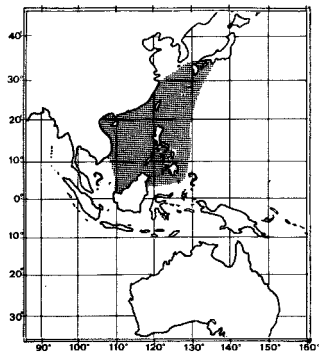


Geographical Distribution : Western Pacific: South China Sea, Philippine Sea and southwestern Japan.

Habitat and Biology : A neritic demersal species ranging in depths from 15 to about 100 m. In the South China Sea, it is abundant between 60 and 100 m depth during the prespawning period (November to February), but migrates inshore to spawn in depths of 15 to 30 m from March through May.

Size : Maximum mantle length 38 cm, and weight 5 kg.

Interest to Fisheries : The second most important commercial cuttlefish Japan (East China Sea) and Hong Kong. Caught as bycatch in trawls and with setnets and jigs, or using live cuttlefish as lures during the spawning season, or hook baited with live prawns or crabs in other seasons. The flesh of the mantle is thick and tasty, and therefore greatly esteemed.

Local Names : CHINA: Fa gai na, Mak gung, Yi muk woo chak; JAPAN: Gitchyoika, Kaminariika, Kobuika, Maruichi, Mongouika.

Literature : Tomiyama & Hibiya (1978).

Remarks : The species has been reared successfully in aquaculture experiments (Choe, 1966; under the name of Sepia subaculeata).

Sepia madokai Adam, 1939

SEP Sep 20

Sepia madokai Adam, 1939, Results Esped. Indes Neerl.Orient., 55c:77.

Synonymy : Sepia robsoni Sasaki, 1929 (non robsoni Massy, 1927).

FAO Names : En - Madokai's cuttlefish
Fr - Seiche madokai
Sp - Sepia madokai

Diagnostic Features : Mantle length less than 2 times the width. Tentacular club expanded, flattened crescent-shaped; 16 very small, subequal suckers, in transverse rows. Left arm IV hectocotylized in middle third by rudimentary suckers, those of the dorsal 2 rows much more reduced.

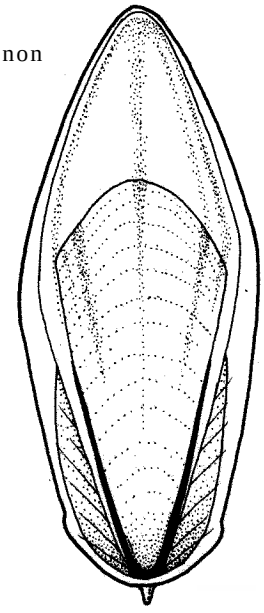
Geographical Distribution : Western Pacific: southwestern Japan.

Habitat and Biology : A demersal species most common in bays. Its exact depth range unknown.

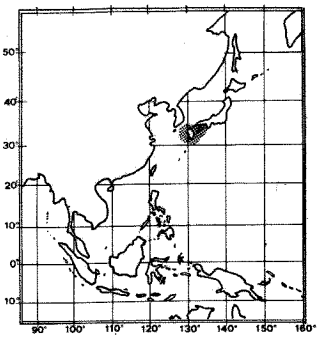
Size : Maximum mantle length 10 cm.

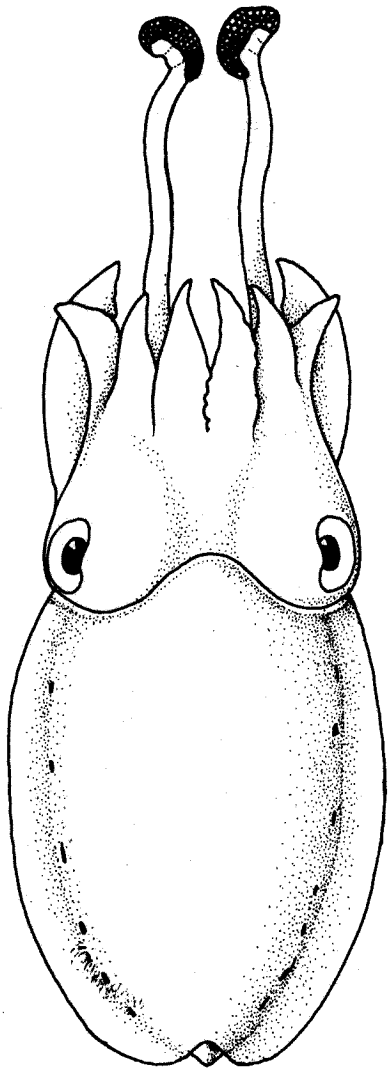
Interest to Fisheries : Common in Inland Sea area, where it is fished with bottom drift nets and trawls, but is of limited commercial value because of its small size.

Local Names :



cuttlebone





dorsal view

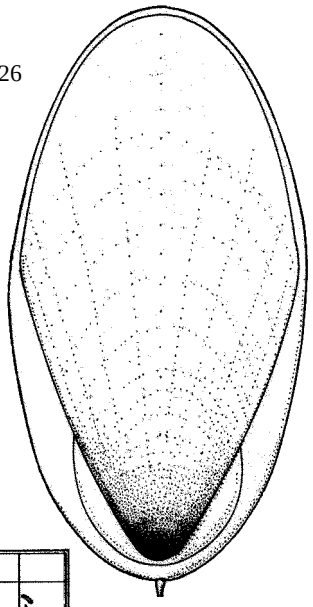
Sepia mestus Gray, 1849

SEP Sep 21

Sepia mestus Gray, 1849, Cat.Moll.Brit.Mus., 108.

Synonymy : Ascarosepion verreauxi Rochebrune, 1884; Solitosepia liliana Iredale, 1926

FAO Names : En - Reaper cuttlefish
Fr - Seiche moisson
SP - Sepia segadora



cuttlebone

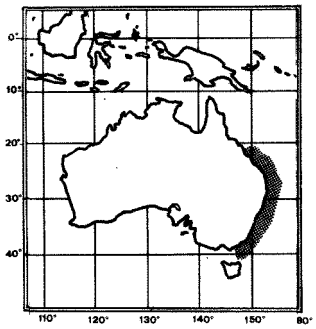
Diagnostic Features : Tentacular clubs expanded, with a broad swimming keel extending proximally along tentacular stalk for half the length of the club; protective membranes remain separated at base of clubs; club suckers small, subequal, 8 suckers arranged in transverse rows, those in the middle of the 3rd longitudinal row slightly enlarged. Shell broad, oval.

Geographical Distribution : Southwest Pacific: eastern Australia, approximately 39°S to 20°S.

Habitat and Biology : A neritic demersal species; depth range uncertain.

Size : Maximum mantle length 14 cm.

Interest to Fisheries : So far there are no directed fisheries for this species, but probably it enters the artisanal cuttlefish catches in southeastern Australia.



Local Names : AUSTRALIA: Common New South Wales cuttlefish.

Literature : Okutani (1977, fishery resources).

Remarks : Published records refer only to stranded cuttlebones.

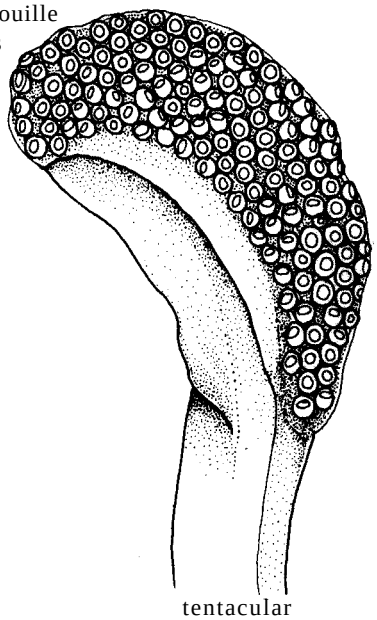
Sepia murrayi Adam & Rees 1966

SEP Sep 22

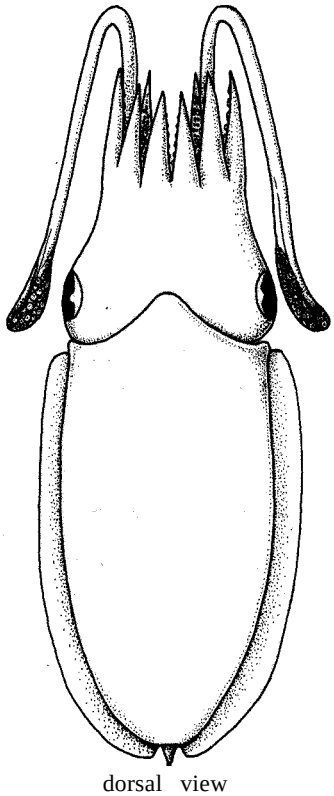
Sepia murrayi Adam & Rees, 1966, Sci.Rep.John Murray Exped., 1933-34, 11(1):63.

Synonymy : None.

FAO Names : En - Frog cuttlefish
Fr - Seiche grenouille
SP - Sepia ranuds



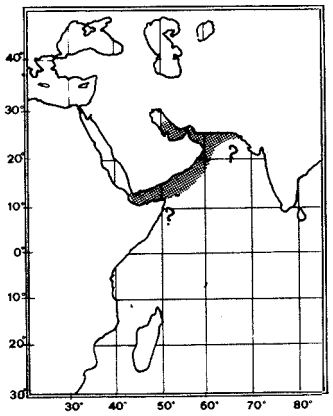
tentacular club



dorsal view

Diagnostic Features : Mantle elongate, oval. Fins broad, extending beyond posterior tip of mantle. Tentacular club short, narrow, crescent-shaped; a strong swimming keel extends slightly beyond proximal base of club; dorsal protective membrane nearly as broad as sucker-bearing surface; both protective membranes remain separate and extend along stalk as low ridges; 5-6 minute, subequal suckers in transverse rows. Arms compressed with low swimming membranes; tips bluntly pointed, protective membranes wider and folded over suckers at tips; suckers biserial on arms I and tips of all arms.

Geographical Distribution : Indian Ocean Gulf of Aden and western Gulf of Oman.



Habitat and Biology : A neritic demersal species; depth range undetermined (the only record is 106 m).

Size : Maximum mantle length 4.5 cm.

Interest to Fisheries : Reported from a bottom trawl resource survey in the Gulf of Aden; its relevance to artisanal or industrial fisheries is undetermined.

Local Names :

Sepia officinalis Linnaeus, 1758

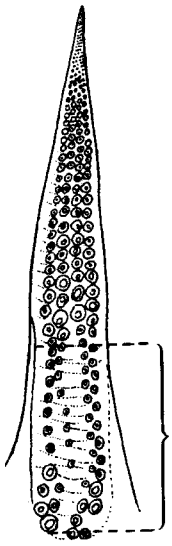
SEP Sep 1

Sepia officinalis Linnaeus, 1758, Syst.Nat., ed. 10:658.

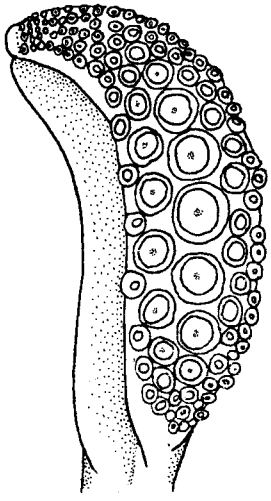
Synonymy : None.

FAO Names : En - Common cuttlefish
Fr - Seiche commune
SP - Sepia común

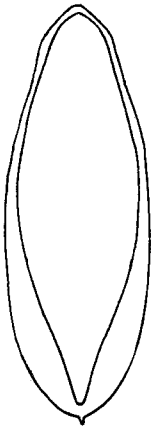
Diagnostic Features : Tentacular club with 5 or 6 suckers in each transverse row, the median ones moderateiy enlarged;swimming keel not extending proximally beyond base of club. Left arm IV hectocotylized by reduction in size of suckers in proximal 5 to 8 horizontal rows (S. officinalis type) or in proximal 8 to 13 rows (S. hierredda type); dorsal protective membrane of normal width (S. officinalis type) or little developed (S. hierredda type); cuttlebone anteriorly and posteriorly rounded (not acuminate), with parallel sides and a weak spine visible in juveniles, but embedded in chitin in adults, the striated zone not extending past midpoint of length (S. officinalis type), cuttlebone acuminate at both ends, with a spine also in adults and striations sometimes extending past midpoint of length (S. hierredda type).



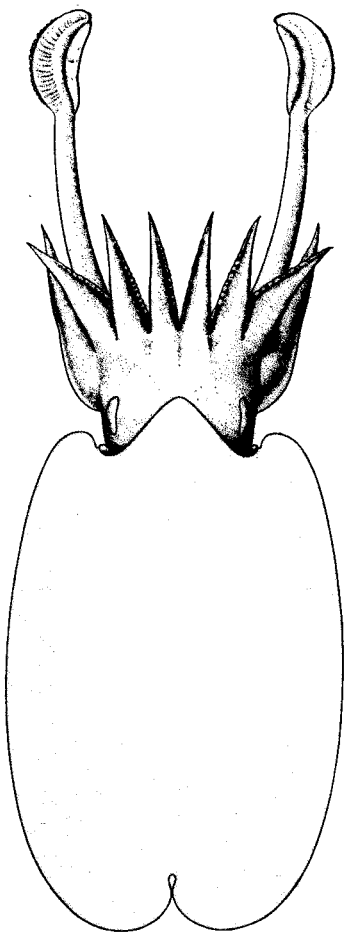
left arm IV of male hectocotylized



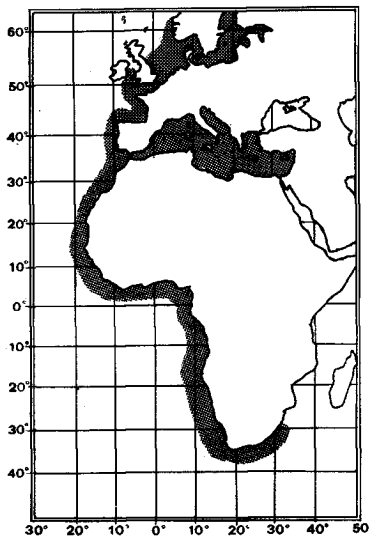
tentacular club



cuttlebone



dorsal view



Geographical Distribution : Eastern Atlantic: from the Baltic and North Seas to South Africa; Mediterranean Sea.

Habitat and Biology : A demersal, neritic species occurring predominantly on sandy to muddy bottoms from the coastline to about 200 m depth, but most abundant in the upper 100 m;larger individuals are encountered in the deeper part of the range. Seasonal migrations (mainly vertical) have been shown to occur in all stocks. For the population off Senegal, Bakhaykho & Drammeh (1982) suggest a seasonal north-South, and an offshore-inshore migration pattern. In the western Mediterranean, in early spring, large individuals leave the deeper water, where they spend the winter, to migrate into shallower water (males precede females by about a week). This group is followed by a succession of smaller cuttlefish arriving in shallow waters throughout the summer. In autumn the gradual descent begins. Spawning occurs in shallow waters, throughout the year, with peaks at water temperatures from 13° to15°C: in the western Mediterranean, between April and July, off Senegal and on the Sahara Banks between January and April (primarily big adults); there is a second minor spawning peak of medium and small-sized individuals in late summer and early autumn.

Males may carry up to 1 400 spermatophores, females between 150 and 4 000 eggs, depending on their size. Eggs measure from 8 to 10 mm in diameter and are attached in grape-like clusters to seaweeds, debris, shells and other substrates. They hatch after 30 to 90 days depending on temperature (21.5 to 15°C, respectively). The total length of hatchlings is 7 or 8 mm. Growth rate varies directly with temperature and inversely with size (Pascual, 1978). Larvae hatched in early summer from the spring brood usually participate in the autumn spawning of the following year, while those from the autumn brood spawn in spring in their second year of life. Thus, the two cycles alternate. Males predominate in the adult phase because of massive postspawning mortality among large females.

Food consists of small molluscs, crabs, shrimps, other cuttlefishes, and juvenile demersal fishes. Cannibalism is common and has been interpreted as "strategy" to overcome temporary shortage of adequately sized prey (Caddy, 1979).Daily feeding rates of 10 to 30% of body weight in juveniles do not seem unlikely in view of the high growth rate and the relatively short lifespan (up to 2 years in the fishery). Predators of common cuttlefish include sharks, sparids and other demersal fishes and cuttlefishes.

Size : Maximum mantle Iength 45 cm, weight up to 4 kg in temperate waters, but only little more than 30 cm and 2 kg in subtropical seas. Common sizes in the West Saharan fisheries range between 15 and 25 cm. In that area, length at first maturity is 13.5 cm mantle length in females, and between 12 and 14 cm in males. Off Tunisia, length at first maturity is 12 cm in females, and 10 cm in males.

Interest to Fisheries : An important commercial resource throughout its range. World catches attributed to this species varied between 8 500 and 14 000 metric tons in recent years. The catch reported for 1981 totalled 12 800 metrictons, taken almost exclusively by Italy in the Mediterranean (Fishing Area 37) (FAO 1983). Prominent catches of unidentified cuttlefishes (Sepia spp. and Sepiola spp.), most of which are believed to be S. officinalis, also are taken off West Africa (Fishing Area 34). In 1981, these catches amounted to about 29 100 metric tons showing a slight decrease against previous years. For many years Spain has taken the largest catches in this area. The finfish discarded by Spanish cuttlefish trawlers was estimated at approximately 63% in 1976 and included more than 90 species categories, primarily sparids (Pagellus erythrinus and P. acarne), jack mackerels (Trachurus spp.), flatfishes, electric rays (Torpedo spp.), and weevers (Trachinus spp.) (Bravo de Laguna, Fernandez & Santana, 1976). While the Japanese share in the West African cuttlefish catches went down drastically, Moroccan participation in this fishery, which started only in 1980, is steadily increasing. Senegalese catches remained relatively stable over the last 5 years (FAO, 1983). It is suspected, that the overall effort exceeds the optimum leve1 and that present catch levels could be maintained or even increased with reduced effort (Caddy, 1981).

In the industrial fisheries, common cuttlefish is primarily trawled, either as a target species or as bycatch to demersal finfishes. On the other hand, the artisanal fisheries utilize a great variety of highly selective gear, such as spears, pots and traps, often combined with the use of light. One particular fishing method used in calm transparent waters consists of luring the males with a live female attached to a thin line. Once the male has grabbed the female, both are pulled up, the male is detached, and the female lowered again. The live female, may be substituted with a mirror which causes the male to mistake his own image for the female. Common cuttlefish is usually marketed fresh and frozen, and is a highly appreciated food item, particularly in Japan Republic of Korea, Italy and Spain. Aquaculture has been tried experimentally and also appears promising for large-scale ventures.

Local Names : ALGERIA: Choubai, Chouebí, Seiba, Seich, Sepia, Seppio; BULGARIA: Sepija; CYPRUS: Soupia; EGYPT: Sobbeit; FINLAND: Mustekala, Sepia; FRANCE: Casseron, Chakod, Chibia, Margade, Seiche; Corsica: Seppia; GERMANY (FR): Gemeiner Tintenfisch, Sepie; GREECE: Soupia; ISRAEL: Dyonon refui; ITALY: Pruppusiccia, Scarpetta, Scarpitta,Scarpitelle (juveniles), Secce, Seccetella, Sepa, Sepia imperiale, Seppa, Seppia, Siccia; JAPAN: Mongoika, Yoroppa kouika; LEBANON: Sabbidije; LIBYA: Shoubia. MALTA: Sicca; MONACO: Supia; MOROCCO: Chubei, Seiche; NETHERLANDS: Gewone Inktvis, Zeekat; PORTUGAL:

Chêco, Chôco; Madeira: Choco; ROMANIA: Sepia; SENEGAL: Seiche; SPAIN: Aluda, Castañuela, Choco, Chocón, Coca, Jibia, Jibión, Luda, Rellena, Relleno, Sipia, Sipionet; TUNISIA: Choubei, Chouebi, Seche, Sibia, Sipia, Soubia; TURKEY: Sübye; UK: Cuttlefish; USSR: Kora katitza; YUGOSLAVIA: Sipa.

Literature : Mangold-Wirz (1963, biology, western Mediterranean); Fischer (1973, Species Identification Sheets, Mediterranean and Black Sea, fishing area 37); Pascual (1978, growth and food conversion in aquarium conditions); Hatanaka (1979a, spawning season northwest African stocks); Caddy (1981, ecological role and management consideration in northwest African fisheries); Roper & Sweeney (1981, Species Identification Sheets, eastern central Atlantic, fishing areas 34/47 in part); Bakhaykho & Drammeh (1982, biology of Senegalese stocks); Fisheries Committee for the Eastern Central Atlantic (CECAF) (1982, stock assessment); Conseil général des peches pour la Méditerranée (CGPM) (1982, stock parameter for the Mediterranean).

Remarks : Several subspecies have been namedfor various populations throughout the very broad latitudinal range of this species, but it seems best to refer here only to the species until their systematics and distributions are better understood. The species has been successfully reared in aquaculture experiments of medium scale (Minervini, Sequi & Barbato, 1982).

Sepia omani Adam & Rees, 1966

SEP Sep 23

Sepia omani Adam & Rees, 1966, Sci.Rep.John Murray Exped., 1933-34, 11(1):92.

Synonymy : None.

FAO Names : En - Oman cuttlefish
Fr - Seiche d'Oman
Sp - Sepia omani

Diagnostic Features : Mantle broad, extending anteriorly in a lobe beyond mid-point of eyes. Fins emerging close to mantle margin. Tentacular club short, broad; swimming keel well developed and slightly longer than club; a deep cleft or groove nearly separates sucker-bearing surface from tentacular stalk; protective membranes narrow, separated at base of club, not continuing along stalk; 8 suckers arranged in very oblique, transverse rows, 4 or 5 in middle of third longitudinal row very greatly enlarged, globular. Left arm IV hectocotylized in its middle portion with greatly crowded dorsal and ventral rows on suckers leaving the central region devoid of suckers but transversely ridged.

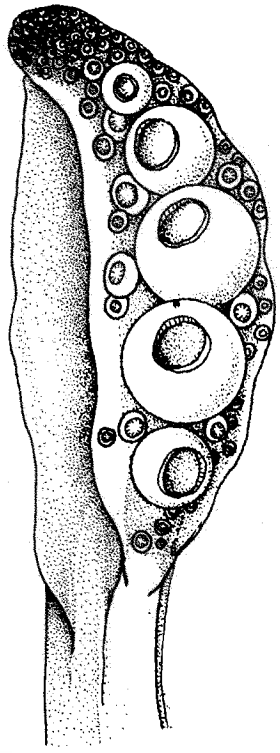
Geographical Distribution : Indian Ocean: western Gulf of Oman.

Habitat and Biology : A neritic demersal species; depth range undetermined (the only record is from 201 m depth).

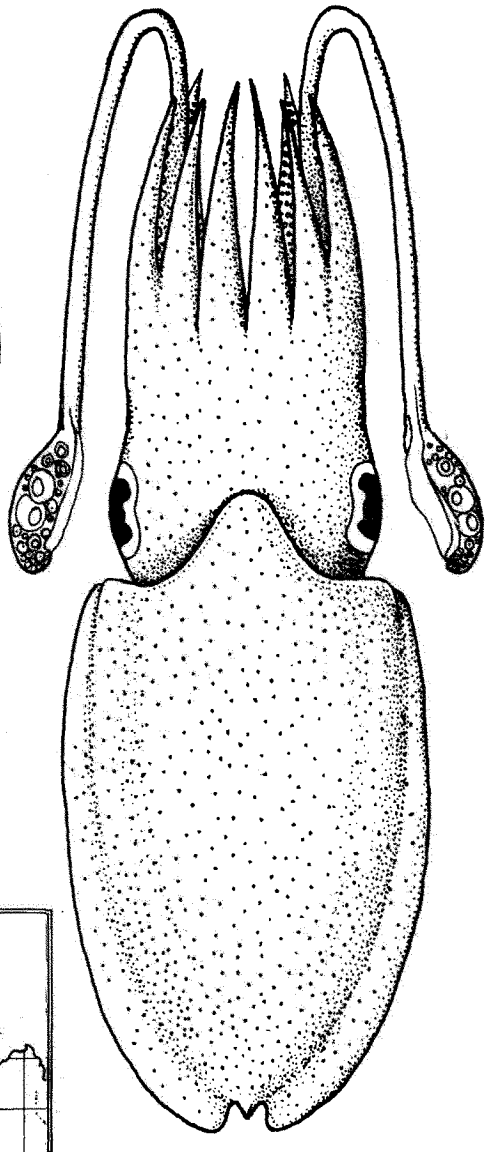
Size : Maximum mantle length 7 cm.

Interest to Fisheries : No information.

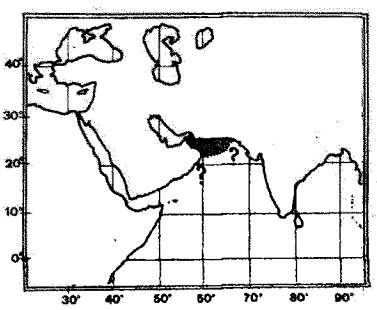
Local Names :



tentacular club



dorsal, view



Sepia orbignyana Ferussac, 1826

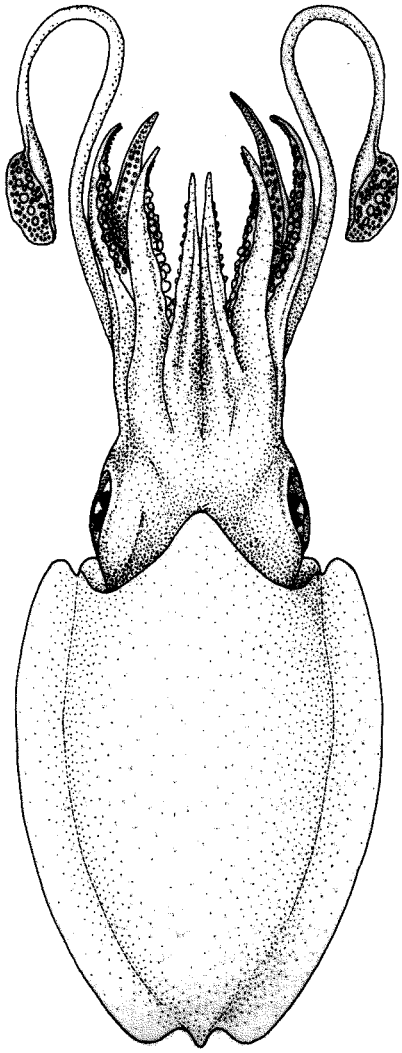
SEP Sep 4

Sepia orbignyana Ferussac, 1826, Ann.Sci.nat., 7:156.

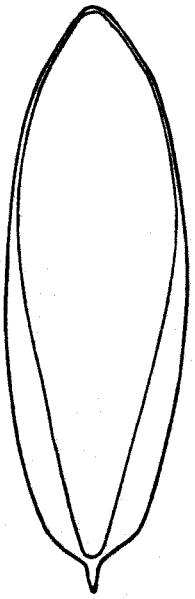
Synonymy : Sepia rubens Philippi, 1844; Acanthosepion enoplon Rochebrune, 1884.

FAO Names : En - Pink cuttlefish
Fr - Seiche rosée
Sp - Choquito con punta

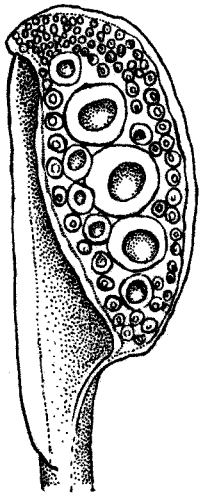
Diagnostic Features : Width of cuttlebone equal to one third of its length, dorsal surface rose or orange coloured with a faint median groove. Fins extend full length of mantle, not uniting posteriorly. Tentacular clubs with 5 suckers across the club, the median longitudinal row with 3 greatly and 2 moderately enlarged suckers; swimming keel extends proximally beyond base of club. Left arm IV hectocotylized with proximal dorsal and ventral suckers forming zig-zag series for two thirds of length, followed by a dozen transverse rows of 4 minute suckers to tip of arm. Colour: mottled.



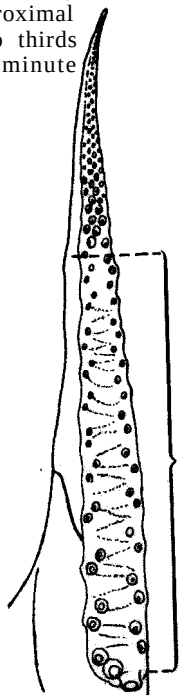
dorsal view



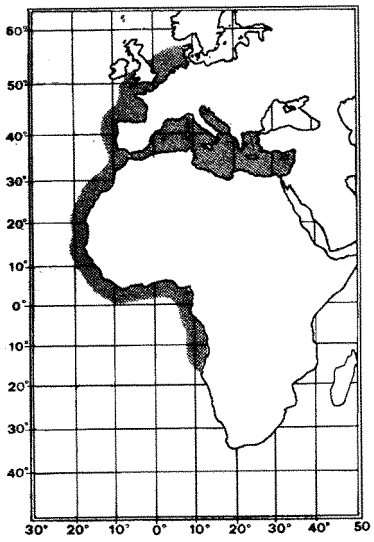
Cuttlebone



tentacular club



left arm IV of male hectocotylized



Geographical Distribution : Eastern Atlantic: from 17°S to 55°N; Mediterranean Sea.

Habitat and Biology : A nektonic species occurring over muddy and detritus-rich continental shelf and slope areas in 50 to 450 m depth, but most abundant between 80 and 150 m, throughout the year. No onshore spawning migrations have been reported. Spawning occurs at temperatures of 13 to 16°C. In the western Mediterranean and off northwest Africa, the spawning period extends from early summer to autumn. Mature males, aged 6 or 7 months, carry about 100 spermatophores; females of 9 or 10 months, some 400 eggs. Egg diameter increases with the size of the females. The eggs (7 to 8.5 mm diameter) are laid in clusters of 30 to 40 and attached to sponges on muddy bottoms.

Size : Maximum mantle length 12 cm; in West African populations, males reach sexual maturity at about 4 or 5 cm mantle length, females at 7 cm; in those in the western Mediterranean length at first maturity is almost 5 cm in males and about 7.8 cm in females.

Interest to Fisheries : One of the species regularly exploited by western Mediterranean and Saharan-West African trawl fisheries. Separate statistics however, are not reported for this species.