

4.6

FAMILY PSYCHROTEUTHIDAE Thiele, 1921

PSYCHRO

FAO Names : En - Glacial squids
Fr - Encornets
Sp - Lurias glaciales

General Remarks on the Family : This monotypic family is based on *Psychroteuthis glacialis*, described from incomplete specimens from the stomachs of penguins and seals. Because of the inadequate description, the status of the family has been considered doubtful. Recently additional material has become available that confirms the validity of the Psychroteuthidae.

Diagnostic Features : The family is characterized by buccal connectives that attach to the dorsal borders of arms IV, a straight, simple funnel locking-cartilage, absence of photophores on the mantle and head, a tentacular club with 4 to 7 suckers in transverse rows on the manus and dactylus, and biserial suckers on the arms.

Geographical Distribution : Two species, one undescribed, are known at present from Antarctic waters.

Psychroteuthis glacialis Thiele, 1921

PSYCHRO Psy 1

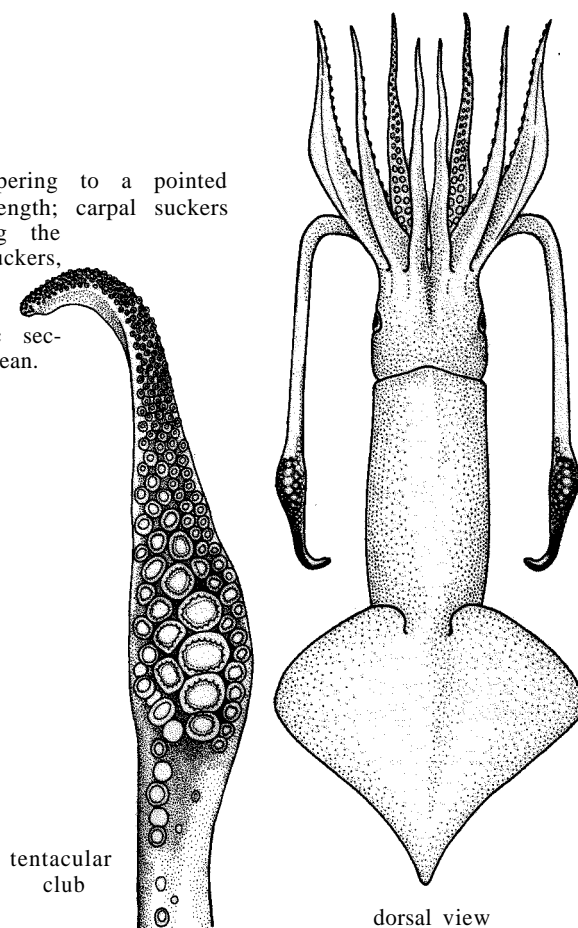
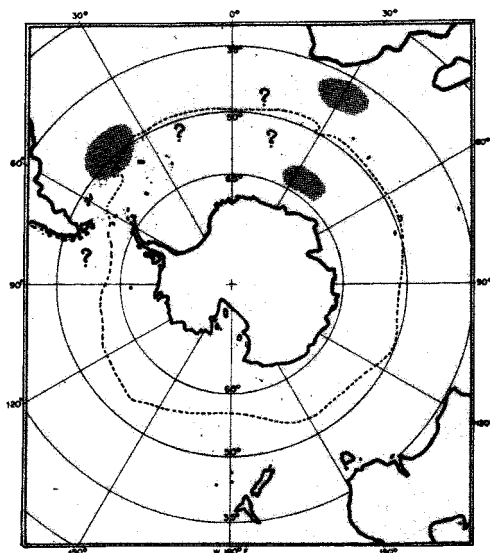
Psychroteuthis glacialis Thiele, 1921, *Deut.Südpolar Exped.Zool.*, 8:440.

Synonymy : None.

FAO Names : En - Glacial squid
Fr - Encornet austral
Sp - Luria glacial

Diagnostic Features : Mantle elongate, muscular, tapering to a pointed tail. Fins sagittate, muscular, their length 55% of mantle length; carpal suckers and knobs of tentacular clubs extending proximally along the tentacular stalk; manus with 4 to 7 transverse rows of suckers, those of the ventromedian row considerably enlarged.

Geographical Distribution : Antarctic and subantarctic sectors of the Atlantic; probably widespread in the Southern Ocean.



Habitat and Biology : An oceanic (and neritic ?) species reported from less than 200 to about 700 m depth. It is heavily preyed upon by sperm whales, penguins and Weddel seals.

Size : Maximum mantle length 44 cm.

Interest to Fisheries : Currently no fishery exists, but the size and the consistency of the flesh of this species makes it a potentially valuable resource.

Local Names :

4.7

FAMILY LEPIDOTEUTHIDAE Pfeffer, 1912

LEPIDO

FAO Names :
En - Scaled squids
Fr - Loutènes
Sp - Lurias escamudas

General Remarks on the Family : Formerly only a single species, *Lepidoteuthis grimaldii*, was included in this family. Now, two additional genera are included, *Pholidoteuthis* and *Tetronychoteuthis*. A detailed analysis of the three genera is necessary to confirm their relationships, but the lack of sufficient material leads to the uncertain position of these genera. *Pholidoteuthis* was previously placed in its own family, the Pholidoteuthidae; *Tetronychoteuthis* has been included in the Onychoteuthidae, although its placement there is clearly unwarranted. Species of *Lepidoteuthis* and *Pholidoteuthis* are known to attain large sizes: 97 cm mantle length in *Lepidoteuthis* and 78 cm mantle length in *Pholidoteuthis*.

Diagnostic Features : The family Lepidoteuthidae is characterized by the presence of distinct cartilaginous "scales" on the mantle, buccal connectives that attach to the ventral borders of arms IV; a straight, simple funnel locking-cartilage, biserial suckers on the arms, and tetraserial suckers on the tentacular clubs, except in *Lepidoteuthis*, which lacks tentacles in the adults. Photophores are absent.

The "scales" occur only on the surfaces of the mantle. The posterior end of the mantle, however, is devoid of "scales". The scaleless area on the dorsal side extends nearly to the anterior margin of the fins, but on the ventral side it occurs only on the posterior half or two-thirds of the area covered by the fins.

Pholidoteuthis adami Voss, 1956

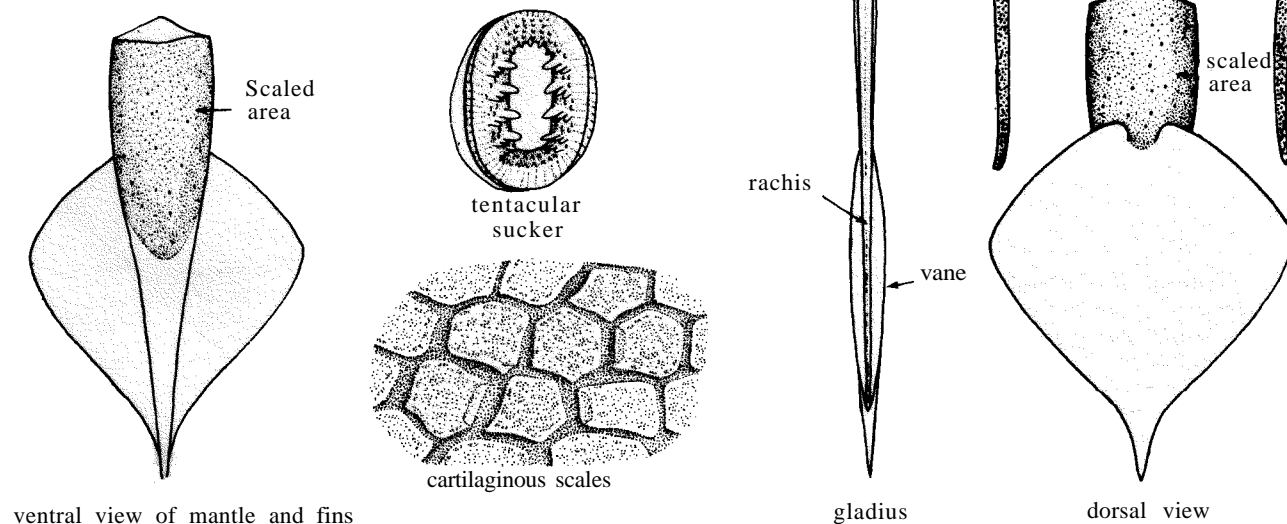
LEPIDO Pholi 1

Pholidoteuthis adami Voss, 1956, *Bull.Mar.Sci.Gulf & Caribbean*, 6(2):132.

Synonymy : None.

FAO Names :
En - Scaled squid
Fr - Loutène commune
Sp - Luria escamuda

Diagnostic Features : Mantle thick, choroidal, tapering posteriorly to a sharply pointed tail. Fins broad, laterally angled, elongate posteriorly to help form the tail; fins occupy about 70% of the mantle length; anterior half of mantle covered with many small, closely-packed, rounded to polygonal, cartilaginous scales; scalation terminates abruptly dorsally at insertion of fins and ventrally in an arc at about the midpoint of fins. Tentacular clubs very long and only a little expanded; tentacular suckers compressed, oblong. Gladius long and slender, straight-edged with an expanded vane ending in a sharp, conical point.



Geographical Distribution : Western North Atlantic, from about 40° N (very rare) through the Gulf of Mexico and the Caribbean Sea, to northeastern South America.

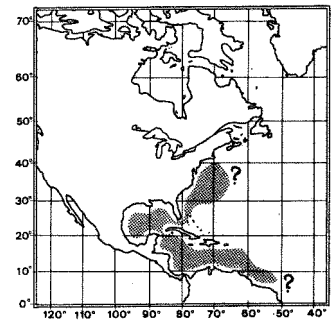
Habitat and Biology : An oceanic (or epibenthic?) species occurring in offshore waters between 80 and about 935 m depth (greatest abundance between 625 and 750 m), aggregating particularly during the day, while it seems to disperse at night; however, large schools occasionally are observed at night at the surface. Particularly abundant in the Gulf of Mexico.

Size : Maximum mantle length 78 cm.

Interest to Fisheries : Presently there are no fisheries directed at this species, but it is believed to have some potential.

Local Names :

Literature : Okutani (1980).



Pholidoteuthis boschmai Adam, 1950

LEPIDO Pholi 2

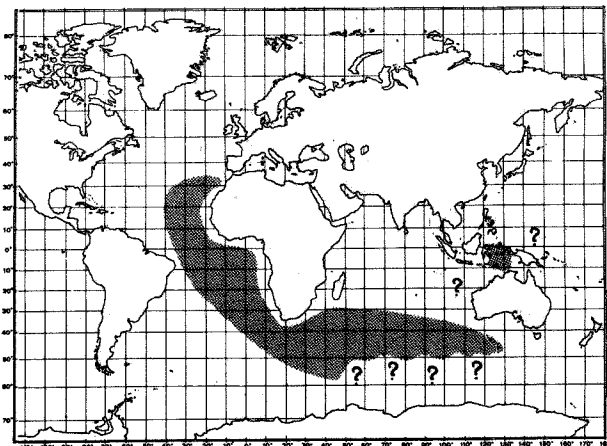
Pholidoteuthis boschmai Adam, 1950, *Konin.Neder.Akad.Wetersch.*, 53(10):2.

Synonymy : None.

FAO Names : En - Coffeebean scaled squid
Fr - Loutène battoir
Sp - Luria escamuda cafetal

Diagnostic Features : Mantle elongate, covered with small "scales". Fins 40 to 50% of mantle length, muscular. Tentacular clubs unexpanded, with laterally compressed suckers with bluntly toothed rings. Arms stout, sucker rings with about 18 sharp teeth.

Geographical Distribution : Central and southeastern Atlantic; southern Indian Ocean; Banda and eastern Java seas.

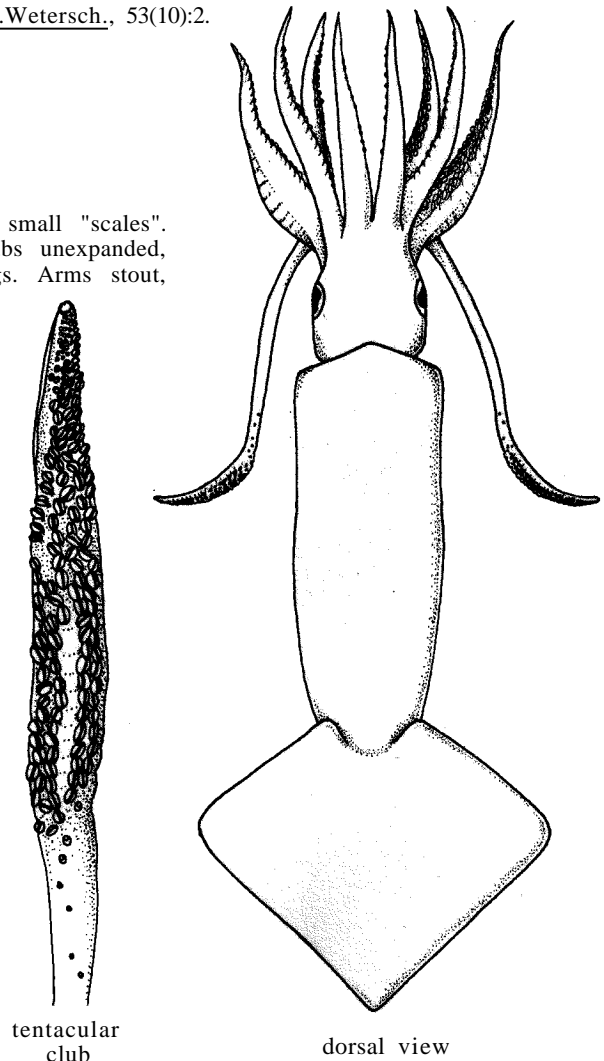


Habitat and Biology : An oceanic species; reported to occur between the surface and 2 000 m depth. Heavily preyed upon by sperm whales in the Southern Ocean.

Size : Maximum mantle length 60 cm.

Interest to Fisheries : This species is believed to have some fishery potential because of its large size and muscular consistency.

Local Names :



4.8 FAMILY ARCHITEUTHIDAE Pfeffer, 1900

ARCHI

FAO Names : En - Giant squids
Fr - Encornets monstres
SP - Megalurias

General Remarks on the Family : This family includes the largest of all cephalopods. Specimens occasionally are found moribund at the surface of the ocean, but most records are from strandings or whale stomachs. Apparently world-wide in distribution.

Many species have been named in the solegenus of the family, *Architeuthis*, but they are so inadequately described and poorly understood that the systematics of the group is thoroughly confused. Total lengths of nearly 20 m and mantle lengths of nearly 6 m (not a complete specimen) have been recorded.

Juveniles of species have been reported from both the Atlantic and Pacific Oceans.

Diagnostic Features : The Architeuthidae is characterized by a tetraserial armature on the tentacular clubs with large suckers in the medial rows of the manus and small suckers in the marginal rows; a distinct cluster of numerous small suckers and knobs at the proximal end of the manus; two longitudinal rows of alternating suckers and pads on the tentacular stalks; a straight simple funnel locking-cartilage; buccal connectives that attach to the dorsal border of arms IV; absence of photophores.

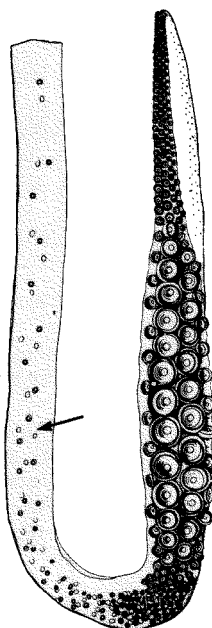
Architeuthis species

ARCHI Archi

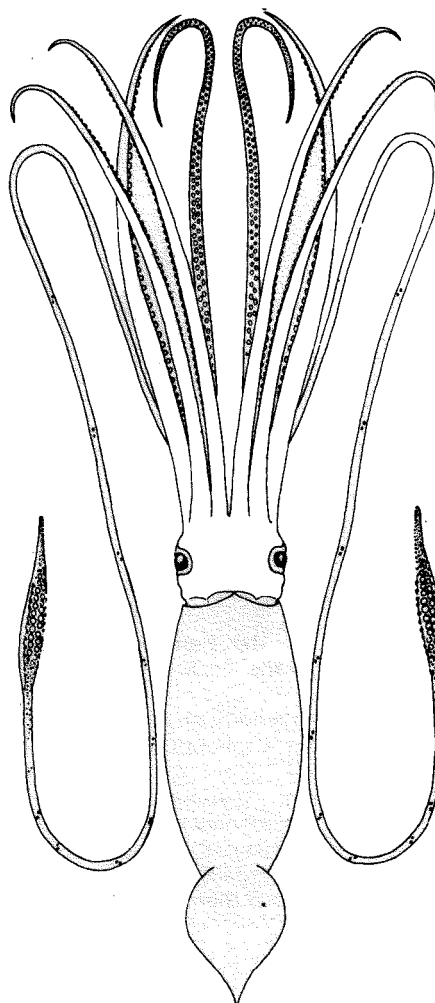
Synonymy : None.

FAO Names : En - Giant squid
Fr - Encornet monstre
Sp - Megaluria

Diagnostic Features : Animals huge, up to 20 m total length. Tentacular clubs with 4 rows of suckers on manus, a large cluster of very numerous small suckers on carpus with small suckers and knobs extending in pairs proximally along the stalk. Both arms (IV) hectocotyized in males.



tentacular
club

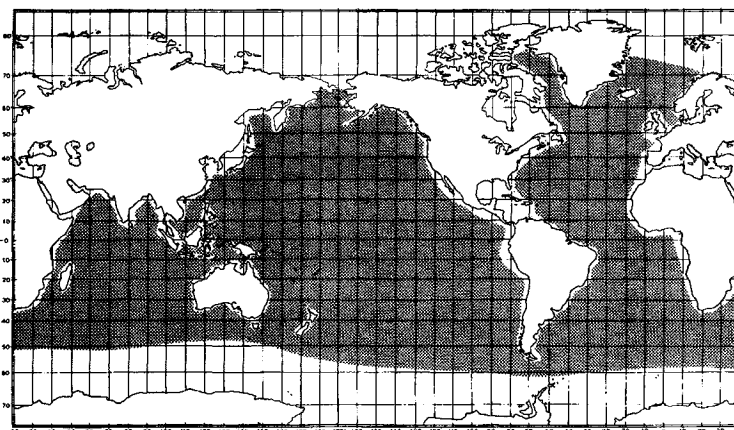


dorsal view

Geographical Distribution : A world-wide genus most abundant in the North Atlantic (Newfoundland, Norway), the Southern Ocean, New Zealand and in the North Pacific.

Habitat and Biology : An oceanic genus, believed to occur between about 200 and 400 m depth, perhaps to 500 m or more, but a significant number of specimens has been observed at the surface of the sea. The juveniles and adults are heavily preyed upon by sperm whales, while the juveniles are subjected to predation by mesopelagic fishes such as Aphanopus carbo and Alepisaurus ferox.

Size : Maximum total length 20 m; maximum mantle length 6 m; weight 500 to 1 000(?) kg.



Interest to Fisheries : The species has no commercial value at present. The flesh contains ammonium ions, so it must be soaked prior to consumption to remove the bitter taste.

Local Names :

Literature : Clarke (1966, brief synthesis of known records, photo); Roper & Boss (1982, biology).

4.9 FAMILY HISTIOTEUTHIDAE Verrill, 1881

HISTIO

FAO Names : En - Jewell squids, Umbrella squids
Fr - Loutènes
SP - Joyelurias

General Remarks on the Family : The family has been monographed by N. Voss (1969); 15 species of the genus Histioteuthis inhabit the world oceans.

Some species are extremely abundant, and some are quite large most are major items in the diets of sperm whales. Some potential for a specialized market might exist.

Diagnostic Features : This monotypic family is easily distinguished by large, anteriorly directed photophores over the surface of the mantle, head and arms; a large head with the left eye considerably larger than the right; six or seven buccal lappets; buccal connectives that attached to the dorsal border of arms IV; a straight or slightly curved and slightly broad, simple, funnel locking-cartilage; suckers on the tentacular clubs arranged in four, or more commonly, more than four irregular rows; suckers on the arms biserial.

Histioteuthis bonnellii (Ferussac, 1835)

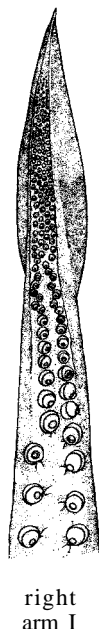
HISTIO Histio 1

Cranchia bonnellii Ferussac, 1835, Mag.Zool., 5, pl. 66.

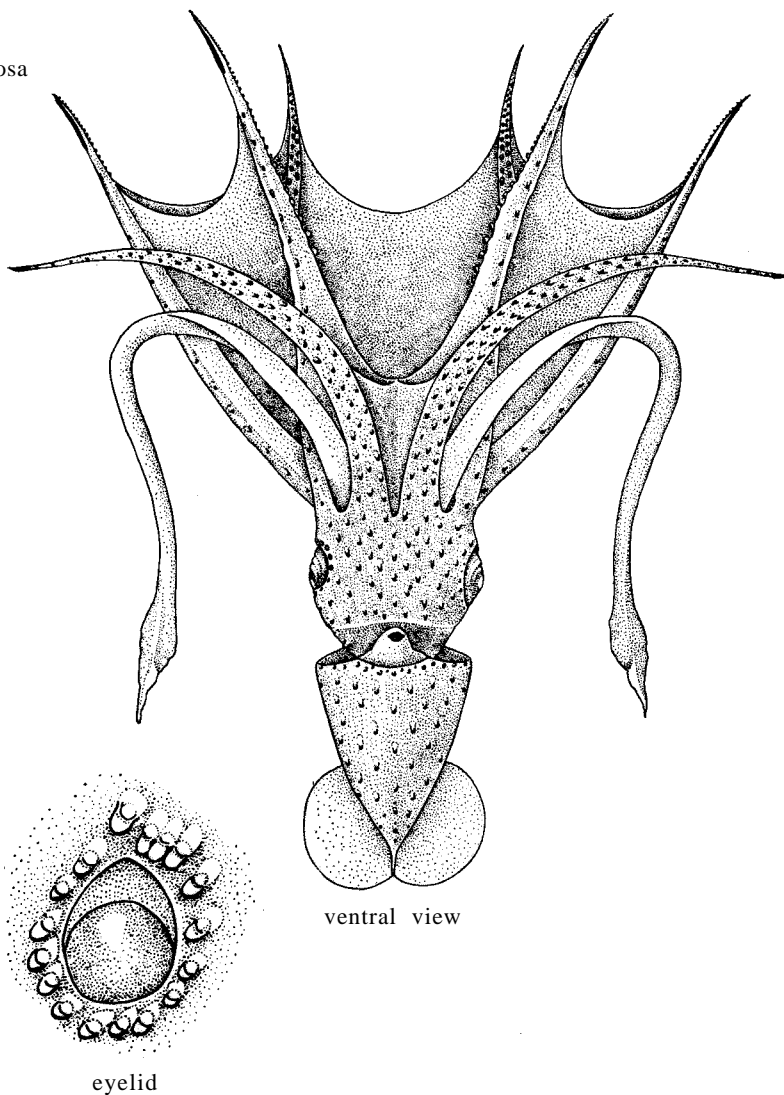
Synonymy : Cranchia bonnellii Ferussac, 1835; Cranchia bonelliana Ferussac, 1835; Histioteuthis bonelliana Orbigny, 1835-1848; Histioteuthis rüppelli Verany, 1851; Histioteuthis collinsi Verrill, 1879; Histiopsis atlantica Hoyle, 1885.

FAO Names : En - Umbrella squid
Fr - Loutène bonnet
SP - Joyeluria membranosa

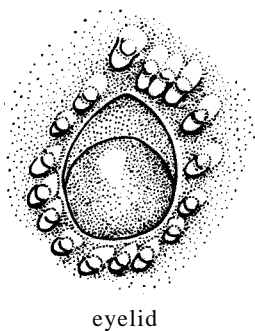
Diagnostic Features : Mantle relatively short, broad, conical, covered with dark, elongate photophores on ventral and lateral surfaces (also on head and arms). Fins oval; head large. Arms long, connected with a very broad deep, maroon-coloured web; distinct, elongate dark light organs on arm tips. Seventeen small, oval light organs around periphery of right eyelid.



right
arm I



ventral view



eyelid

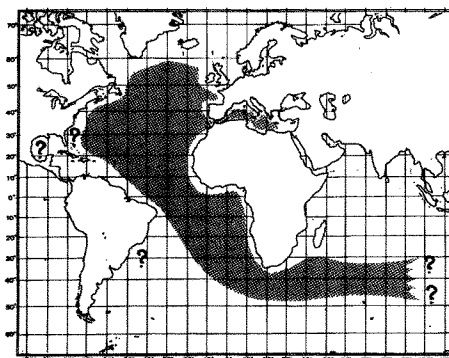
Geographical Distribution : Eastern and western central Atlantic and western Mediterranean; southeastern Atlantic and South Indian Ocean (limits undetermined).

Habitat and Biology : An oceanic species; reported to occur usually in depths between 500 and 1 500 m, sometimes associated with the bottom. Growth seems to be isometric and even minute specimens have the proportions of adults. Although they are usually taken singly or in pairs in nets, it is suspected, from evidence in sperm whale stomachs, that it is a schooling species. Apart from sperm whales it is preyed upon by Alepisaurus ferox, Aphanopus carbo and Thunnus alalunga.

Size : Maximum mantle length 33 cm (the largest Histioteuthis species).

Interest to Fisheries : The species is believed to have some fishery potential.

Local Names :



Histioteuthis dofleini (Pfeffer, 1912)

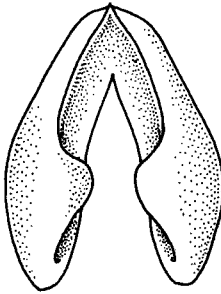
HISTIO Histio 2

Stigmatoteuthis dofleini Pfeffer, 1912, Ergebn. Atlant. Ozean Planktonexped. Humboldt-Stift., 2:288.

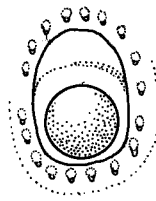
Synonymy : Stigmatoteuthis chuni Pfeffer, 1912; Stigmatoteuthis dofleini Pfeffer, 1912; Stigmatoteuthis arcturi Robson, 1948.

FAO Names : En - Flowervase jewell squid
Fr - Loutène vase
SP - Joyeluria floral

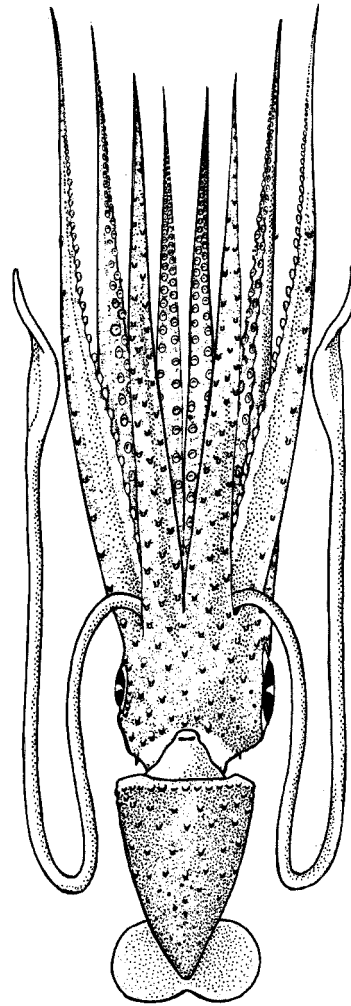
Diagnostic Features : Mantle conical, relatively thick-walled; skin of whole body covered with thickly spaced, low, fleshy papillae; ventral and lateral surfaces covered with elongate photophores; fin round. Head large. Arms very long, without distinct photophores on tips; web between arms very low, indistinct. Seventeen small photophores around right eyelid.



funnel organ



eyelid



ventral view

Geographical Distribution : World-wide in northern and southern warm-temperate waters; southeast Africa, Madagascar; west of the Galapagos Islands, off California, Hawaii and Japan; South Pacific.

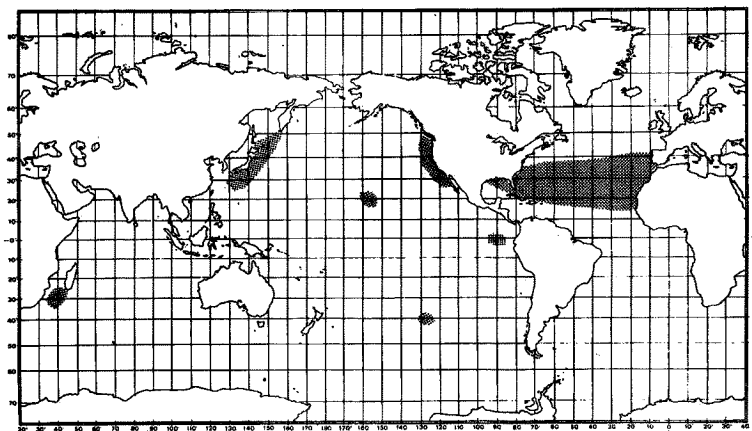
Habitat and Biology : An oceanic species, abundant in midwater layers; frequently found in predators' stomachs.

Size : Maximum mantle length 12 cm.

Interest to Fisheries : Undetermined.

Local Names : JAPAN: Kuragedako.

Literature : Voss (1969)



Histioteuthis elongata (Voss & Voss, 1962)

HISTIO Histio 3

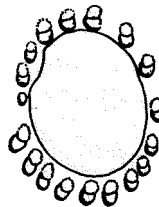
Calliteuthis elongata Voss & Voss, 1962, Bull.Mar.Sci.Gulf & Carib., 12(2):184.

Synonymy : Calliteuthis elongata Voss & Voss, 1962.

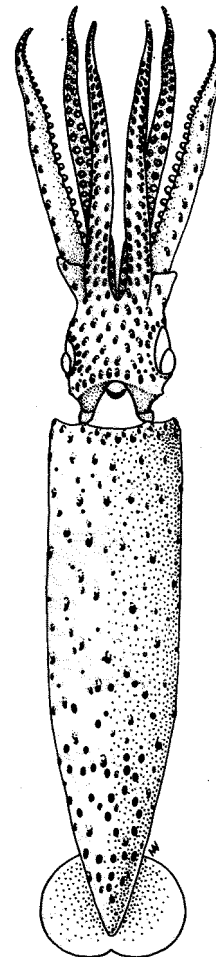
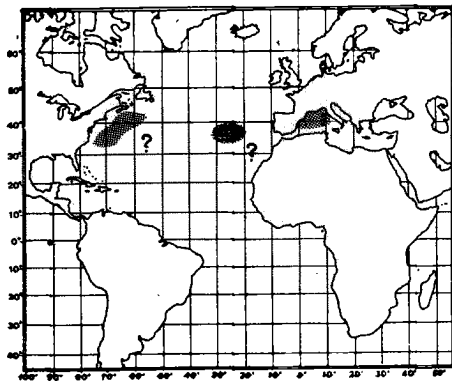
FAO Names : En - Elongate jewell squid
Fr - Loutène longue
Sp - Joyeluria alargada

Diagnostic Features : Mantle very long and slender, covered (especially on ventral and lateral surfaces) with scattered light organs especially large and dark on posterior end. Fins very short, rounded; head small. Arms robust, no distinct photophores on tips; web between arms undeveloped. Eighteen photophores around right eyelid.

Geographical Distribution : North Atlantic and Mediterranean; largely undetermined.



eyelid



ventral view

Habitat Biology : An oceanic species, taken between 500 and 1 000 m depth with closing nets. The largest specimens were found dead at the surface; these probably were spent females.

Size : Maximum mantle length 20 cm.

Interest to Fisheries : Currently none.

Local Names :

Literature : Lu & Roper (1979).