

Sepia rozella (Iredale, 1926)

Fig. 182

Solitosepia rozella Iredale, 1926, *The Australian Zoologist*, 4(3): 190 [type locality: New South Wales, Manly Beach, 33°48'S 151°17'E].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: **En** – Rosecone cuttlefish; **Fr** – Seiche au cône rosé; **Sp** – Sepia de cono rosado.

Diagnostic Features: Mantle oval; dorsal anterior margin triangular, acute. Fins wide, rounded posteriorly, with narrow gap between them. Head elongate; slender, narrower than mantle. Male and female arm lengths subequal. Arm suckers tetraserial; female arms I protective membranes well developed, enveloping suckers; arm tips attenuate. Male non-hectocotylized arm suckers normal in size (not greatly enlarged).

Hectocotylus absent; the only modification being the basal 40% of the left ventral arm is slightly thicker and the oral surface of arm is wider than the corresponding portion of the right ventral arm, with a shallow median furrow. Club short, oval; sucker-bearing surface flattened, with **4 or 5 suckers in transverse rows**; suckers differ slightly in size: **4 or 5 enlarged suckers** in longitudinal series towards posterior end of club. Swimming keel of club extends well proximal to carpus; dorsal and ventral protective membranes **joined at base of club** (V-shape); separated from tentacular stalk by membrane; dorsal and ventral membranes same length; dorsal membrane much wider than ventral membrane; dorsal membrane forms deep cleft at junction with stalk. Buccal membrane without suckers. Eggs spherical.

Cuttlebone oblong in outline; bone bluntly rounded anteriorly and posteriorly; recurved ventrally; dorsal surface creamy white; dorsal surface evenly convex; entire surface calcified, granulate, sculpture reticulate on posterolateral half of bone. Spine and posterior tip of bone covered with smooth glaze-like substance. Dorsal median rib and lateral ribs indistinct. Chitin borders lateral margins of cuttlebone. Spine long, pointed, straight, directed dorsally, with **ventral keel** and ventral notch at base. Striated zone concave; last loculus flat; sulcus **deep, wide, distinct V-shape medially, flanked by rounded ribs**. Anterior striae are **inverted V-shape**. Inner cone limbs are narrow anteriorly, broaden posteriorly, **rose coloured**; outer margin of inner cone raised into **rounded, thickened posterior ledge**; outer cone calcified; narrow anteriorly, broadens posteriorly; outer cone lateral limbs are flared ventrolaterally. Dorsal mantle covered with numerous small papillae; ventral mantle with longitudinal row of 6 narrow ridges along each side close to fins; anteriormost pair and posterior 2 pairs shorter than rest. Head papillose dorsally and laterally. **Colour:** Purplish brown. Head with chromatophores concentrated over eye orbits. Arms without markings. Paired dorsal eye spots absent. Fins pale, without markings at base. Dorsal ridges reddish purple.

Size: Up to 140 mm mantle length.

Geographical Distribution: Southwestern Pacific: northeastern Australia, from southern Queensland, 27°42'S 153°35'E, to New South Wales, northeast of Tathra, 36°41'S 150°02'E (Fig. 183).

Habitat and Biology: Depth range from 5 to 183 m.

Interest to Fisheries: Species taken as bycatch of prawn and mixed species trawl fisheries.

Literature: Lu (1998a).

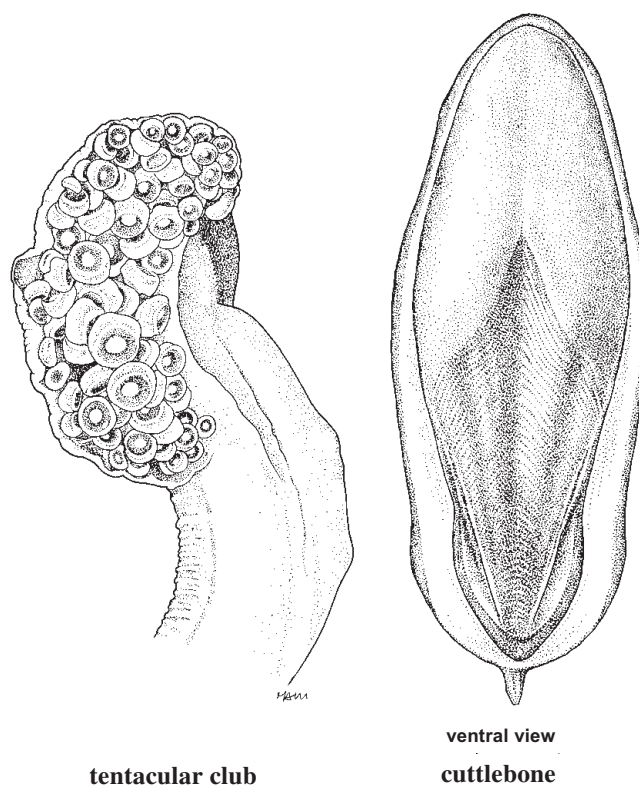
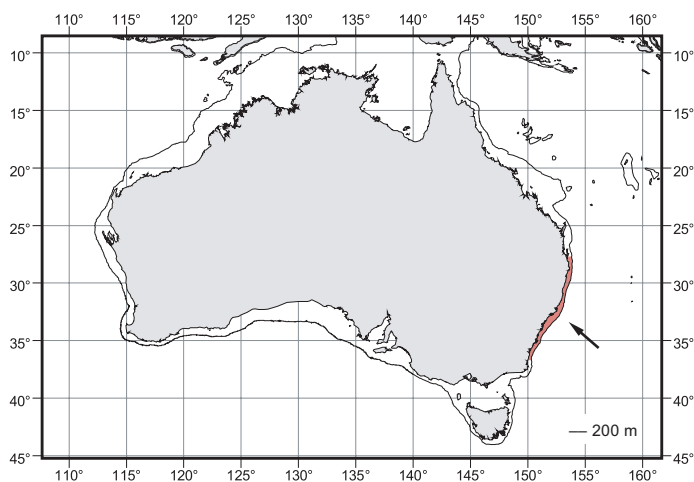
Fig. 182 *Sepia rozella*

Fig. 183 *Sepia rozella*
■ Known distribution

Sepia savignyi* Blainville, 1827*Fig. 184**

Sepia savignyi Blainville, 1827, *Dictionnaire des Sciences Naturelles*, 48: 285 [type locality: Red Sea].

Frequent Synonyms: None.

Misidentifications: *Sepia plathyconchalis* Filippova and Khromov, 1991.

FAO Names: **En** – Broadback cuttlefish; **Fr** – Seiche gros dos; **Sp** – *Sepia robusta*.

Diagnostic Features: Mantle broad, oval; ventral mantle margin emarginate. Fins wide. Male and female arms subequal in length. Arm suckers tetraserial. Club straight, slender; sucker-bearing surface convex, with **8 suckers in transverse rows**; suckers differ slightly in size; **several suckers of inner 2 or 3 rows very slightly larger than rest**. Swimming keel of club terminates at proximal end of carpus (approximately). Dorsal and ventral protective membranes **not joined at base of club**, extend proximal to carpus along stalk. Buccal membrane with a few minute suckers. Cuttlebone outline oval; bone slightly acuminate, acute, anteriorly; bluntly rounded posteriorly; calcified with reticulate sculpture; dorsal median rib and lateral ribs indistinct; median rib broadens anteriorly. Chitin borders lateral and anterior margins of cuttlebone. Spine **short**, pointed. Striated zone flat, or slightly concave posteriorly; slightly convex anteriorly on each side of sulcus; striated zone separated from outer cone by broad, smooth marginal zones; last loculus flat; sulcus shallow, wide, extends along striated zone only. Anterior striae are **inverted U-shape**; limbs of inner cone extend anteriorly to approximately two-thirds length of striated zone. Inner cone limbs are narrow anteriorly, broaden posteriorly; outer margin of inner cone slightly raised as a slightly rounded ridge; not thickened; dull, not shiny; outer cone calcified, narrow anteriorly, broadens posteriorly. **Colour:** Light brown.

Size: Up to 190 mm mantle length.

Geographical Distribution: Western Indian Ocean: Red Sea, Gulf of Aden, Arabian Sea, Persian Gulf and Saya-de-Malha Bank. Not recorded south of Socotra Island (Fig. 185).

Habitat and Biology: Depth range from 20 to 50 m.

Interest to Fisheries: Not determined at present, but the size and distribution of the species indicate that *S. savignyi* is probably harvested in mixed species fisheries even though not specifically targeted.

Remarks: This species can be confused with *S. plathyconchalis* Filippova and Khromov, 1991, from which it differs by having a ventral median sulcus and a normal striated zone in the cuttlebone. The striated zone is very narrow in *S. plathyconchalis*.

Literature: Adam and Rees (1966), Filippova *et al.* (1995).

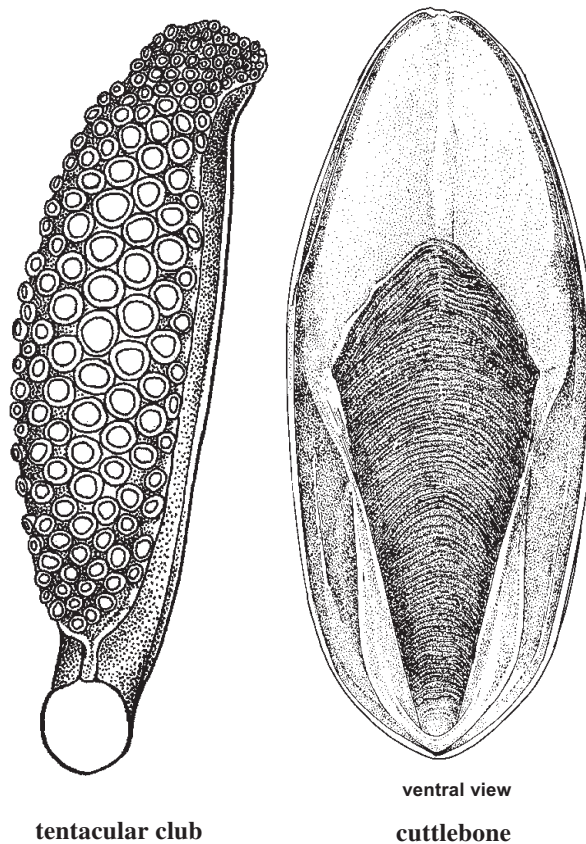


Fig. 184 *Sepia savignyi*

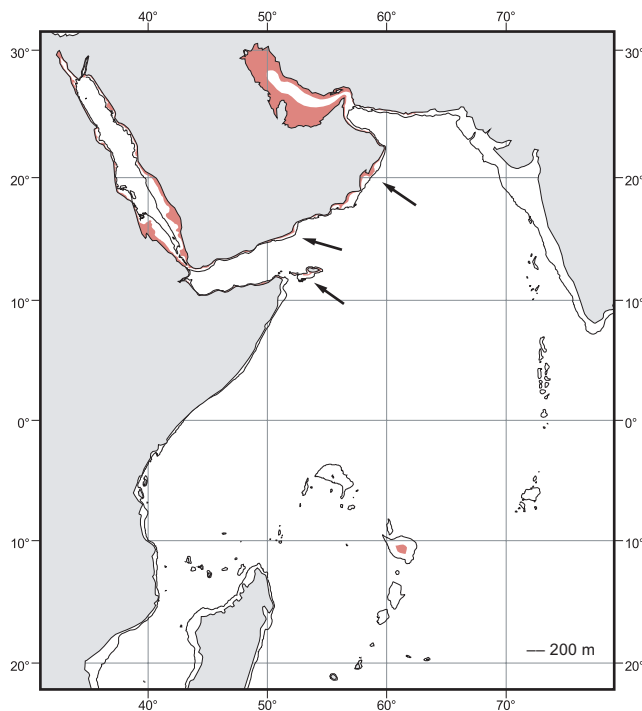


Fig. 185 *Sepia savignyi*
■ Known distribution

Sepia smithi* Hoyle, 1885*Fig. 186; Plate V, 36**

Sepia smithi Hoyle, 1885, *Annals and Magazine of Natural History*, series 5, 16: 190 [type locality: Arafura Sea, South of Papua, 09°59'S 139°42'E].

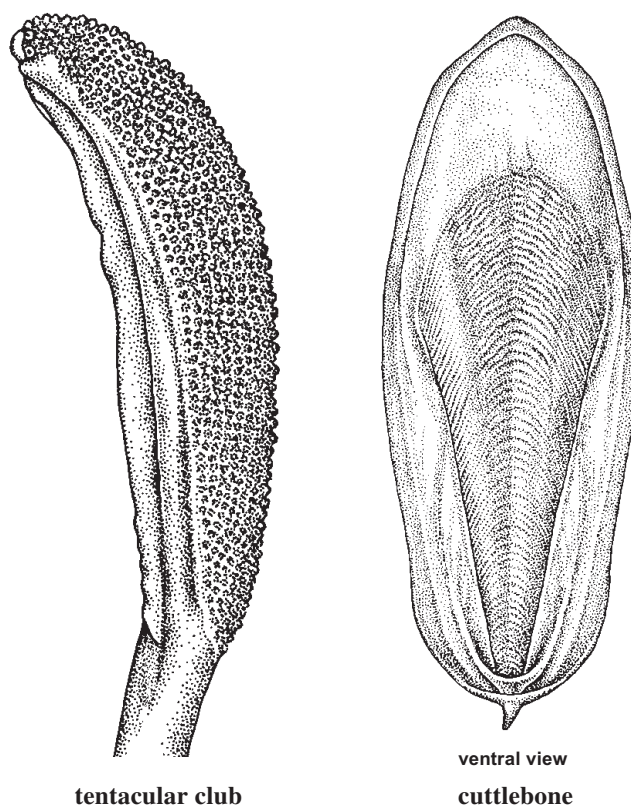
Frequent Synonyms: *Acanthosepion pageorum* Iredale, 1954.

Misidentifications: *Sepia whiteyana* (Iredale, 1926).

FAO Names: **En** – Smith's cuttlefish; **Fr** – Seiche de Smith; **Sp** – Sepia de Smith.

Diagnostic Features: Mantle broad, oval. Fins wide, anterior origin almost at mantle margin, rounded posteriorly, with narrow gap between them. Head elongate; slender, narrower than mantle. Male and female arms subequal in length. Arm suckers tetraserial. Hectocotylus present; **both ventral arms modified**. Left ventral arm: **8 rows of normal size suckers** (approximately) **proximally, 5 to 8 rows of greatly reduced suckers medially**, then normal size suckers distally to arm tip. Suckers of hectocotylus in **2 ventral series are smaller than those in 2 dorsal series**; oral surface of modified region not wide, fleshy, but normal; without distinct median furrow. Male right ventral arm: approximately **6 to 8 rows normal size suckers proximally, 5 rows reduced suckers medially**, then normal size suckers to arm tip. Suckers of hectocotylus in **dorsal row are smaller than those in 2 ventral series** in modified region; oral surface of modified region very **wide, fleshy, sponge-like in texture with pronounced median depression**; suckers in 2 dorsal series aligned in a single row. Both ventral arms of males: suckers in 2 ventral series are displaced laterally, with gap between, widely spaced (more obviously so on right ventral arm). Club straight, slender, or slightly recurved, long, sucker-bearing surface convex, with **13 to 22 suckers in transverse rows**; all club suckers of **similar, minute, size**. Swimming keel of club terminates at proximal end of carpus. Dorsal and ventral protective membranes **not joined at base of club** but fused to tentacular stalk. Dorsal and ventral membranes same length, terminate at posterior end of carpus. Dorsal membrane forms shallow cleft at junction with stalk. Buccal membrane without suckers; in females with single median spermathecae in ventral part. Eggs spherical. Cuttlebone outline oblong; **bone triangular, obtuse anteriorly**; bluntly rounded posteriorly; dorsal surface creamy white, or yellowish; dorsal surface evenly convex; entire surface calcified, granulose with sculpture arranged in series of blunt, transverse, inverted V-shape ridges. Spine and posterior end (approximately one quarter) of bone covered with **ochre-coloured smooth glaze-like substance**. Dorsal median rib and lateral ribs indistinct; median rib broadens slightly anteriorly, bordered laterally by indistinct grooves. Chitin surrounds entire margin of cuttlebone. Spine short, pointed, straight, directed dorsally, **keel(s) absent**. Striated zone concave; last loculus flat; sulcus shallow, wide, extends along striated zone only. Anterior striae are inverted U-shape. Inner cone limbs are broad, strap-like anteriorly, U-shape posteriorly; outer margin of inner cone **raised into rounded, thickened, shiny, posterior ledge**. Dorsal mantle covered with numerous small papillae and with series of 7 or 8 elongate orange-pink papillae along each side, adjacent to base of each fin. Head papillose dorsally and laterally. **Colour:** Pale buff pinkish brown, light brown, or greyish brown with white blotches and spots, sometimes joined to form irregular transverse bands. Arms I to III have a **longitudinal band of orange-red pigment along their aboral surfaces**. Arm and club sucker rims pale brown, or yellow brown. Dorsal mantle has pinkish spots, or blotches and scattered purplish spots and blotches. **Paired dorsal eye spots are present (both sexes)**. Fins in both sexes with **longitudinal whitish band lateral to series of orange-pink ridges overlain with regularly spaced transverse purplish blotches**.

Size: Males up to 140 mm mantle length; females up to 150 mm mantle length.



(illustrations: K. Hollis)

Fig. 186 *Sepia smithi*

Geographical Distribution: Indo-Pacific: northern Australia from Shark Bay, Western Australia, 25°25'S 113°35'E, along the northern coast, then southward to Moreton Bay, Queensland, 27°25'S 153°20'E. Timor, Arafura and Coral Seas (Fig. 187).

Habitat and Biology: Depth range from 33 to 138 m. In the Gulf of Carpentaria, *S. smithi* has been caught where bottom depths varied between 7 and 55 m, typically on sand and mud. *Sepia smithi* has been observed at night lying on the sea floor or burying into the sand, its pale colours and skin textures matching the sand surface. This lack of nocturnal activity suggests the species may be day-active.

Interest to Fisheries: Species taken as bycatch of prawn and mixed species trawl fisheries.

Remarks: *Sepia smithi* often is confused with *S. whitleyana* (Iredale, 1926). The 2 species differ in the nature of the cuttlebone inner cone, which is round, shiny and thickened in *S. smithi* and thin, narrow and not shiny in *S. whitleyana*. The bases of the fins of *S. whitleyana* lack the longitudinal whitish bands that are present in *S. smithi*. Male *S. smithi* lack the distinctive longitudinal white bars that are present in male *S. whitleyana*. The cuttlebone is wider in *S. whitleyana* than in *S. smithi*, particularly in the anterior third of the bone.

Literature: Lu (1998a).

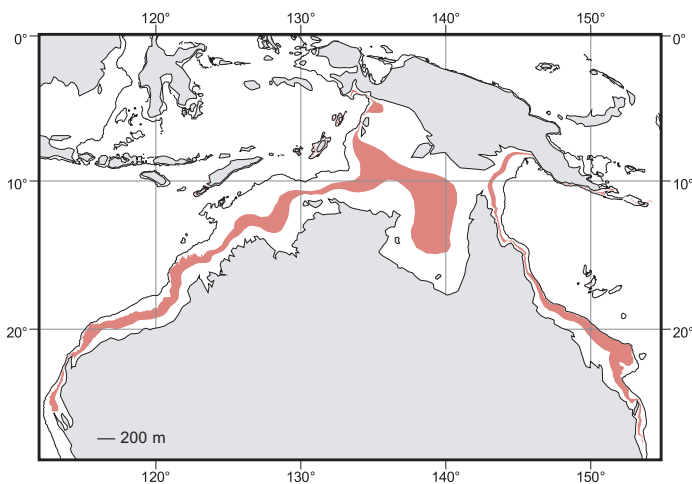


Fig. 187 *Sepia smithi*
■ Known distribution

***Sepia stellifera* Homenko and Khromov, 1984**

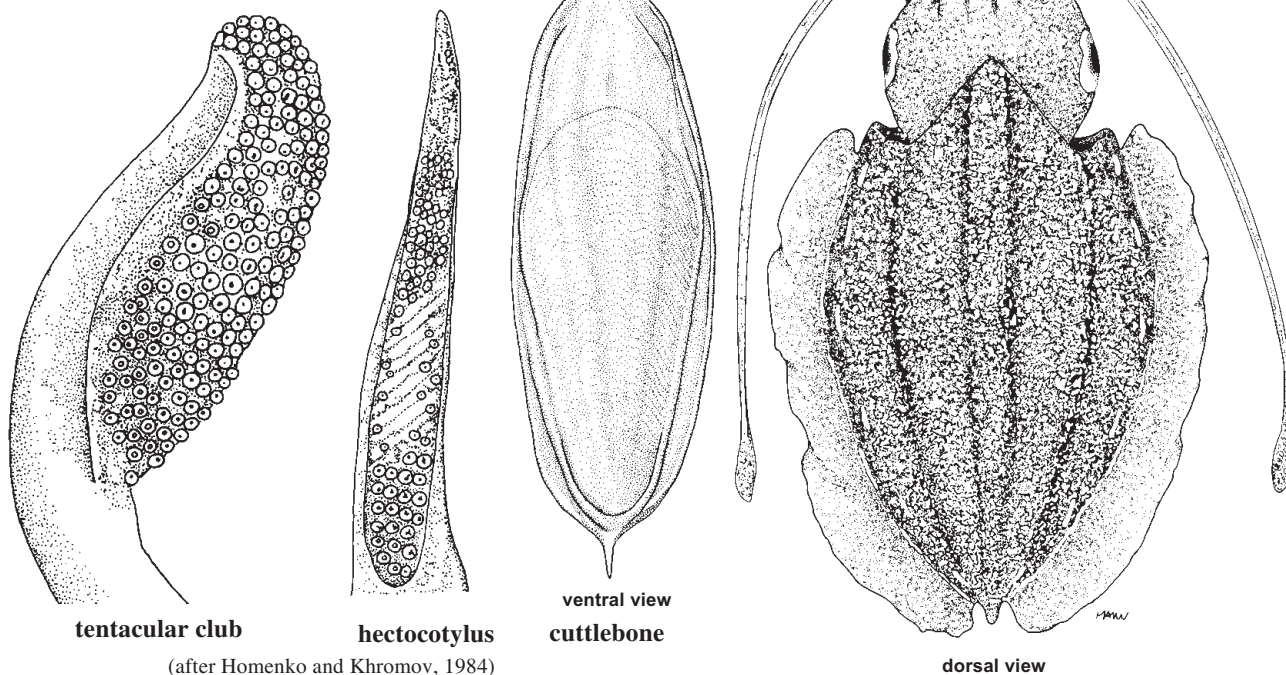
Fig. 188

Sepia stellifera Homenko and Khromov, 1984, *Zoologicheskii Zhurnal*, 63: 1150 [type locality: east Arabian Sea, 13°59'N 73°58'E].

Frequent Synonyms: None.

Misidentifications: *Sepia brevimana* Steenstrup, 1875.

FAO Names: **En** – Starry cuttlefish; **Fr** – Seiche étoilée; **Sp** – Sepia estrellada.



tentacular club

hectocotylus

ventral view
cuttlebone

dorsal view

(after Homenko and Khromov, 1984)

(after Homenko and Khromov, 1984)

Fig. 188 *Sepia stellifera*

Diagnostic Features: Club with **10 suckers in transverse rows**; all club suckers of similar, small size. Dorsal and ventral protective membranes not joined at base of club. Hectocotylus present; **left ventral arm modified**: suckers normal proximally, reduced medially, then normal size suckers proximally to arm tip. Suckers of hectocotylus in 2 ventral series are displaced laterally, with gap between; oral surface of hectocotylus with transversely grooved ridges. Cuttlebone outline oval; bone very angular, V-shape anteriorly (subrhomboidal in anterior fourth); **dorsal median rib very pronounced**; **lateral ribs present**. Spine long, pointed, with **dorsal and ventral keel**. Sulcus deep, wide, extends along striated zone only; sulcus with **3 deep, broad grooves and 2 ribs between them**; limbs of inner cone extend anteriorly to end of striated zone; outer cone present. **Colour:** Dorsal mantle with many small, bright, brown-pink spots, encircled with green-blue rings, the whole pattern resembling a starry sky.

Size: Up to 120 mm mantle length.

Geographical Distribution: Indian Ocean: Arabian Sea and west coast of India to Cape Comorin, Bay of Bengal, Andaman Sea, Gulf of Thailand. Possibly Saya-de-Malha Bank. Eastern extent of range unknown (Fig. 189).

Habitat and Biology: Depth to 200 m.

Interest to Fisheries: This species is fished commercially in India and may figure in statistical data with *Sepia brevimana* Steenstrup, 1875.

Remarks: *Sepia stellifera* is similar to *S. brevimana* Steenstrup, 1875. It differs from *S. brevimana* in having 10 oblique club sucker rows, rather than 6 to 8, and the sulcus is deep and wide, rather than narrow and shallow as seen in *S. brevimana*.

Literature: Homenko and Khromov, 1984.

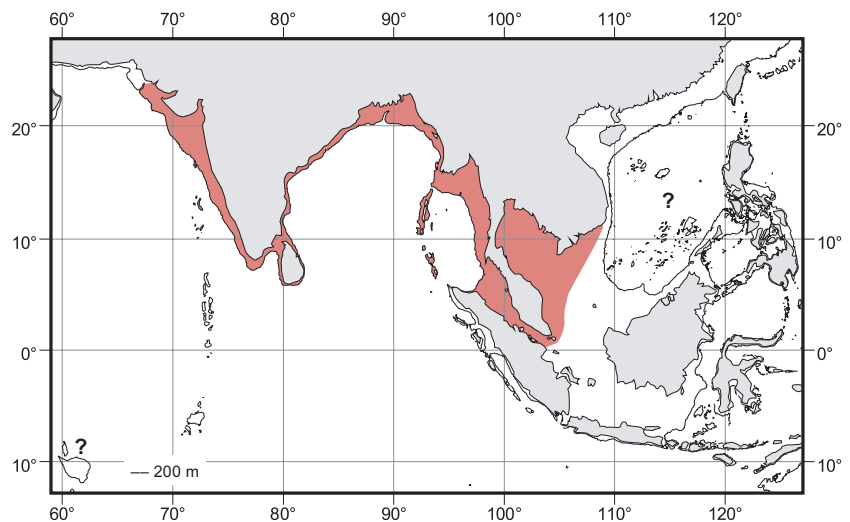


Fig. 189 *Sepia stellifera*

Known distribution

Sepia sulcata Hoyle, 1885

Sepia sulcata Hoyle, 1885, *Annales and Magazine of Natural History*, (5)16: 192 [type locality: Indonesia: Arafura Sea, off Kai Island, 05°49'15"S 132°14'15"E].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Grooved cuttlefish; Fr – Seiche striée; Sp – *Sepia estriada*.

Diagnostic Features: Sucker rows on arms I and III in males **biserial proximally, tetraserial distally** (approximately 8 to 11 rows biserial suckers arms I, 6 to 8 rows biserial suckers arms II and III); suckers on arms IV biserial at base (approximately 2 rows), tetraserial distally. Sucker rows on arms I to III in females **biserial proximally for 6 or 7 rows, tetraserial distally**, suckers on arms IV biserial proximally for 2 or 3 rows, rest tetraserial. Distal arm tips strongly attenuate. Left ventral arm hectocotylized: proximally 14 rows (approximately) of greatly reduced suckers; **2 dorsal series smaller than 2 ventral series**; 2 dorsal and 2 ventral series widely spaced in mature males. Oral surface wide, fleshy with deep longitudinal furrow between swollen protective membranes. Club with **5 to 7 small, subequal**

Fig. 190

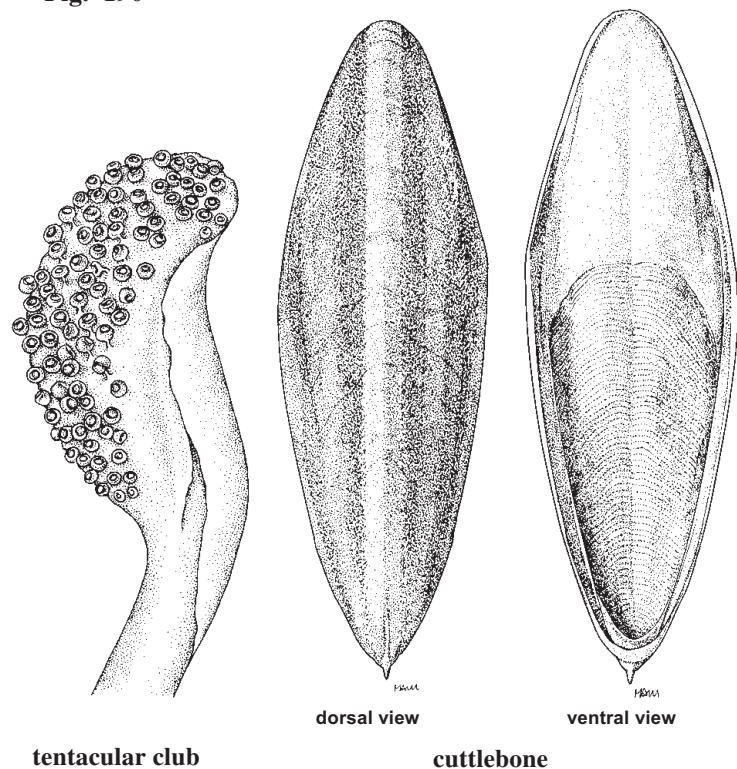


Fig. 190 *Sepia sulcata*

suckers in transverse rows. Dorsal and ventral protective membranes not joined at base of club. Cuttlebone oblong, strongly acuminate, acute, anteriorly and posteriorly. A **thick, cartilaginous subdermal layer** adheres closely to dorsal side of cuttlebone. Dorsal median and lateral ribs distinct; sulcus shallow, narrow, flanked by **prominent rounded ribs** bordered laterally by shallow grooves. **Inner cone** limbs form **narrow, raised ledge posteriorly**. Dorsal mantle with up to **10 short, longitudinal, orange-pink ridges** along each side close to fins; ventral mantle with 6 longitudinal ridges along each side close to fins.

Size: Males up to 68 mm mantle length; females up to 97 mm mantle length.

Geographical Distribution: Indo-Pacific: Indonesia, Arafura Sea, off Kai Islands, 05°49'15"S 132°14'15"E, to Australia: Western Australia, North West Shelf, 19°58'S 115°13'E (Fig. 191).

Habitat and Biology: Depth range from 150 to 404 m. Habitat mud, silt, rock.

Interest to Fisheries: Due to its size and distribution, this species may occur in multispecies trawl catches.

Remarks: The depth range occupied by this species is broad. There is some evidence to suggest that there might be a migration into relatively shallower waters for spawning. The cuttlebone of this species shows some similarities with that of *S. australis* Quoy and Gaimard, 1832 from South Africa. In both species, the cuttlebone is narrow and oblong, distinctly pointed anteriorly, with pronounced dorsal median and lateral ribs and, on the ventral side, the lateral ribs in both species are bordered by grooves. The ventral grooves, and sulcus are much deeper and more pronounced in *S. australis* than in *S. sulcata*, with the sulcus extending along the last loculus in *S. australis*, unlike that of *S. sulcata* that is present only in the striated zone. Both species have a short, median ridge on the dorsal side of the cuttlebone, anterior to the spine. The posterior end of the cuttlebone is broader in *S. sulcata*; in *S. australis* the outer cone is poorly developed and the inner cone is not raised into a ledge. *Sepia australis* is darkly pigmented, unlike *S. sulcata*, and it has a distinctive, unbroken longitudinal ridge at the base of the fins. The arm suckers in *S. australis* are arranged in four series, unlike those seen in *S. sulcata*.

Literature: Adam and Rees (1966), Reid (2000).

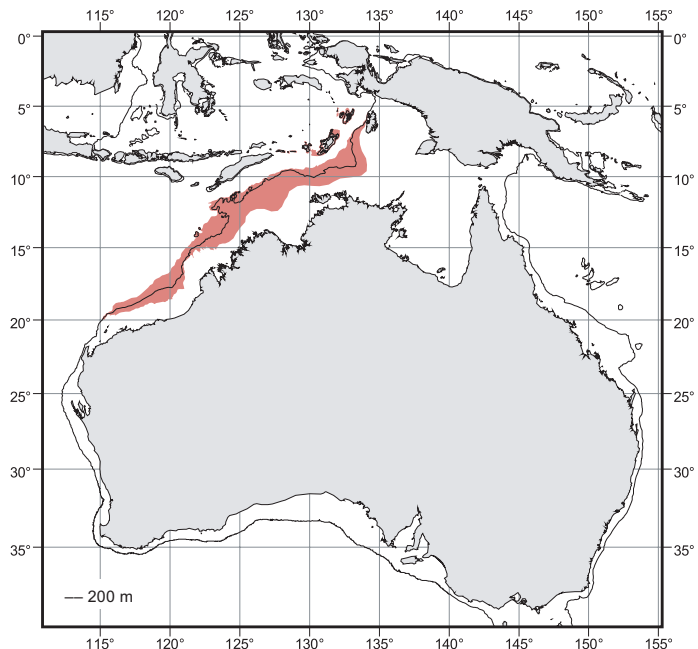


Fig. 191 *Sepia sulcata*
■ Known distribution