

**Local Names :** ITALY: *Seppia pizzuta*; SPAIN: Chopito.

**Literature :** Mangold-Wirz (1963, biology, western Mediterranean); Okutani (1980); Roper & Sweeney (1981, Species Identification Sheets, eastern central Atlantic, fishing areas 34/47 in part).

***Seppia pharaonis* Ehrenberg, 1831**

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*Seppia pharaonis* Ehrenberg, 1831, *Symbolae Phys., Moll.*, unpag.

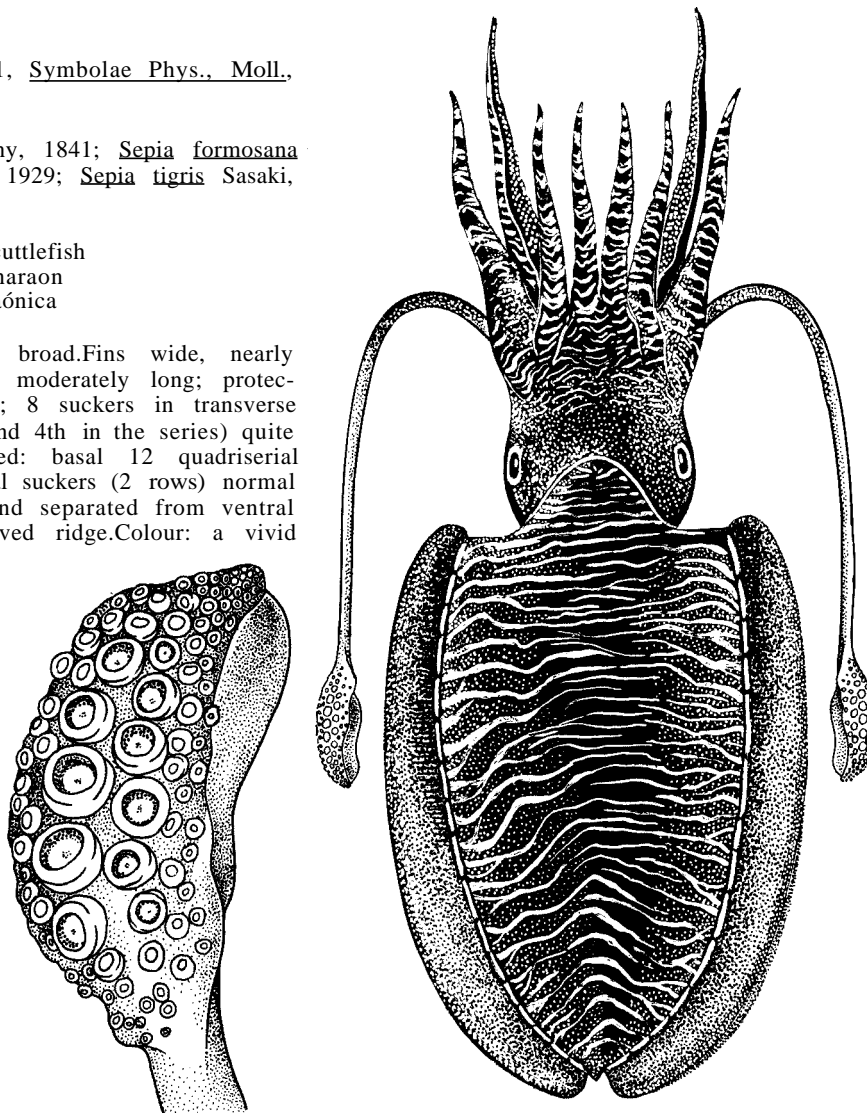
**Synonymy :** *Seppia rouxi* Orbigny, 1841; *Seppia formosana* Berry, 1912; *Seppia formosana* Sasaki, 1929; *Seppia tigris* Sasaki, 1929.

**FAO Names :**  
En - Pharaoh cuttlefish  
Fr - Seiche pharaon  
Sp - Sepia faraónica

**Diagnostic Features :** Mantle broad. Fins wide, nearly as long as mantle. Tentacular clubs moderately long; protective membranes not meeting at base; 8 suckers in transverse rows with 5 or 6 median ones (3rd and 4th in the series) quite enlarged. Left arm IV hectocotylied: basal 12 quadriserial rows normal, next 10 rows with ventral suckers (2 rows) normal but those in dorsal 2 rows minute and separated from ventral rows by a fleshy, transversely grooved ridge. Colour: a vivid transverse tiger-stripe pattern (especially in males) on dorsal mantle and head; a narrow, light, interrupted line along bases of fins.

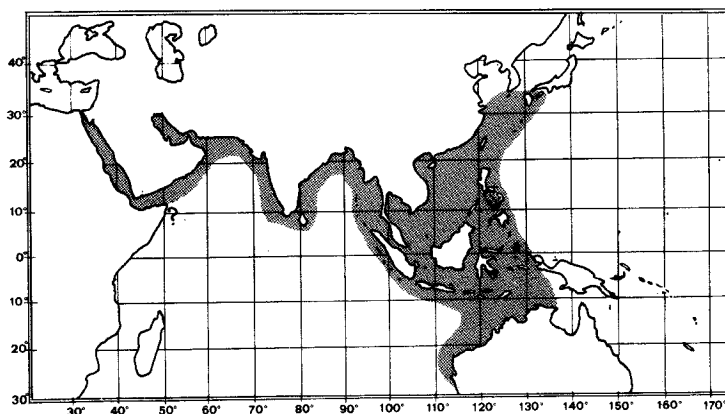
**Geographical Distribution :** Indo-Pacific: Red Sea, Arabian Sea to South China Sea, East China Sea and northern and northwestern Australia.

**Habitat and Biology :** A neritic, demersal species occurring from the coastline to about 110 m depth, but more abundant in the upper 40 m, particularly during the reproductive season, when it migrates shoreward and aggregates in shallow waters. Spawning takes place at water temperatures ranging from 18 to 24°C, from March to May around Hong Kong, but extends almost throughout the year around India, with peaks from September to December and April to June on the east coast and from October to December and March to April on the west coast (Silas *et al.*, 1982). Peak spawning in the Red Sea extends from August through October, with the females participating as one-year olds and the males mostly as two-year olds (Sanders, 1981). Fertility increases with size. The eggs are laid in clusters and attached to plants, shells and other substrates.



tentacular club

dorsal view



On the Indian east coast, hatchlings attain mantle lengths of up to 10 cm after 6 months, almost 17 cm after 12 months, and about 20 cm after 16 months, while on the west coast they grow to 14 cm in 6 months, 21 cm in 12 months, 26 cm in 18 months and almost 30 cm in 2 years. Longevity is estimated at about 2 years on the east coast and 3 years on the west coast, with males living longer than females.

Food includes crustaceans and a variety of small demersal fishes. Cannibalism is not exceptional. The main predators of this species are demersal fishes.

**Size :** Maximum mantle length 43 cm for males and 33 cm for females off the People's Democratic Republic of Yemen; more southward the maximum size may not exceed 36 m and 4.2 kg in males, and 30 cm and 2.4 kg in females. Common sizes in landings range from 15 to 20 cm mantle length.

**Interest to Fisheries :** Pharaoh cuttlefish supports industrial or artisanal fisheries throughout its range. Separate catch statistics are not included in the FAO Yearbook of Fishery Statistics, but IPFC (1982) reports annual catches for the period from 1969 to 1980 fluctuating between 3 000 and 10 000 metric tons. These catches were taken by the Japanese long distance trawler fleet operating off the People's Democratic Republic of Yemen, following the decrease of Japanese fishing operations off West Africa. It has been suggested to increase the length at first capture through mesh regulations in the fishery off South Yemen in order to improve the catch-effort relationship (Sanders, 1981), but in 1982 the PDRY Government notified the Japanese ventures of the suspension of all operations because of the depletion of the stocks by this time. In the year before, 1981, the catch had already collapsed to 900 metric tons (Hotta, 1982). This species contributes about 90% of the cuttlefish catch off Australia by Chinese (Taiwan Province) pair trawlers amounting to some 1 000 metric tons in 1979 (Liu & Lai, 1980). It also occasionally is taken as bycatch by eastern Queensland prawn trawlers. On the Indian east and west coasts, Pharaoh cuttlefish is frequently caught with hand jigs and trolls, while off Hong Kong, spearing, lure-hooking and trawlers prevail, depending on the season. The flesh is thick, tender and excellent for human consumption.

**Local Names :** CHINA: Mak mo, Foo baan woo chak; JAPAN: Torafukouika, Mongouika (large individuals).

**Literature :** Tomiyama & Hibiya (1978, Japanese fisheries); Okutani (1980); Sanders (1981, stock assessment, length-weight relationship); Silas et al. (1982, biology, India).

**Sepia prashadi** Winckworth, 1936

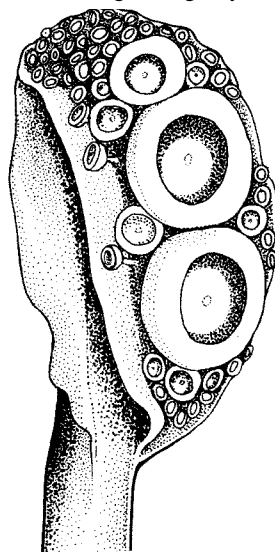
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Sepia prashadi Winckworth, 1936, Proc. Malac. Soc. Lond., 22(1):16.

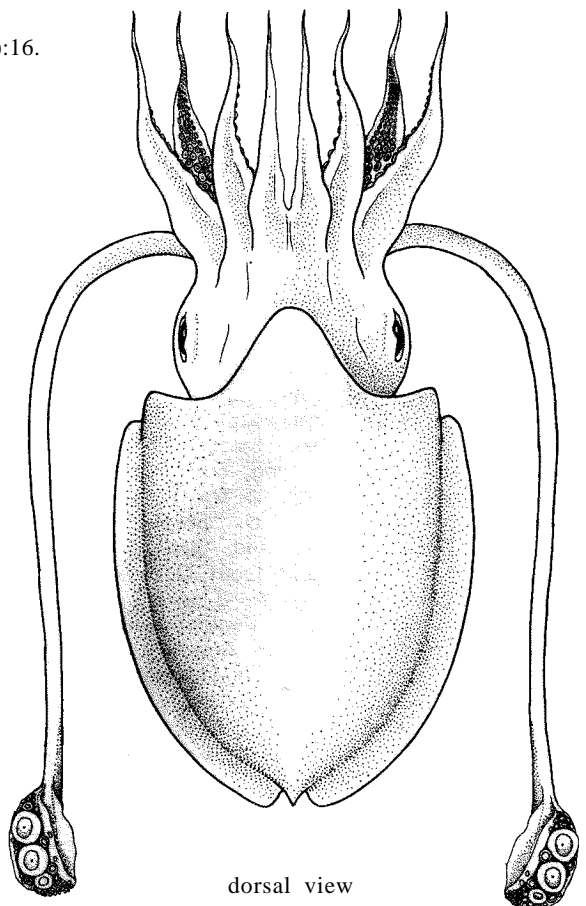
**Synonymy :** None.

**FAO Names :** En - Hooded cuttlefish  
Fr - Seiche capuchon  
SP - Sepia caperuza

**Diagnostic Features :** Fins several millimetres shorter than mantle, narrow, separate. Tentacular clubs short, broad; swimming keel broad, strong, slightly longer than the club; sucker-bearing surface nearly separated from the stalk by a very deep cleft under the dorsal protective membrane; both protective membranes well developed, converging but not meeting at proximal base of club and not extending down the stalk; 8 suckers arranged in very oblique series across the club, but the arrangement is greatly distorted by the 2 or 3 enormously enlarged suckers of the 3rd longitudinal row. Left arm IV hectocotylized for most of its length after the 2nd quadriserial row; it is broad, flat, with transverse folds; suckers minute in the 2 very closely packed ventral rows, slightly larger in the dorsal rows which are separated proximally and converge distally.



tentacular club



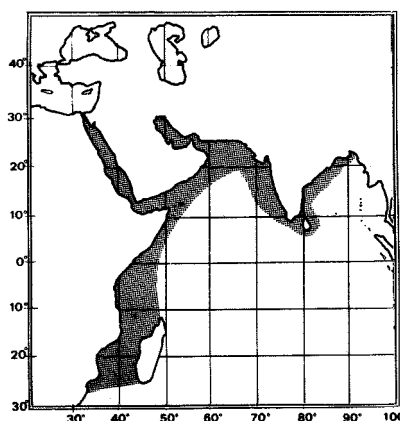
dorsal view

**Geographical Distribution :** Western Indian Ocean: from southern Mozambique to the Gulf of Aden, Red Sea, Arabian Sea, Gulf of Oman, Gulf between Iran and the Arabian Peninsula, Indian west and east coasts and Sri Lanka.

**Habitat and Biology :** A demersal, shallow water species ranging in depth from the coastline to over 40 m.

**Size :** Maximum mantle length 14 cm; common between 5 and 11 cm in Indian trawl catches off Waltair.

**Interest to Fisheries :** Taken by trawls in the Red Sea and along the Indian east coast. Off Waltair (northeast India), it is most abundant from the beginning of the year to June and in some years, from October to December; off Madras, it is taken in small quantities in local upwelling areas as bycatch to finfishes normally occurring in deeper waters, i.e., bigeyes (*Priacanthus* spp.) and Indian driftfish (*Ariomma indica*) (Silas *et al.*, 1982). Separate catch statistics are not reported for this species.



**Local Names :**

**Literature :** Okutani (1980); Silas *et al.*, (1982, biology, India).

***Sepia recurvirostra*** Steenstrup, 1875

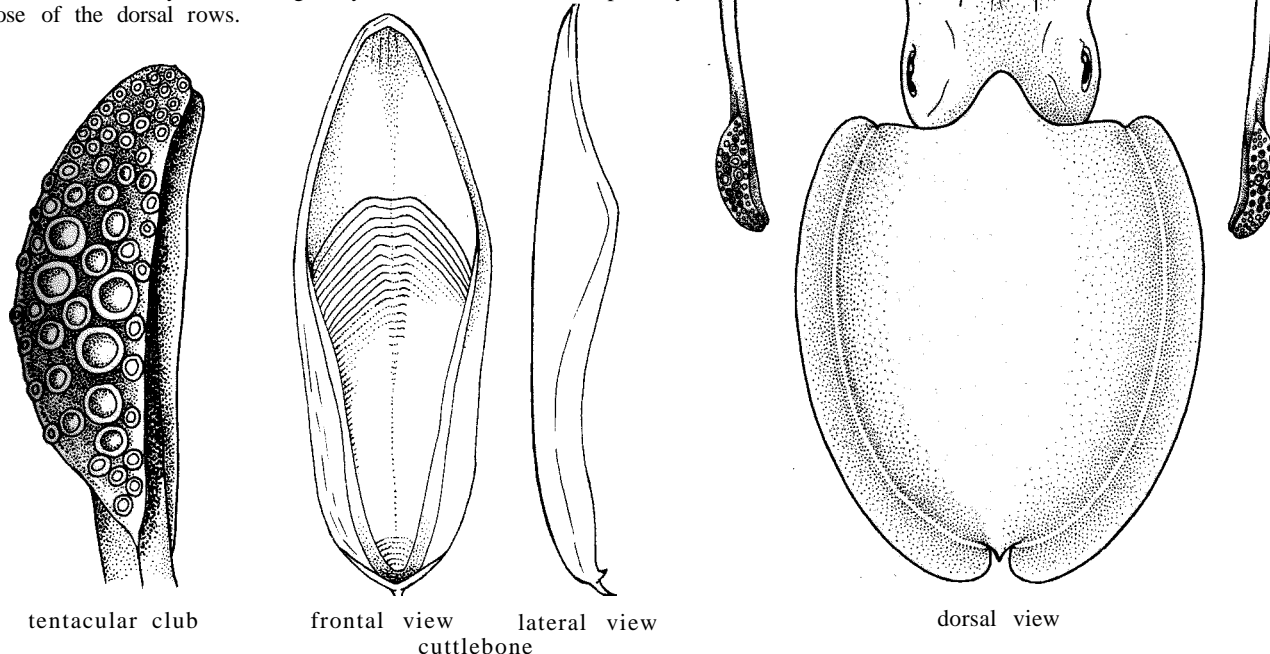
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*Sepia recurvirostra* Steenstrup, 1875, *K.dankse Vidensk Nat.*, (5)10(7):475.

**Synonymy :** *Sepia singaporensis* Pfeffer, 1884.

**FAO Names :** En - Curvespine cuttlefish  
Fr - Seiche hameçon  
Sp - Sepia ganchuda

**Diagnostic Features :** Mantle broad. Tentacles large with relatively small clubs, their swimming keel extending proximally a short distance beyond the base of the club; dorsal protective membrane extending down the stalk for some distance; protective membranes fused at the proximal base; 5 or 6 suckers in transverse rows with 5 or 6 median suckers greatly enlarged; a deep cleft nearly separates the sucker-bearing surface on the fenestrate dorsal protective membrane from the stalk. Left arm IV in males hectocotylyzed in its proximal third by suckers greatly reduced in size, especially those of the dorsal rows.



tentacular club

frontal view

lateral view

cuttlebone

dorsal view

**Geographical Distribution :** Western Pacific: Andaman Sea, South China Sea, the Philippines and southern East China Sea.

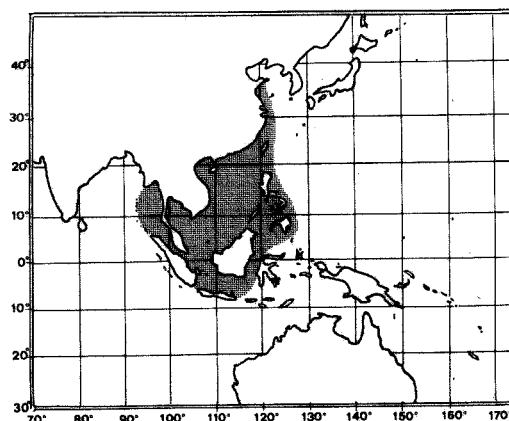
**Habitat and Biology :** A demersal species inhabiting the continental shelf; in Hong Kong it occurs in depths of 50 to 140 m.

**Size :** Maximum size 17 cm dorsal mantle length and 0.4 kg weight.

**Interest to Fisheries :** This species is of some commercial relevance in Hong Kong where it enters multispecies trawl catches. Separate statistics are not reported for this species.

**Local Names :** CHINA: Jam mak yue; JAPAN: Asia kouika.

**Literature :** Tomiyama & Hibiya (1978); Okutani (1980).



**Sepia savignyi** Blainville, 1827

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*Sepia savignyi* Blainville, 1827, *Dict.Sci.Nat.*, 48:285.

**Synonymy :** None.

**FAO Names :** En - Broadback cuttlefish  
Fr - Seiche gros dos  
SP - Sepia robusta

**Diagnostic Features :** Mantle broadly oval, acuminate posteriorly. Tentacles long, slender, clubs narrow, their swimming keels narrow, barely extending beyond base of club; protective membranes narrow, separate, extending along stalk; 8 moderate-sized, subequal suckers (median ones slightly enlarged) in oblique, transverse rows.

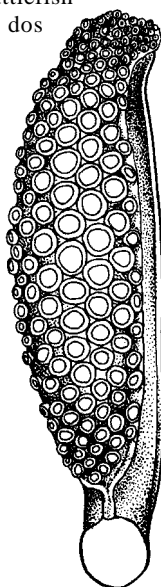
**Geographical Distribution :** Western Indian Ocean: Red Sea, Gulf between Iran and the Arabian Peninsula and Gulf of Oman.

**Habitat and Biology :** A demersal neritic species; known depth range from about 25 to 70 m.

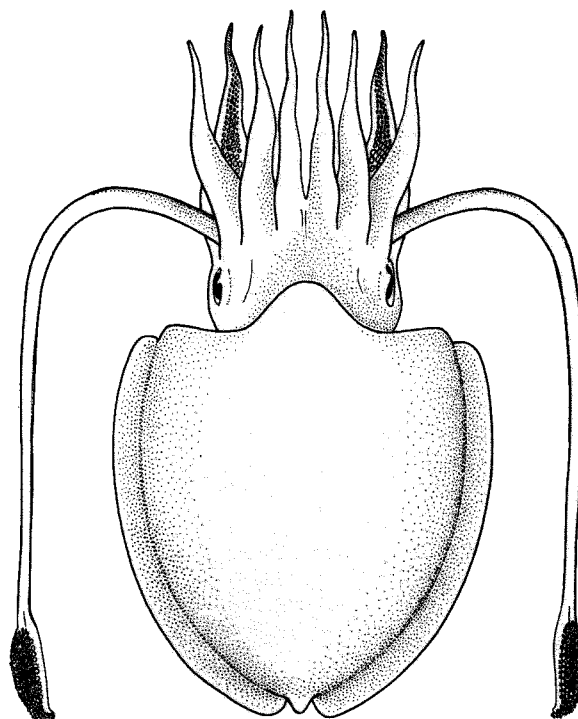
**Size :** Maximum mantle length 13 cm.

**Interest to Fisheries :** Undetermined.

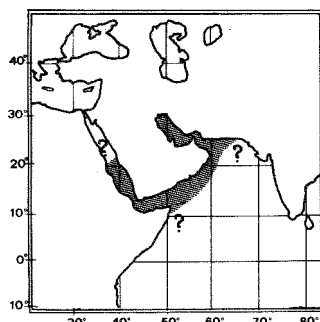
**Local Names :**



tentacular club



dorsal view



***Sepia trygonina*** (Rochebrune, 1884)

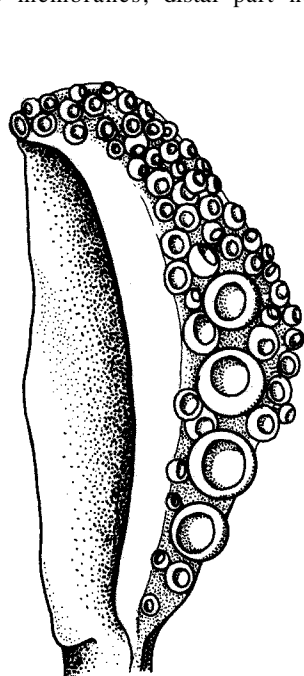
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*Dorasepion trygoninum* Rochebrune, 1884, *Bull.Soc.Philomath.Paris*, (7)8:74-122.

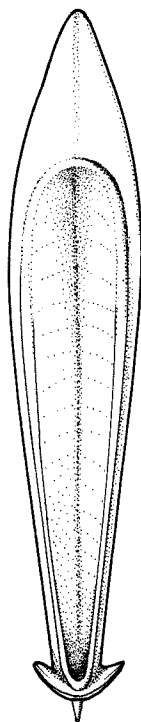
**Synonymy** : *Dorasepion trygoninum* Rochebrune, 1884.

**FAO Names** : En - Trident cuttlefish  
Fr - Seiche trident  
Sp - Sepia tridente

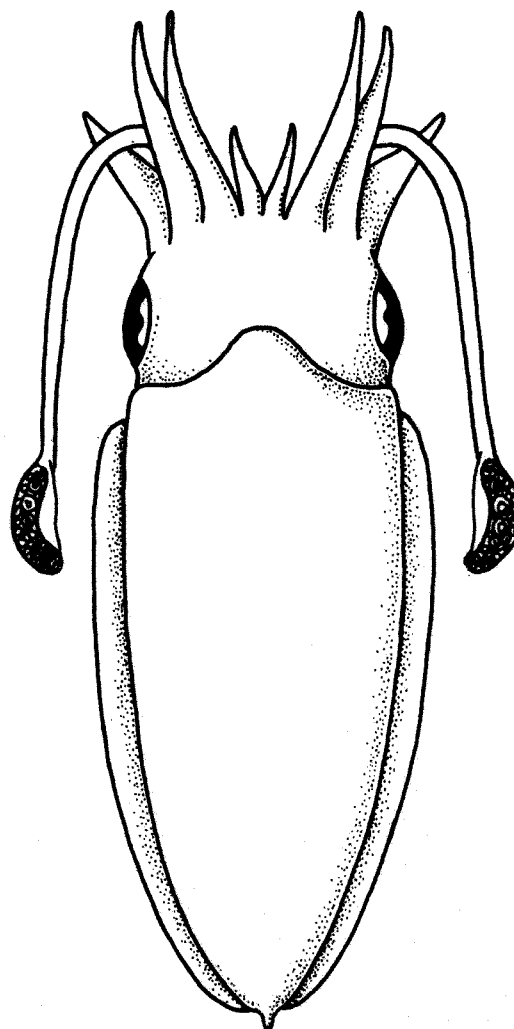
**Diagnostic Features** : Mantle elongate, narrow, bluntly tapered posteriorly. Fins narrow. Tentacular clubs short, with a well developed swimming keel extending proximally beyond the base of the club; dorsal protective membrane broad and separated at base from the ventral membrane; 8 suckers in very oblique, transverse rows; about 5 suckers in third longitudinal series greatly enlarged. Left arm IV hectocotyized; proximal third normal, followed by an area devoid of suckers, with a hollowed-out surface, covered with large, wrinkled protective membranes; distal part normal.



tentacular club



cuttlebone



dorsal view

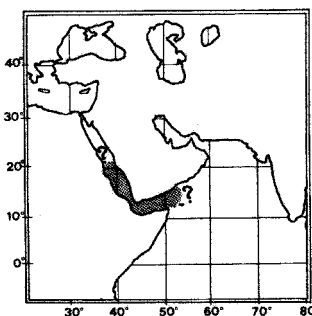
**Geographical Distribution** : Western Indian Ocean: Gulf of Aden and Red Sea (northern limits undetermined).

**Habitat and Biology** : A demersal species occurring over a depth range from 35 to 415 m.

**Size** : Maximum mantle length 5 cm.

**Interest to Fisheries** : Reported from a bottom-trawl resources survey in the Gulf of Aden, but its fishery potential is presently undetermined.

**Local Names:**



***Sepia (Metasepia) tullbergi*** Appellöf, 1886

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*Metasepia tullbergi* Appellöf, 1886, K.Sven Vetensk Adad.Handl., 21(13):26.

**Synonymy** : None.

**FAO Names** : En - Paintpot cuttlefish  
Fr - Seiche encrier  
SP - Sepia tintero

**Diagnostic Features** : Mantle as broad as long; dorsal surface of mantle, head and arms rugose; ventral surface of mantle with 10 to 13 pores on each side anteriorly. Fins broad and fused posteriorly. Tentacular clubs short, crescent-shaped with a broad swimming keel extending proximally on stalk for half the club length; dorsal protective membrane broad, separated at base of club from ventral protective membrane; 4 or 5 minute suckers in transverse rows across the club, 3 or 4 suckers enlarged. Arm suckers biserial; left arm IV hectocotylized, the basal two thirds has 10 to 12 pairs of minute, widely spaced suckers, the rows separated by a transversely ridged area, distal third with 5 or 6 pairs of enlarged suckers followed by minute suckers at the tip. Shell broad, acuminate anteriorly, nearly completely chitinized anteriorly, calcareous posteriorly.

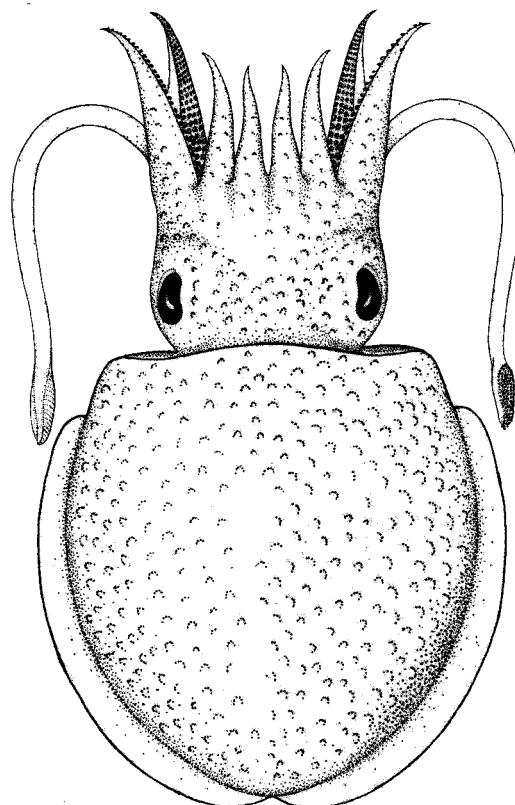
**Geographical Distribution** : Western Pacific: Sea of Japan, Yellow Sea to Hong Kong and Taiwan (Province of China).

**Habitat and Biology** : A neritic, demersal species occurring on the continental shelf between the 40 and 100 m depth contours.

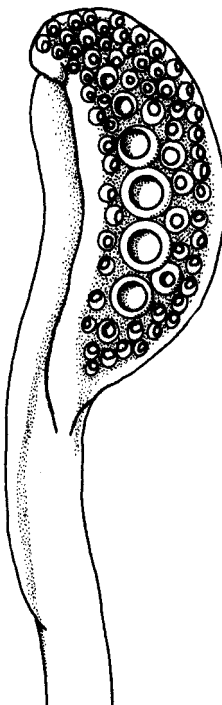
**Size** : Maximum mantle length 7 cm.

**Interest to Fisheries** : Currently there is no industrial fishery for this species. Its relevance in artisanal fisheries is undetermined.

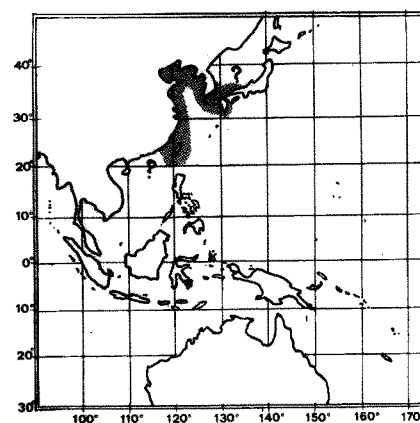
**Local Names** : CHINA: Mak dau.



dorsal view



tentacular club



***Sepiella inermis*** Orbigny, 1848

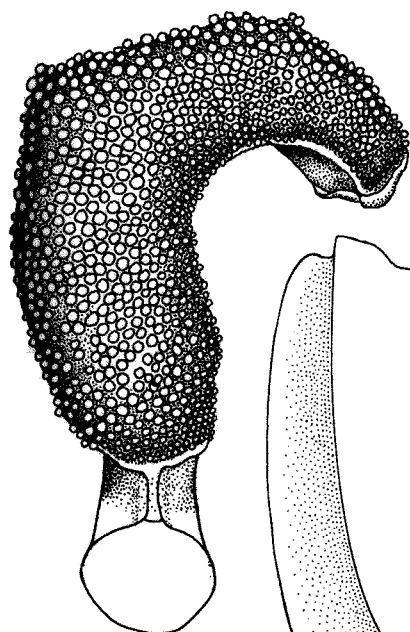
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*Sepiella inermis* Orbigny, 1848 (in 1834-1848), Hist.nat.Ceph.acetab.:286.

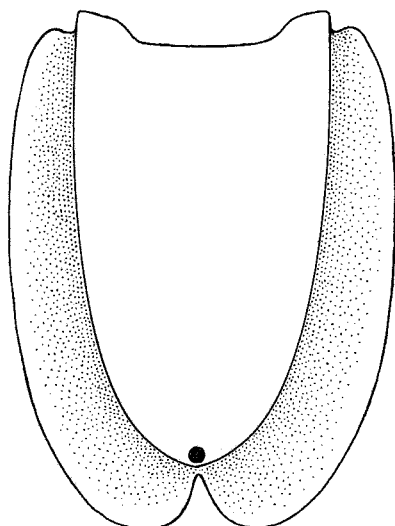
**Synonymy** : *Sepia (Sepiella) microcheirus* Gray, 1849; *Sepia affinis* Eydoux & Souleyet, 1852; *Sepiella maindroni* Rochebrune, 1884.

**FAO Names :** En - Spineless cuttlefish  
Fr - Sépia inerme  
SP - Sepia inerme

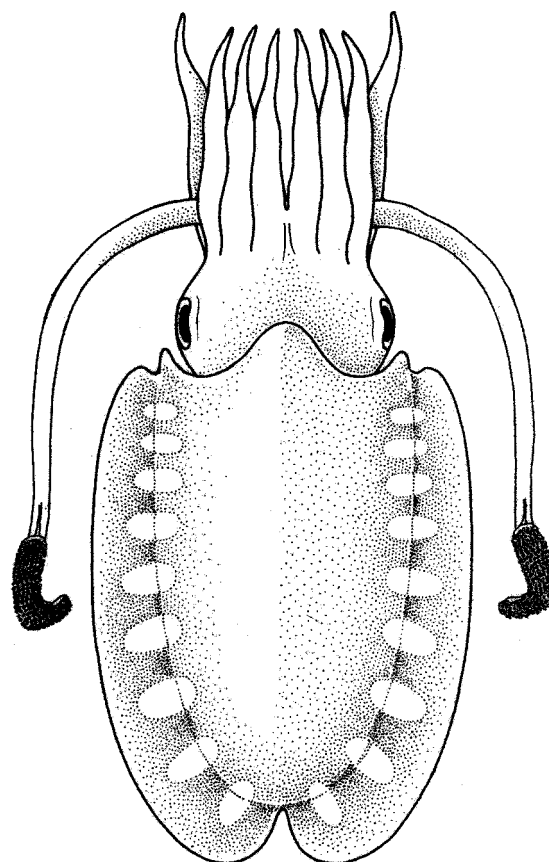
**Diagnostic Features :** Mantle elongate, oval; a pigmented gland and pore at posterior tip of mantle on ventral side. Tentacular clubs with 16 to 24 equal-sized minute suckers in transverse rows; swimming keel shorter than club; protective membranes narrow, extending proximally on stalk as low ridges. Shell spineless, its width 40% of length. Colour: greyish brown, with a series of reddish patches along bases of fins.



tentacular club



ventral view

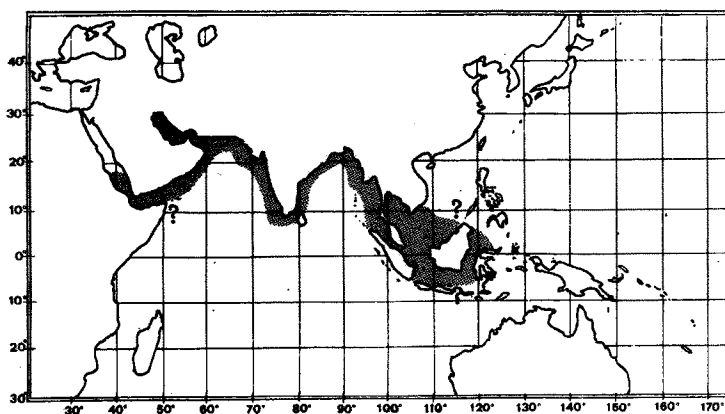


dorsal view

**Geographical Distribution :** Indo-Pacific: Indian Oceansouthern Red Sea, Gulf of Aden to Andaman Sea and southern South China Sea.

**Habitat and Biology :** A demersal shallow-water species occurring to depths of about 40 m.

Spawning extends almost throughout the year with seasonal peaks in correlation with environmental conditions; off Kakinada and Waltair (northeast India) from June to September and from November to December; off Madras, in September, December and March; off Portonovo from March to October; off Cochin (southwest coast) in April and from September through October. The majority of spawning cuttlefish are aged 9 to 12 months on the east coast and about 18 months on the west coast. Capsules containing several eggs are attached to various substrates in very shallow waters. Growth varies according to environmental conditions. Hatchlings may attain 2.9 to 3.5 cm mantle length after 6 months. At the end of one year, they can grow to sizes ranging from 5.3 cm (Kakinada), to 6.1 cm (Cochin), while after 18 months they reach 7.4 cm (Waltair and Kakinada) to 8.2 cm (Madras). Longevity on the east coast is estimated at 1½ to 2 years, while on the west coast it is believed to be over 2 years (Silas *et al.*, 1982).



Food of spineless cuttlefish consists primarily of small demersal fishes and crustaceans; cephalopods are a minor component of its diet.

**Size :** Maximum mantle length about 12.5 cm; maximum lengths in the Indian trawl catches are 11.2 cm on the east coast and 12.4 cm on the west coast off Cochin. Length at first maturity varies with stocks: off Waltair it is about 5.3 cm for males and 5.2 cm for females; off Madras, about 5.6 cm and 6.0 cm; and off Cochin 8.1 cm and 8.3 cm, respectively. Females grow larger than males (Silas et al., 1982).

**Interest to Fisheries :** One of the main commercial species in India and Sri Lanka, but separate statistics are not reported. Caught by trawls and a variety of artisanal gears, such as beach seines, fixed bag nets ("dol nets"), etc. In the Andaman Sea it is caught by push nets.

**Local Names :**

**Literature :** Okutani (1980); Silas et al. (1982, biological information on Indian stocks).

**Sepiella japonica** Sasaki, 1929

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*Sepiella japonica* Sasaki, 1929, J.Coll.Agric., Hokk., 20:219.

**Synonymy :** *Sepiella heylei* Sasaki, 1929.

**FAO Names :** En - Japanese spineless cuttlefish  
Fr - Sépia inerme japonaise  
SP - Sepia inerme japonesa

**Diagnostic Features :** Mantle broadly oval; pore of caudal gland at posterior tip ventral to fins. Tentacular clubs elongate, with 20 minute subequal suckers in transverse rows. Arm suckers quadriserial; left arm IV hectocotylized in proximal third with the basal part modified by great reduction in size of suckers placed on a transversely ridged surface; ventral 2 rows of suckers close together, dorsal 2 rows separated. Shell spineless, its width 30 to 35% of length. Colour: upper surface of mantle dark brown, covered with white spots.

**Geographical Distribution :** Western Pacific: East China Sea, Taiwan (Province of China) to southern Japan.

**Habitat and Biology :** A coastal demersal species ranging in depth from the surface to about 50 m. The spawning season varies with temperature and usually peaks during February and March off Hong Kong and in May off Japan.

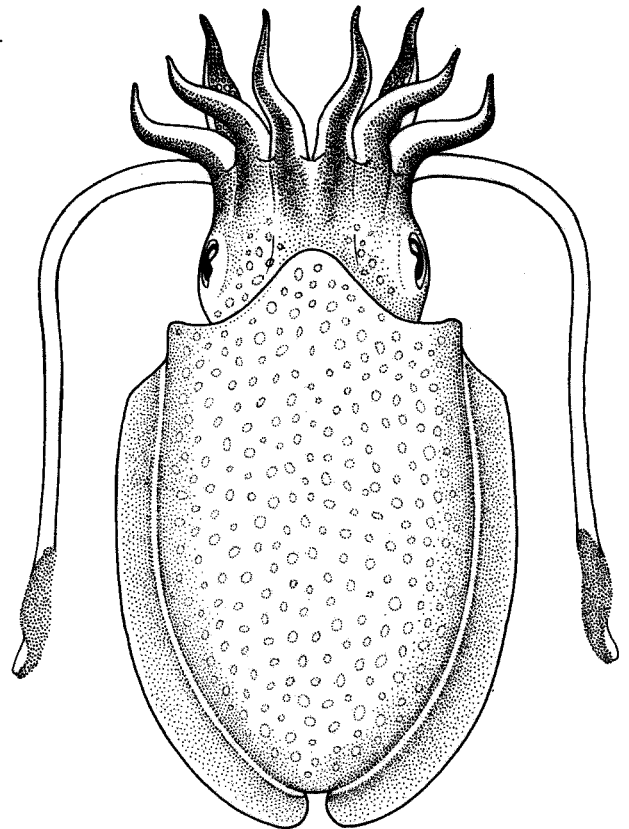
**Size :** Maximum size 20 cm mantle length and 0.8 kg weight.

**Interest to Fisheries :** The dominant cuttlefish caught in the Chekiang and Kiangsu provinces of China. It supports local trawl fisheries in southwestern Japan and is, in some years, very abundant in Hong Kong waters. In Japan most of the catch is dried and marketed as "surume".

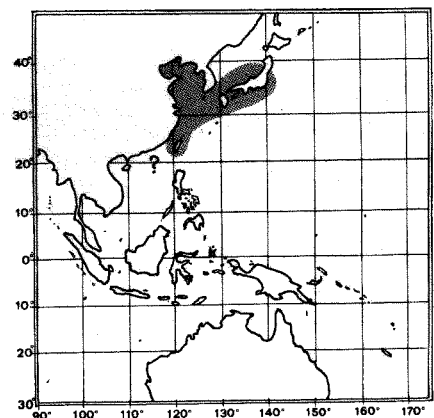
**Local Names :** CHINA: Mo jam woo chak, Ngor huet mak, JAPAN: Harinashikouika, Shirikusari, Shiriyakeika, Tsubekusari.

**Literature :** Voss & Williamson (1971, Hong Kong); Tomiyama & Hibiya (1978, Japanese fisheries); Okutani (1980).

**Remarks :** The species has been reared successfully in aquaculture experiments (Choe, 1966; under the name *Sepiella maindroni*).



dorsal view





***Sepiella ornata*** (Rang, 1837)

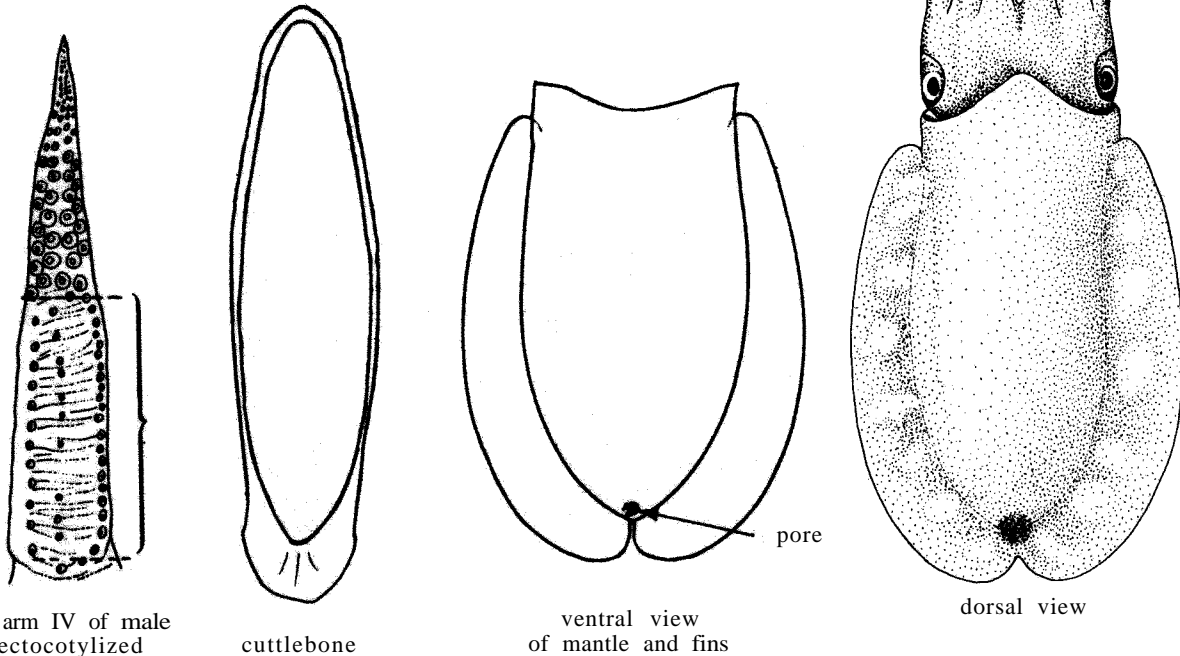
SEP Sepie 1

*Sepia ornata* Rang, 1837, *Mag.Zool.*, 7(CL.V):76.

**Synonymy** : *Sepia ornata* Rang, 1837.

**FAO Names** : En - Ornate cuttlefish  
Fr - Sépia ornée  
SP - Sepia orlada

**Diagnostic Features** : Mantle elongate, ovoid; a round gland and pore visible ventrally between fins at posterior end. Tentacular clubs narrow, with 10 to 14 minute, equally sized suckers in transverse rows. Left arm IV hectocotyized on proximal half with 4 rows of minute suckers, the 2 dorsal rows widely separated, the 2 ventral rows close-set in a zig-zag pattern. Cuttlebone with broad, wing-like outer cone, spine absent, width 24 to 30% of length. Colour: reddish patches along dorsal bases of fins.



**Geographical Distribution** : Eastern Atlantic: from Angola to Mauritania.

**Habitat and Biology** : A demersal species ranging from about 20 to 150 m depth but most abundant in waters deeper than 50 m.

**Size** : Maximum mantle length 10 cm.

**Interest to Fisheries** : It is taken mostly as bycatch in bottom trawls mixed with *Sepia* species, the highest yields coming from waters deeper than 50 m.

**Local Names:**

**Literature** : Tomiyama & Hibiya (1978, Japanese fisheries); Okutani (1980); Roper & Sweeney (1981, Species Identification Sheets, eastern central Atlantic, fishing areas 34/47 in part).

