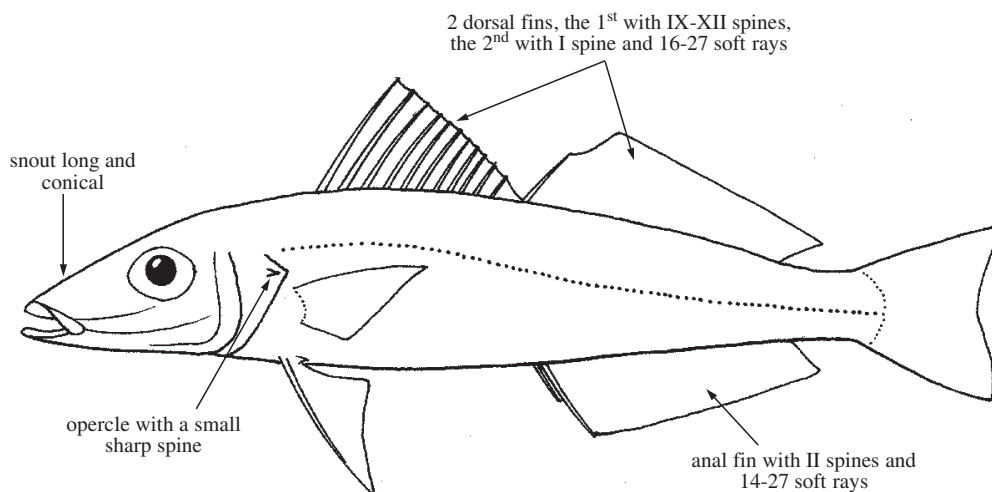


## SILLAGINIDAE

### Sillagos

by R.J. McKay

**Diagnostic characters:** Moderate-sized (to 51 cm), elongate perciform fishes. Opercle with small sharp spine; **lower part of preopercle horizontal**. Snout long and conical. Mouth small, terminal; end of upper jaw sliding below preorbital bone. Teeth villiform, in broad bands; small teeth on roof of mouth restricted to anterior part of vomer, none on palatines. Two separate dorsal fins, the first with 9 to 12 slender spines; the second with I spine and 16 to 27 soft rays; **anal fin long, with II weak spines** and 14 to 27 soft rays. Scales small, ctenoid; lateral line slightly arched. Swimbladder frequently complex. **Colour:** silvery to sandy grey or green, sometimes with black spots on body and pectoral-fin base.

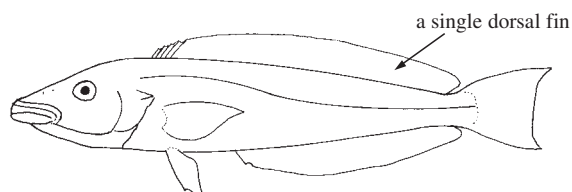


**Habitat, biology, and fisheries:** The family is widespread throughout the Indian Ocean and the western Pacific Ocean. All species are inshore, bottom-dwelling, schooling fishes with a few species found in deeper water to about 180 m. They are commonly taken by beach seine net and line in shallow sandy bays and frequently enter estuaries, penetrating into fresh water for brief periods. Their flesh is very white, tender, and of exceedingly delicate flavour. It contains very little oil and is easily digested. Steamed sillago fillets are highly esteemed as food for invalids and infants. From 1990 to 1995, the FAO Yearbook of Fishery Statistics reports a range of yearly catch of around 12 100 to 16 600 t from the Western Central Pacific.

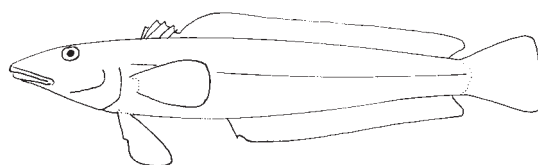
### Similar families occurring in the area

Branchiostegidae: a single continuous dorsal fin; mouth large with fleshy lips.

Pinguipedidae (= Parapercaidae, Mugiloididae): dorsal-fin spines short; spinous dorsal fin sometimes joined to soft dorsal fin; pelvic-fin base in advance of pectoral-fin base.



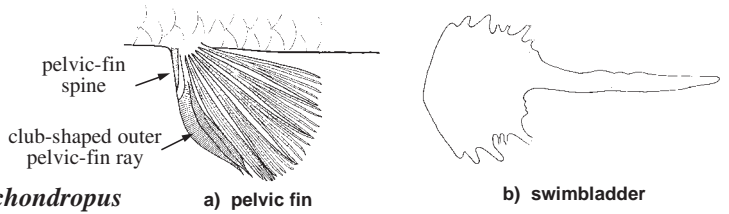
**Branchiostegidae**



**Pinguipedidae**

**Key to the species of Sillaginidae occurring in the area**

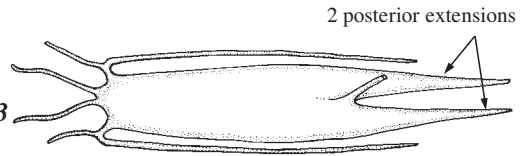
**1a.** Pelvic-fin spine very small and situated at base of a thickened club-shaped outer pelvic-fin ray (Fig. 1a); swimbladder reduced, no duct-like process (Fig. 1b); no modified caudal vertebrae present (subgenus *Sillaginopodys*). . . . . *Sillago chondropus*



**Fig. 1** *Sillago chondropus*

**1b.** No club-shaped outer pelvic-fin ray . . . . . → 2

**2a.** Swimbladder divided posteriorly into 2 tapering extensions projecting below vertebral column into tail musculature (Fig. 2) . . . . . (subgenus *Sillago*) → 3



**Fig. 2** swimbladder (subgenus *Sillago*)

**2b.** Swimbladder with a single posterior extension below vertebral column and entering the tail section (Figs 3 and 4) . . . . . (subgenus *Parasillago*) → 4

**3a.** Body with a longitudinal row of dark spots below lateral line and a series of dark saddle-like blotches on back . . . . . *Sillago intermedius*

**3b.** Body uniform in coloration . . . . . *Sillago sihama*

**4a.** A dark brown, dusky, or blue-black spot or blotch on or just preceding pectoral-fin base . . . . . → 5

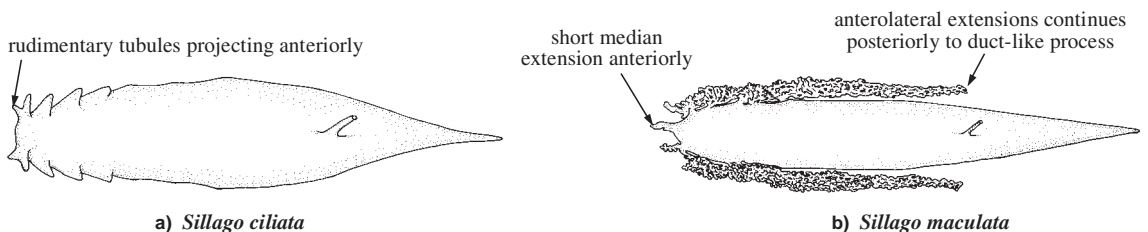
**4b.** No dark mark at pectoral-fin base . . . . . → 8

**5a.** Body with dark blotches . . . . . → 6

**5b.** Body uniform colour in adults (juveniles to 9 cm have darker blotches along sides and back) with snout bluish in some large specimens; first dorsal fin with XI spines, second dorsal fin with I spine and 16 to 18 soft rays; anal fin with II spines and 15 to 17 soft rays; lateral-line scales 60 to 69; vertebrae 14-15 + 5-8 + 11-14 (total 32 to 34); swimbladder with rudimentary tubules projecting anteriorly and a series of sawtooth-like pockets laterally (Fig. 3a) . . . . . *Sillago ciliata* (eastern Australia)

**6a.** Upper and lower dark blotches on sides joined at least posteriorly; first dorsal fin with XI spines, second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II spines and 19 or 20 soft rays; lateral-line scales 71 to 75; vertebrae 34 to 36; swimbladder with a short median extension anteriorly and a complex anterolateral extension that continues posteriorly to the duct-like process (Fig. 3b) . . . . . *Sillago maculata* (eastern Australia)

**6b.** Upper and lower dark blotches separate; swimbladder without complex anterolateral extensions extending well posteriorly to end of abdomen . . . . . → 7



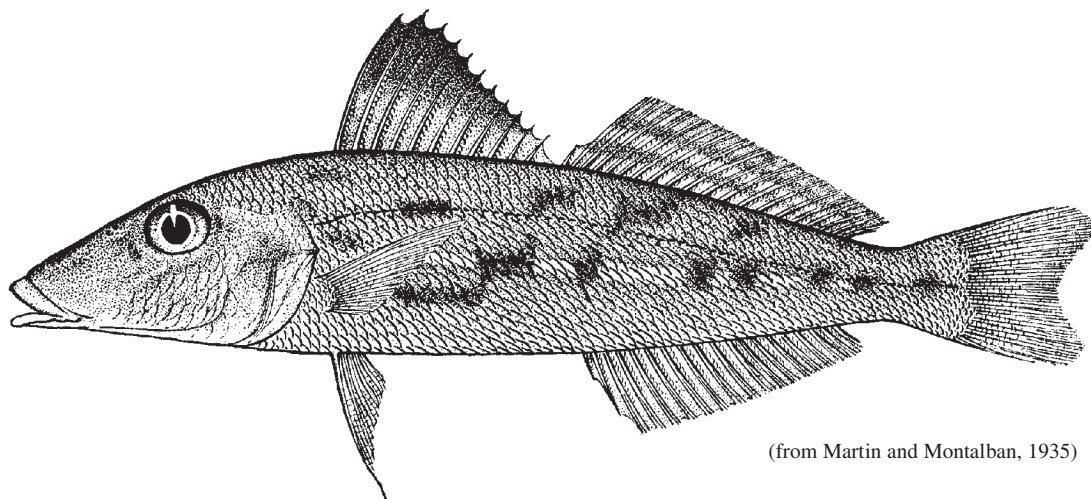
**Fig. 3** swimbladder



*Sillago aeolus* Jordan and Evermann, 1902

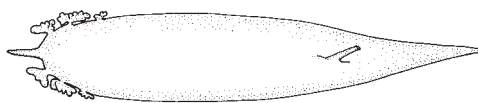
**Frequent synonyms / misidentifications:** None / *Sillago maculata* Quoy and Gaimard, 1824.

**FAO names:** En - Oriental sillago; Fr - Pêche-madame oriental; Sp - Silago oriental.



(from Martin and Montalban, 1935)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 18 to 20 soft rays; anal fin with II slender spines and 17 to 19 (**usually 18**) soft rays. Lateral line with 67 to 72 scales. Vertebrae 13-14 + 4-7 + 14-16 (**total 34**). **Swimbladder with 3 rudimentary anterolateral extensions instead of 4**; differs from *Sillago maculata* in lacking well-developed anterolateral extensions reaching to level of anus. **Colour:** very similar to *S. berrus* in coloration but has the most posterior midlateral dark brown blotch elongate and reaching caudal flexure.

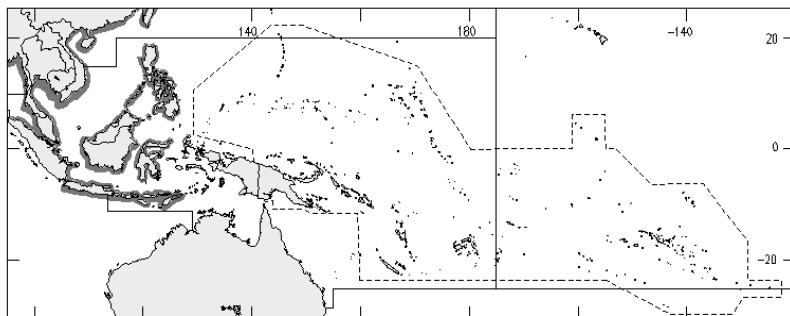


swimbladder

**Size:** Maximum standard length 30 cm.

**Habitat, biology, and fisheries:** Coastal inshore waters, most common in embayments on silty bottom. Juveniles burrow in the sand. Small local fisheries exist throughout the range of this species, particularly where bottom trawls are employed. The flesh is prone to spoil rapidly and the Oriental sillago is not considered as highly as the inshore sillago's.

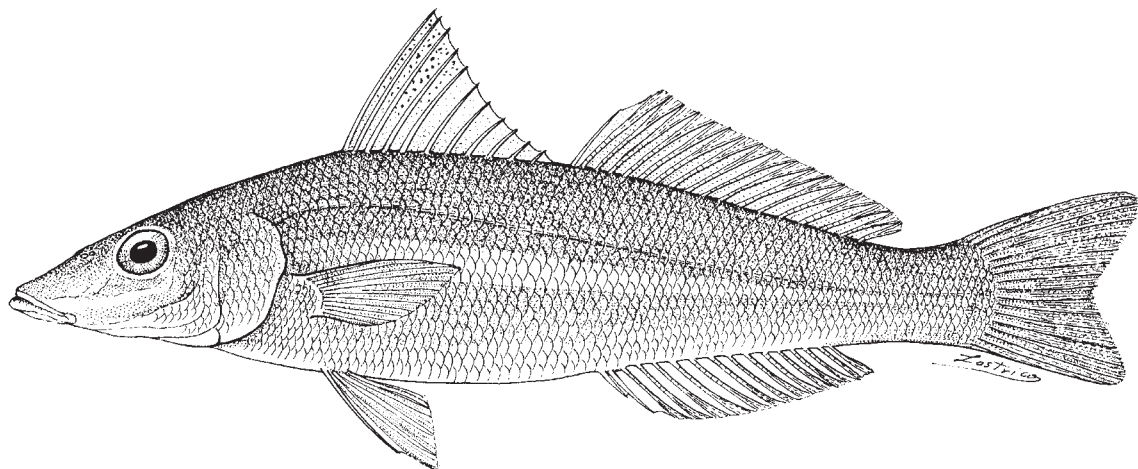
**Distribution:** Singapore, Thailand, China (including Hong Kong and Taiwan Province), Philippines, and southern Japan. Possibly distributed throughout the Indo-West Pacific from Delagoa Bay (South Africa) to Okinawajima (Japan), but not recorded from Australia or southern New Guinea.



*Sillago analis* Whitley, 1943

**Frequent synonyms / misidentifications:** *Sillago nierstraszi* Hardenberg, 1941 (possible senior synonym) / None.

**FAO names:** En - Goldenlined sillago; Fr - Pêche-madame doré; Sp - Silago aureolineado.

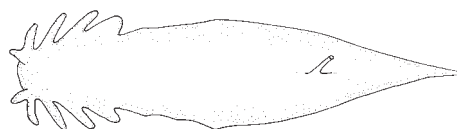


**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 16 to 18 soft rays; **anal fin with II slender spines and 14 to 17 soft rays. Lateral line with 54 to 61 scales.** Vertebrae 13-14 + 4-8 + 11-15 (total 33 to 34). **Colour:** no dark spot at pectoral-fin base; body light silvery, slightly darker to dusky above; a dull golden-silver to golden-yellow band longitudinally on sides below lateral line; pelvic and anal fins pale yellow to bright yellow; pectoral fins with a darker dusting of fine black-brown spots.

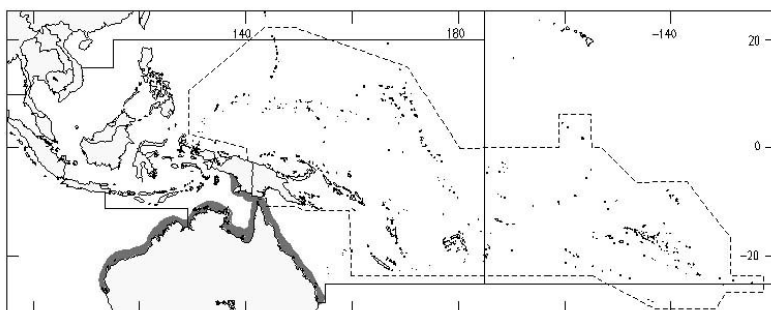
**Size:** Maximum standard length 45 cm; commonly to 35 cm.

**Habitat, biology, and fisheries:** Shallow mangrove creek shorelines, protected inlets and tidal areas. An important fishery has developed in northern Australia.

**Distribution:** Shark Bay, Western Australia, Northern Territory, Queensland south to Moreton Bay, and southern coast of New Guinea.



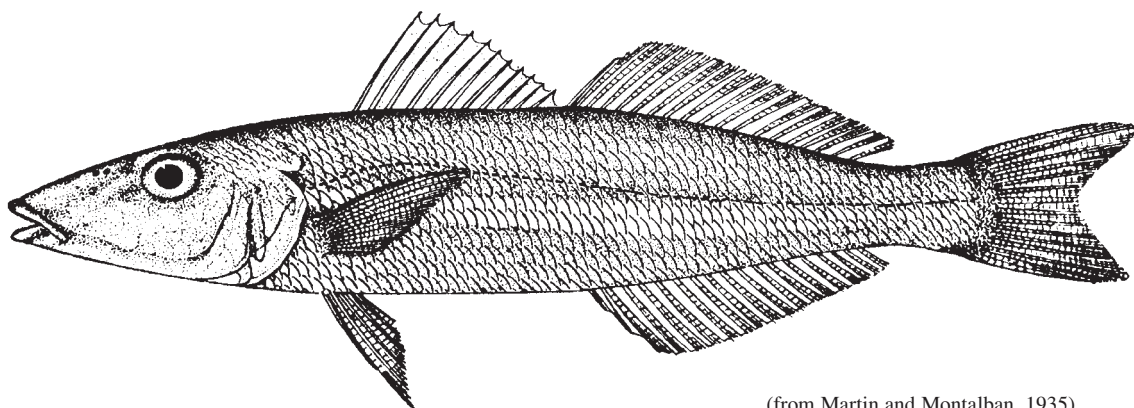
swimbladder



***Sillago argentifasciata*** Martin and Montalban, 1935

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** **En** - Silverbanded sillago; **Fr** - Pêche-madame ceinture d'or; **Sp** - Silago de bandas plateadas.



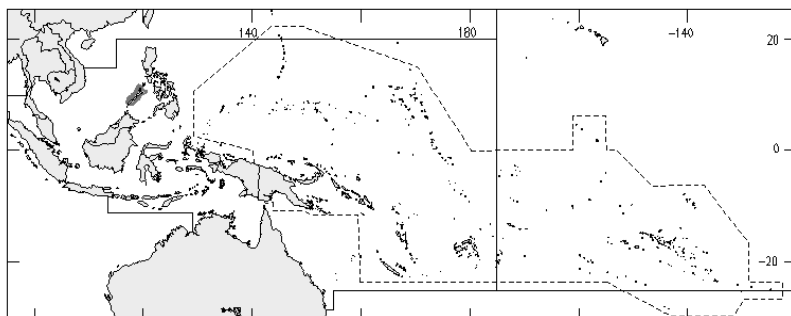
(from Martin and Montalban, 1935)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 17 or 18 soft rays; anal fin with II slender spines and 17 soft rays. Lateral line with 66 scales. Cheek with 3 rows of scales, **those on upper row cycloid, and on lower 2 rows ctenoid**. **Colour:** no irregular dark blotches on sides; **a wide, brilliant, silvery, longitudinal band on each side of body**.

**Size:** Not known.

**Habitat, biology, and fisheries:** Unknown.

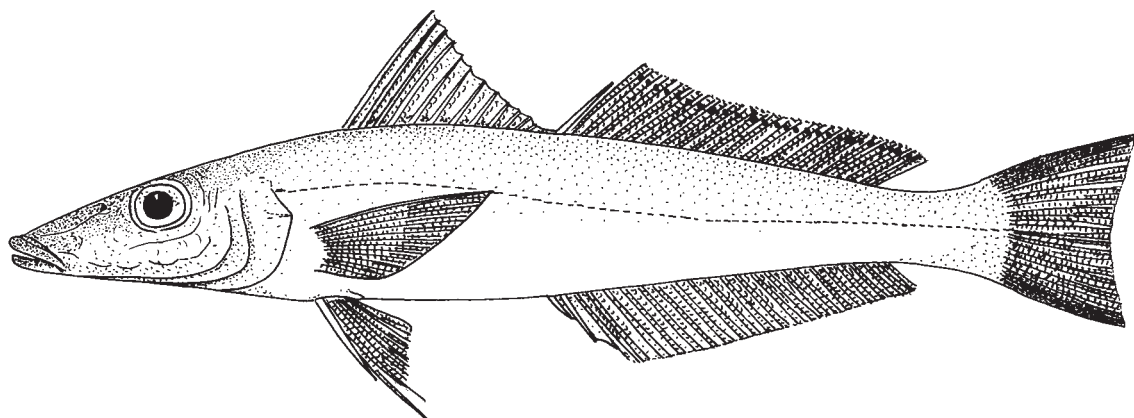
**Distribution:** Lumbucan Island, Philippines.



*Sillago asiatica* McKay, 1983

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** **En** - Asian sillago; **Fr** - Pêche-madam asiatic; **Sp** - Silago asiatico.



**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 20 or 21 soft rays; anal fin with II slender spines and 21 to 23 soft rays. Lateral line with 67 to 70 scales. Vertebrae 13-14 + 6-7 + 13-16 (total 34). Swimbladder with 3 anterior extensions, **the middle one projecting forwards and the anterolateral ones recurved backwards up to 1/2 length of swimbladder;** **a single posterior extension.** **Colour:** head and body

pale sandy brown to light fawn, an indistinct pale midlateral band is present on some specimens; belly paler, almost white; opercle and preopercle transparent with a crescentic patch of fine black-brown spots in a pigmented area, the shape of the gill arches on the inside of the gill cover showing through; fins hyaline, the margins of unpaired fins finely spotted with brown; upper and lower margins of caudal fin dark brown to almost black.

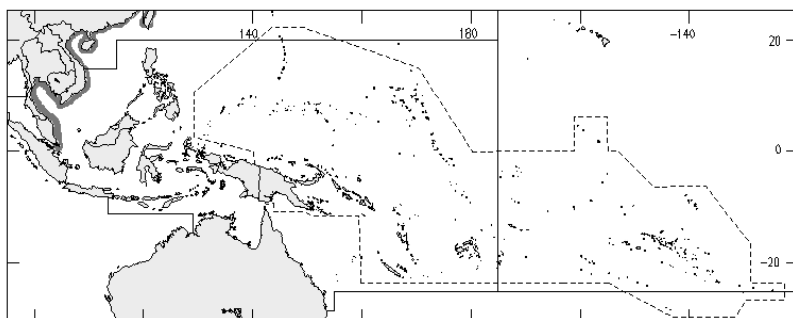
**Size:** Maximum standard length 15 cm.

**Habitat, biology, and fisheries:** Inshore waters. Biology unknown. Taken as an incidental catch with other sillago species.

**Distribution:** Gulf of Thailand and Taiwan Province of China. This species is possibly widespread.



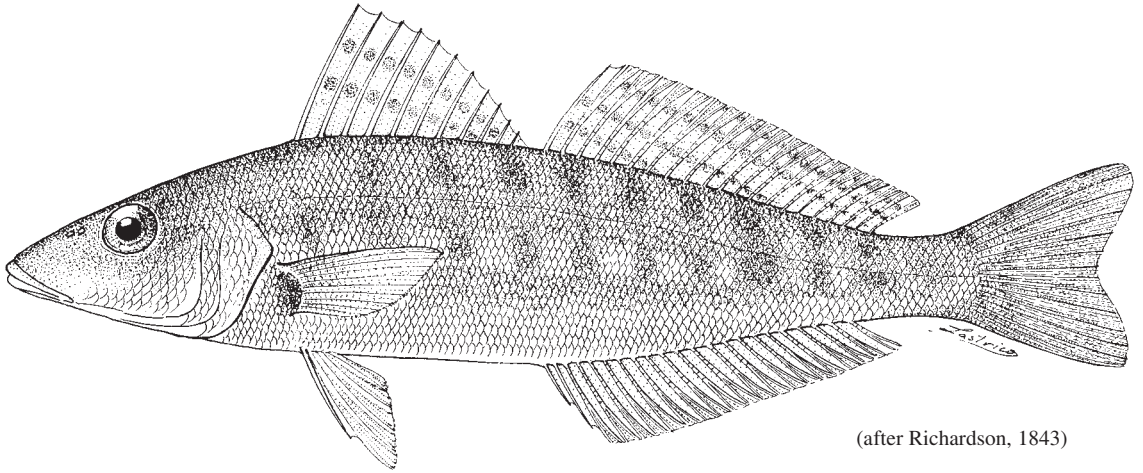
swimbladder



***Sillago burrus*** Richardson, 1842

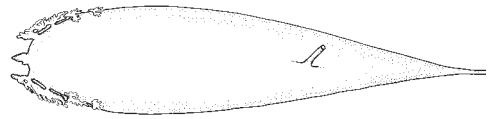
**Frequent synonyms / misidentifications:** *Sillago maculata burra* Richardson, 1842 / None.

**FAO names:** **En** - Western trumpeter sillago; **Fr** - Pêche-madam clairon; **Sp** - Silago tromperero occidental.



(after Richardson, 1843)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II slender spines and 18 to 20 (**rarely 18**) soft rays. Lateral line with 69 to 76 scales. Vertebrae 13-14 + 20-22 (total **34 to 36, rarely 34**). **Swimbladder with 4 anterolateral extensions** that are more complex than *S. aeolus*, but much shorter than *Sillago maculata*. **Colour:** very similar in coloration to *S. aeolus* and *S. maculata* but in the latter species the upper and lower blotches are frequently joined, at least posteriorly; the upper blotches are generally larger; the black spot at the base of the pectoral fins is more distinct; the belly is not silver, and the operculum is dull or with the inner dark blotch showing through (inside of operculum of *S. burrus* is white). *S. aeolus* is best distinguished from *S. burrus* by means of vertebrae and anal-fin counts.

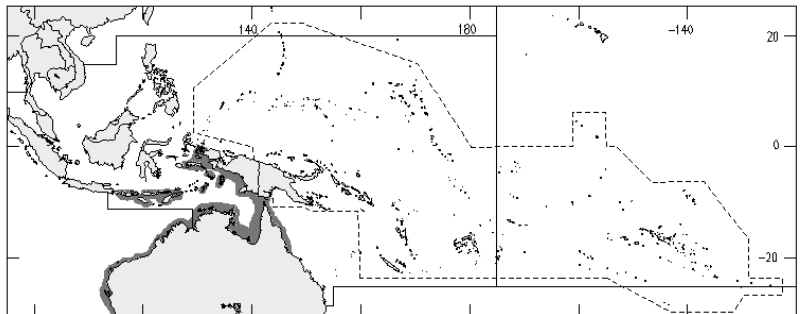


swimbladder

**Size:** Maximum standard length 36 cm.

**Habitat, biology, and fisheries:** *Sillago burrus* is most abundant on silty-sand or muddy substrates. Commonly taken by trawl net in shallow coastal waters to a depth of 32 m. Marketed fresh.

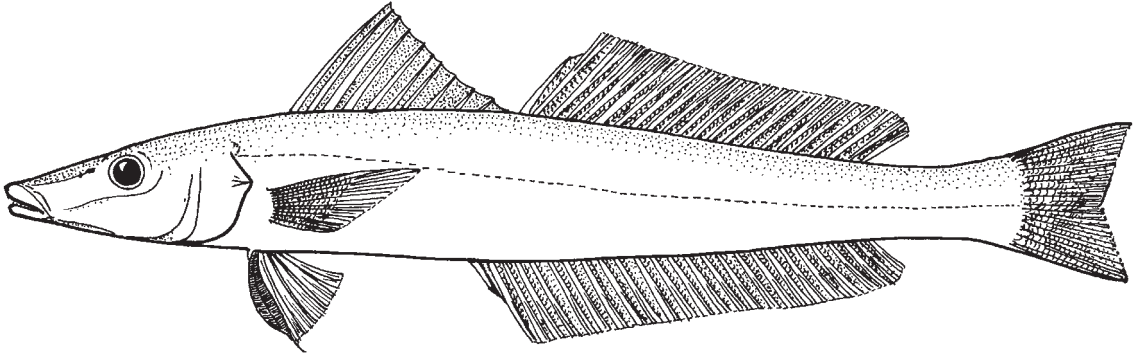
**Distribution:** Northern coast of Australia, southern New Guinea, and Indonesia.



*Sillago chondropus* Bleeker, 1849

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** En - Clubfoot sillago; Fr - Pêche-madame diabolotin; Sp - Silago pateta.

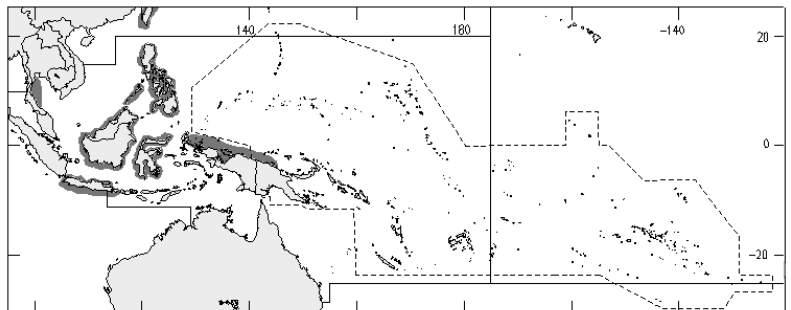
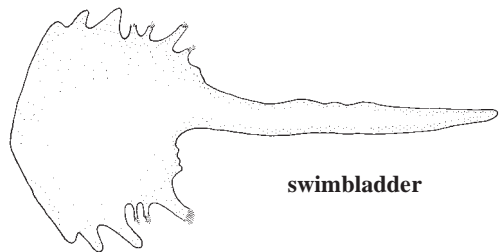


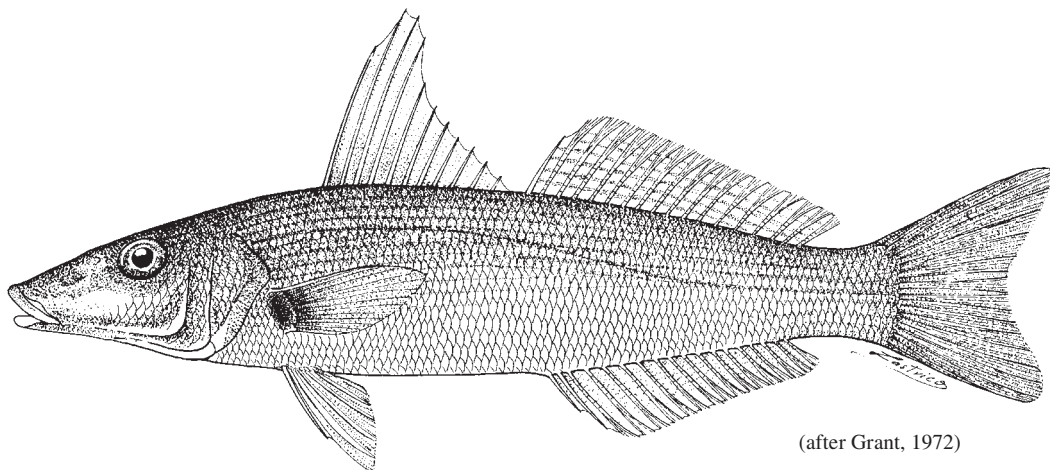
**Diagnostic characters:** First dorsal fin with XI or XII spines; second dorsal fin with I spine and 20 or 21 soft rays; anal fin with II slender spines and 22 or 23 soft rays; **first pelvic-fin ray modified into a laterally compressed thickened club-like structure.** Lateral line with 66 to 73 scales. Vertebrae 12-13 + 22-23 (total 35). Swimbladder reduced in size, no duct-like process from the ventral surface to the urogenital aperture.

**Size:** Maximum standard length 35 cm.

**Habitat, biology, and fisheries:** Shallow coastal waters. Captured by seine and marketed fresh.

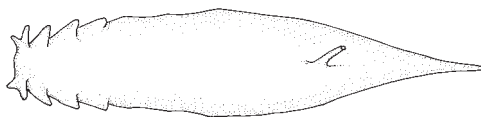
**Distribution:** South Africa, Mozambique, West Pakistan, India, Myanmar, Indonesia, New Guinea, Thailand, Philippines, and Taiwan Province of China. Not recorded from southern New Guinea or Australia.



***Sillago ciliata*** Cuvier, 1829**Frequent synonyms / misidentifications:** None / None.**FAO names:** En - Sand sillago; Fr - Pêche-madame sable; Sp - Silago arena.

(after Grant, 1972)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 16 to 18 soft rays; anal fin with II slender spines and **15 to 17 soft rays**. Lateral line with 60 to 69 scales. Vertebrae 14-15 + 5-8 + 11-14 (total 32 to 34). Anterior part of swimbladder with rudimentary tubules projecting anteriorly and a series laterally that diminish in size and become sawtooth-like posteriorly; shape of swimbladder not distinguishable from *Sillago analis*. **Colour:** a dark spot at base of pectoral fins; coloration of adult specimens uniform without darker bars or blotches.

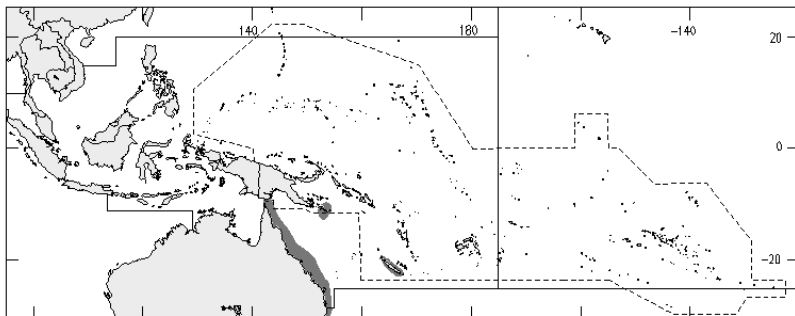


swimbladder

**Size:** Maximum total length 51 cm.

**Habitat, biology, and fisheries:** An onshore species occurring on coastal beaches, sandbars, and surf zones as well as open bays, estuaries, and coastal lakes. Feeds mostly on polychaetes and crustaceans. An important commercial species and an esteemed angling fish in eastern Australia. Taken by beach seine and tunnel-net. Marketed fresh.

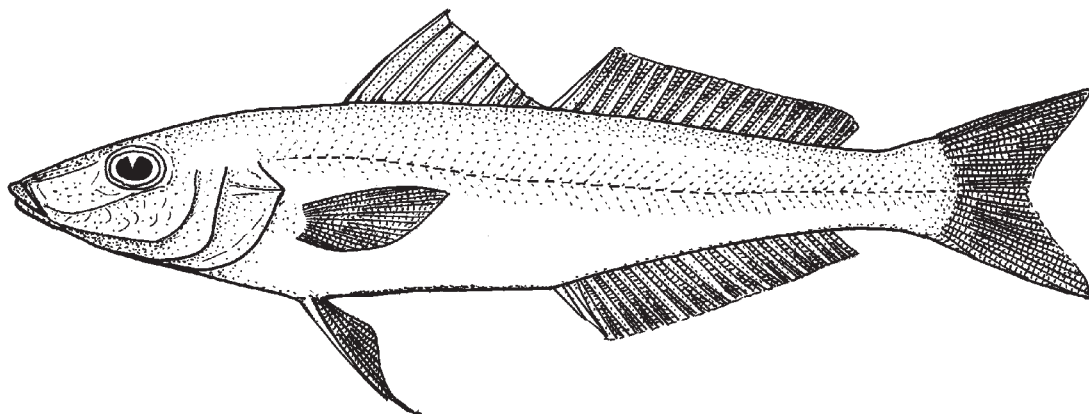
**Distribution:** East coast of Australia from Cape York, Queensland (rare), southwards along the coast and the Great Barrier Reef to eastern Victoria, and the east coast of Tasmania; also known from Lord Howe Island, New Caledonia, and Woodlark Island (Papua).



*Sillago ingenuua* McKay, 1985

**Frequent synonyms / misidentifications:** *Sillago argentifasciata* (non Martin and Montalban, 1935) / None.

**FAO names:** En - Bay sillago; Fr - Pêche-madame halanda; Sp - Silago de bahia.

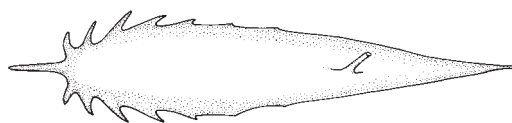


**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 17 soft rays; anal fin with II slender spines and 17 soft rays. **Cheek scales ctenoid.** Lateral line with 66 to 70 scales. Vertebrae 13 + 9-11 + 9-11 (total 33). Swimbladder with a short median anterior extension and about 5 small pointed anterolateral projections. **Colour:** no black spot on pectoral-fin base; **no wide distinct silvery lateral band; peritoneum black-brown.**

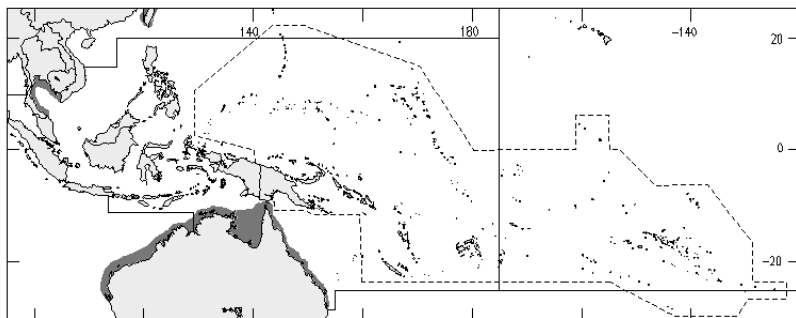
**Size:** Maximum standard length 20 cm.

**Habitat, biology, and fisheries:** Inshore coastal waters. Taken by prawn trawl. Marketed fresh.

**Distribution:** Known from India, Gulf of Thailand, Taiwan Province of China, and northern Australia from Shark Bay around the northern coast to Adolphus Passage in north-eastern Queensland.



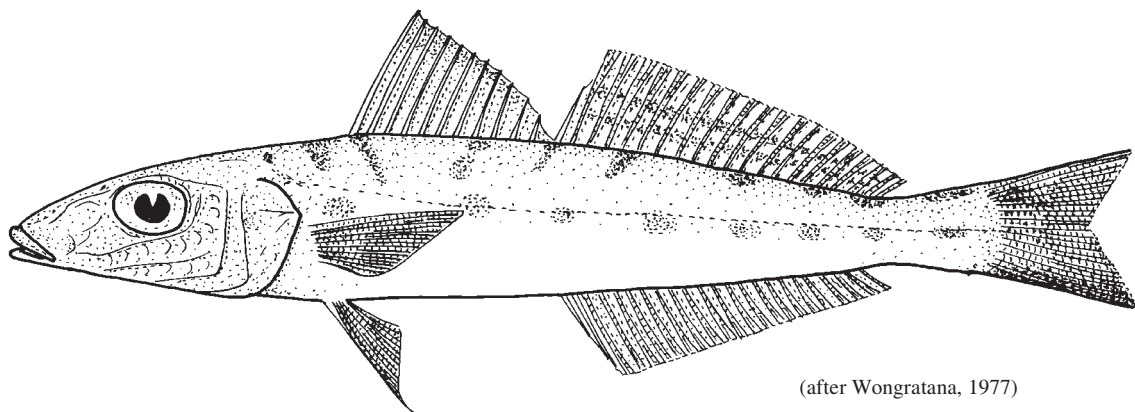
swimbladder



***Sillago intermedius*** Wongratana, 1977

**Frequent synonyms / misidentifications:** None / *Sillago maculata maculata* Quoy and Gaimard, 1834.

**FAO names:** En - Intermediate sillago; Fr - Pêche-madame murda; Sp - Silago intermedio.



(after Wongratana, 1977)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 21 or 22 soft rays; anal fin with II slender spines and 21 or 22 soft rays. Lateral line with 67 to 70 scales. Vertebrae 14 + 5 + 15 (total 34). **Swimbladder with 2 posterior extensions;** anterior margin with 2 divergent blind tubes that extend to basioccipital above auditory capsule; an anterolateral extension on each side, each sending a blind tubule anteriorly and then curving posteriorly along abdominal wall as a simple tube to terminate just posterior to the duct-like process. **Colour:** sides of body just below lateral line with longitudinal row of dusky black spots, and a series of saddle-like dusky black blotches.

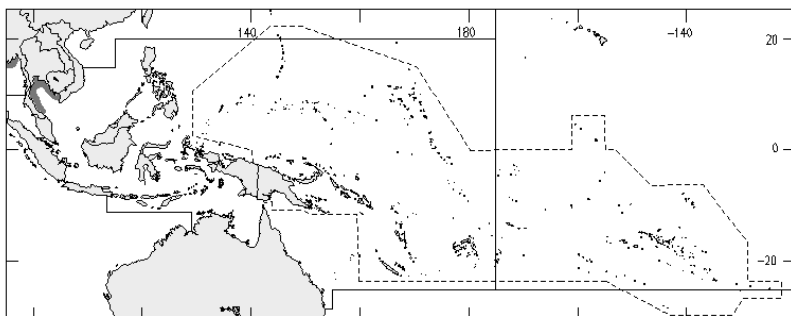


swimbladder

**Size:** Maximum standard length 20 cm; commonly to 20 cm.

**Habitat, biology, and fisheries:** An inshore species on open silty bottom. Taken locally and marketed fresh.

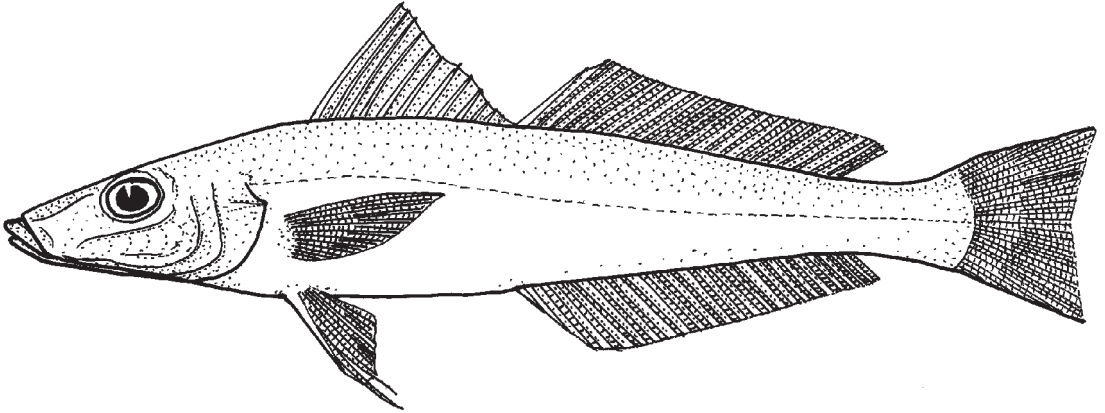
**Distribution:** Thailand and India.



*Sillago lutea* McKay, 1985

**Frequent synonyms / misidentifications:** None / *Sillago macrolepis* Bleeker, 1859.

**FAO names:** En - Mud sillago; Fr - Pêche-madame de vase; Sp - Silago de fango.

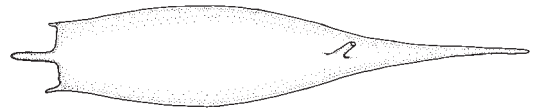


**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 20 to 22 soft rays; anal fin with II slender spines and 21 to 24 soft rays. Lateral line with 67 to 72 scales. Vertebrae 13-14 (normally 13) + 4-11 + 10-17 (total 33 to 35). Swimbladder with median anterior extension and with or without rudimentary anteriorly directed anterolateral projections; posterior extension single. **Color:** body light sandy brown above, pale brown to whitish below, with an indistinct silvery midlateral band; margins of scales may be slightly darker, giving a vague meshwork pattern to the body above lateral line; fins hyaline, first dorsal-fin membrane tipped with a fine dusting of black; no dark spot at pectoral-fin base.

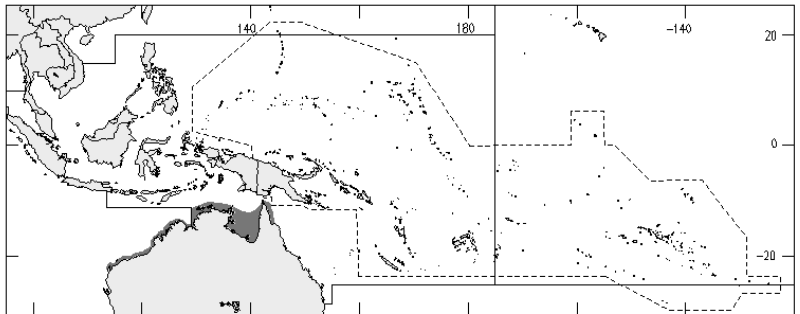
**Size:** Maximum standard length 16 cm; commonly to 15 cm.

**Habitat, biology, and fisheries:** Inshore waters on muddy or very silty substrates. Large catches are taken by prawn trawlers but as the species attains sexual maturity at 10 cm standard length (ripe females 10.4 to 12 cm) and grows to only 16 cm; the catch is of no commercial importance at present.

**Distribution:** Exmouth Gulf, Western Australia, northwards and eastwards to Princess Charlotte Bay, Cape York; also known from India and Sri Lanka.



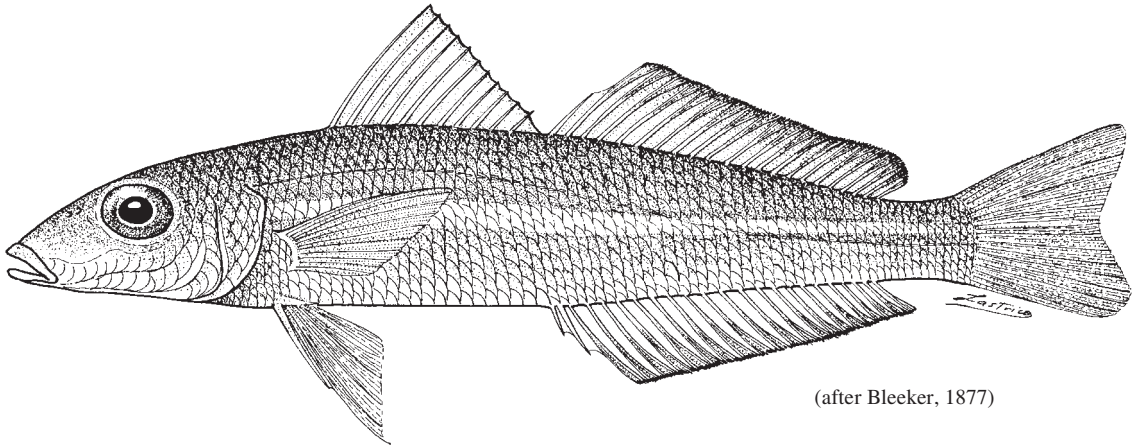
swimbladder



***Sillago macrolepis* Bleeker, 1859**

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** En - Largescale sillago; Fr - Pêche-madame grandes ecailles; Sp - Silago escamoso.



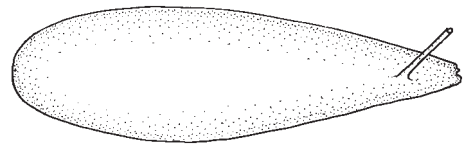
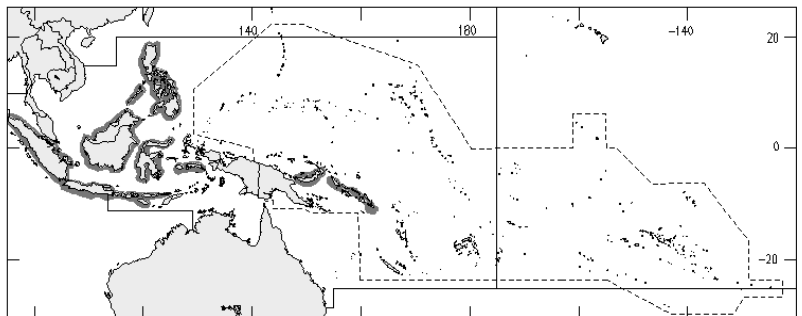
(after Bleeker, 1877)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II slender spines and 19 to 21 soft rays. **Lateral line with 51 to 56 scales.** Vertebrae 14 + 20 (total 34); no haemal bridge overlying swimbladder. Swimbladder without extensions. **Colour:** yellowish, darker above, with diffuse silvery longitudinal midlateral band; dorsal fins dusky with narrow blackish margin; juveniles with a series of small brown spots, 1 on each side along back at base of dorsal fins; first dot at commencement of spinous dorsal fin, second about middle of spinous dorsal fin, third below fourth dorsal-fin ray, fourth below eleventh dorsal-fin ray, and last spot below end of soft-rayed dorsal fin.

**Size:** Maximum standard length 20 cm; commonly to 18 cm.

**Habitat, biology, and fisheries:** Enters estuaries and may penetrate fresh waters. No fishery exists for this species.

**Distribution:** Recorded from the Indonesian Archipelago, New Britain, Solomon Islands, and the Philippine Islands.

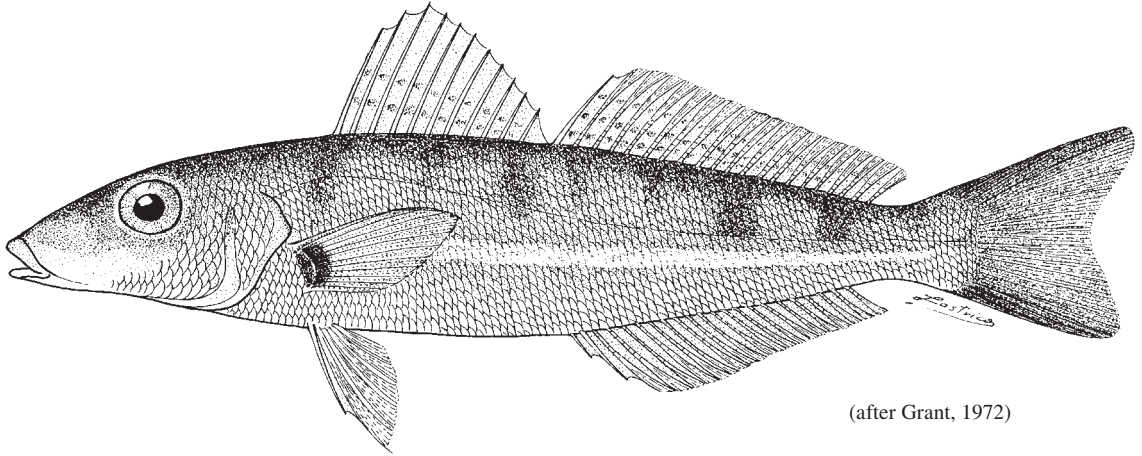


swimbladder

*Sillago maculata* Quoy and Gaimard, 1834

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** En - Trumpeter sillago; Fr - Pêche-madame trompette; Fr - Silago trompetero.



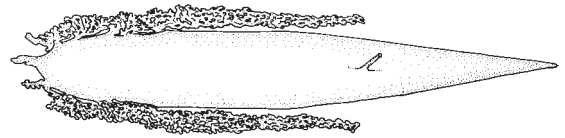
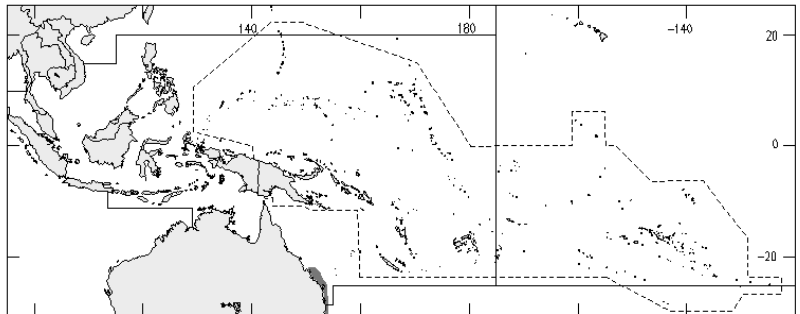
(after Grant, 1972)

**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II slender spines and 19 or 20 soft rays. Lateral line with 71 to 75 scales. Vertebrae 13-15 + 8-11 + 10 to 14 (total 34 to 36). **Anterolateral extensions of swimbladder recurved posteriorly to reach level of anus.** **Colour:** a black spot at pectoral-fin base, dark blotches on back and side of body; the upper and lower blotches frequently joined, at least posteriorly, the upper blotches generally larger; operculum dull or with an inner dark blotch showing through.

**Size:** Maximum total length 30 cm; commonly to 25 cm.

**Habitat, biology, and fisheries:** Found on silty and muddy substrates in the deeper water of bays, but also frequenting the mouths of rivers, estuaries, and mangrove creeks. The juveniles are most abundant in estuaries and shallow water during the summer months, moving into deeper water as they mature. Taken by trawlers mainly as a bycatch of the prawn fishery. Marketed fresh.

**Distribution:** East Coast of Australia.

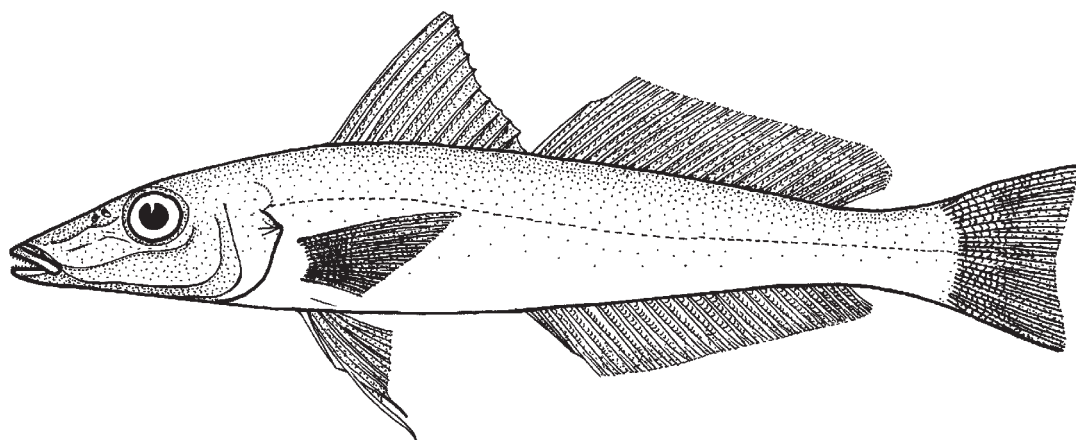


swimbladder

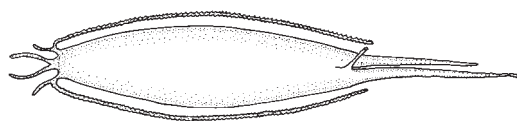
***Sillago sihama*** (Forsskål, 1775)

**Frequent synonyms / misidentifications:** None / None.

**FAO names:** En - Silver sillago; Fr - Pêche-madame argenté; Sp - Silago plateado.



**Diagnostic characters:** First dorsal fin with XI spines; second dorsal fin with I spine and 20 to 23 soft rays; anal fin with II slender spines and 21 to 23 soft rays. Lateral line with 66 to 72 scales. Vertebrae 14 + 2-8 + 12-18 (total 34). **Swimbladder with 2 anterior extensions extending forward and diverging to terminate on each side of the basioccipital above the auditory capsule; 2 lateral extensions commence anteriorly, each sending a blind tubule anterolaterally and then extending along the abdominal wall below the investing peritoneum to just posterior of the duct-like process; 2 posterior tapering extensions of the swimbladder project into caudal region, one usually longer than the other.** The lateral extensions are normally convoluted and have blind tubules arising along their length. **Colour:** body light tan, silvery yellow-brown, sandy-brown, or honey coloured; paler brown to silvery white below; a midlateral, silvery, longitudinal band normally present; dorsal fins dusky terminally with or without rows of dark brown spots on the second dorsal-fin membrane; caudal fin dusky terminally; **no dark blotch at base of pectoral fins;** other fins hyaline, the anal fin frequently with a whitish margin; after long preservation coloration may become a uniform light brown.



swimbladder

**Size:** Maximum standard length 30 cm; commonly to 20 cm.

**Habitat, biology, and fisheries:** A nearshore species inhabiting shallow water along beaches, sandbars, mangrove creeks, and estuaries; very rarely captured by prawn trawling vessels. Captured by line, seine net, cast-net, and traps operated from beaches. Marketed fresh and salted.

**Distribution:** A wide-ranging species throughout the Indo-West Pacific region from Knysna (South Africa) to Japan.

