Uroteuthis chinensis

Mitre squid

Taxonomy

KINGDOM	PHYLUM	CLASS
Animalia	Mollusca	Cephalopoda
ORDER	**FAMILY**	**GENUS**
Myopsida	Loliginidae	Uroteuthis

▼ Taxonomy in detail

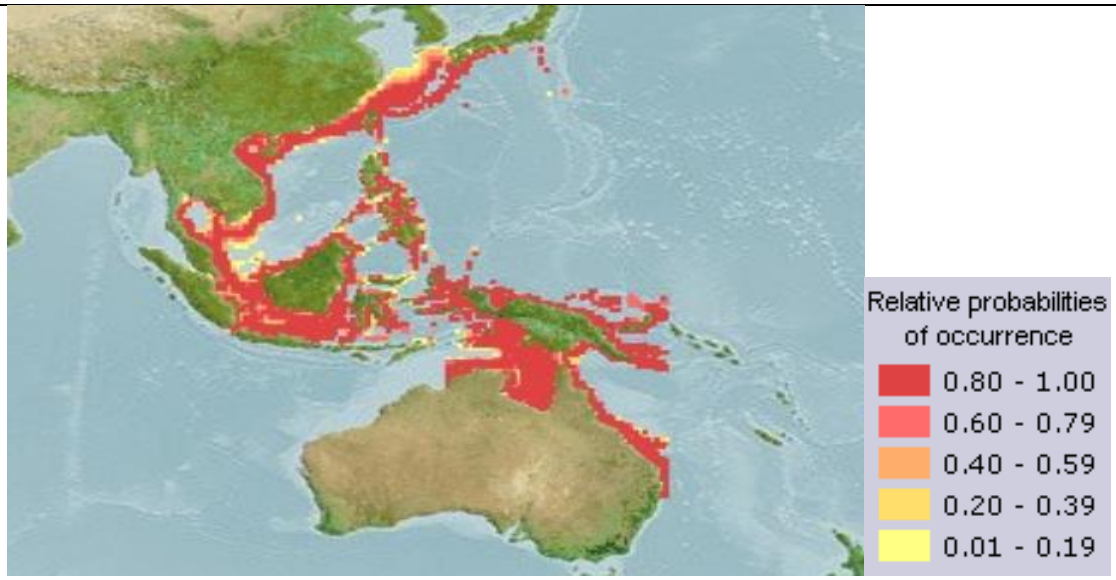
SCIENTIFIC NAME	AUTHORITY
Uroteuthis chinensis	(Gray, 1849)

SYNONYMS	COMMON NAMES
Loligo chinensis Gray, 1849 *Loligo etheridgei* Berry, 1918 *Loligo formosana* Sasaki, 1929	English Mitre Squid, Chinese Squid

A. Environment/Ecology:

Demersal; non-migratory (Ref. 75930); depth range 15 - 170 m (Ref. 275), usually 40 - 150 m (Ref. 75930). Tropical; 21°C - 29°C (Ref. 75934); 34°N - 30°S, 99°E - 154°E (Ref. 275)

B. Distribution:



Note: Distribution range colours indicate degree of suitability of habitat which can be interpreted as probabilities of occurrence.

Indo-West Pacific.

C. Length at first maturity / Size / Weight / Age:

Maturity: L_m ?, range 6 - 8 cm Max length : 30.0 cm ML male/unsexed; (Ref. 275)

D. Short description

Uroteuthis is a genus of 14 species of common inshore squids of the Indo-West Pacific and is further subdivided into 3 subgenera. The members of the genus Uroteuthis are the only squids of the family Loliginidae that possess photophores (light-emitting organs) and all species in the genus have a pair of photophore organs on the ventral surface of their ink sac either side of their intestine.

Uroteuthis species range in size between 3 cm to 100 cm (mantle length). As with all other members of the family Loliginidae, they have a cornea that covers the lens of each eye, and have a gladius that extends the full length of the mantle and a gill that has a branchial canal.

E. Biology

Also caught by scoop nets and bamboo stake nets. Members of the class Cephalopoda are gonochoric. Male and female adults usually die shortly after spawning and brooding, respectively. Mating behavior: Males perform various displays to attract potential females for copulation. During copulation, male grasp the female and inserts the hectocotylus into the female's mantle cavity where fertilization usually occurs. Life cycle: Embryos hatch into planktonic stage and live for some time before they grow larger and take up a benthic existence as adults (Ref. 833).

F. Life cycle and mating behavior

Members of the class Cephalopoda are gonochoric. Male and female adults usually die shortly after spawning and brooding, respectively. Mating behavior: Males perform various displays to attract potential females for copulation. During copulation, male grasp the female and inserts the hectocotylus into the female's mantle cavity where fertilization usually occurs. Life cycle: Embryos hatch into planktonic stage and live for some time before they grow larger and take up a benthic existence as adults.

G. Fisheries

The mitre squid is both targeted and taken as bycatch throughout its range, but is not recorded separately in landing statistics. Jereb et al. (2010) estimate that this species comprises half the squid catch in the South China Sea, while Arkhipkin et al. (2015) estimate that it accounts for up to 90% of the total Chinese loliginid catch with a maximum catch of 100,000 tonnes. It is the predominant squid species in the Taiwan Strait (Liao et al. 2010) and is seasonally very common in Taiwanese fish markets (C.C. Lu, personal communication). This species represents about 76-80% of loliginid squid landings from squid light luring fisheries in Thai Waters (Songjitsawat and Sookbuntoeng 1988) and is the most commonly caught species in the East Indian Ocean (Arkhipkin et al. 2015). There are three main fishery areas in the South China Sea, each with different fishing seasons. The southern part of Hainan Island is fished April to September. The southwest part of Beibu Gulf is fished April to January. The Taiwan shoal is fished April to September. There is some variation in catch per unit effort across years (Arkhipkin et al. 2015), but no real trend.

H. IUCN Red List Status

- **Geographic Range**
  NUMBER OF LOCATIONS
  UPPER DEPTH LIMIT : 10 metres
  LOWER DEPTH LIMIT :170 metres

  RANGE DESCRIPTION
  The mitre squid is widely distributed in coastal waters throughout the Indo-west Pacific. It has a depth range of 10-170 m but is most commonly found in the 30-50 m depth bracket (Arkhipkin et al. 2015). It is reported from the southern tip of India and Sri Lanka and throughout the Bay of Bengal, extending southwards down the Malay Peninsula to Indonesia. It has been recorded throughout the Indo-west Pacific as far east as Papua New Guinea, southwards to northern, eastern and western coasts of Australia, and northwards to the Philippines, the South China Sea, the Gulf of Thailand, and coastal waters of continental Asia as far north and east as Japan and southeast Russia (Chotiyaputta et al. 1992, Nateewathana 1992, Jereb et al. 2010).
- **Population**
  CURRENT POPULATION TREND : UNKNOW
  DESCRIPTION
  There is no information on the population status and trends of this species.
- **Habitat and Ecology**
  System : Marine
  Habitat type : Marine Neritic
  HABITAT AND ECOLOGY *DETAIL*
  The mitre squid is a large-sized species: males grow to 49 cm mantle length, females to 31 cm mantle length, although they are commonly smaller than this. Males and females reach maturity at around 16 cm and 14 cm mantle length respectively, and maturity appears to be related to size rather than age. The sex ratio is 1:1.5 males to females (Arkhipkin *et*

al. 2015). They spawn throughout the year but seasonal peaks in spawning activity are found. In Thai waters, these occur in March-June and August-November (Chotiyaputta 1995). Fecundity ranges from 3,000 to 20,000 eggs (Arkhipkin et al. 2015).

- **THREATS**
  Biological resource use
  Fishing & harvesting aquatic resources
  Fishing is a potential threat to this species.
- **Use and Trade**
- **Conservation Action**
  There is a fishing ban in spawning grounds during the breeding season (Arkhipkin et al. 2015); it is not known whether any further conservation measures are needed. Research is required on the life history of the mitre squid, its population status and trends, and the impacts of fishing throughout its range.

I. More Information:

1) Stocks

There is some variation in catch per unit effort across years (Arkhipkin et al. 2015), but no real trend. There is no information on the population status and trends of this species.

2) Ecology

Ecology of ***Uroteuthis chinensis***

Substrate

Substrate	**Benthic**: mobile; demersal;

3) Diet

Feeding

feeding type	mainly animals (troph. 2.8 and up)
feeding type ref	Yunrong, Y., L. Yuyuan, Y. Shengyun, W. Guirong, T. Yajin, F. Qibin and L. Huosheng, 2013
feeding habit	hunting macrofauna (predator)
feeding habit ref	Yunrong, Y., L. Yuyuan, Y. Shengyun, W. Guirong, T. Yajin, F. Qibin and L. Huosheng, 2013

trophic level(s)

	original sample		**unfished population**		**Remark**
estimation method	Troph	s.e.	Troph	s.e.	
From diet composition					

	Ref.					
	From individual food items	3.87	0.47			Trophic level estimated from a number of food items using a randomized resampling routine.

4) Reproduction

Reproduction of ***Uroteuthis chinensis***

Main Ref.	Ruppert, E.E., R.S. Fox and R.D. Barnes, 2004
Mode	dioecism
Batch Spawner	No
Description of life cycle and mating behavior	Members of the class Cephalopoda are gonochoric. Male and female adults usually die shortly after spawning and brooding, respectively. Mating behavior: Males perform various displays to attract potential females for copulation. During copulation, male grasp the female and inserts the hectocotylus into the female's mantle cavity where fertilization usually occurs. Life cycle: Embryos hatch into planktonic stage and live for some time before they grow larger and take up a benthic existence as adults.
Search for more references on reproduction	Scirus

5) Maturity

Maturity studies for ***Uroteuthis chinensis***
n = 2

Sort by Lm Country Locality tm

Lm (cm)	Length (cm)			Age range (y)			tm (y)	Sex of fish	Country	Locality
	5.5	-	8.0		-			female	China	Not specified, China
14.1 ML	4.6	-	12.8		-			male	China	Not specified, China

6) Spawning

The mitre squid is a large-sized species: males grow to 49 cm mantle length, females to 31 cm mantle length, although they are commonly smaller than this. Males and females reach maturity at around 16 cm and 14 cm mantle length respectively, and maturity appears to be related to size rather than age. The sex ratio is 1:1.5 males to females (Arkhipkin et al. 2015). They spawn

throughout the year but seasonal peaks in spawning activity are found. In Thai waters, these occur in March-June and August-November (Chotiyaputta 1995).

7) Spawning aggregation

???

8) Fecundity

Fecundity ranges from 3,000 to 20,000 eggs (Arkhipkin et al. 2015).????

9) Eggs

???

10) Egg development

???

11) Age/Size

???

12) Growth

Growth parameters for ***Uroteuthis chinensis***

Maximum Length 30cm ML
n = 3
Note that studies where Loo is very different (+/- 1/3) from Lmax are doubtful.

Auximetric graph [n = 1]
ø = 3.46 **L inf** = 42.0 cm ML **K** = 1.7
Median record no. 2
Ref. 94032

Loo (cm)	Length Type	K (1/y)	Temp° C	Ø'	Country	Locality	Questionable	Captive
40.90	DL	0.490		2.91		Gulf of Thailand	No	No
42.00	ML	1.650	29.50	3.46	Thailand	Gulf of Thailand	Yes	No
44.10	ML	1.730	29.40	3.53	Thailand	Andaman Sea Coast	Yes	No

13) Length-weight

Length-Weight Parameters for *Uroteuthis chinensis*

Length-weight (a vs b) graph	[n=10]	Median Record No. 6 **a** = 0.2132 cm ML **b** = 2.2148

Sort by ◉ b ○ Country ○ Locality

a	b	Doubtful?	Sex	Length (cm)	Length type	No.	Country	Locality
1.1523	1.631	No	female		ML	450	Indonesia	Brondong
0.9693	1.684	No	mixed		ML	882	Indonesia	Brondong
0.7794	1.754	No	male		ML	432	Indonesia	Brondong
0.5210	1.803	No	male	8.4 - 37.0	ML	169	Indonesia	Bangka Regency
0.3964	1.820	Yes	male	5.0 - 28.6	ML	91	Thailand	Andaman Sea / 2005-2005
0.2132	2.215		unsexed		ML		China	Hainan Islands to Taiwan, 1997-1999
0.4946	2.217		unsexed		ML		China	South China Sea, 1997-1999
0.2204	2.229		unsexed		ML		China	Beibu Gulf, 1997-1999
0.1560	2.290	Yes	female	4.6 - 23.5	ML	32	Thailand	Andaman Sea / 2005-2005
0.1652	2.315	No	female	7.8 - 25.2	ML	223	Indonesia	Bangka Regency

14) Length-length

???

15) Length-frequencies

???

16) Morphometrics

???

17) Morphology

???

18) Larvae

Larvae Information Summary for *Uroteuthis chinensis*

Main Ref:	Dong, Z. 1991

Yolk-sac larvae

	max	**min**	**mod**	**Ref.**
Length at birth (mm)			0.3	75929
Larval area	Unspecified (China)			

19) Recruitment

20) Abundance

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