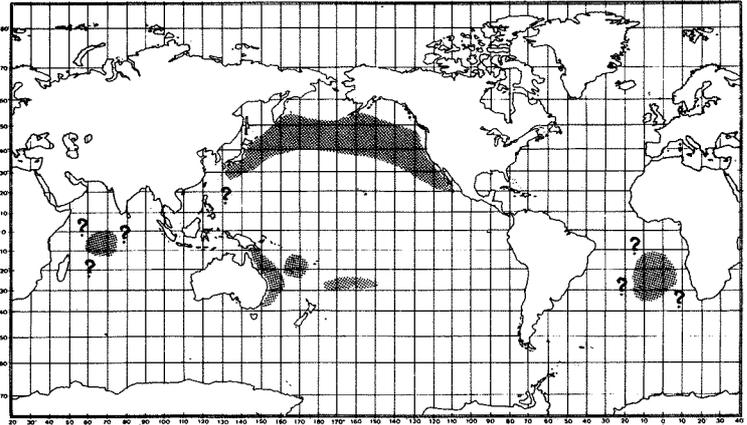


**Geographical Distribution :** Discontinuous distribution: Pacific Ocean: subtropical and temperate waters. Atlantic Ocean: south-eastern Atlantic, distribution undetermined. Indian Ocean: distribution undetermined.

**Habitat and Biology :** An oceanic species with unknown depth distribution, probably not deeper than 1 300 m, reaching into surface waters; does not appear to school as do most other ommastrephids.

**Size :** Maximum mantle length 18 cm in females, about 20 cm in males.

**Interest to Fisheries :** *S. luminosa* constitutes an incidental catch of the jigging fishery for *Todarodes pacificus*, but is not utilized currently. Apparently abundant in mixing waters between the Kuroshio and the Oyashio off Japan.



**Local Names :** AUSTRALIA: Striped squid; JAPAN: Sujiika; USA: Luminous flying squid.

**Symplectoteuthis oualaniensis** (Lesson, 1830)

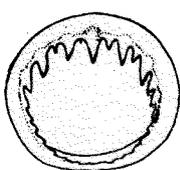
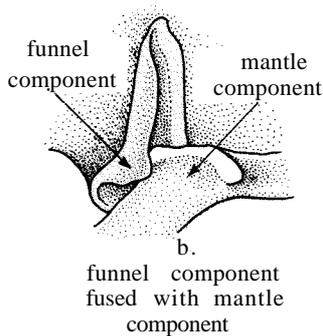
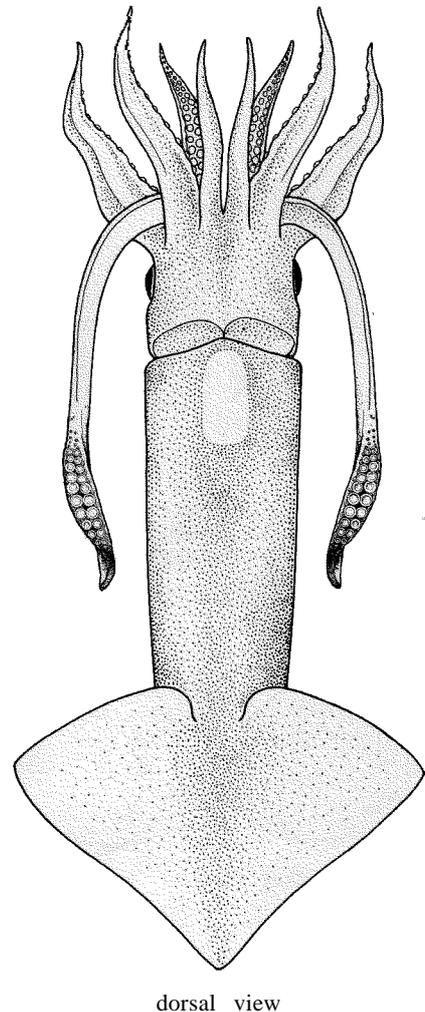
OMMAS Symp 1

*Loligo oualaniensis* Lesson, 1830, Voy.Coquillel, 2(1):240.

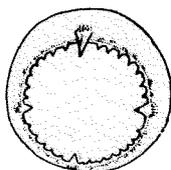
**Synonymy :** *Loligo oualaniensis* Lesson, 1830; *Ommastrephes oceanicus* Orbigny, 1835-1848; *Loligo vanicoriensis* Quoy & Gaimard, 1832.

**FAO Names :** En - Purpleback flying squid  
Fr - Encornet bande violette  
Sp - Pota cárdena

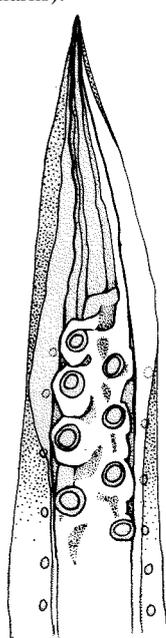
**Diagnostic Features :** Mantle very muscular, conical posteriorly. Fins muscular, broad, width 79% (69 to 86%) of mantle length, length 43% (39 to 50%) of mantle length; single fin angle 64° (61 to 71°); males have wider fins than females; mantle and funnel fused at locking cartilages; a large, oval photophoric patch on anterodorsal surface of mantle (see remarks).



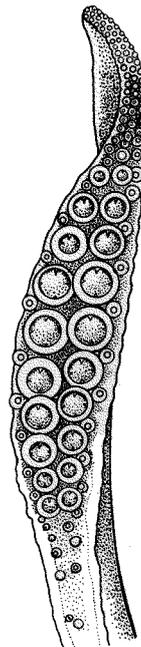
arm sucker ring



tentacular sucker ring



arm IV of male hectocotylized

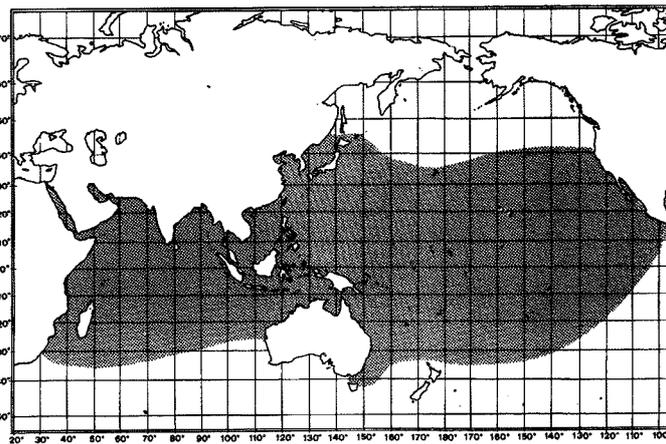


tentacular club

dorsal view

**Geographical Distribution :** Indo-Pacific; Indian Ocean: entire area north of approximately 25°S. Pacific Ocean: entire area south of approximately 45°N and north of 30°S on western side and 10°N on eastern side.

**Habitat and Biology :** An oceanic species occurring from the surface to probably 1 000 m depth, largely replacing the genus Ommastrephes in the western Pacific and Indian Ocean. It is known to carry out diurnal vertical movements between the surface at night and deeper layers during the day. Little is known about seasonal migrations of either form or species (see remarks). In Chinese waters, 3 seasonal sub-populations seem to exist. They are preyed upon by sea birds and fishes.



**Size :** Maximum mantle length 35 cm. Females with the dorsal light organ mature at about 18 cm, males at less than 13.6 cm; females without the light organ at 10.7 cm.

**Interest to Fisheries :** The species supports local fisheries in Okinawa (June to November) and Taiwan (Province of China) (March to November, peak May to August), and is dipnetted or jigged at the surface day and night. Mechanical jigging machines were tried near Okinawa and Fiji with poor results. The species is the primary fishing bait imported to Okinawa from Taiwan (Province of China); its meat is thick. Voss (1973), speculates a potential of at least 100 000 metric tons in the central eastern Pacific. The species also occurs in commercial quantities in the northwestern Indian Ocean with large concentrations in the Gulf of Aden and the Arabian Sea, and is abundant around the Hawaiian Islands, where it is used for bait in the seasonal tuna fishery; caught by jigging; results of experimental fishing indicate a large population.

**Local Names :** AUSTRALIA: Yellow-backed squid; JAPAN: Tobiika; USA: Purpleback flying squid.

**Literature :** Dunning (1982, identification); Osako & Murata (in press, resources).

**Remarks :** Two sympatric species are known under the name S. oualaniensis: (1) a larger one with a dorsal photophore on the mantle, much more frequently captured; (2) a smaller one, without photophore, and infrequently captured. The name probably applies to the larger, more common, shallower-living species.

Dosidicus gigas (Orbigny, 1835)

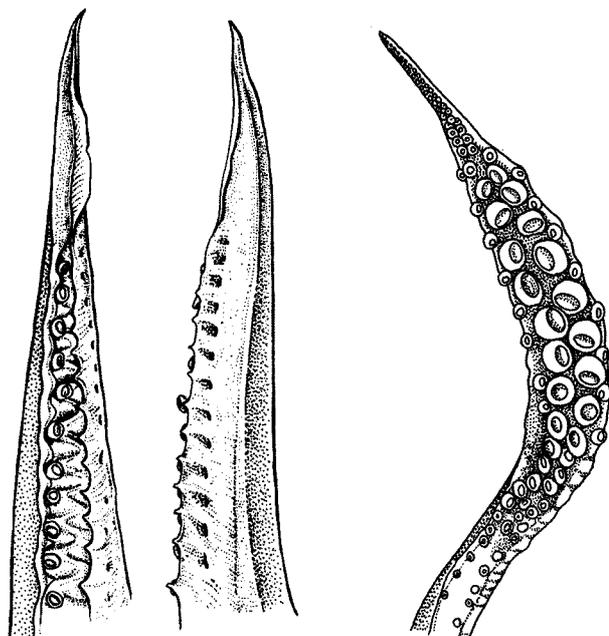
OMMAS Dosid 1

Ommastrephes gigas Orbigny, 1835, in 1834-1848, Voy.Amer.Merid., 5(3):50.

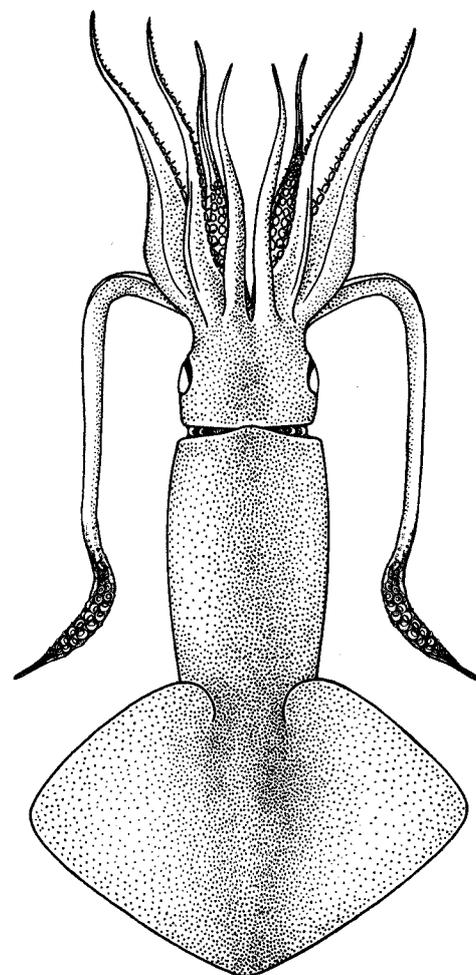
**Synonymy :** Ommastrephes gigas Orbigny, 1835; Ommastrephes giganteus Gray, 1849; Dosidicus eschrichti Steenstrup, 1857; Dosidicus steenstrupi Pfeffer, 1884.

**FAO Names :** En - Jumbo flying squid  
Fr - Encornet géant  
SP - Jibia gigante

**Diagnostic Features :** A very large squid. Mantle very large, robust, thick-walled. Fins rhomboidal, muscular, broad, width 56% of mantle length (49 to 65%), length 45% (41 to 49%) of mantle length, single fin angle 57° (50 to 65°). Distal end of arms (adults especially) drawn out into very long, attenuate tips with 100 to 200 minute, closely packed suckers; dorsal protective membrane very weakly developed, but trabeculae are well-developed, exposed papillae, either arm IV hectocotyized (not both on same specimen) by absence of suckers and stalks at tip, and expanded and perforated protective membranes.



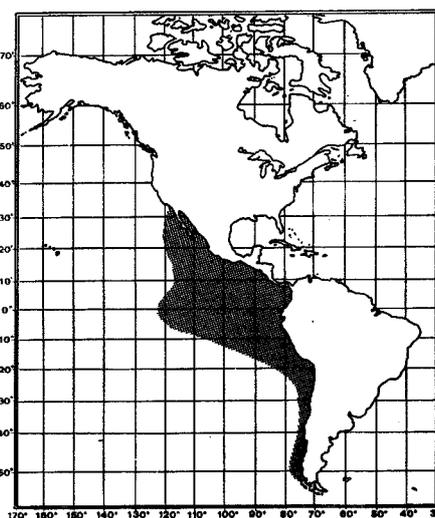
oral view lateral view tentacular club  
left arm IV of male hectocotyized



dorsal view

**Geographical Distribution :** Eastern Pacific: from approximately 35°N south to Tierra del Fuego.

**Habitat and Biology :** An oceanic and neritic species occurring from the surface to 500 m (?) depth; it is most abundant and largest off South America, where adults are found in water temperatures of between 26 and 28°C to much colder. In nearshore waters, it occurs near to the surface day and night. In the Gulf of California a single stock composed of several cohorts has been identified. Its seasonal migrations, similar to those of other ommastrephids, are described by Ehrhardt *et al.* (in press). The cohorts grow at different rates depending on the environmental conditions at the time of hatching, but all recruit into the fishery around May each year. Longevity is about 1 year for the population in the northern hemisphere. Mortality after spawning is high. This species feeds on larvae of pelagic fishes such as lanternfishes, sardines, mackerels and sauries, and on crustaceans. Cannibalism is common. It is in turn preyed upon by swordfish, sharks, porpoises and other mammals.



**Size :** Maximum total length 4 m, maximum mantle length 1.5 m off Chile, about 1 m in the northern population; length at first maturity in the latter ranges between 35 and 40 cm in females (4 to 6 months of age) and from 18 to 25 cm in males (2 to 3 months of age). Common length about 50 to 80 cm, common weight 2 or 3 kg.

**Interest to Fisheries :** Exploratory fishing for this species was initiated in the early seventies in several areas along the Pacific coast of America. While the operations by Japanese vessels off Chile were discontinued because of insufficient landings, Mexican catches increased from 14 tons in 1974 to over 19 000 tons in 1980, but deteriorated subsequently, to about 10 000 tons in 1981 (FAO, 1983) and to even lower levels in the 1982-83 fishing season. Most of these catches are taken by Japanese jigger boats under a joint venture scheme and by

Mexican shrimpers that switch to squid fishing during the closed season for shrimp fishing. The best catches are obtained during the summer months, but the season has been progressively expanded, so that fishing now occurs throughout the year. Jigging operations are enhanced at night by light attraction. The sport fishery for the species, off southern California, is of very limited importance. This squid is mainly used as bait, some of it is dried for human consumption, and in Chile, small amounts are marketed canned. A market for frozen filets has recently developed in the western USA.

**Local Names :** JAPAN: Amerikaoakaika, Amerika-oorume, Jumbo squid; USA: Jumbo flying squid.

**Literature :** Ehrhardt et al. (in press, biology and fishery, Gulf of California, Mexico); Sato (1976, exploratory fishing, Mexico).

**Ornithoteuthis antillarum** Adam, 1957

OMMAS Orni 1

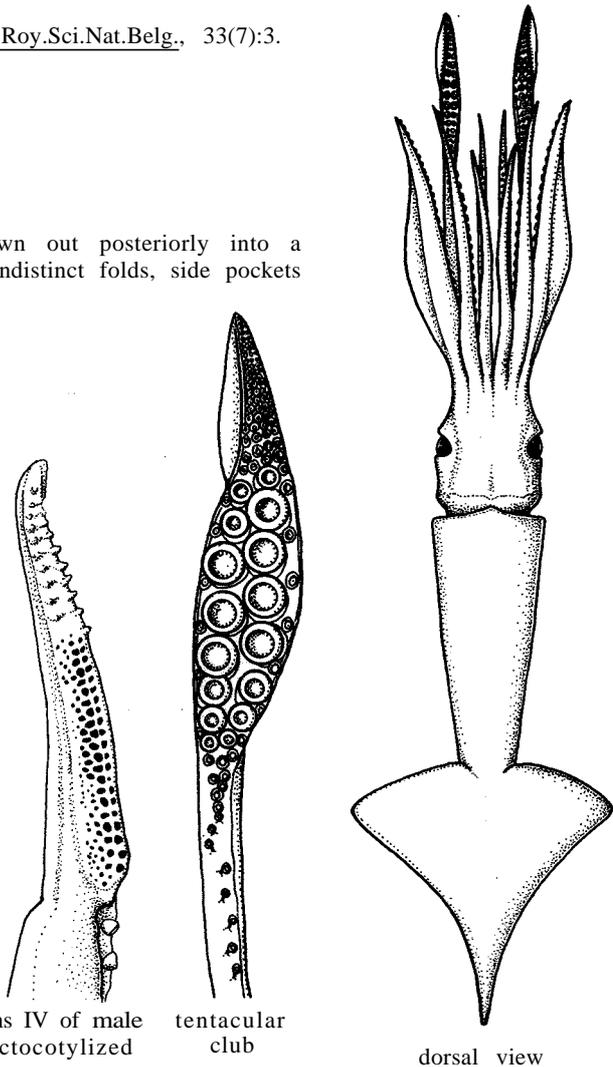
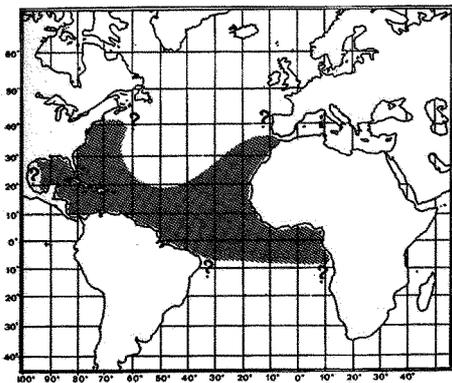
Ornithoteuthis volatilis antillarum Adam, 1957, Bull.Inst.Roy.Sci.Nat.Belg., 33(7):3.

**Synonymy :** None.

**FAO Names :** En - Atlantic bird squid  
Fr - Encornet oiseau  
Sp - Pota pájaro

**Diagnostic Features :** Mantle muscular, narrow, drawn out posteriorly into a long pointed tail. Funnel groove with foveola with 7 to 12 indistinct folds, side pockets often obscure. No external light organs; a long, thin usually pinkish stripe of luminiscent material along the ventral surface of the viscera from about the level of the heart to the posterior tip of the viscera; discrete light organs on the ink sac and rectum. Tentacular club moderately expanded, no distinct fixing apparatus on tentacular stalk.

**Geographical Distribution :** Eastern Atlantic: from the Straits of Gibraltar to slightly south of the equator; tropical and subtropical western Atlantic and Caribbean Sea.



**Habitat and Biology :** An oceanic species occurring between the surface and about 1 100 m depth. It is a powerful swimmer carrying out diel vertical movements resulting in capture in bottom-trawls at 580 to 1 100 m depth (mostly 640 to 825 m) during the day, and in midwater trawls at 100 to 600 m over very deep waters and by dipnets at the surface in the open ocean at night. The species feeds on other cephalopods, shrimps and small fishes. It is probably in turn preyed upon by marine mammals such as Tursiops truncatus, and by billfishes and tunas.

**Size :** Maximum mantle length of an unsexed individual 20 cm; off the West Indies, 10.3 cm in females, 14.1 cm in males.

**Interest to Fisheries :** The species is not currently fished commercially. It may inhabit continental shelf and slope waters or be associated with islands, as major catches were made in bottom trawls. Too few data are available on distribution. Separate statistics are not reported for this species. Fishing techniques would include jigging, dipnetting and especially otter and midwater trawling. The species should be edible, as other members of the family are confirmed to be good.

**Local Names :** USA : Atlantic bird squid.

**Literature :** Roper (1978, Species Identification Sheets, western central Atlantic, fishing area 31); Roper & Sweeney (1981, Species Identification Sheets, eastern central Atlantic, fishing areas 34/47 in part).

**Omithoteuthis volatilis** Sasaki, 1915

OMMAS Orni 2

Ommastrephes volatilis Sasaki, 1915, J.Coll.Agr.Tohoku Imp.Univ.Sapporo, 6(6):138.

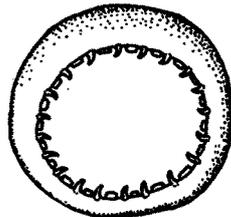
**Synonymy :** Ommastrephes volatilis Sasaki, 1915.

**FAO Names :** En - Shiny bird squid  
Fr - Encornet planeur  
SP - Pota planeadora

**Diagnostic Features :** Mantle very narrow, drawn out posteriorly into a long pointed tail; muscular. Fins long, sagittate, sharply lanceolate posteriorly; length 55% (51 to 59%) of mantle length, width 47% (45 to 51%) of mantle length, single fin angle 27° (20 to 35°). Tentacular club expanded with very large medial manal suckers, their rings with 18 to 20 evenly spaced, pointed teeth of same size. Arm sucker rings with 10 to 14 sharp teeth; right arm IV hectocotylyzed in distal half with suckers reduced in size, stalks modified to papillae particularly in dorsal row, and protective membranes swollen with honey-combed ridges and deep depressions. A large oval photophore present on intestine.

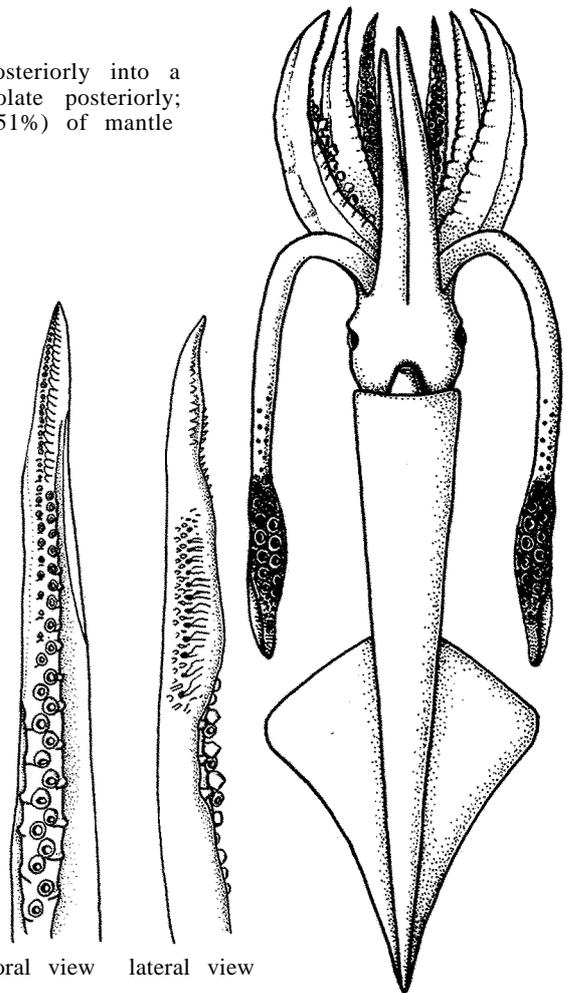
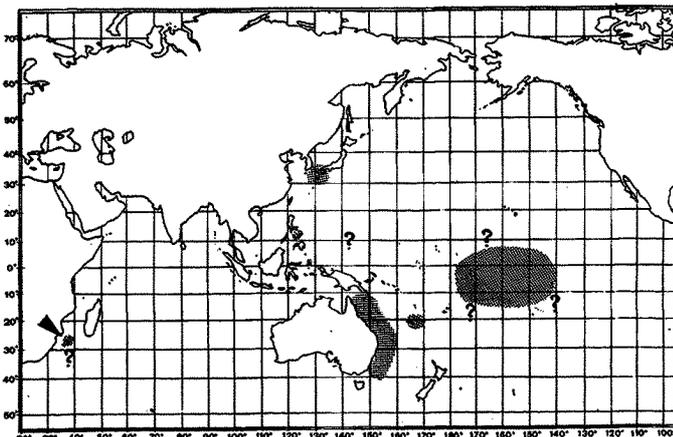


arm sucker ring



tentacular sucker ring

**Geographical Distribution :** Central and western Pacific in warm and warm temperate waters.



oral view lateral view

arm IV of male hectocotylyzed

ventral view

**Habitat and Biology :** A very poorly known oceanic species; very rarely collected at the surface, even at night. Japanese fishermen report it occasionally gliding above the surface of the sea.

**Size :** Maximum mantle length 21 cm in females, 31 cm in males.

**Interest to Fisheries :** Apparently too rarely encountered currently to represent a worthwhile fishery potential. Size and consistency of flesh are good, however, if concentrations would be found the species could be used for human consumption.

**Local Names :** AUSTRALIA: Long-tailed flying squid; JAPAN: Tobi-ika, Yasetobi-ika.

**Literature :** Okutani (1980).

**Martialia hyadesi** Rochebrune & Mabile, 1889

OMMAS Mart 1

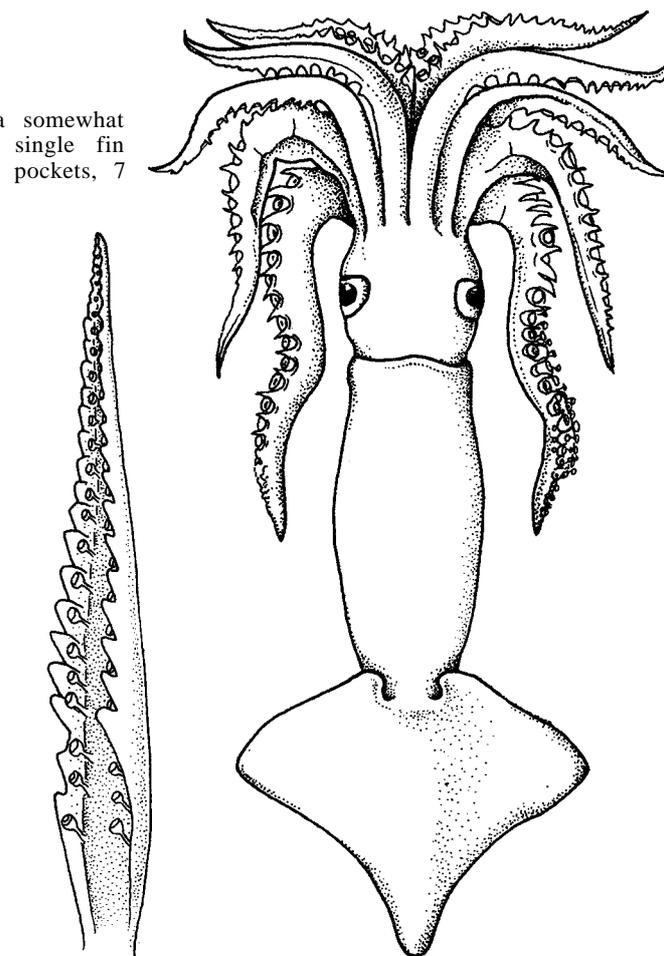
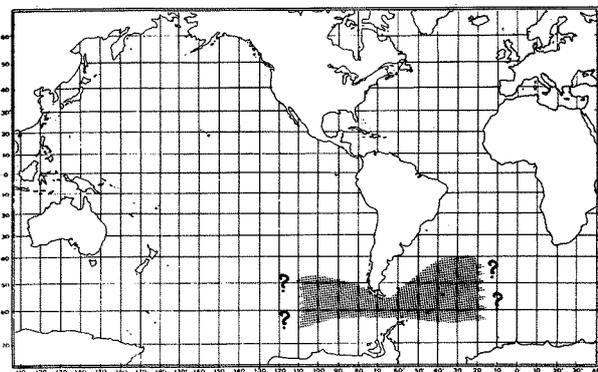
Martialia hyadesi Rochebrune & Mabile, 1889, Miss.Sci.Cap Horn, 6:9.

**Synonymy** : None.

**FAO Names** : En - Sevenstar flying squid  
Fr - Encornet étoile  
SP - Pota festoneada

**Diagnostic Features** : Mantle robust, tapers to a somewhat elongated tail. Fins rhomboidal, elongated posteriorly, angle 35 to 45%. Funnel groove with foveola, no side pockets, 7 longitudinal folds. Tentacular clubs occupy almost entire length of tentacles. Protective membranes on arms very weak and low, but trabeculae very strongly developed into prominent, pointed cirri all along the arms; suckers proportionally small, rings with 5 teeth in distal half, central one conical, lateral ones becoming truncated; proximal half of ring smooth; right arm IV hectocotylied in males.

**Geographical Distribution** : Southern Ocean: southwestern Atlantic (39 to 51°S), South Pacific, and Antarctic Convergence; exact distribution undetermined.



arm IV of male  
hectocotylied

dorsal view

**Habitat and Biology** : An oceanic species; exact depth distribution unknown; biology unknown.

**Size** : Maximum mantle length approximately 40 cm.

**Interest to Fisheries** : So far, no fisheries have developed for this species, but it is believed to have some potential.

**Local Names**:

**Hyaloteuthis pelagica** (Bosc, 1802)

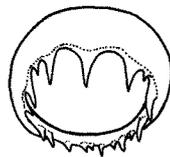
OMMAS Hyal 1

Sepia pelagica Bosc, 1802, Hist.Nat.Coquilles V. I. In Histoire Naturelle de Buffon, p. 46.

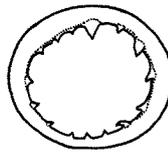
**Synonymy** : Sepia pelagica Bosc, 1802; Ommastrephes pelagicus Orbigny, 1835-1848.

**FAO Names** : En - Glassy flying squid  
Fr - Encornet vitreux  
Sp - Pota estrellada

**Diagnostic Features** : Mantle muscular, narrow (17 to 19% of mantle length), cylindrical nearly to posterior end, then tapers suddenly to a point; ventral surface of mantle covered with 19 relatively large, round photophores in a distinct pattern, primarily in pairs; 3 round photophores along ventral surface of arm IV: at the base, the midpoint and near distal tip. Fins relatively short (37% of mantle length), width 58% (57 to 61%) of mantle length, single fin angle about 50° (45 to 55°). Right (occasionally left) arm IV hectocotylized in males.

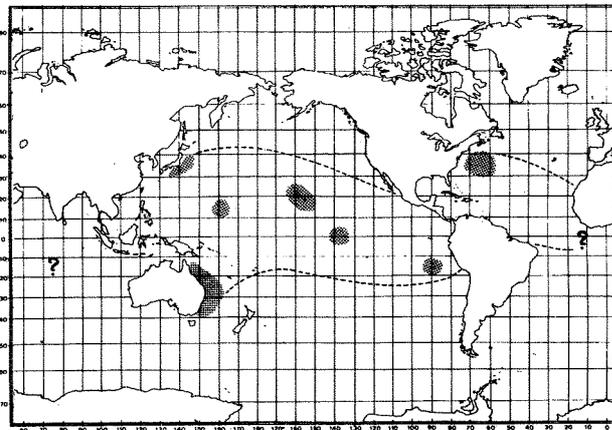


arm sucker ring

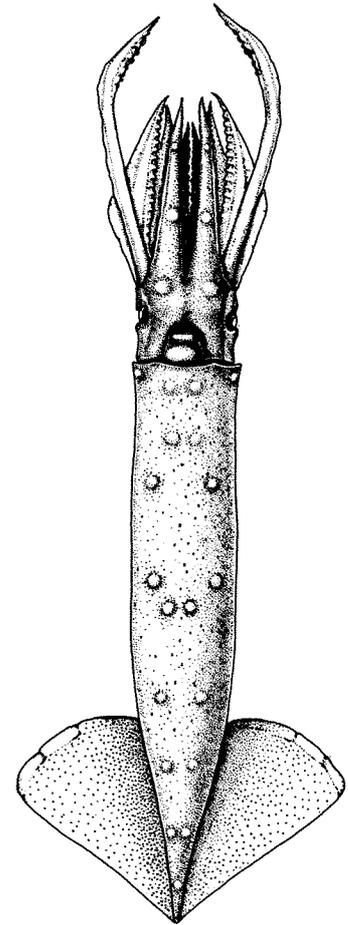


tentacular sucker ring

**Geographical Distribution** : Warm waters of Atlantic and Pacific (Indian?) oceans; limits undetermined.



tentacular club



ventral view

**Habitat and Biology** : An oceanic species occurring between the surface and about 200 m depth. It is believed to carry out diel vertical migrations, being encountered at or near the surface at night and in deeper waters during the day. It is preyed upon, i.e. by black noddy terns (Anous tenuirostris), and finfishes.

**Size** : Maximum mantle length 9 cm.

**Interest to Fisheries** : A rather rarely captured species; its fishery potential is at present undetermined.

**Local Names** :

**Literature** : Clarke (1966, biology).