

Diagnostic Features: First dorsal fin with XII or XIII spines and second dorsal fin with I spine and 22 to 24 soft rays; anal fin with II spines and 22 to 24 soft rays. Lateral-line scales 75 to 80; cheek scales in 3 or 4 rows, all ctenoid. Vertebrae: 15 or 16 abdominal + 0 or 1 modified + 22 to 25 caudal, 38 to 40 total. Swimbladder without anterior extensions and with a single posterior extension. **Colour:** No irregular dark blotches on sides.

Geographical Distribution: Arabian Gulf (Fig. 86).

Habitat and Biology: Shallow coastal waters of the Arabian Gulf, down to a depth of 5 m.

Size: Maximum size known 15 cm total length.

Interest to Fisheries: None at present.

Local Names:

Remarks: McKay and McCarthy proposed the common name shortnose whiting as the snout in this species is 31 to 38% (mostly 33 to 35%) of head length and this character may assist recognition of this species in the field.

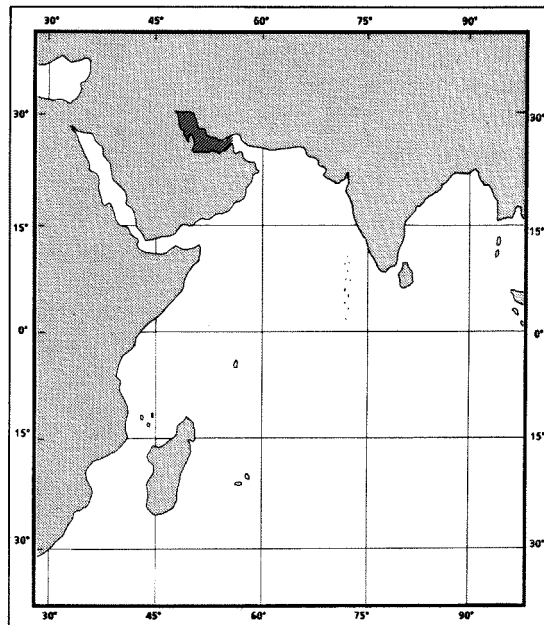


Fig. 86

Sillago argenteifasciata Martin and Montalban, 1935

Fig. 87

SILL Sill 8

Sillago argenteifasciata Martin and Montalban, 1935:226-227, pl. 1, fig. 3 (Lumbucan Island, Palawan, Philippines).

Synonyms: None.

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

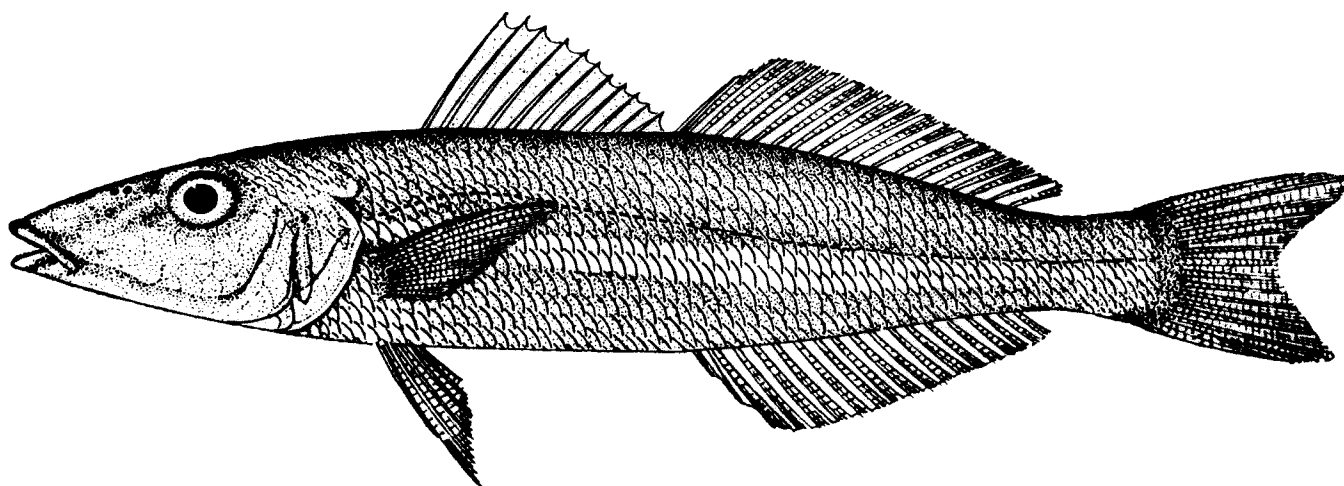


Fig. 87 *Sillago argenteifasciata*
(from Martin and Montalban, 1935)

Diagnostic Features: First dorsal fin with XI spines and second dorsal fin with I spine and 17 or 18 soft rays; anal fin with II spines and 17 soft rays. Lateral-line scales 66; cheek with three rows of scales, those on the upper row cycloid, and on the lower two rows ctenoid. **Colour:** No irregular dark blotches on sides; a wide, brilliant, silvery stripe on each side of the body.

Geographical Distribution: Lumbucan Island, Palawan, Philippines (Fig. 88).

Habitat and Biology: Unknown.

Size: Not known.

Interest to Fisheries: None.

Local Names:

Literature: Herre (1953:478); McKay (1985:40, fig. 5A).

Remarks: *Sillago argentifasciata* was not included in the large amount of material examined from the Philippines by McKay (1985). The type specimens were destroyed during the Second World War and further collecting at the type locality and the designation of a neotype is necessary to resolve the identity of this species. This species is similar to *Sillago ingenuua* and may prove to be a senior synonym; see also remarks under *Sillago ingenuua*.

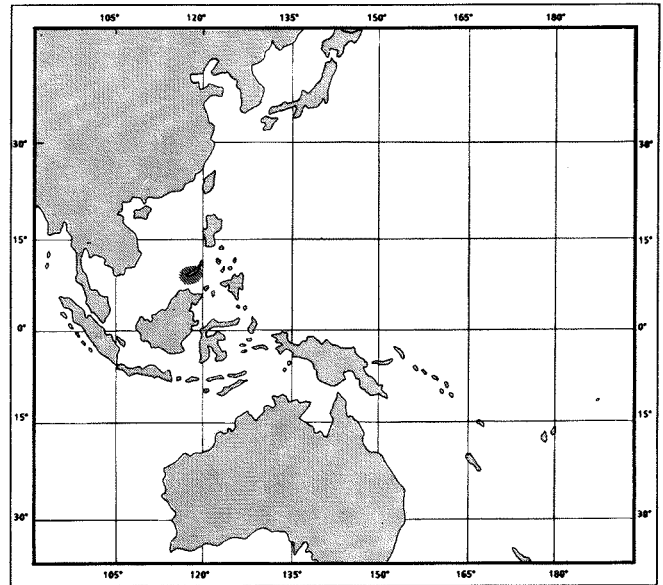


Fig. 88

Sillago asiatica McKay, 1983

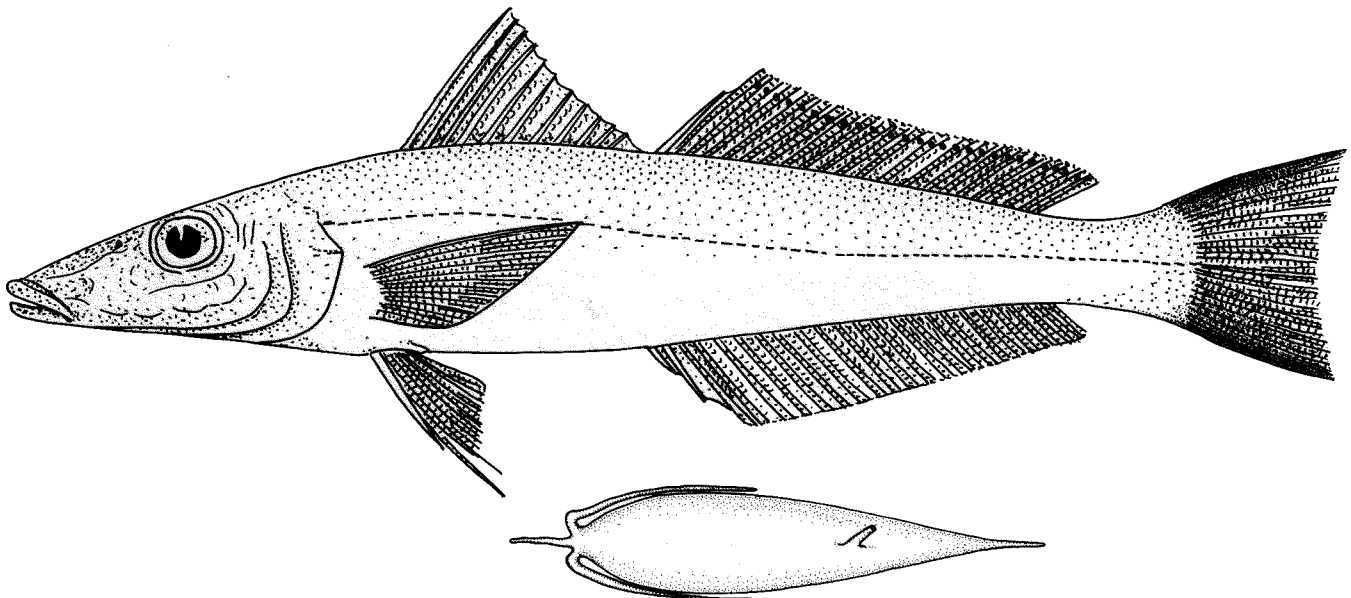
Fig. 89

SILL Sill 9

Sillago asiatica McKay, 1983:613-614.

Synonyms: None.

FAO Names: En - Asian sillago; Fr - Pêche-madame asiatic; Sp - Silago asiatico.



SWIMBLADDER

Fig. 89 *Sillago asiatica*

Diagnostic Features: First dorsal fin with XI spines and second dorsal fin with I spine and 20 or 21 soft rays; anal fin with II spines and 21 to 23 soft rays. Lateral-line scales 67 to 70. Vertebrae: 13 or 14 abdominal + 5 to 7 modified + 13 to 16 caudal, 34 total. Swimbladder with three anterior extensions, the middle one projecting forward and the anterolateral ones recurved backward along the swimbladder; a single posterior extension. **Colour:** Head and body pale sandy brown to light fawn, an indistinct pale mid-lateral stripe 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 the unpaired fins finely spotted with brown; the upper and lower margins of the caudal fin dark brown to almost black.

Geographical Distribution: From the Gulf of Thailand to Taiwan. This species is possibly widespread (Fig. 90).

Habitat and Biology: Widely distributed in Taiwan and previously confused with *S. sihama*, this species appears to be more abundant than the latter species at Kaohsiung, Taiwan (Shao et al., 1986). It inhabits depths from 10 to 50 m.

Size: To 15 cm standard length.

Interest to Fisheries: Utilised fresh throughout its range. A small but important fishery exists in Taiwan.

Local Names:

Remarks: *Sillago soringa* Dutt and Sujatha is almost certainly a senior synonym of *S. asiatica* but it is reported to differ in having the swimbladder with shorter recurved extensions and the postcoelomic part of the swimbladder relatively shorter. Shao et al. (1986) found the recurved extensions of the swimbladder to be 1/4 to 1/5 of the swimbladder length.

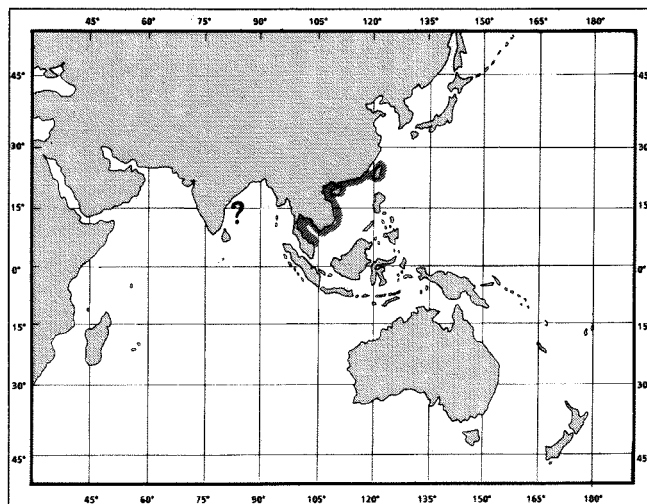


Fig. 90

Sillago attenuata McKay, 1985

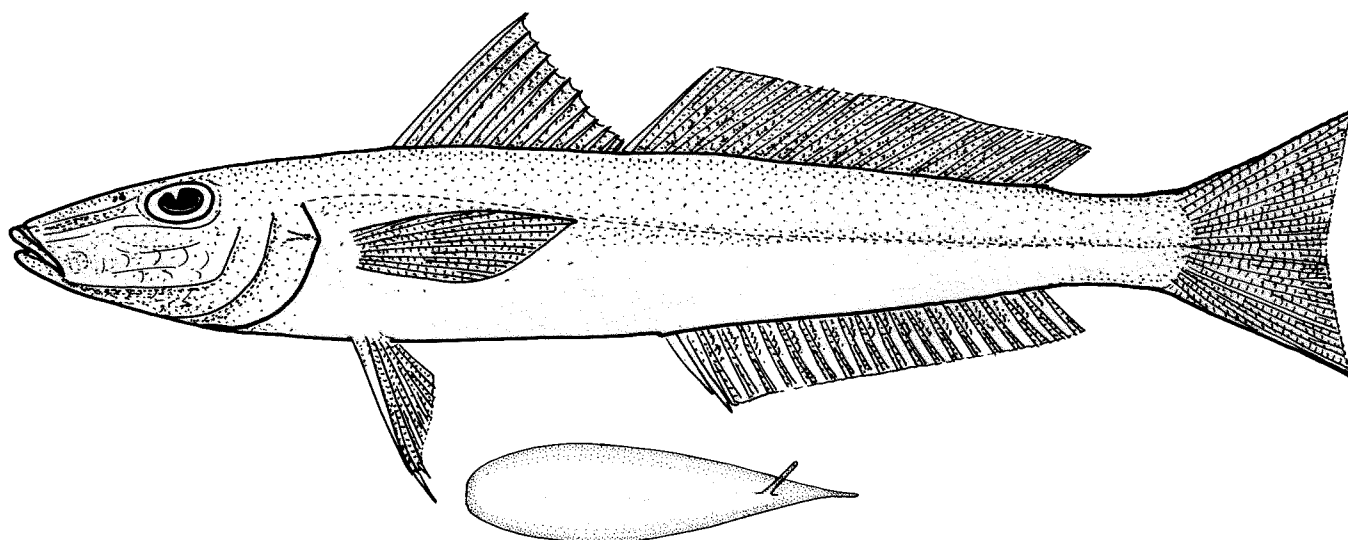
Fig. 91

SILL Sill 10

Sillago attenuata McKay, 1985:36, figs 12A, 13C, 16 (Arabian Gulf).

Synonyms: None.

FAO Names: En - Slender sillago; Fr - Pêche-madame élégant; Sp - Silago magro.



SWIMBLADDER

Fig. 91 *Sillago attenuata*

Diagnostic Features: First dorsal fin with XII or XIII spines and second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II spines and 18 to 20 soft rays. Lateral-line scales 73 to 77. Vertebrae total 37 to 39. **Colour:** Body with faint blotches in two series laterally, the upper row of about 8 or 9 spots, the lower mid-lateral row with 10 spots; a row of indistinct spots or blotches along the base of the spinous dorsal fin; first dorsal fin with the anterior most interspinous membranes dusted with black spots; membrane of the second dorsal fin dusted black, other fins hyaline. Juveniles with a well defined mid-lateral horizontal row of 9 elongate spots on body just below lateral line; between the lateral line and the base of the dorsal fins is a horizontal row of about 12 small spots ending before the last ray of the dorsal fin; a longitudinal row of very small spots along centre of back, 2 spots before dorsal fin, 4 spots below fin and on caudal peduncle.

Geographical Distribution: Arabian Gulf (Fig. 92).

Habitat and Biology: Shallow coastal waters of the Arabian Gulf.

Size: To at least 20 cm standard length.

Interest to Fisheries: Taken by beach seine and utilised fresh.

Local Names:

Literature: McKay and McCarthy (1989, figs 2B, 3D).

Remarks: The swimbladder is almost transparent in juveniles.

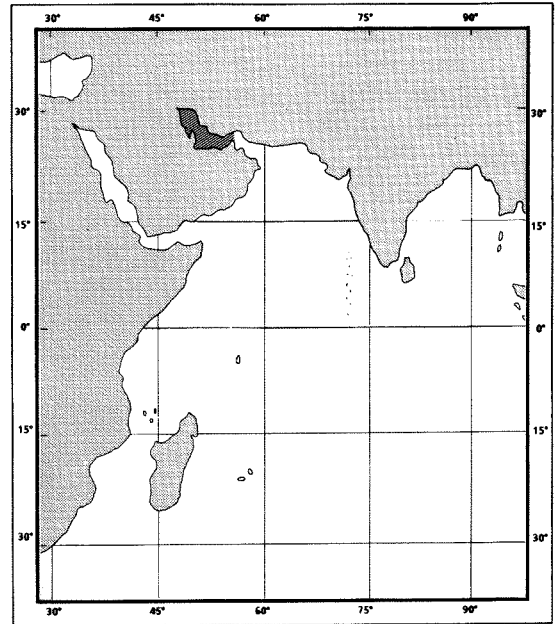


Fig. 92

Sillago bassensis Cuvier, 1829

Fig. 93

SILL Sill 11

Sillago bassensis Cuvier in Cuvier and Valenciennes, 1829:412 (Port Western, Bass Strait, Victoria).

Synonyms: *Sillago (Parasillago) bassensis bassensis*: McKay, 1985:28-29, figs 4A, 13U-V, 14J, 15.

FAO Names: En - Western school sillago; Fr - Pêche-madame transparent; Sp - Silago occidental.

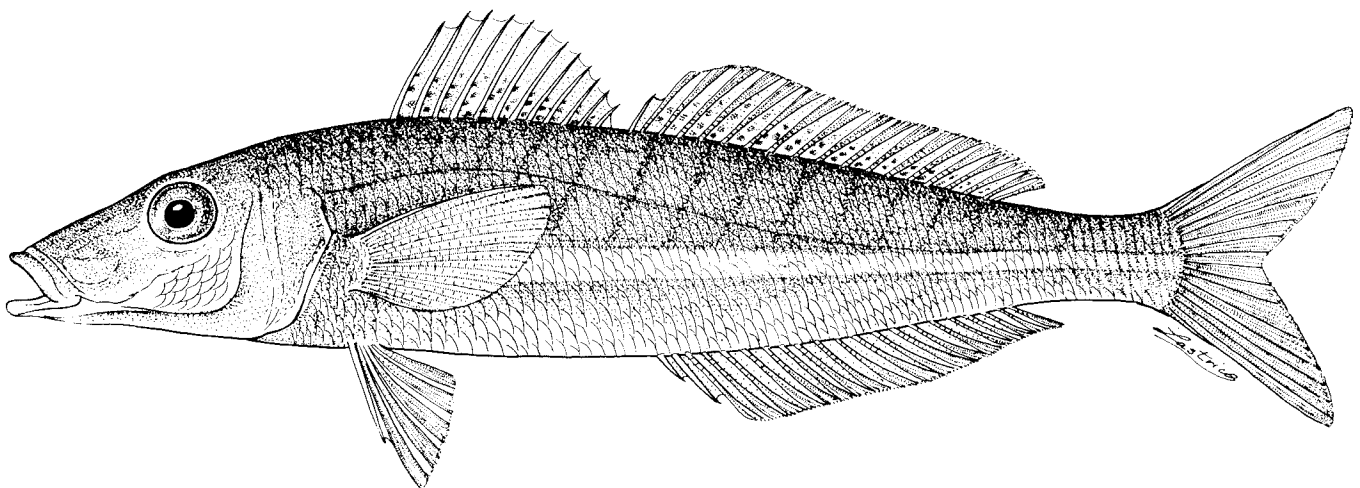


Fig. 93 *Sillago bassensis*
(adapted from Grant, 1972)

Diagnostic Features: First dorsal fin with X to XII spines and second dorsal fin with I spine and 18 or 19 soft rays; anal fin with II spines and 18 to 20 soft rays. Lateral-line scales 66 to 73. Vertebrae: 12 to 14 abdominal + 12 to 14 modified + 7 to 9 caudal, total 33 to 35. The swimbladder is very similar to that of *S. flindersi*. **Colour:** No dark spot at the base of the pectoral fin; a series of oblique broken rusty brown bars on the back and upper sides, without a longitudinal row of rusty brown blotches along the midlateral silver stripe.

Geographical Distribution: Geraldton area, Western Australia southward and along the southern coast to South Australia and western Victoria; not yet recorded from western Tasmania (Fig. 94).

Habitat and Biology: Common along the lower Western Australian coastline, and bays of South Australia. Frequenting the surf zone of beaches and quiet waters of bays and sandbanks, this species is also trawled in offshore waters to at least 55 m and possibly much deeper. Juveniles may be found in a few centimetres of water off white sand beaches in association with accumulations of dead seaweed in the surf zone of southwestern Australian waters, but are not recorded from estuarine waters as are the juveniles of *Sillaginodes punctata*, *Sillago schomburgkii*, and *Sillago berrus*. The western school whiting is reported to move into shallow waters in large schools during the full moon. It may have luminescent bacteria when left out of water.

Size: To 33 cm standard length.

Interest to Fisheries: A local bottom trawl fishery is present seasonally in Western Australia, and this species is caught largely as a bycatch.

Local Names: AUSTRALIA: Western school whiting, Trawl whiting.

Literature: Quoy and Gaimard (1834:672-673, pl. 1, fig. 2); McCulloch (1911:61, part); Fowler (1933:422-423, part); Whitley (1948:19, 1964:43); Roughley (1951:48-49, part); Scott (1962:187, South Australia); Hutchins and Swainston (1986:col. pl. 264).

Remarks: McKay (1985) treated this species as a subspecies (see *S.flindersi*). He followed Cuvier (1829:412) in regarding the type locality as Western Port, Victoria. As the holotype has the locality recorded as "Port du Roi Georges" (= King George Sound, Western Australia), the latter locality is possibly correct.

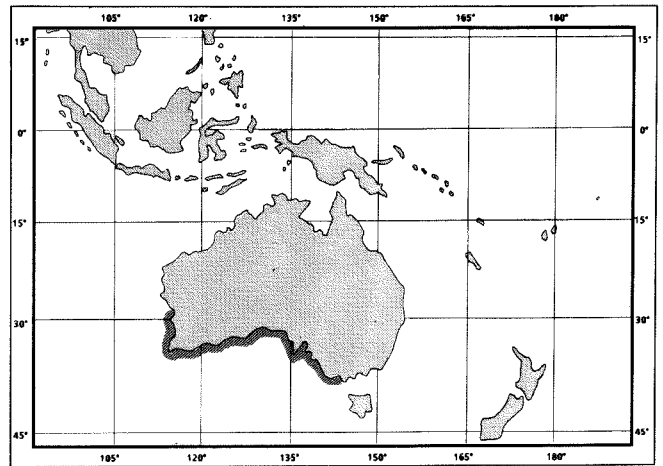


Fig. 94

Sillago boutani Pellegrin, 1905

Fig. 95

SILL Sill 12

Sillago boutani Pellegrin, 1905:86 (Bale de Haton, Along, North Vietnam).

Synonyms: *Sillago* (?*Parasillago*) *boutani*: McKay, 1985:34-36.

FAO Names: En - Boutan's sillago; Fr - Pêche-madame pagus; Sp - Silago de Boutan.

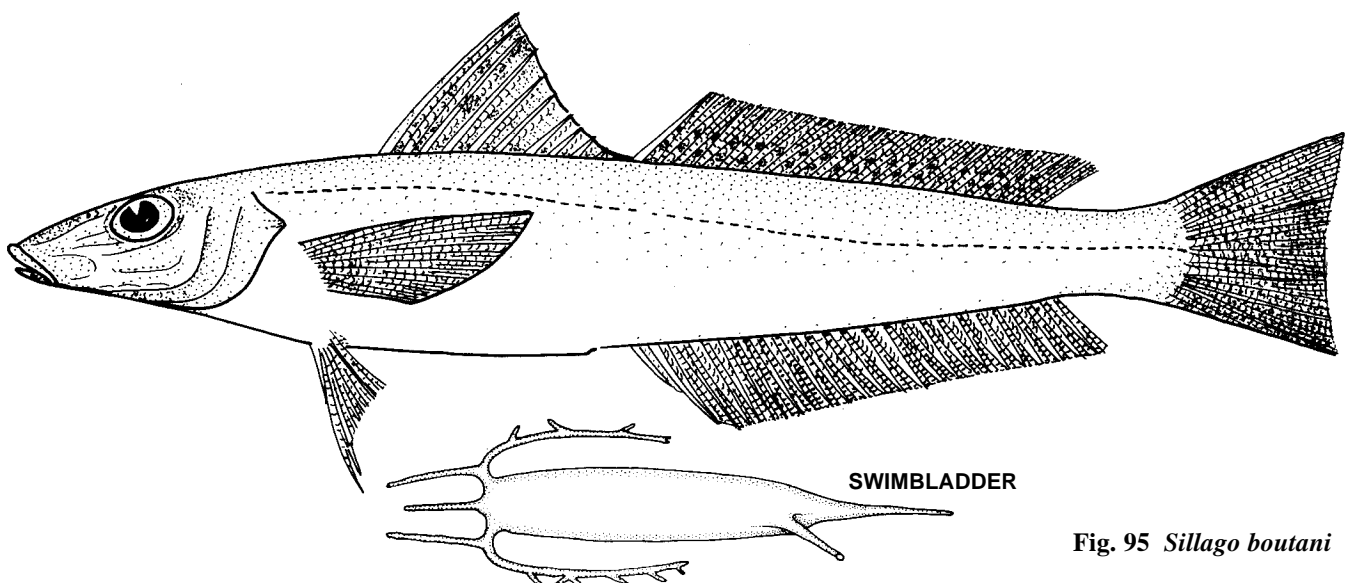


Fig. 95 *Sillago boutani*

Diagnostic Features: First dorsal fin with XI spines (last spine very short) and second dorsal fin with I spine and 21 soft rays; anal fin with II spines and 21 or 22 soft rays. Lateral-line scales 76 to 80. Vertebrae: 13 or 14 abdominal + 3 or 4 modified + 21 caudal, elongate with a total of 38. **Colour:** Body olive-yellow dorsally, paler on the sides and abdomen; cheeks and part of operculum orange-yellow; one or two stripes of orange-yellow run along the sides of the body; fin uniformly greyish, with some indication of dots on the rays of the second dorsal fin.

Geographical Distribution: Gulf of Tongking, and China (Fig. 96).

Habitat and Biology: An inshore species on silty bottoms, in depths down to 20 m.

Size: To 20 cm standard length.

Interest to Fisheries: Reported to be taken by seine net in Vietnam and forms the basis of an export market in butterflied fillets to Japan. The sillaginids of the Gulf of Tongking are inadequately known.

Local Names:

Literature: Fowler (1933:421-422).

Remarks: This species is rare in collections, and may be misidentified as *Sillago sihama*. The swimbladder has a single posterior extension.

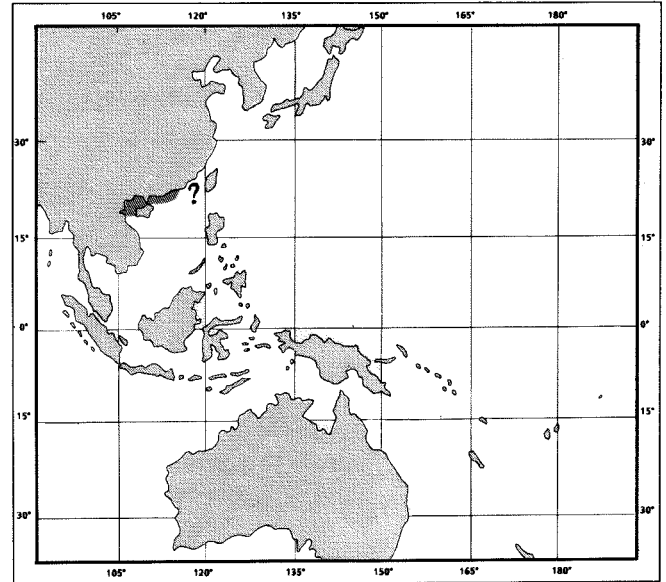


Fig. 96

Sillago burrus Richardson, 1842

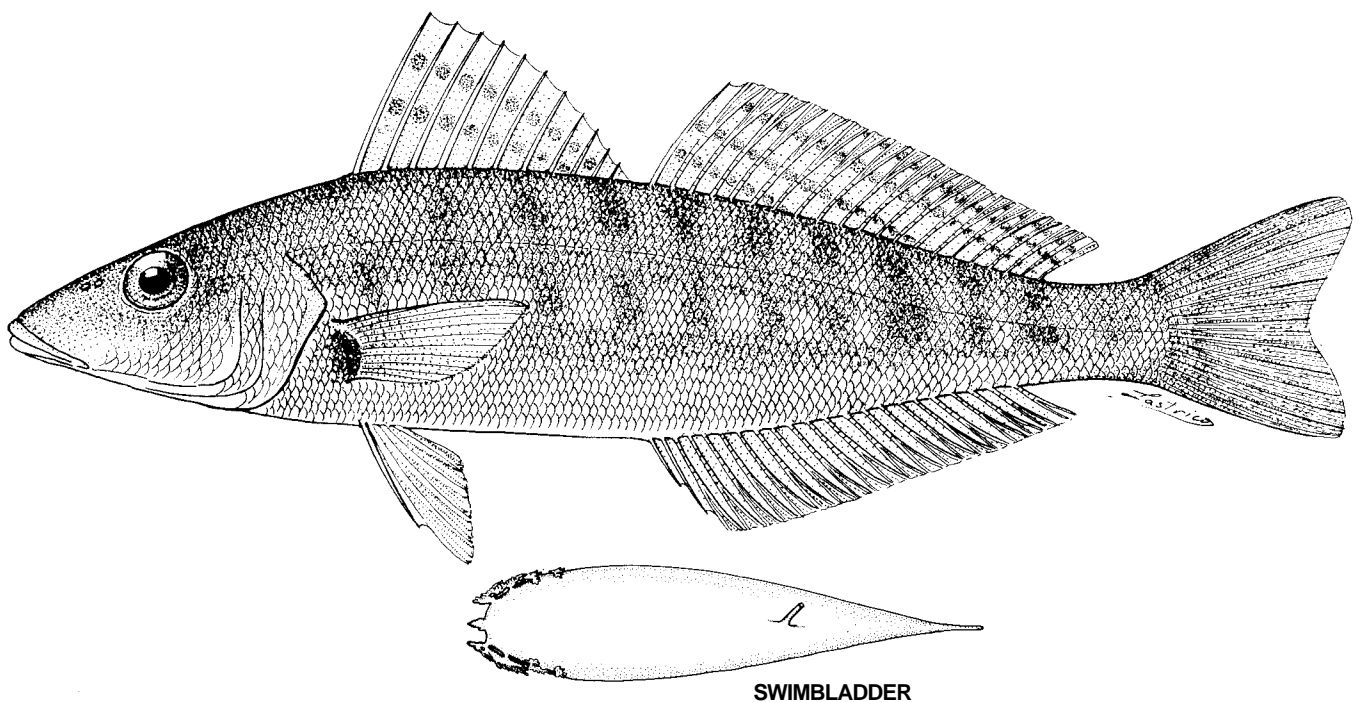
Fig. 97

SILL Sill 13

Sillago burrus Richardson, 1842:128-130 (Northwest Australia).

Synonyms: *Sillago maculata burra*: Whitley, 1948:19; *Sillago (Parasillago) maculata burrus*: McKay, 1985:24-26. *Sillago maculata*: Paradice and Whitley, 1927:89; Taylor, 1964:174-175.

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



SWIMBLADDER

Fig. 97 *Sillago burrus*
(adapted from Richardson, 1843)

Diagnostic Features: First dorsal fin with XI spines and second dorsal fin with I spine and 19 to 21 soft rays; anal fin with II spines and 18 to 20 (rarely 18) soft rays. Lateral-line scales 69 to 76. Vertebrae: 13 or 14 abdominal + 20 to 22 caudal, total of 34 to 36 (rarely 34). The swimbladder has four anterolateral extensions that are more complex than *S. aeolus*, but much shorter than *S. maculata*. **Colour:** *S. burrus* is very similar in coloration to *S. aeolus* and *S. maculata*. In *S. burrus* the blotches are like oblique bars and they are not joined as in *S. maculata*. The upper blotches are small, the black spot at the base of the pectoral fin is indistinct and the belly is silvery. The lateral silvery stripe is usually noticeable but may be quite faded. Inside of opercle white whereas *S. maculata* has an inner dark blotch showing through. The upper and lower margins of the caudal fin are not as dark as in *S. maculata* and the abdominal walls are usually white or silvery whereas they are pale flesh coloured in the latter species.

Geographical Distribution: Northern coast of Australia, southern New Guinea, and Indonesia (Fig. 98).

Habitat and Biology: *Sillago burrus* is most abundant on silty-sand or muddy substrates, the large adults feeding near gutters and sandbars inside Shark Bay and may also be found on mostly sandy bottoms. The juveniles frequent seaweed banks and broken bottom, and occur in large numbers near mangrove creeks. They enter the coastal rivers in the Swan and Mandurah estuaries in Western Australia throughout the summer months where they are netted by prawn fishermen operating in shallow weedy areas. Adults move into deeper waters of marine embayments. Juveniles and adults are commonly trawled in association with the western population of *Sillago robusta*, and *Sillago lutea* in depths to 36 m.

Size: To 36 cm standard length.

Interest to Fisheries: Mostly taken by trawl net in depths from a few metres to at least 36 m, and are generally part of the bycatch of shrimp trawlers. Marketed fresh in Australia.

Local Names: AUSTRALIA: Western trumpeter whiting.

Literature: Richardson (1843, pl. 2, fig. 1); Castelnau (1878:232); Hutchins and Swainston (1986:col. pl. 267a); Allen and Swainston (1988:col. pl. 356).

Remarks: Frequently confused with *Sillago maculata*. McKay (1985) treated this species as a subspecies of *Sillago maculata* since no specimens had been collected east of Torres Straits. Specimens of *S. burrus* have recently been captured by trawl net east of Cairns and southeast of Hinchinbrook Island, Queensland in 32 m. The taxon is therefore elevated to full specific status in this work.

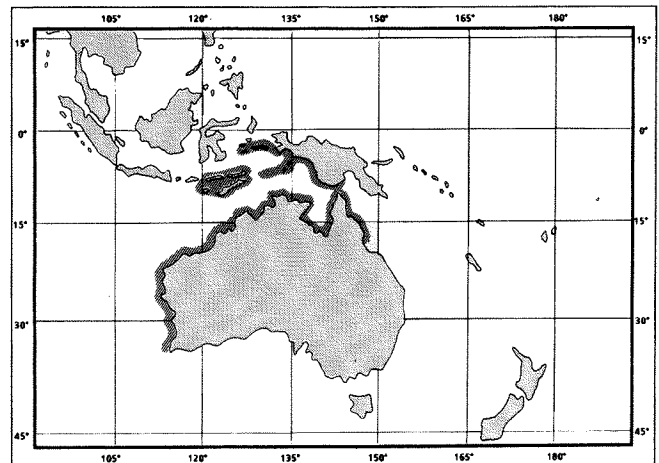
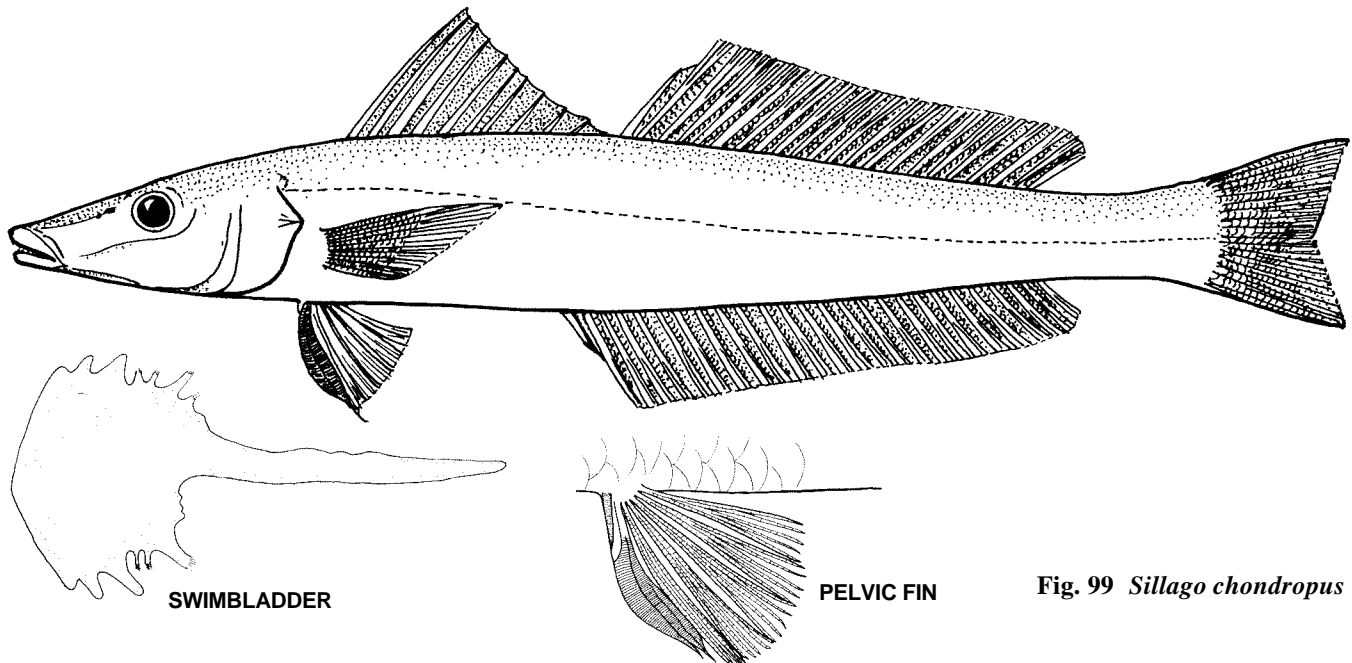


Fig. 98

Sillago chondropus Bleeker, 1849

Fig. 99

SILL Sill 3*Sillago chondropus* Bleeker, 1849a:61 (Batavia).**Synonyms:** *Sillago (Sillaginopodys) chondropus*: McKay, 1985:5-6, figs 1B, 2A, 8B, 17; Shao et al., 1986:143-144.**FAO Names:** En - Clubfoot sillago; Fr - Pêche-madame diablotin; Sp - Silago pateta.Fig. 99 *Sillago chondropus*

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

Geographical Distribution: South Africa, northward to Pakistan, India, Burma, Indonesia, northern New Guinea, Thailand, Philippines and Taiwan (Fig. 100). Not recorded from southern New Guinea or Australia.

Habitat and Biology: Shallow coastal waters, from 0 to 5 m depths. In eastern Taiwan blackish substrates with strong current and wave action are inhabited (Shao et al., 1986). The reduced swimbladder and modified pelvic fin indicates that this species is demersal and may use the pelvic fin pads somewhat like sled runners on the bottom.

Size: To 35 cm standard length.

Interest to Fisheries: Captured by seine and marketed fresh.

Local Names: SOUTH AFRICA: Horrelvoet sillago.

Literature: Bleeker (1849:5, 8, 10, New Guinea, 1874:65, 1877, pl. 389, fig. 2); Günther (1860:246, Mollucca Sea); Gill (1861:504); Gilchrist and Thompson (1908:193, Natal, 1917:348); Regan (1908:245); Barnard (1927:508, Natal); Weber and de Beaufort (1931:176, fig. 34); Fowler (1933:430-431, 1949b:96); Herre (1939:112, Burma, 1953:478, many records); Smith (1949:204, fig. 469, South Africa, rare); Palekar and Bal (1955:128, description); Munro (1958:178, New Guinea, 1967:346); Dutt and Sujatha (1980:372); McKay (1980:382-383, 1986:615).

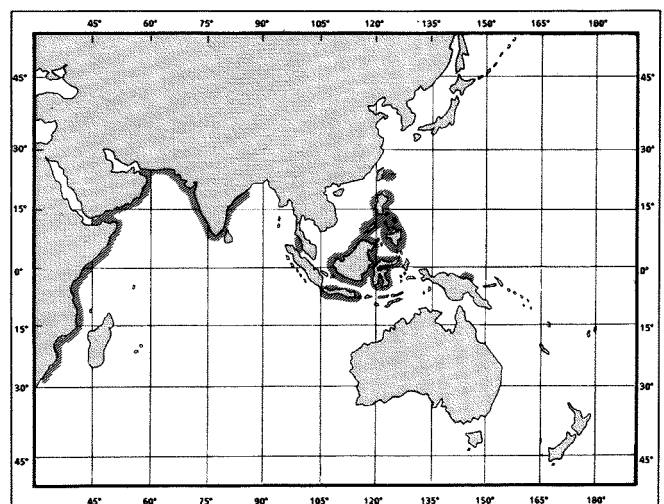


Fig. 100