

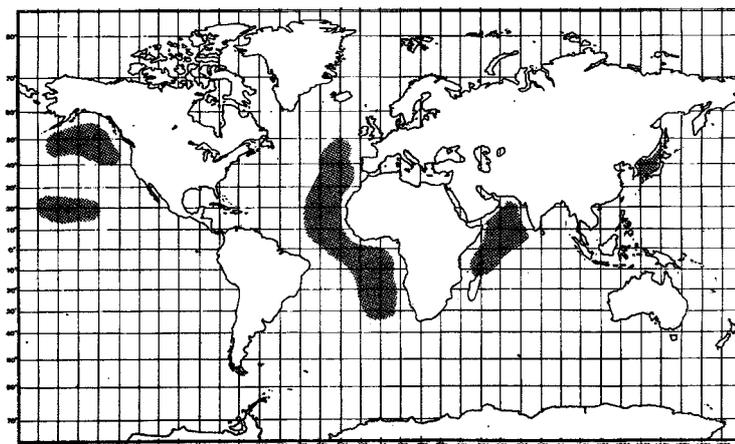
Geographical Distribution : Complete distributional range unknown; reported from western Japan, the northeastern Pacific; southern and central east Atlantic up to about 45°N; Hawaii; and western Indian Ocean.

Habitat and Biology : A primarily oceanic midwater species, believed to spawn on the bottom. It is heavily preyed upon by sperm whales.

Size : Maximum mantle length 1.4 m.

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

Local Names :



4.4 FAMILY ONYCHOTEUTHIDAE Gray, 1849

ONYCHO

Onychoteuthidae Grey, 1849, Cat.Moll.Brit.Mus., 206.

FAO Names : En - Hooked squids
Fr - Cornets
SP - Lurias, Luriones

General Remarks on the Family : Six genera currently are recognized: Onychoteuthis, Onykia, Moroteuthis, Ancistroteuthis, Chaunoteuthis, and Kondakovia. The generic boundaries, however, are not well defined and the family is in need of revision.

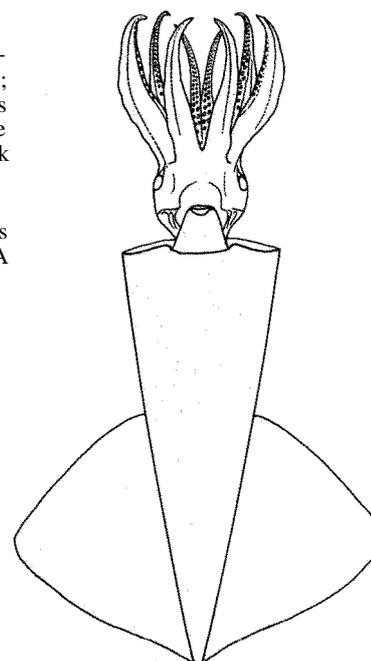
Onychoteuthis, the most widely distributed genus, is cosmopolitan and the only genus of the onychoteuthids presently known to possess photophores. The genus Onykia contains the smallest forms in the family and has a number of poorly defined species in tropical seas. The genus Moroteuthis includes the giants of the family; the largest recorded specimen had a total length greater than 4 m (Verrill, 1876). Chaunoteuthis differs from the other genera by having a gelatinous consistency. Kondakovia is an Antarctic form about which so little is known that it is not considered further here.

Diagnostic Features : Body muscular, tail pointed. Fins with sharp lateral angles; buccal connectives attached to ventral borders of ventral arms (IV); funnel-locking apparatus simple, straight; tentacular clubs with 2 rows of hooks and 2 marginal rows of suckers, or suckers absent; 8 arms and 2 contractile tentacles around mouth; 2 rows of suckers on arms. Colour: maroon to brick red, darker dorsally.

Interest to Fisheries : From the five genera in this family, several species are currently commercially exploited or have good potential for fisheries. A potential increase in fisheries for this group certainly exists (Okutani, 1977).

Key to Genera:

- 1 a. Mantle soft, semi-gelatinous; tentacles absent (Fig. 1) Chaunoteuthis
- 1 b. Mantle firm, muscular; tentacles present



Chaunoteuthis
ventral view Fig. 1

2 a. Nuchal folds present (Fig. 4a)

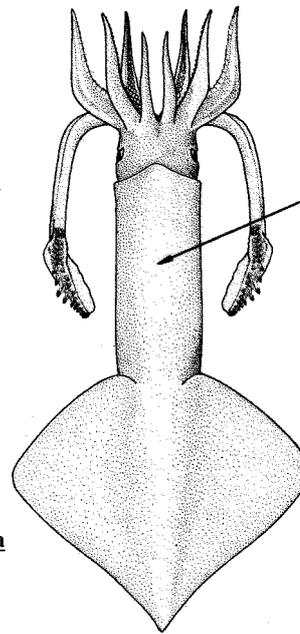
3 a. Rachis of gladius with a strong ridge visible along entire length of dorsal midline; 2 round light organs along ventral midline of intestinal tract (Fig. 2) **Onychoteuthis**

3 b. Rachis of gladius not strongly keeled, not visible along dorsal midline in subadults, but visible anteriorly in adults; light organs absent from intestinal tract (Fig. 3) **Ancistroteuthis**

4 b. Nuchal folds absent (Fig. 4b)

4 a. Manus of tentacular club with 2 median rows of hooks and 2 lateral half rows of small suckers (Fig. 5a) **Onykia**

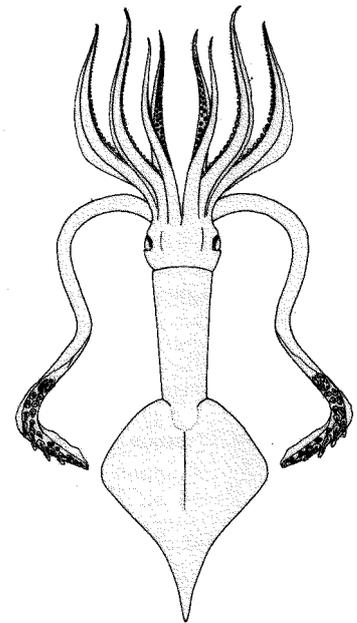
4 b. Manus of tentacular club with 2 median rows of hooks, but no marginal rows of suckers or hooks (Fig. 5b) .. **Moroteuthis**



Onychoteuthis

dorsal view

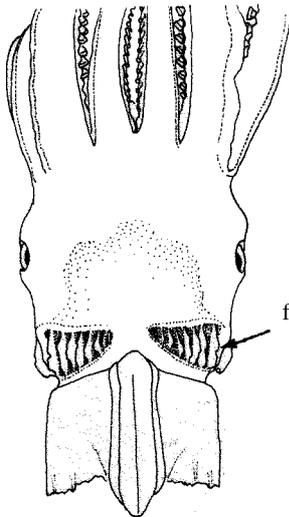
Fig. 2



Ancistroteuthis

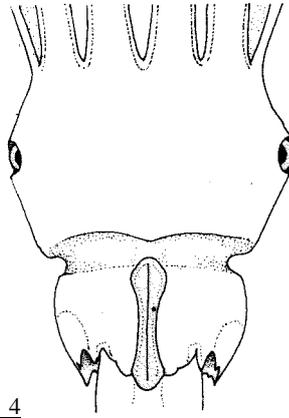
dorsal view

Fig. 3



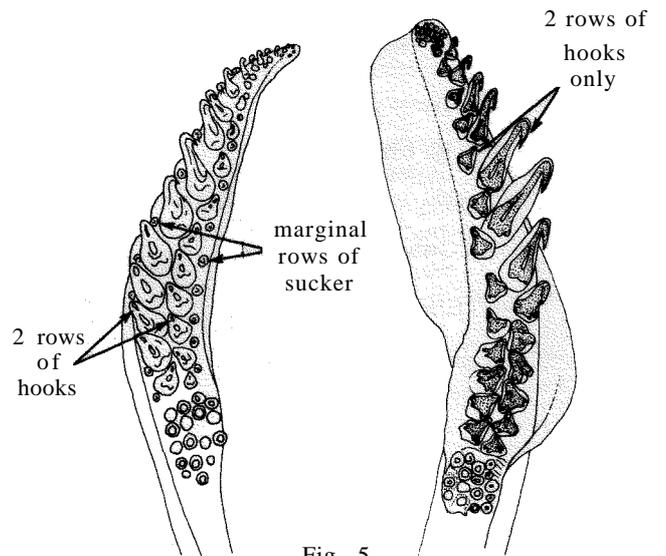
Onychoteuthis

dorsal view of head



Onykia

Fig. 4



Onykia

Onychoteuthis

tentacular club

Fig. 5

Anciatroteuthis lichtensteini (Orbigny, 1839)

ONYCHO Anc 1

Onychoteuthis lichtensteini Orbigny, 1839, in 1834-1848, *Hist.Nat.Ceph.Acet.Viv.Foss.*, Atlas, *Onychoteuthis*, pl. 11 and 14.

Synonymy : *Onychoteuthis lichtensteini* Orbigny, 1839.

FAO Names :
En - Angel squid
Fr - Cornet archange
Sp - Luria paloma

Diagnostic Features : Mantle slender, very muscular. Fins strong, lanceolate. Tentacular clubs in adults with 2 median rows of hooks (28), but lacking lateral rows of suckers; carpal pad of club elliptical with 8 to 12 suckers and 8 to 12 pads; 2 flap-like folds in neck area. Rhachis of gladius not visible along dorsal midline of mantle in subadults, visible anteriorly in adults. Light organs lacking on intestinal tract.

Geographical Distribution : Poorly known. Eastern Atlantic: From the Straits of Gibraltar to Angola, in the Mediterranean Sea; Gulf of Mexico; Melanesia. Distribution appears very disjunct because so few specimens have been reported in the scientific literature.

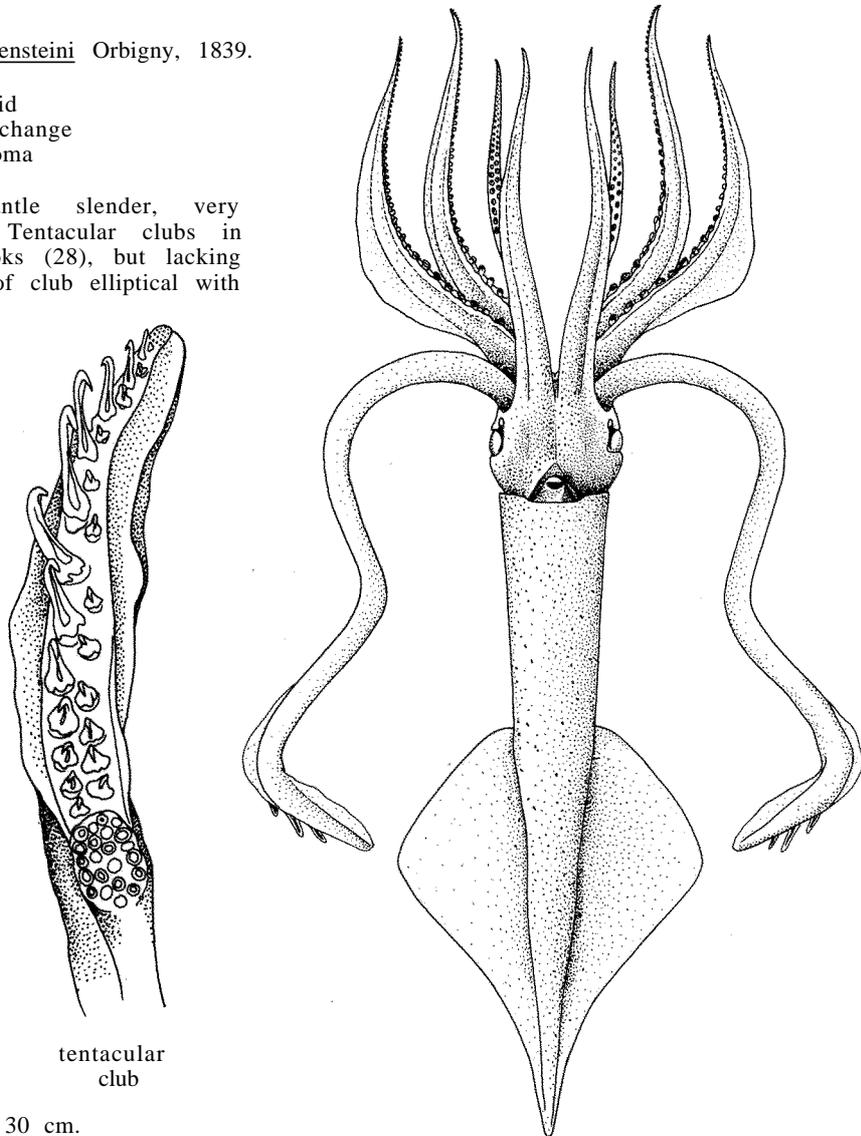
Habitat and Biology : A pelagic species occurring in open warm-temperate waters from the surface to about 250 m depth. In the western Mediterranean it is associated with gravel bottoms during spring and summer. Spawning occurs in the summer. It feeds on epipelagic and upper mesopelagic finfishes and crustaceans, and is in turn preyed upon by marine mammals and pelagic fishes.

Size : Maximum mantle length 30 cm.

Interest to Fisheries : Currently, no directed fishery exists for this species, it is only taken as bycatch in pelagic trawls. However, size and firm consistency of the flesh make it a potential target for a fishery.

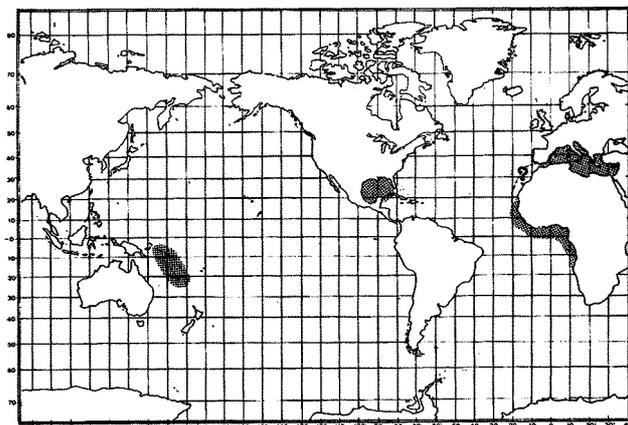
Local Names:

Literature : Okutani (1980).



tentacular club

ventral view



Onychoteuthis banksi (Leach, 1817)

ONYCHO Ony 1

Loligo banksi Leach, 1817, *Zool.Misc.*, 3(30):141.

Synonymy : *Loligo banksi* Leach, 1817.

FAO Names : En - Common clubhook squid
Fr - Cornet crochu
SP - Luria ganchuda

Diagnostic Features : Mantle very robust, muscular; several (9 or 10) elongate, flap-like folds around the dorso-lateral surface of the neck; a large, patch-like photophore on ventral surface of each eye. Fins muscular, with sharp lateral angles, tail pointed, length of fins about 50 to 60% of mantle length. Tentacular clubs with 19 to 23 large, claw-like hooks in 2 rows, no marginal rows of suckers. Gladius visible as a dark line through the skin along midline of mantle. Two large, round, bulbous light organs along ventral midline on intestinal tract.

Geographical Distribution : World-wide in warm and temperate oceanic waters.

Habitat and Biology : An oceanic species occurring from the surface to 150 m depth, but may be found as deep as 800 m; its biology is unknown; high respiration rates suggest it is fast-growing; larvae are abundant in the eastern Atlantic, particularly from January to March.

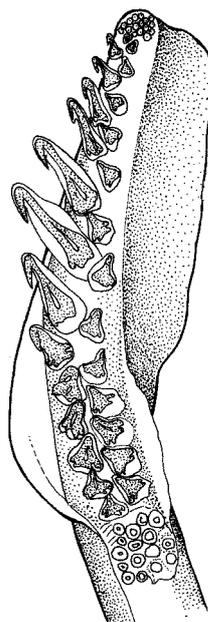
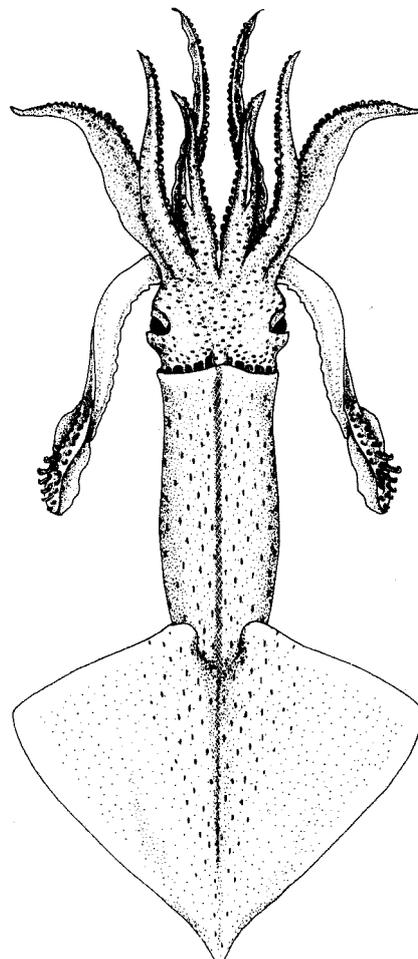
Size : Maximum mantle length 30 cm.

Interest to Fisheries : Currently there are no fisheries directed at this species, but it is frequently dip netted at night. The quality of the flesh as human food is judged to be good; it is occasionally dried and sold for human consumption.

Local Names :

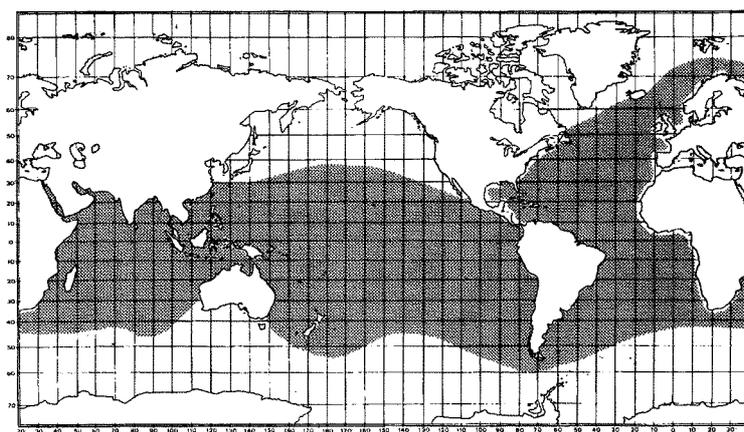
Literature : Abolmasova (1978, respiratory rates).

Remarks : The bite of this squid may be toxic and resembles a wasp sting in its effect.



tentacular club

dorsal view



Onychoteuthis borealijaponica Okada, 1927

ONYCHO Ony 2

Onychoteuthis borealijaponicus Okada, 1927, Bull.Inst.Oceano, 494:7.

Synonymy : *Onychoteuthis banksi* Okada, 1927.

FAO Names : En - Boreal clubhook squid
Fr - Cornet boreal
SP - Luria boreal

Diagnostic Features : Mantle long, slender, muscular (less robust than *O. banksi*). Fins broad, strong, muscular, their length 55 to 60% of mantle length. A large number of hooks on tentacular clubs (25 to 27). Small, oval photophores on intestinal tract.

Geographical Distribution : North Pacific: Japan to USA (replaces *Onychoteuthis banksi* in colder, northern Pacific waters).

Habitat and Biology : An oceanic, pelagic species occurring from the surface down to undetermined depths, most abundant in the northwestern Pacific in surface waters of 9 to 13°C. East of Hokkaido, Japan, adults concentrate along the 10°C isotherm.

The population around the Japanese Islands appears to carry out north-south migrations. Juveniles are exclusively encountered in the warm-water area off southwestern Japan (Kuroshio and the countercurrent area), while adults are exploited in the cold-water zones off Hokkaido, further north. In June they arrive on these fishing grounds and remain there until fall. They migrate back southwards, and spawn in medium depths from late autumn through the winter southwest of Japan.

The species preys on small fishes; cannibalism is common.

Size : Maximum mantle length 37 cm in females, 30 cm in males; maximum weight 1.1 kg.

Interest to Fisheries : Following the decline of the yields of *Todarodes pacificus* this species is being increasingly fished commercially off northwestern Honshu, eastern Hokkaido, and in the northwestern USA, off Washington. It is primarily taken with jigs and drift gillnets. Jigging is particularly successful at night. The photophores make it appear as a dark shadow irradiating pale blue light near the surface. Sometimes it jumps aboard the vessel at night. It has been suggested that it might support commercial fishing operations in the northwestern Pacific north of the subarctic boundary, particularly during late summer and autumn.

Local Names : JAPAN: Tsumeika.

Literature : Murata & Ishi (1977, biology, northwest Pacific); Roberts (1978, resources of New Zealand); Tomiyama & Hibiya (1978); Okutani (1980); Fiscus & Mercer (1982, North Pacific bycatch in surface gillnets); Okutani & Murata (in press); Osako & Murata (in press, fishery).

