura (1980, 1984a,b, 1986b and c); Wongratana (1980); Fourmanoir (1982); Gloerfelt-Tarp and Kailola (1984); Parin and Prutko (1985); Shcherbachev (1987); Parin and Paxton (1990).

Thyrsitops Gill, 1862

GEMP Thyrsi

Thyrsitops Gill, 1862:125. Type species, *Thyrsites lepidopoides* Cuvier in Cuv. and Val., 1831, by original designation (also monotypic).

Synonyms: None.

Diagnostic Features: See species.

Species: A single species recognized so far.

Thyrsitops lepidopoides Cuvier, 1831

Fig. 98

GEMP Thyrsi 1

Thyrsites lepidopoides Cuvier in Cuv. and Val., 1831:205, pl. 220 (Atlantic Ocean).

Synonyms: None.

FAO Names: En - White snake mackerel; Fr - Escolier blanc; Sp - Escolar sierra.

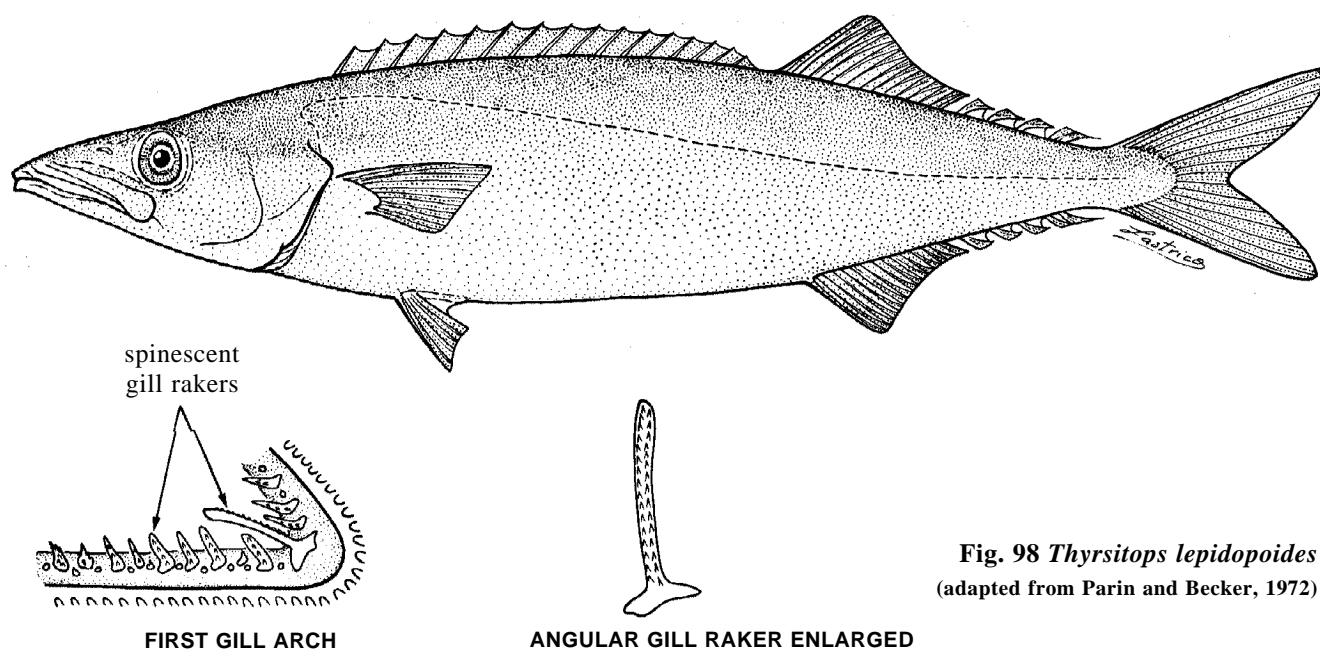


Fig. 98 *Thyrsitops lepidopoides*
(adapted from Parin and Becker, 1972)

Field Characters: Body semifusiform and slightly compressed. Head moderate in size, usually 3.4 to 3.8 times in standard length. Snout long and sharply pointed.

Diagnostic Features: Body semifusiform and slightly compressed; its depth 5 or 6 times in standard length. Head length 3.4 to 3.8 times in standard length; two small, fairly separated nostrils, the anterior nostril semicircular and the posterior nostril slit-like; mouth large, posterior end of upper jaw reaching below middle of eye, lower jaw extends anterior to upper jaw; several large fangs in anterior part of upper jaw, no fangs in lower jaw; small uniserial canine teeth about 15 in upper jaw, about 10 in lower jaw; teeth on lower jaw larger than those on upper jaw; minute teeth on vomer and palatines. Gill rakers on first arch short and spinescent, the raker at the angle much larger than others; pseudobranchiae well developed. First dorsal fin rather low, with XVI or XVII spines, second dorsal fin a little higher than first dorsal fin, with I small spine and 13 to 15 soft rays followed by 5 or 6 finlets; anal fin almost the same in size and shape as second dorsal fin, with I minute spine and 15 to 17 soft rays followed by 3 or 4 finlets; pectoral fins rather short and situated low, with 14 to 16 soft rays; length of pelvic fins half length of pectoral fins, with I spine and 5 soft rays. A single lateral line slightly curved anteriorly, then fairly straight and oblique. Vertebrae total 33, including 17 precaudal and 16 caudal. **Colour:** Body dark blue with metallic tint.

Geographical Distribution: Distributed on both sides of southern South America: off Chile, Argentina, Uruguay and southern Brazil (Fig. 99).

Habitat and Biology: Mesobenthopelagic on continental slope. Matures at about 25 cm, feeds on small fishes (myctophids, etc.).

Size: Maximum 40 cm standard length, common to 25 cm.

Interest to Fisheries: The world total catch decreased from 3 831 t in 1974 to 1 t in 1978. Since 1980, no catches have been reported, except for 21 t caught in 1990 by Argentina in southwest Atlantic (FAO Fishing Area 41). Of the total catch reported before 1980, Argentina accounted for only 1 to 4 t annually and the remainder was Chile (FAO, 1978, 1980, 1982, 1992). Good for smoked fish and fish and chips.

Local Names: ARGENTINA: Caballa blanca, Sierra; BRAZIL: Cavalinha; CHILE: Sierra del Sur, Sierra; JAPAN: Hirashibi-kamasu; RUSSIA: Tirzitop; UK: White snake mackerel.

Literature: Parin and Becker (1972); Nakamura (1986a); Nishikawa (1987).

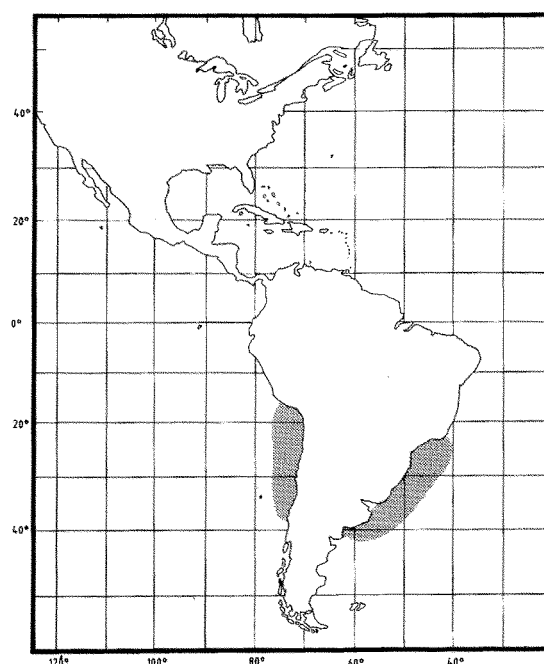


Fig. 99

Tongaichthys Nakamura and Fujii, 1983

GEMP Tong

Tongaichthys Nakamura and Fujii, 1983:174. Type species, *Tongaichthys robustus* Nakamura and Fujii, 1983, by original designation (also monotypic).

Synonyms: None.

Diagnostic Features: See species.

Species: A single species recognized so far.

Tongaichthys robustus Nakamura and Fujii, 1983

Fig. 100

GEMP Tong 1

Tongaichthys robustus Nakamura and Fujii, 1983:173-179, figs 2-13 (Tonga Ridge, South Pacific: 22°11'S, 175°24'W).

Synonyms: None.

FAO Names: En - Tonga escolar; Fr - Escolier tonga; Sp - Escolar de Tonga.

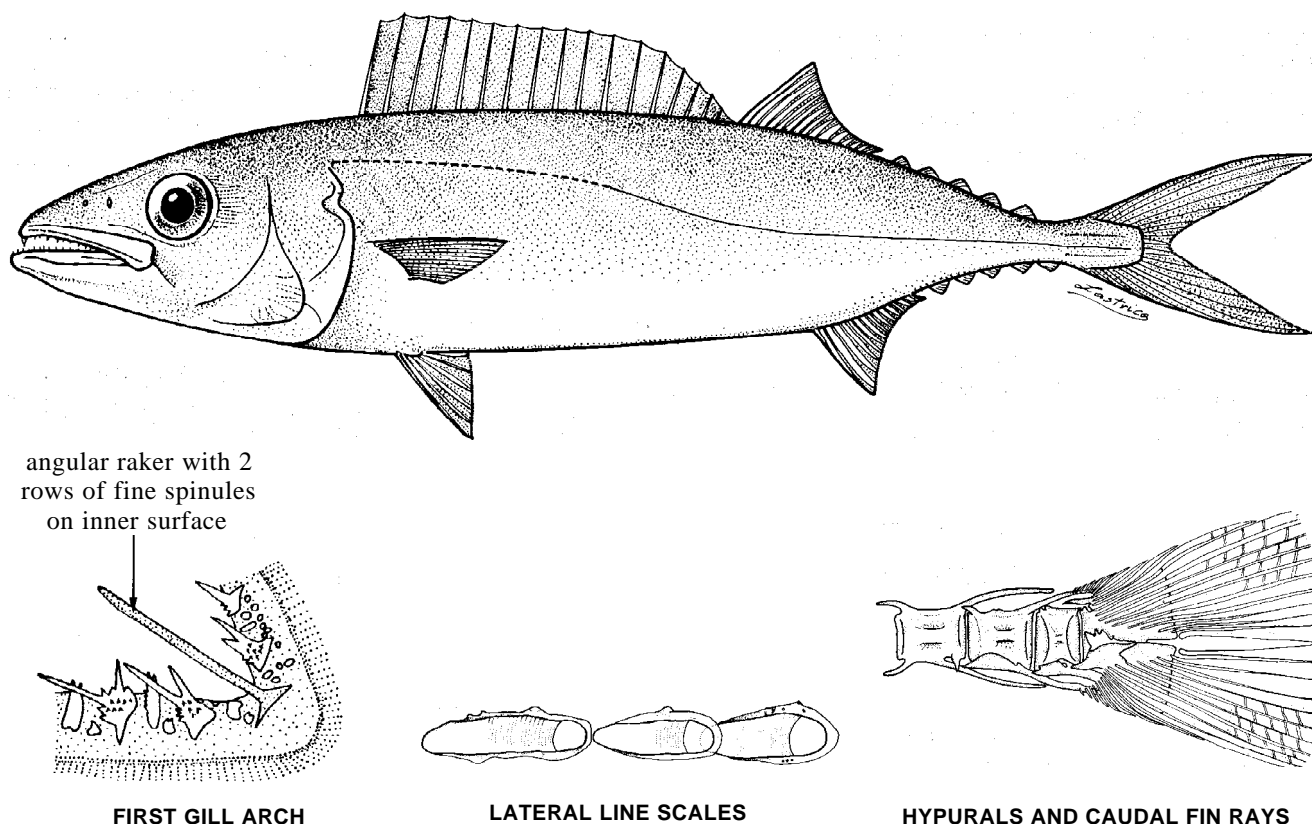


Fig. 100 *Tongaichthys robustus*
(after Nakamura and Fujii, 1983)

Field Characters: Body semifusiform and slightly compressed. Head very large, its length about 3.1 to 3.2 times in standard length. Snout short and rather blunt.

Diagnostic Features: Body semifusiform and only slightly compressed; its depth 4.2 to 4.5 times in standard length. Head very large, about 3.2 times in standard length; snout short and rather blunt; anterior part of upper jaw with 1 or 2 (rarely 3) small fangs, no fangs in lower; lateral teeth in both jaws uniserial, compressed and caniniform, those of lower jaw (about 10) larger and more widely spaced than those of upper (about 40); middle teeth larger than anterior and posterior teeth, about 13 on vomer, about 30 on each palatine. Gill rakers spinescent with many spinules on their bases, numerous irregular fine bony plates on gill arches; longest raker with 2 rows of fine spinules on its inner surface, located at angle of first arc; pseudobranchiae well developed. First dorsal fin moderately high, with XVI to XVII soft and feeble spines, second dorsal fin rather low, with 14 to 17 soft rays followed by 5 or 6 finlets; anal fin also rather low, with I small spine, and 14 to 16 soft rays followed by 5 or 6 finlets; pectoral fins small and situated rather low, with I small spine and 16 to 18 soft rays; pelvic fins slightly shorter than pectoral fins, with I spine and 5 soft rays; caudal fin rays cover hypural complex deeply but not completely. A pair of faint keel-like processes on caudal base. A single lateral line, gradually descending from above upper margin of opercle to base of caudal fin with slight undulations. Scales on cheek enlarged, elongate and slightly overlapping. Vertebrae total 33, including 18 precaudal and 15 caudal. **Colour:** Body dark brown above, slightly paler below; dorsal part of head, hind part of end of upper jaw, upper margin of lower jaw, inner base of pectoral fins and base of caudal fin brown black; anterior 3 or 4 first dorsal fin membranes and proximal parts of other membranes black; upper margin of pectoral fins and anterior margin of second dorsal fin slightly darkened.

Geographical Distribution: 38 specimens of this species were reported only from the Tonga Ridge. Several specimens have recently been caught around Fiji (A.D. Lewis, comm.) and 1 specimen from off Flinders Reef, Queensland: 17°33'S, 149°46'E (CSIRO no. H1185-01) (Fig. 101).

Habitat and Biology: Probably mesopelagic or mesobenthopelagic, caught at about 300 m depth.

Size: Maximum 23 to 29 cm standard length known so far.

Interest to Fisheries: No special fishery for this species.

Local Names: JAPAN: Shibi-kamasu; RUS-SIA: Tongaikht.

Literature: Nishikawa (1987).

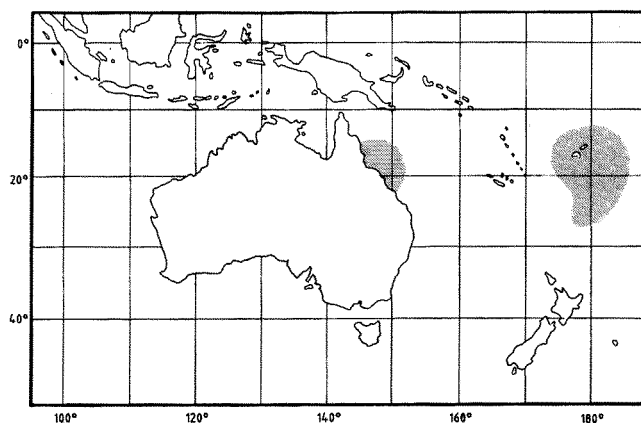


Fig. 101