4.14 FAMILY THYSANOTEUTHIDAE Keferstein, 1866

THYSANO

Thysanoteuthidae Keferstein, 1866, Bronn's Klass.Ordn.Thierreichs, 1862-66:1445.

FAO Names : En - Rhomboid squids
Fr - Chipilouas
SP - Chipirones

Diagnostic Features : The family is characterized by a funnel locking-cartilage with a long, narrow longitudinal groove and a short, broad transverse groove (-| -shaped); long broad fins in the shape of a rhombus that extend nearly the full length of the mantle; a nuchal-mantle lock with two distinct knobs that fit into opposing pits; extremely long, cirrate trabeculae on the arms; buccal connectives that attach to the ventral borders of arms IV; two rows of suckers on the arms and four rows of suckers on the manus; the absence of photophores.

General Remarks on the Family : Two genera, Thysanoteuthis and Cirrobrachium, are currently included in the family. Cirrobrachium is known only from a few larval forms and a single, larger fragmentary specimen; it is distinguished by long, slender free cirri (trabeculae) on the arms. So little is known about the characters of the two nominal species of Cirrobrachium that the genus is in question. The monotypic species of the other genus, Thysanoteuthis rhombus, attains a large size (at least 100 cm mantle length and 20 kg weight) and is a very powerful swimmer the only species of some interest to fisheries.

Thysanoteuthis rhombus Troschel, 1857

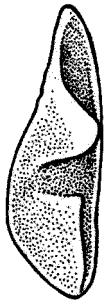
THYSANO Thysano 1

Thysanoteuthis rhombus Troschel, 1857, Arch. Naturgesch.Berlin, 32(1):70.

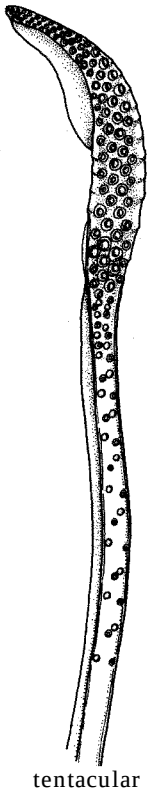
Synonymy : Thysanoteuthis nuchalis Pfeffer, 1912.

FAO Names : En - Diamondback squid
Fr - Chipiloua commun
SP - Chipirón volantín

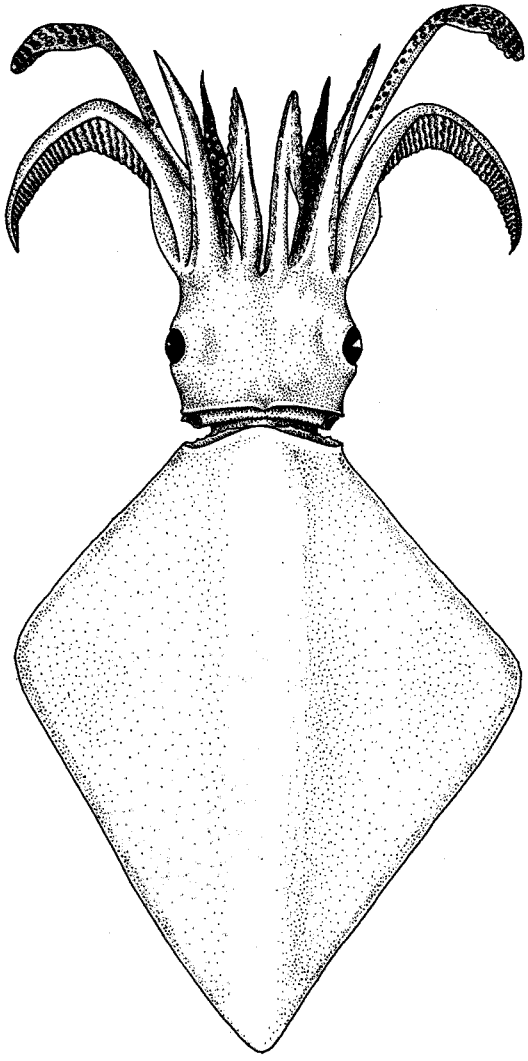
Diagnostic Features : Mantle thick, muscular, tapering to a blunt tip posteriorly. Fins long, broad, rhombic (◇) occupying the entire length of mantle; mantle-funnel locking apparatus -| -shaped. Tentacular clubs with 4 rows of suckers; arms with 2 rows of suckers; buccal connectives attached to ventral borders of arms IV.



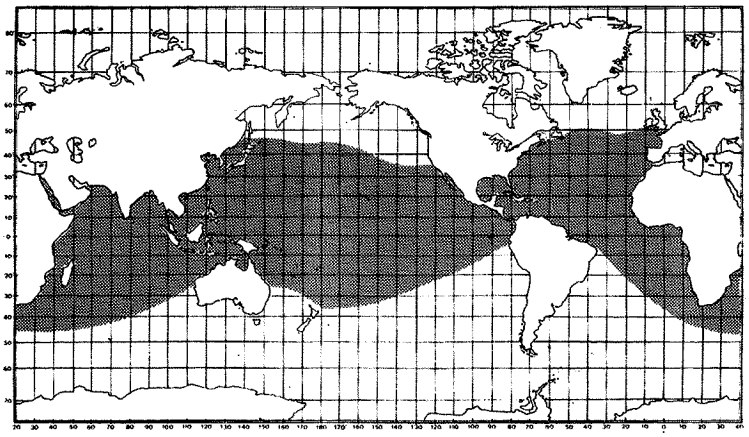
funnel-locking apparatus



tentacular club



dorsal view



Geographical Distribution : Presumed to occur worldwide in warm and warm temperate seas, but limits not well defined.

Habitat and Biology : an epipelagic, oceanic species, often occurring in pairs of small schools in surface waters; the lower limits of its depth distribution are unknown. Off Japan, seasonal migrations with the Kuroshio and Tsushima currents are reported, the squids entering the Japan Sea from the south. The spawning season and areas are unknown, but 'sausage'-like, gelatinous egg masses measuring 60 to 70 cm in length and about 15 to 20 cm in diameter are encountered floating at or near the surface. Adults are very powerful swimmers and are reported to jump occasionally on to the deck of boats. They are also known from strandings. Predators include sperm whales and blue marlins.

Size : Maximum mantle length 100 cm and weight 20 kg; common to 60 cm mantle length.

Interest to Fisheries : In the Japan Sea a local fishery exist on this species. The fishing fleet consists of small units of about 5 tons numbering up to 200 in the peak fishing season. Catches are better at night with drifting jigs, but the species is also taken during the day. Off the west coast of mid-Honshu set nets are the preferred gear.

Local Names : JAPAN: Ootobiika, Sodeika, Taruika.

Literature : Clarke (1966, migration); 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).

4.15 FAMILY CRANCHIIDAE Prosch, 1849

CRANCH

Cranchiidae Prosch, 1849, Kong.Dans.Viden.Selsk., (5)1:71.

FAO Names : En - Cranch squids
Fr - Encornets outres
Sp - Cranquilurias

Diagnostic Features : The family Cranchiidae contains a great diversity of species which exhibit a wide variety of basic characters. One prominent character, however, easily distinguishes all members of the group: the mantle is fused to the head in the nuchal region and to the funnel at its two posterolateral corners. Buccal connectives attach to the ventral borders of arms IV; the armature of the clubs generally is in four longitudinal rows; the arms generally have biserial suckers; hooks occur in some species; photophores are present.

The numerous cranchiid genera are grouped under two subfamilies, the Cranchiinae and the Taoniinae.

The Cranchiinae is characterized by the presence of cartilaginous strips bearing tubercles on the ventral surface of the mantle originating at the funnel-mantle fusions and extending posteriorly by the lateral fusion of the funnel to the ventral surface of the head in the adult stage, and by one or more rows of small, round photophores on the eye. This subfamily contains the genera Cranchia, Liocranchia and Leachia.

The Taoniinae is characterized by the absence of cartilaginous strips that extend posteriorly from the funnel-mantle fusions, by the presence of a funnel that is free laterally, and by the presence of one to three generally crescent-shaped photophores on the eyes. This subfamily contains numerous and diverse species that are arranged in several genera, many of which are based on larval forms (e.g. Fusocranchia, Teuthowenia, and Taonidium). The genera are: Taonius, Egea, Sandalops, Liguriella, Teuthowenia, Megalocranchia, Helicocranchia, Galiteuthis, Bathothauma, and Mesonychoteuthis.

An illustrated key to the genera of this family is given by Voss (1980).

The monotypic genus Mesonychoteuthis, represented only by M. hamiltoni is the only one considered to be of potential interest to fisheries at the present time. It has large hooks on both the tentacles and arms; it attains a total length of at least 4 m. A related genus, Galiteuthis, has large hooks only on the tentacular clubs. Taonius has a few greatly enlarged teeth, closely approximating hooks, that arise from the sucker rings on the tentacular clubs.

Mesonychoteuthis hamiltoni Robson, 1925

CRANCH Meso 1

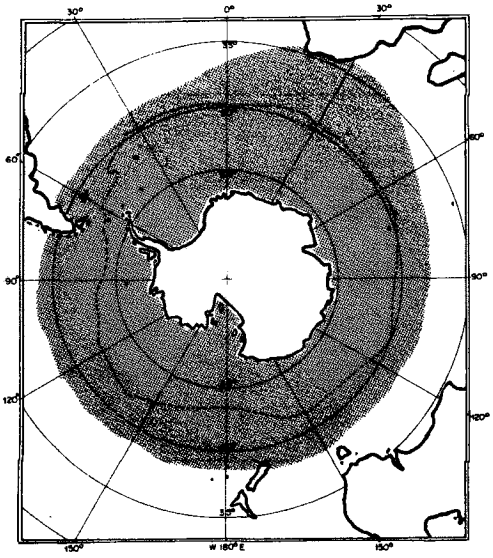
Mesonychoteuthis hamiltoni Robson, 1925, Ann.Mag.Nat.Hist., (9)16:272.

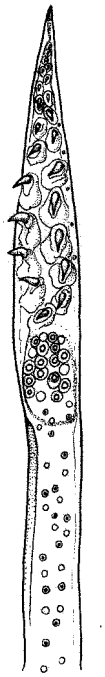
Synonymy : None.

FAO Names : En - Antarctic cranch squid
Fr - Encornet outre commun
Sp - Cranquiluria antártica

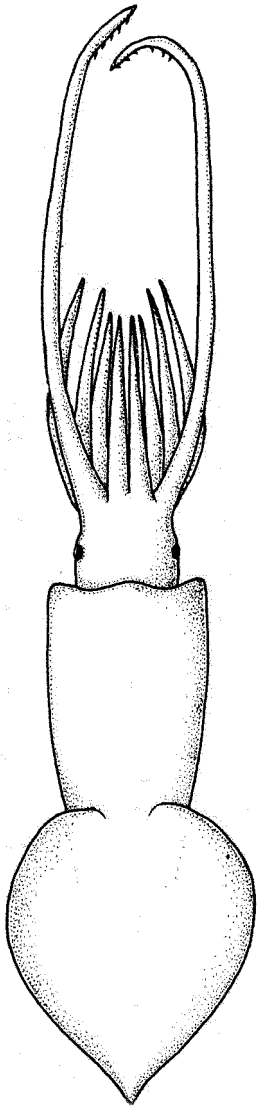
Diagnostic Features : This is a very larg e species. Mantle broad, tapering in its posterior third to a long, narrow, sharply pointed tail; mantle wall up to 5 to 6 cm thick, soft, slightly semigelatinous; mantle fused to head dorsally at neck and ventrally to the funnel at the site of the locking cartilages. Fins over half as long as mantle, heart-shaped, broad, muscular. Head narrower than mantle. Tentacular clubs relatively unexpanded, lacking swimming keels and protective membranes, with 2 rows of well-developed hooks medially on manus (up to 22) and minute lateral suckers; 4 rows of minute suckers on dactylus. Arms very thick, muscular, long, attenuate at tips, with broad protective membranes basally, mid-portion with 3 to 11 pairs of hooks, distal third with suckers.

Geographical Distribution : Southern Ocean, circumpolar, primarily south of Antarctic Convergence, occasionally north in cold waters to off South Africa.





tentacular club



dorsal view

Habitat and Biology : A mesopelagic species, ranging in depth from 200 to 600 m; a relatively passive swimmer. Feeds on mesopelagic fishes (Myctophidae, Paralepididae) and squids and is very heavily preyed upon by sperm whales at 400 to 600 m during the sperm whales feeding migration to the Southern Ocean in summertime; juveniles are occasionally also preyed upon by albatrosses.

Size : Maximum mantle length 250 cm; total length exceeds 4 m; maximum weight 150 kg; matures at mantle lengths greater than 100 cm and 25 to 30 kg weight; spermatophores are 17 to 27 cm long.

Interest to Fisheries : Thisspeciesis believed to have some potential for a fishery. The flesh is said to be of excellent quality and very flavourful. Klumov & Yukhov (1975) estimate that 1 or 2 million tons can easily be taken in view of reduced sperm whale predation (whole population decline); total reserves estimated at 90 million tons (biomass); but fishing methods have not yet been developed.

Local Names :

Literature : Voss (1980, generic revision of family).

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