

Loligo roperi Cohen, 1976

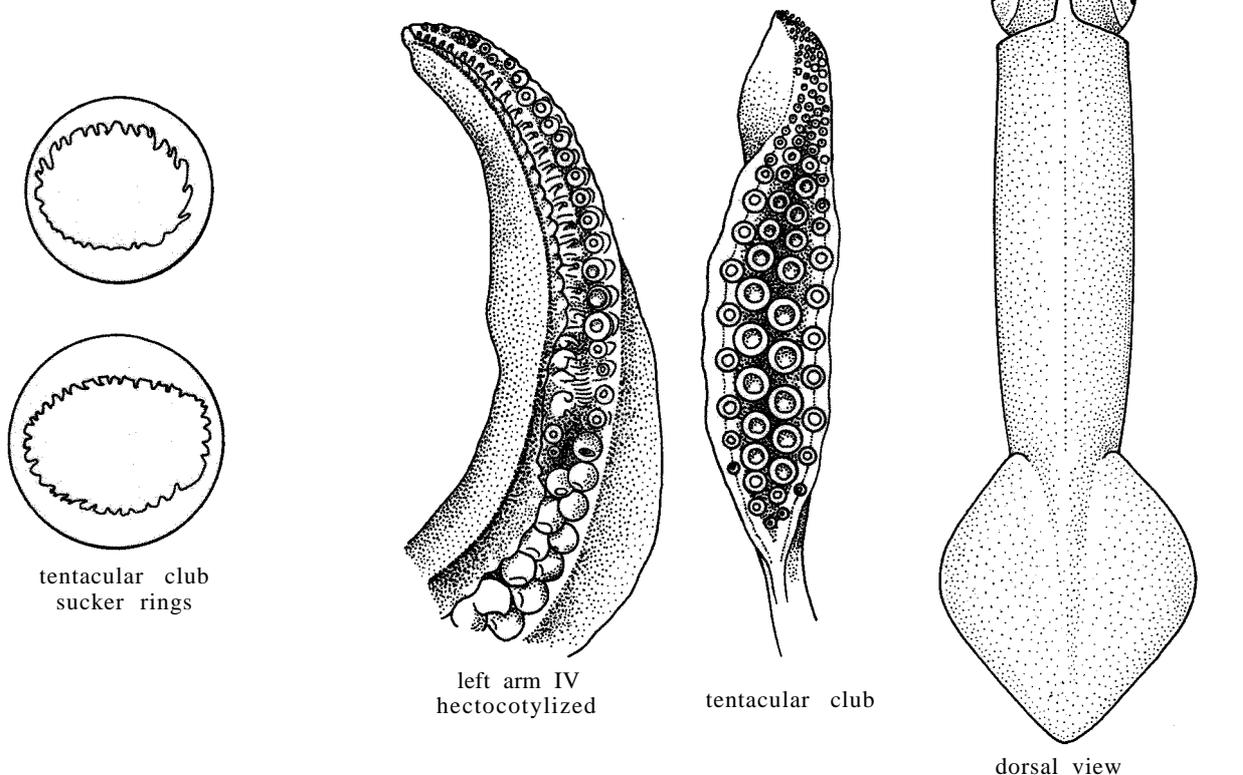
LOLIG Lolig 16

Loligo roperi Cohen, 1976, *Malacologia*, 15(2):347.

Synonymy : None.

FAO Names : En - Island inshore squid
Fr - Calmar créole
SP - Calamar insular

Diagnostic Features : Mantle long, slender (a small species). Fins ovoid, short, 33 to 39% of mantle length. Tentacles short, 14 to 21% of mantle length; clubs with fewer than 25 transverse rows of suckers (19 to 24). Left arm IV hectocotylized for more than 50% of arm length (57 to 62%) to tip; 80% of suckers of dorsal row modified into minute suckers set on broadly triangular pedicels; 3 to 5 suckers of ventral row at origin of hectocotylus very reduced in size, remaining suckers normal.



Geographical Distribution : Western Atlantic Ocean: Caribbean Sea.

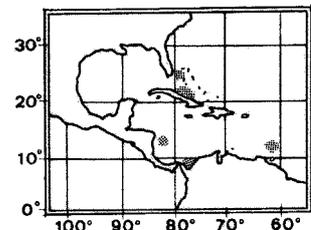
Habitat and Biology : A neritic species ranging in depth from 48 to 304 m (taken at surface at night with night-light attraction). Apparently associated with islands.

Size : Maximum mantle length 7.2 cm; maturity is attained at 4.3 cm.

Interest to Fisheries : Fisheries potential undetermined.

Local Names :

Literature : Cohen (1976, detailed description, distribution).



Loligo sanpaulensis Brakoniecki, 1984

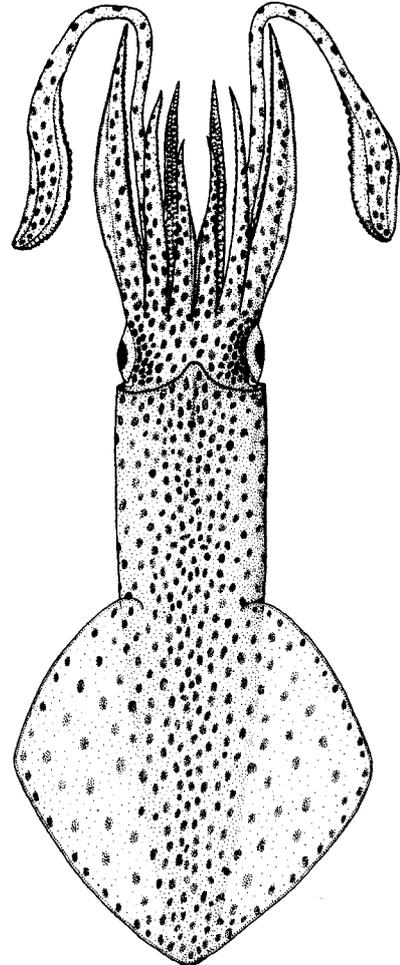
LOLIG Lolig 17

Loligo sanpaulensis Brakoniecki, 1984, *Bull.Mar.Sci.*, 34(2).

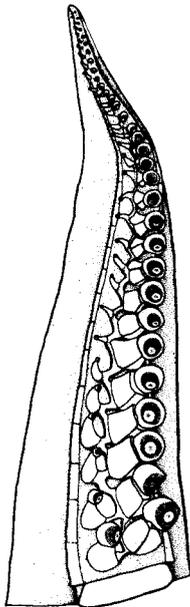
Synonymy : *Loligo brasiliensis* Blainville, 1823 (in part: by Castellanos, 1967; 1967a, Castellanos & Menni, 1968; Castellanos & Cazzaniga, 1979). *Doryteuthis plei* Blainville, 1823 (in part: by Palacio, 1977); *Loligo brasiliensis* Blainville, 1823 = nomen dubium fide Brakoniecki, in press.

FAO Names : En - Sao Paulo squid
Fr - Calmar de Sao Paulo
SP - Calamar de Sao Paulo

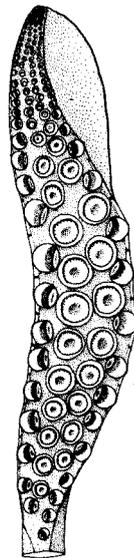
Diagnostic Features : Mantle moderately long. Fins rhombic, relatively long, 55 to 60 exceptionally to 65% of mantle length. Tentacles long; clubs expanded, marginal suckers relatively large median manal suckers only about 1/3 larger than marginal ones; rings with about 25 pointed, separated teeth, smaller and more widely spaced proximally. Arms moderately long, sucker rings with 5 to 7 broad truncate teeth distally, smooth proximally; left arm IV hectocotylyzed in distal 1/2 (45% of arm length) by great reduction in size of suckers in dorsal row that are set on conical to elongate thickened pedicels; suckers on ventral row normal but pedicels are slightly elongate and thickened.



dorsal view



left arm IV
hectocotylyzed



tentacular
club

Geographical Distribution : Southwestern Atlantic: from central Argentina to central Brazil but limits unknown, especially the northern (records to date from 20° to 42°S latitude).

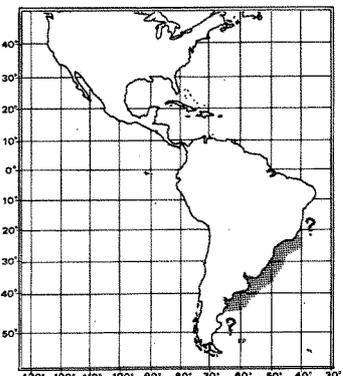
Habitat and Biology : A neritic species in coastal waters ranging in depth from 0 to 60 m (probably somewhat deeper). Occurs in central Argentina in summer, therefore probably does not extend southward into cold waters.

Size : Maximum mantle length 16 cm.

Interest to Fisheries : Taken as bycatch in trawl fisheries; some directed fisheries are now developing in Uruguay, Argentina and Brazil.

Local Names : ARGENTINA, BRAZIL, URUGUAY: Calamar.

Remarks : This species has been called *Loligo brasiliensis* by some authors and *Doryteuthis plei* by others, but the name *Loligo brasiliensis* cannot be clearly tied to any known species. The confused names and taxonomy have made designations of species utilized in the fishery equally confusing. The species is being redescribed under a new name by Brakoniecki (*Bull.Mar.Sci.*, 1984). The use of the other names should thereafter be avoided.



Loligo (Doryteuthis) sibogae (Adam, 1954)

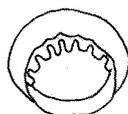
LOLIG Lolig 18

Doryteuthis sibogae Adam, 1954, Results Exped.India Neerl.Orient., 55c:146.

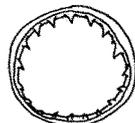
Synonymy : Doryteuthis sibogae Adam, 1954.

FAO Names : En - Siboga squid
Fr - Calmar siboga
Sp - Calamar siboga

Diagnostic Features : Mantle very long and slender; width 1/5 to 1/7 of length. Fins narrow, relatively short, their length about 45% of mantle length. Tentacles short, slender, clubs short; medial suckers on manus slightly enlarged, the largest ones with 15 to 20 conical, sharp, incurved, widely spaced teeth around entire ring; the largest suckers from the club and arm III are about equal in size. Arms relatively very short; arm sucker rings smooth proximally but with 7 to 9 plate-like, truncate (squared) teeth distally, the central 1 or 2 narrowest; left arm IV hectocotylized for 30 to 45% of its length by the distal suckers and stalks being modified into cone-shaped fleshy papillae, those on the ventral row the longest; the 15 to 20 pairs of suckers proximally remain modified throughout growth. A paired, bean-shaped light organ present around the ink sac.



largest arm III sucker ring

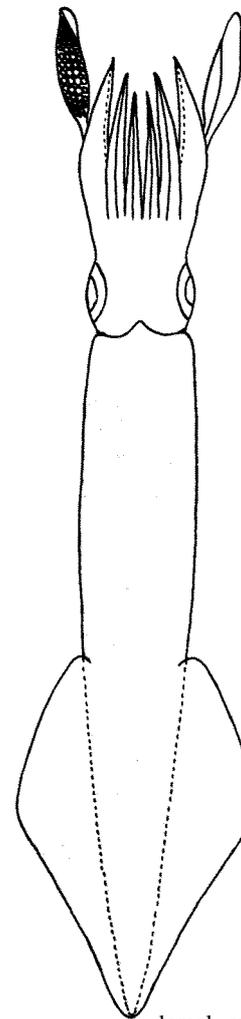
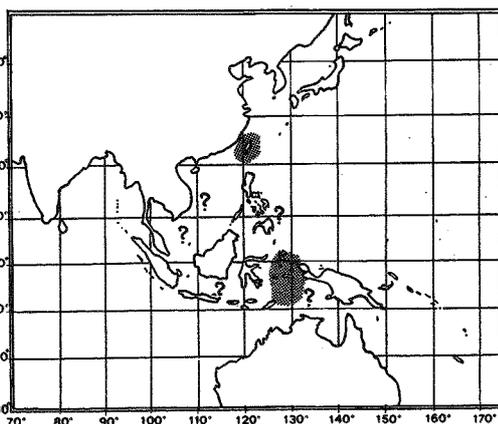


largest tentacular club sucker ring

Geographical Distribution : Western Pacific: Eastern Indonesia and China (Pescadores Islands).

Habitat and Biology : A semipelagic, neritic species; its depth range is undetermined; sexually mature squids occur during August off Pescadores Islands. The biology of this species is very poorly known.

Size : Maximum mantle length 16 cm.



dorsal view

Interest to Fisheries : Taken as bycatch in the fisheries for larger squids in Taiwan (Province of China).

Local Names :

Literature : Okutani (1980).

Remarks : The generic status of this species needs to be clarified, as it is referred to both Loligo and Doryteuthis by different authors.

Loligo (Doryteuthis) singhalensis Ortmann, 1891

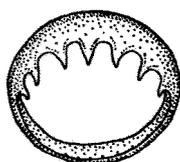
LOLIG Lolig 19

Loligo singhalensis Ortmann, 1891, Zool.Jahr.Abt.Syst., 5:676.

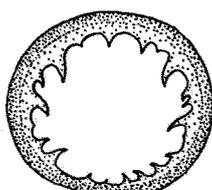
Synonymy : None.

FAO Names : En - Long barrel squid
Fr - Calmar baril
Sp - Calamar buril

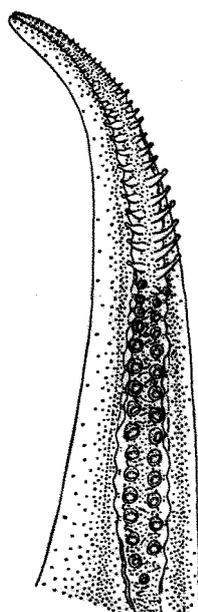
Diagnostic Features : Mantle very long and slender, attains a large size for loliginids. Fins very long, up to 70% of mantle length; a ridge along ventral midline of mantle of males. Tentacular clubs short, slightly expanded; suckers in medial rows of manus only about 25% larger than those on lateral rows with 20 to 22 sharply pointed, curved teeth, some of which are quite reduced in size. Arms relatively short; sucker rings with 7 to 9 long, slender bluntly pointed to truncate teeth distally, smooth proximally. Left arm IV hectocotylized in distal half with slender papillae, each bearing a minute sucker. A paired, bean-shaped light organ present around ink sac.



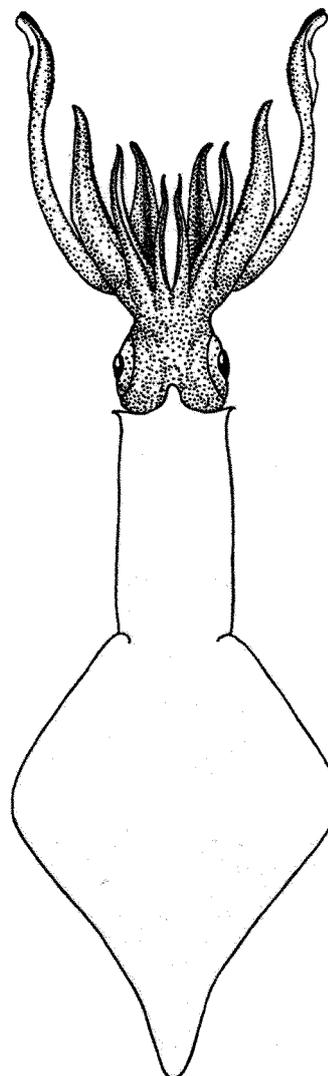
arm III
sucker ring



tentacular club
sucker ring



left arm IV of male
hectocotylized



dorsal view

Geographical Distribution : Indo-Pacific: Eastern Arabian Sea, Bay of Bengal to South China Sea and Philippines Sea.

Habitat and Biology : A neritic, semipelagic species occurring at depths from 30 to 120 m. It is positively phototactic, a feature that is utilized in the fishery by attracting it by light prior to capture. It aggregates in large schools in summer, probably for mating and spawning. Males grow larger than females.

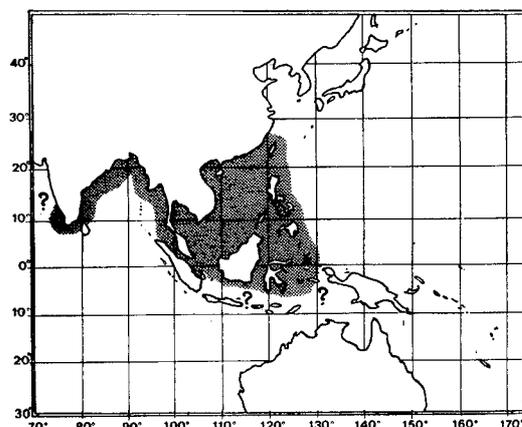
Size : Maximum mantle length 50 cm in males, 31 cm in females; weight about 1 kg in males, 800 g in females.

Interest to Fisheries : The third most important squid trawled in Hong Kong waters after *Loligo edulis* and *L. chinensis*. In the Philippines it supports localized and subsistence fisheries and is taken by purse seines and dip-nets after attraction with torches and lamps.

Local Names : CHINA: Cheung woo chak, Cheung yau tung.

Literature : Okutani (1977, 1980).

Remarks : The generic status of this species needs to be clarified.



Loligo surinamensis Voss, 1974

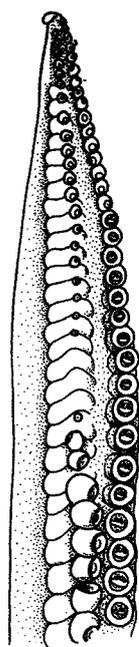
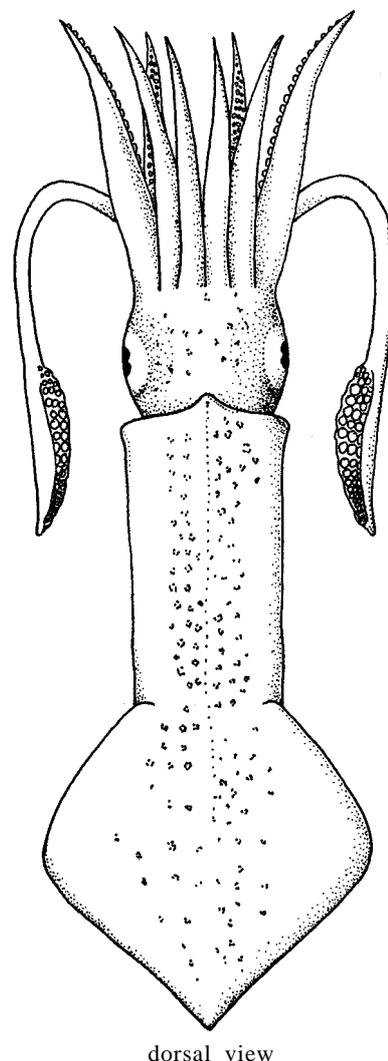
LOLIG Lolig 20

Loligo surinamensis Voss, 1974, *Zool.Meded.*, 48(6):43.

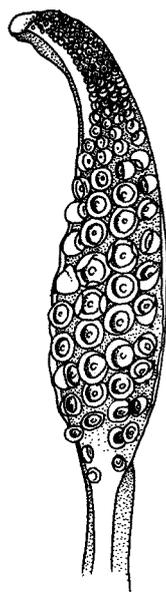
Synonymy : None.

FAO Names : En - Surinam squid
Fr - Calmar du Surinam
Sp - Calamar surinamés

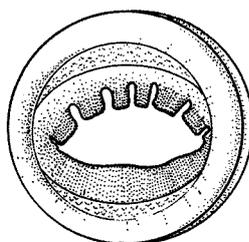
Diagnostic Features : Mantle moderately broad, about 25% of mantle length. Fins about 50% of mantle length, rhomboidal. Tentacular clubs expanded, with 38 to 40 transverse rows of suckers; manal suckers enlarged; medial ones 1/3 larger than marginal ones; largest manal sucker rings with about 48 alternating large and small, sharply pointed, curved teeth. Arms relatively long, about 45% of mantle length; arm sucker rings with 5 to 8 truncated teeth in distal half, central ones narrowest, proximal 1/2 smooth; left arm IV of male hectocotylyzed in distal portion beginning at the 22nd to 24th pair of suckers; sucker bases (stalks) in dorsal row enlarged and flattened transversely, suckers decreased in size; ventral row with a few reduced suckers opposite modified part in dorsal row; tip unmodified.



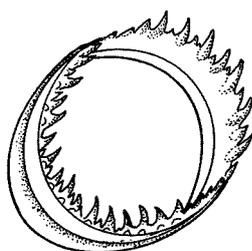
left arm IV of male
hectocotylyzed



tentacular club



arm III
sucker ring



tentacular club
sucker ring

Geographical Distribution : Southern Caribbean Sea: currently only known from around the mouth of the Suriname River, Surinam.

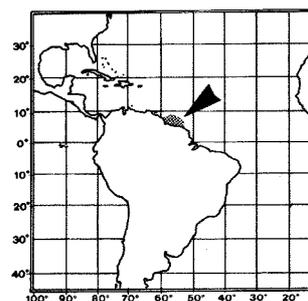
Habitat and Biology : A neritic species, known depth range: 27 to 37 m.

Size : Maximum mantle length 12 cm.

Interest to Fisheries : At present undetermined.

Local Names :

Literature : Okutani (1977).



Loligo uyii Wakiya & Ishikawa, 1921

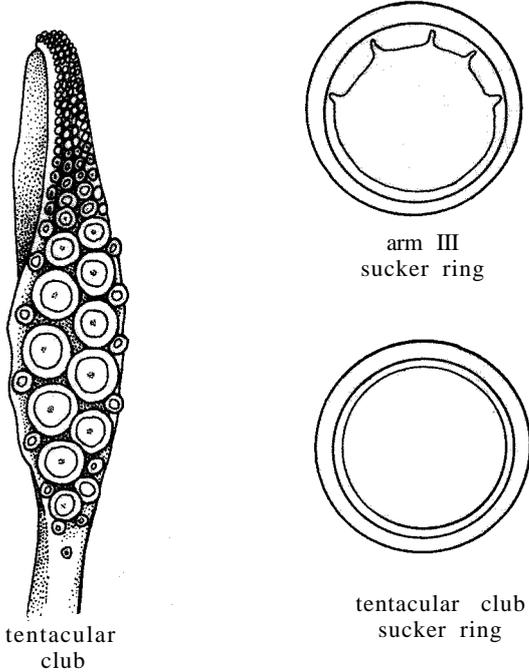
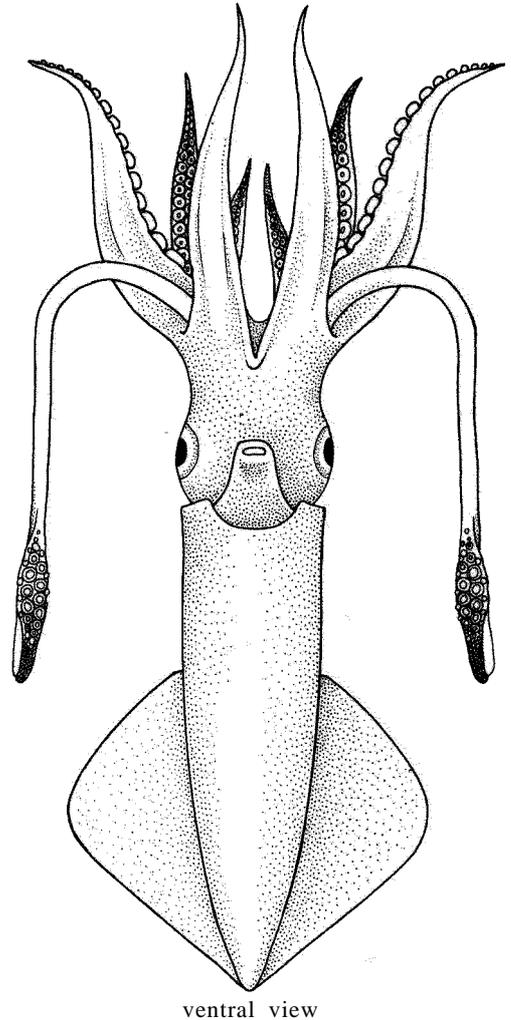
LOLIG Lolig 21

Loligo uyii Wakiya & Ishikawa, 1921, *Zool.Mag.Tokyo*, 33:286.

Synonymy : *Loligo tagoi* - Sasaki, 1929; *Loligo gotoi* Sasaki, 1929.

FAO Names : En - Little squid
Fr - Calmar mignon
Sp - Calamar balilla

Diagnostic Features : Mantle short, moderately stout, its width about 25% of the mantle length. Fins rhomboidal, their angles rounded, length about 60% of mantle length. Tentacular clubs slightly expanded, lanceolate, about 8 suckers in 2 median manal rows-greatly enlarged with smooth rings; medial and distal rings with very low broad plate-like or semilunar teeth (7 to 10). Arm sucker rings with 3 to 6 (mostly 4 or 5) very broad, short, rounded-rectangular to semilunar teeth in distal half, proximal half smooth; left arm IV hectocotyized along distal 2/3 with about 75 suckerless papillae, those on dorsal row small, rounded, separate, but the ones on ventral row greatly swollen and connected into a ridge.



Geographical Distribution : Indo-West Pacific Ocean: Southern Japan, Yellow Sea to Hong Kong.

Habitat and Biology : A neritic, coastal species occurring to about 50 m depth.

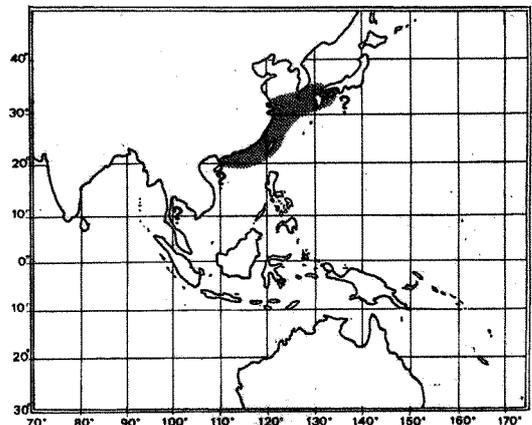
Size : Maximum mantle length 10 cm.

Interest to Fisheries : This species was reported to contribute less than 1% to the 1979 catch of squids taken by commercial otter-board trawlers and pair trawlers in the Gulf of Thailand (species identification is unconfirmed). It is also reported among the 5 major species fished in Malaysian waters (Latif, 1982).

Local Names : CHINA: Yau jai.

Literature : Okutani (1980).

Remarks : Distribution of this species in Gulf of Thailand needs to be confirmed with positive identification of specimens.



Loligo vulgaris Lamarck, 1798

LOLIG Lolig 1

Loligo vulgaris Lamarck, 1798, *Bull.Soc.Philom.Paris*, 2:130.

Synonymy : None.

FAO Names :
En - European squid
Fr - Encornet
SP - Calamar

Diagnostic Features : Mantle long, moderately slender, cylindrical. Fins rhomboid, their length two thirds of mantle length, their posterior border slightly concave. Manus of tentacular clubs with 4 longitudinal rows of suckers, the 2 median rows with 6 enlarged suckers each; sucker rings of median rows on manus with approximately 30 irregularly-sized teeth; dactylus with about 20 transverse rows of minute suckers. Left ventral arm IV hectocotyized along its distal third to fourth by modification of suckers into papillae that decrease in size distally; arm sucker rings with 20 teeth, distal ones large and pointed, proximal ones minute or absent.

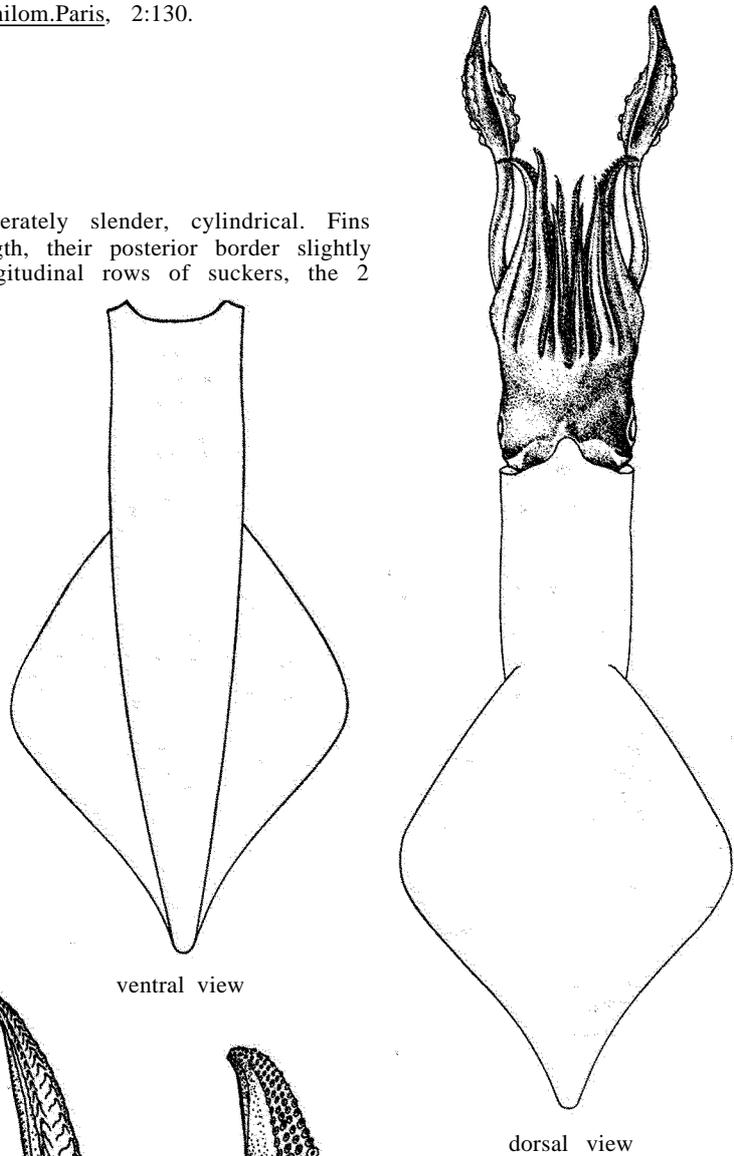
Geographical Distribution : Eastern Atlantic: From approximately 20° S to 55°N; around the British Isles, North Sea; Mediterranean Sea.

Habitat and Biology : A neritic, semi-pelagic species; ranging in depth from the surface to approximately 500 m, and most abundant between 20 and 250 m, deepest in winter.

European squid is known to migrate vertically and horizontally in response to changes in environmental conditions. The stock in the northeastern Atlantic overwinters in deeper waters off Portugal, approaches the French coast in spring, and migrates from May through June further north into the North Sea where spawning takes place in depths from 20 to 80 m. A southward migration takes place in fall.

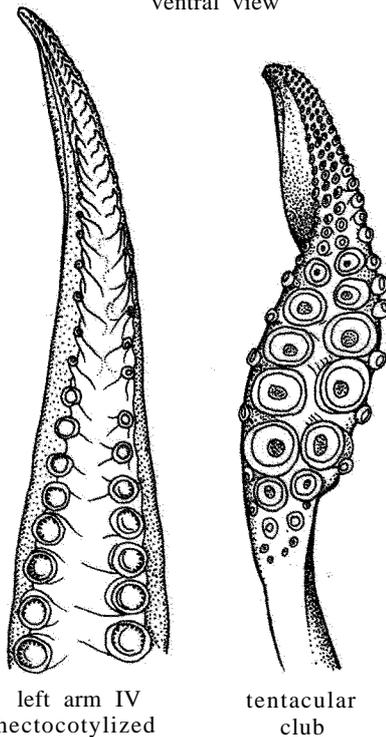
The stock on the west Saharan fishing grounds, likewise overwinters in deeper offshore waters and migrates onshore for spawning in spring and fall. Accordingly, juveniles appear to recruit into the fishery in February and March and between July and September.

In the western Mediterranean, European squid migrate into deeper water in late fall; the largest individuals begin their onshore migration as early as in January and February, followed in summer by the smaller ones. Gradual spawning extends for most part of the year with peaks in early summer and early fall.



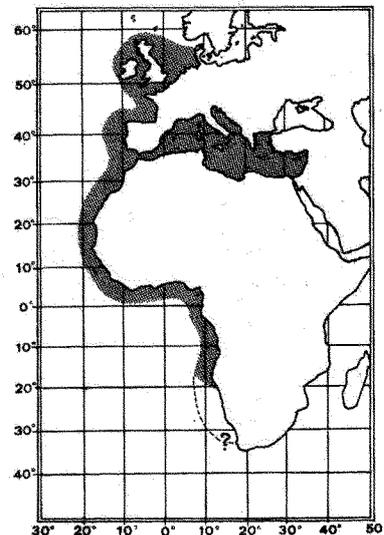
ventral view

dorsal view



left arm IV
hectocotyized

tentacular
club



Females produce up to 20 000 small eggs (diameter about 2 mm) which are deposited in gelatinous tubes containing tens of eggs and attached to debris and other hard objects on sandy to muddy bottoms. The larvae hatch after an incubation period fluctuating between 25 days (at 22° C) and 45 days (at 12 to 14°C).

The number (up to 800) and size of spermatophores is directly related to the size of the male. Males reproducing for the second time usually carry more than those reproducing for the first time.

Growth is faster in summer than in winter in both sexes; the rate is greater in males as compared with females.

In the Atlantic, June hatchlings attain approximately 12 cm mantle length in December and 13 or 14 cm in the following April. By August, males reach about 17.5 cm and in April of their second year 21 cm, compared to 17 cm in females.

In the western Mediterranean, juvenile females and males migrating onshore in July measure about 7 and 8 cm respectively (ranges 6.6 to 8 cm, and 7 to 8.3 cm) and grow to about 15 and 16 cm in December (ranges 14 to 16 cm and 15 to 17 cm). On the other hand, juveniles approaching the coast in October are approximately 5.7 cm long (range 5 to 6.3 cm) growing to 8.3 cm (range 7.8 to 8.9 cm) towards the end of December when they leave the shallow waters. By March they have attained a length of 13 cm. After May they mix with the other group in a new onshore migration where spawning occurs. Longevity is 2 years in females and about 3 years in males.

European squid feeds on fishes and crustaceans. Cannibalism is common.

Size : Maximum mantle length 42 cm in males, 32 cm in females; maximum weight 1.5 kg. Length at first maturity is about 13 cm in males and 16 cm in females.

Interest to Fisheries : The major fishing grounds for European squid are located off Portugal on the west African Banks and in the western Mediterranean, where the species is taken in the international fisheries with otter trawls and purse seines in daytime. It is occasionally caught at night with light attraction. Throughout its range, this squid is also the object of local artisanal fishery deploying a variety of gears, particularly jigs.

The species is marketed fresh and frozen. Separate statistics are not reported.

Local Names : ALGERIA: Kalmar; BULGARIA: kalmar CYPRUS: Kalamari; EGYPT: Sobbeit FRANCE: Encornet; GREECE: Kalamari; ITALY: Calamaro; LIBYA: Habbar; MALTA: Klamar; MONACO: Totanu; MOROCCO: Calamar; SPAIN: Calamar; TUNISIA: Mettik; TURKEY: Kalmar; USSR: Kalmar; YUGOSLAVIA: Lignja.

Literature : Mangold-Wirz (1963, biology); Fischer (ed., 1973, Species Identification Sheets Mediterranean and Black Sea, fishing area 37); Cort Basilio & Pérez-Gandaras Pedrosa (1973, fisheries on West Sahara Banks); Roper (1981, Species Identification Sheets, eastern central Atlantic, fishing areas 34/47 in part); Fisheries Committee for the Eastern Central Atlantic (1982, status of stocks, fisheries).

Remarks : In the southern end of the range, the species known as Loligo reynaudi may be synonymous with L. vulgaris or a subspecies.