

2.3 Information by Species

Sillaginodes Gill, 1862

SILL Silg

Sillaginodes Gill, 1862, type by original designation. Type species, *Sillago punctata* Cuvier, 1829.

Diagnostic Features: First dorsal fin with XII or XIII spines and second dorsal fin with I spine and 25 to 27 soft rays; anal fin with II spines and 21 to 24 soft rays. Lateral-line scales 129 to 147. Vertebrae: 20 or 23 abdominal + 5 to 7 modified + 14 to 18 caudal, total of 42 to 44. Swimbladder with a posterior extension but no duct-like process on the ventral surface. One species.

Biology, Habitat and Distribution: See species.

Interest to Fisheries: An important fishery is based on this species in southern Australia.

Species: *Sillaginodes punctata* (Cuvier, 1829).

Sillaginodes punctata (Cuvier, 1829)

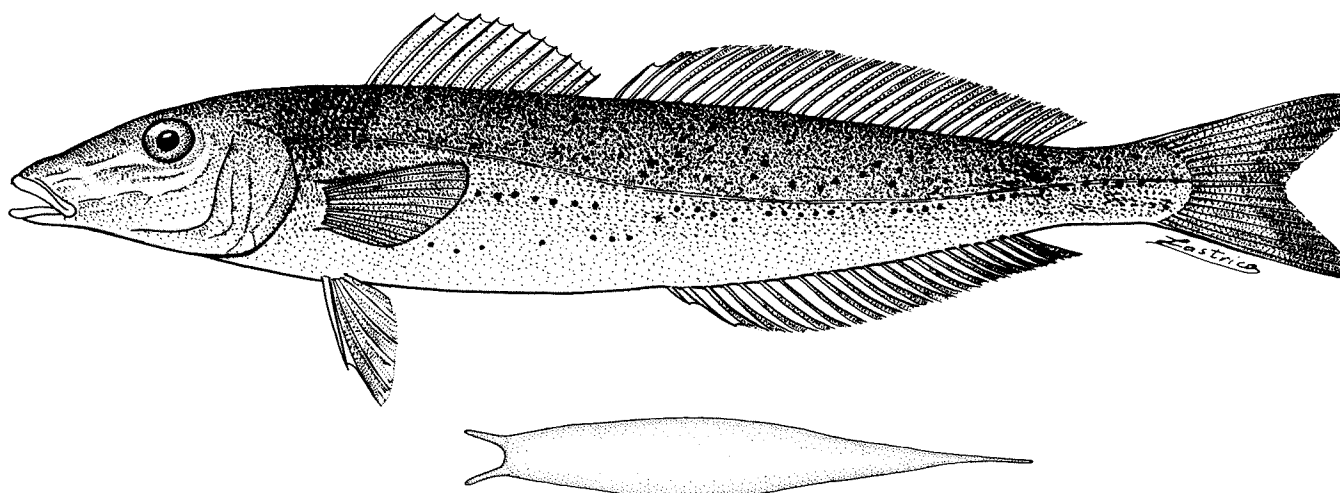
Fig. 45

SILL Silg 1

Sillago punctata Cuvier in Cuvier and Valenciennes, 1829:413 (Port King George).

Synonyms: *Isosillago maculata* Macleay, 1879:34, pl. 4, fig. 3 (King George Sound). *Isosillago punctata*: McCulloch, 1911:59-60. *Sillaginodes punctatus*: McCulloch, 1927:50, pl. 21, fig. 183a; Waite, 1928:7; Fowler, 1933:431-432; Sandars, 1945:107; Whitley, 1948:19, 1955:331, 1962:105, 1964:43; Scott, 1962:186-187; Scott et al., 1974:208-209, fig.; Last et al., 1983:357 (Tasmania). *Sillago punctata*: Quoy and Gaimard, 1834:671-672, pl. 1, fig. 1; Günther, 1860:245; Schmeltz, 1869:16, 1879:44; Castelnau, 1872:93; Klunzinger, 1879:370; Macleay, 1881:201; Waite, 1904:31, 1921:100, fig. 152; Stead, 1906a:574, 1908b:66, pl. 36; McCulloch, 1921:60; Fowler, 1930b:654; Roughley, 1951:49, pl. 17; Parrott, 1959:201.

FAO Names: **En** - Spotted sillago; **Fr** - Pêche-madame moucheté; **Sp** - Silago manchado.



SWIMBLADDER

Fig. 45 *Sillaginodes punctata*

Diagnostic Features: A large species with 129 to 147 lateral-line scales. Swimbladder very elongate with a single slender tapering posterior extension; two anterolateral extensions or horns project anteriorly; anterior part of the swimbladder is bound to the abdominal cavity by short collagen fibres; no duct-like process to the urogenital aperture is present. **Colour:** Pale golden brown, greyish brown, or dark olive-green above; whitish, pale brown or silvery below with reflections of mauve, blue and green when fresh; back and upper sides with oblique rows of small round dark brown to rusty brown spots, lower sides with open-spaced rather scattered round dark spots; belly white, without spots; dorsal fins uniform dark greenish brown to light brown sometimes spotted with darker brown; anal fin, pectorals and ventrals pale brown to hyaline; caudal greenish to brownish, finely dusted with brown.

Geographical Distribution: Jurien Bay, Western Australia southward along the southern coast of Western Australia, South Australia and Victoria (Fig. 46). Ogilby (1893:99) records this species as occasionally reaching as far north as Port Jackson, New South Wales.

Habitat and Biology: Juveniles are common in tidal estuaries and creeks, particularly those which flow into semi-enclosed bays and coastal "lakes". The juveniles appear to be most abundant on *Zostera* and *Posidonia* seaweed banks in shallow sheltered areas, moving out into the deeper water of the bays at a size of about 10 cm (Robertson, 1977). Sexual maturity is attained at 3 to 4 years of age; the male fish measuring 30 cm fork length and the females 34 cm fork length at the end of their fourth year (Scott, 1954, unpublished). Numerous small fish of 10 to 20 cm are caught in the sheltered areas of large bays, especially during the summer months. Larger fish, although present throughout the bay, are concentrated in deeper water of 2 to 18 m,

generally in sand gutters or adjacent to banks. The largest adults observed are normally solitary fish in deeper water of 12 to 18 m depths where they are associated with broken bottom, weed banks or sand gutters. Adult fish are taken along the coastal beaches and may enter estuaries in considerable numbers during March in Western Australia. Adult females with developed ovaries or running ripe are rarely netted in shallow water but have been captured by spearfishermen in 5 to 9 m in coastal bays and offshore waters in southwestern Western Australia. Spawning occurs in May and June (Scott et al., 1974:209).

Size: To 72 cm total length; weight 4.8 kg.

Interest to Fisheries: The main fishery is centred in South Australia from Ceduna in the west to the Gulf of St. Vincent. Smaller fisheries are located in Victoria and southern Western Australia. Spotted or King George whiting are taken by haul seine nets, gillnets or handlines in inshore waters during spring and early summer. A minimum size has been set in Victoria, South Australia and Western Australia. The majority of fish taken are of second to seventh year class. The Australian fishery is reported to be of about \$A 5 million. The bulk of the catch is sold in local markets, but some of the South Australian catch is exported to New South Wales and Queensland. The fish is of premium quality and obtains a high price. Marketed fresh whole or filleted. An important recreational fishery is established throughout the range of the species. Recreational fishing gear is limited to handline or rod and line from shore or boats. In South Australia the recreational fishery accounted for some 37% of the total catch during 1979 to 1982, 61 % in the Gulf St. Vincent (Jones et al., 1989). Research is now underway on the aquaculture potential of this species.

Local Names: AUSTRALIA: King George whiting, Spotted whiting.

Literature: Gill (1861:505); Hutchins and Swainston (1986:col. pl. 270).

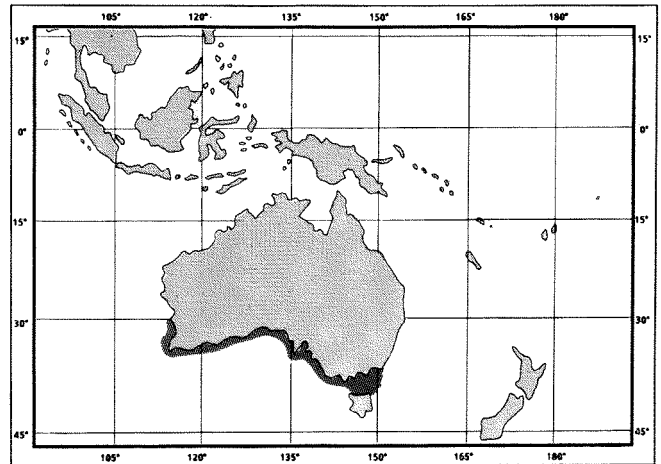


Fig. 46

Sillaginopsis Gill, 1861

SILL Si

Sillaginopsis Gill, 1861:505, type by original designation. Type species, *Sillago domina* Cuvier in Cuvier and Valenciennes, 1829 (= *Cheilodipterus panijus* Hamilton - Buchanan, 1822).

Synonyms: *Sillaginichthys* Bleeker, 1874:63, type by original designation. Type species, *Sillago domina* Cuvier in Cuvier and Valenciennes, 1829.

Diagnostic Features: Head very depressed; eyes small and partly covered by the constricted orbits; mouth small with the lower jaw shorter than the upper; teeth villiform, in bands on jaws and vomer, the outer row of teeth in the jaws slightly enlarged, with the two anteriormost teeth in the upper jaw larger than the remainder. First dorsal fin with X spines and second dorsal fin with I spine and 25 to 27 soft rays; anal fin with II spines and 24 to 27 soft rays; branchiostegal rays 5 or 6. Scales small, lateral line with 84 to 90 scales. Vertebrae: 15 abdominal + 27 caudal, total of 42. Swimbladder absent or vestigial. One species.

Biology, Habitat and Distribution: Silty bottom of the Bay of Bengal.

Interest to Fisheries: Taken locally by trawl.

Species: *Sillaginopsis panijus* (Hamilton-Buchanan, 1822).

Sillaginopsis panijus (Hamilton-Buchanan, 1822)

Fig. 47

SILL Si 1

Cheilodipterus panijus Hamilton-Buchanan, 1822:57, 367 (Ganges estuaries).

Synonyms: *Cheilodipterus panijus*: Day, 1876:315. *Sillaginopsis domina*: Gill, 1861:505; Fowler, 1930b:654. *Sillago domina* Cuvier in Cuvier and Valenciennes, 1829:415, pl. 69 (Pondicherry); Swainson, 1838:205; Cantor, 1850:1003 (Pondicherry); Bleeker, 1853:34, 1859:167; Günther, 1860:246 (description, Bay of Bengal); Day, 1869:299 (Orissa), 1876:315, 1878:264, pl. 58, fig. 3 (Coromandel coast, abundant October, Burma and Malay Archipelago), 1888:791; Lloyd 1907:228 (riverine, winter months); Mookerjee et al., 1946:564 (Port Canning, food items); Hoque and Patra, 1987:205-210 (fecundity). *Sillago panijus*: Day, 1876:315 footnote; Krishnaya, 1963:391-412.

FAO Names: En - Flathead sillago; Fr - Pêche-madame camus; Sp - Silago chato.

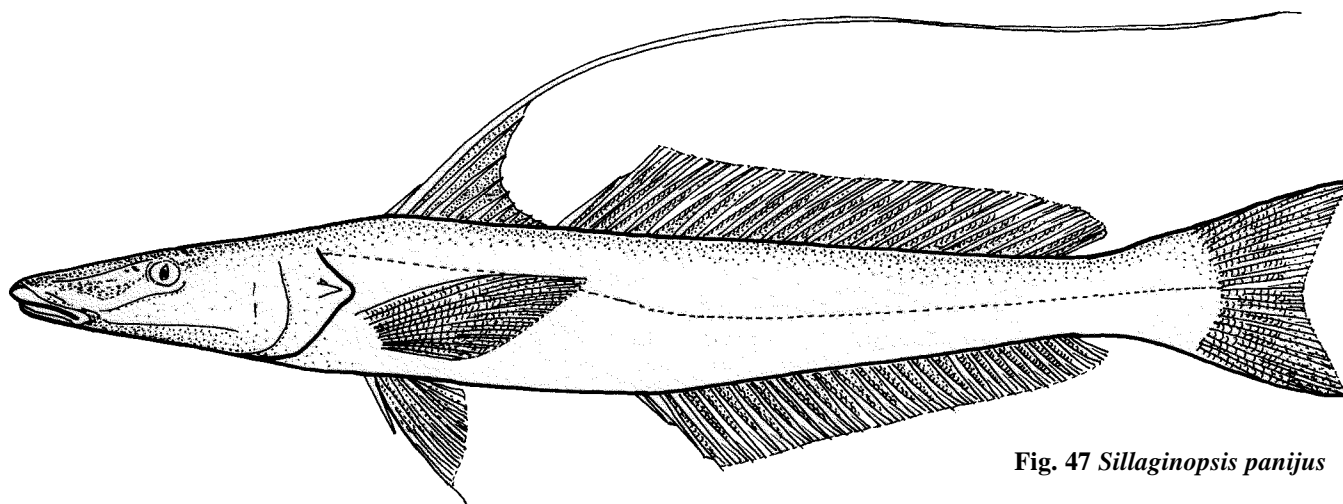


Fig. 47 *Sillaginopsis panijus*

Diagnostic Features: Head greatly depressed, eye very small. First dorsal fin with X spines and second dorsal fin with I spine and 25 to 27 soft rays; anal fin with II spines and 24 to 27 soft rays. Lateral-line scales 84 to 90. Vertebrae: 15 abdominal + 27 caudal, total of 42.

Geographical Distribution: Pondicherry northward along the Coromandel coast, Ganges delta, Burma, southward to Malaysia and rarely to the Indonesian Archipelago (Fig. 48).

Habitat and Biology: Krishnaya (1963) studied otoliths and size-age compositions of the commercial catches from the Hooghly estuary and arrived at the conclusion that *S. panijus* probably spawns twice a year during the months November to February and August to September and the juveniles migrate toward the upper reaches during March and April and during December where they remain for two to three months. Sexual maturity is attained at a length of about 120 mm. Cuvier (1829) found numerous small fishes and crustaceans in the gut contents. Mookerjee, Ganguly and Mazumdar (1946) recorded the gut contents of 10 specimens and found them to be feeding primarily on crustaceans, algae, and fish. The small eyes, flattened head, filamentous second dorsal-fin spine, and the lack of a swimbladder suggests demersal adaptation to muddy water conditions.

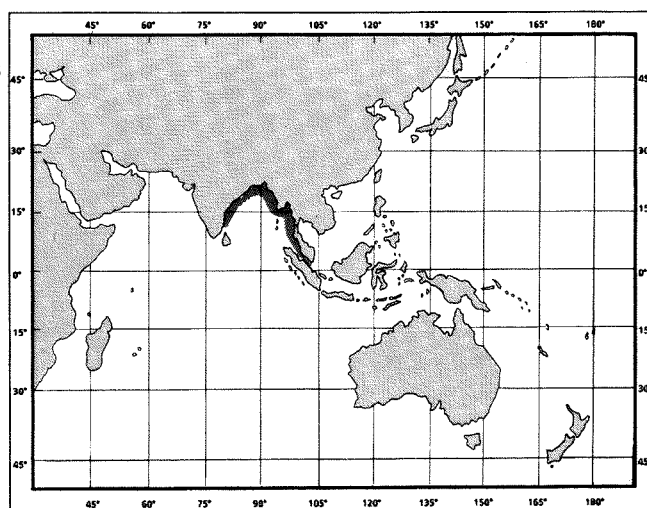


Fig. 48