

FIRST RECORD OF OCEANIC SQUID, *THYSANOTEUTHIS RHOMBUS* TROSCHEL, 1857 (CEPHALOPODA: TEUTHOIDEA) IN THAI WATERS¹

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ABSTRACT

Three specimens of the oceanic squid, *Thysanoteuthis rhombus* Troschel, 1857, have been collected from the Andaman Sea coast of Thailand. Descriptions and illustrations of the species, which is new for Thailand, are given.

INTRODUCTION

During studies on cephalopods from the Andaman Sea, three specimens of oceanic squids, *Thysanoteuthis rhombus*, were discovered. This is the first definite record of this species for Thailand.

The species was first described by TROSCHEL in 1857 from the Mediterranean Sea. The family Thysanoteuthidae was erected by KEFERSTEIN (1866). Two genera, *Thysanoteuthis* Troschel, 1857 and *Cirrobrachium* Hoyle, 1904, are currently included in it. However, *Cirrobrachium* is known only from a few larval forms and a single, larger fragmentary specimen. So little is known about the characters of the two nominal species of *Cirrobrachium* that the genus is in question (ROPER et al., 1969). Therefore, only the validity of the monotypic genus *Thysanoteuthis* is certain at the present time (ROPER et al., 1984).

Numerous records of this species exist in the literature. CLARKE (1966) summarized the distributional records of the species as from the eastern-western North Atlantic, the Mediterranean Sea, the South Atlantic off the Cape of Good Hope, Ningpo in China, and from both sides of the main island of Japan and the Bonin Islands. NISHIMURA (1966) and OSAKO & MURATA (1983) reported catches from the East China Sea and Japan. FILIPPOVA (1968) recorded the presence of *T. rhombus* in the Indian Ocean for the first time. RANCUREL (1970) and LU & DUNNING (1982) reported *T. rhombus* from the South-west Pacific and Australian Waters. The species is presumed to occur worldwide in warm seas, but limits are not well defined.

MATERIALS AND METHODS

Two specimens; female (PMBC no. 6024) and male (PMBC no. 6025), mantle length 450 and 445 mm respectively, from electric luring lamp – dip net of the

¹ Miscellaneous Contribution No. 29 from the Phuket Marine Biological Center, Thailand

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fishing boat Veerapramong 21, Koh Ha, Krabi Province, Thailand, Coll. Mr. Somboon Thamrongkiatkul, 23 March 1979.

One additional specimen; female, mantle length 425 mm, from fishing harbour, Ranong Province, Thailand. 1982. Kept for display at Phuket Aquarium.

The specimens were preserved in 10% formalin and transferred to 70% alcohol for permanent storage and deposited in the Phuket Marine Biological Center (PMBC) Reference Collection. In the description of the specimens, the terminology and measurements are chiefly those of ROPER & VOSS (1983).

DESCRIPTION OF SPECIMENS

Animal big, skin smooth, pale reddish-brown colour. Mantle long, thick, muscular, truncate anteriorly and tapers to a blunt tip posteriorly (Fig. 1a).

Fins long, broad, rhombic, occupying almost the entire length of mantle. Gladius with long rachis and broad vane (Fig. 2b). The head is somewhat wider than long, separated from the body by a distinct neck region. The eyes are prominent but not projecting and in open contact with seawater.

The funnel is stout, well-developed, extends to about mid-eye level (Fig. 2a). The funnel organ consists of an inverted V-shaped dorsal component with two opposed oblong ventral pads. Funnel valve is well developed. The funnel-mantle locking-cartilage with a longitudinal groove from which a shorter groove branches medially, \rightarrow shaped (Fig. 3a-b)

The arms are subequal, in the formula III. II. IV. I., with well-developed dorsal keel only on I and II. The arm suckers are biserial, bordered on each side by a protective membrane. Extremely long, cirrate trabeculae occur on the ventral side of arms I, II and III. Rings of suckers usually with about 22–25 pointed teeth (Fig. 3c). Buccal connective attached to ventral borders of arms IV.

The tentacles (Fig. 1b) are long, about twice the length of arms, or less, with 1/2 of length occupied by the club. The club is bordered on each side by well developed protective membranes and bears one row of small carpal suckers on middle third of stalk, changing to four transverse rows of big suckers on the manus, which are nearly uniform in size to the end of the club. Rings of suckers with about 17 pointed teeth.

The internal anatomy was not investigated.

The measurement and indices of the 3 specimens are listed in Table 1.

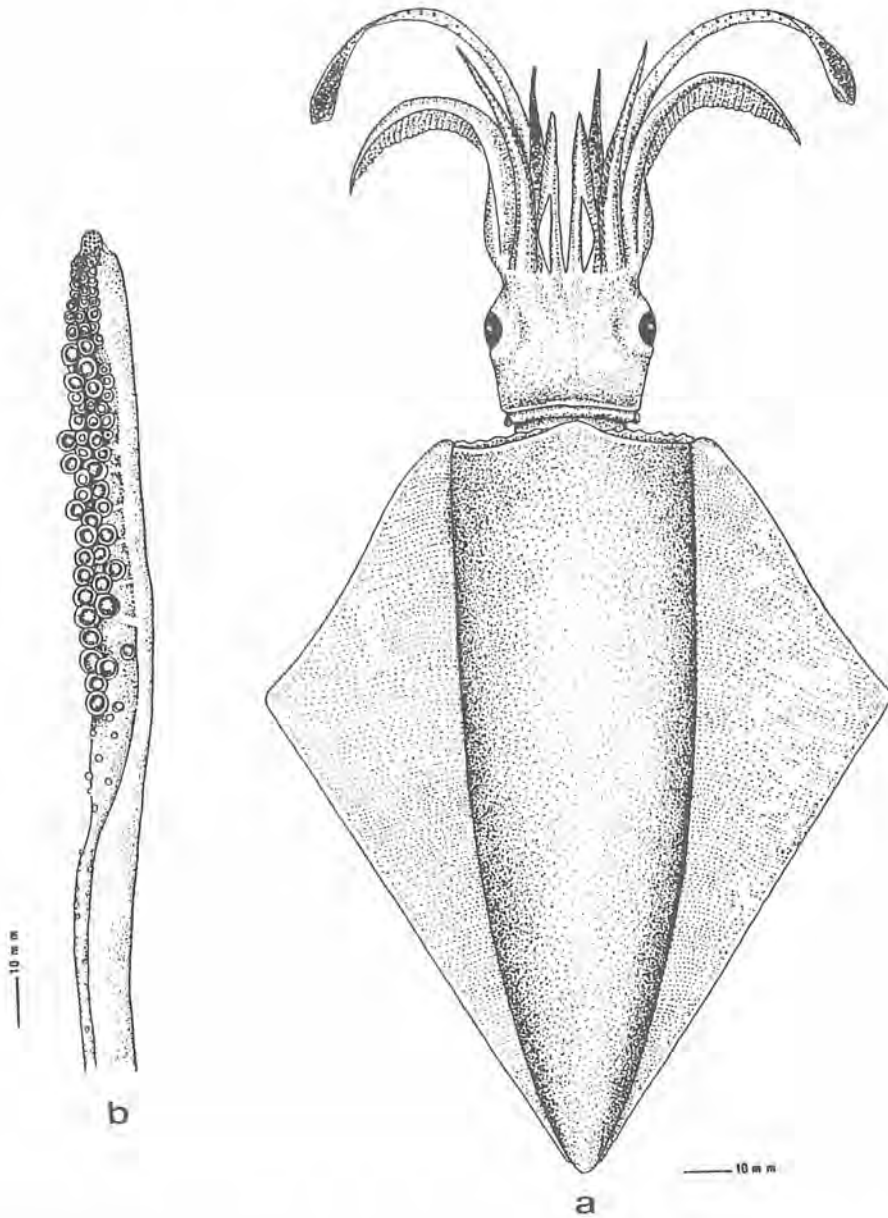


Figure 1. Dorsal view (a) and tentacle (b) of a female *Thysanoteuthis rhombus* from the Andaman Sea coast of Thailand (PMBC no. 6024).

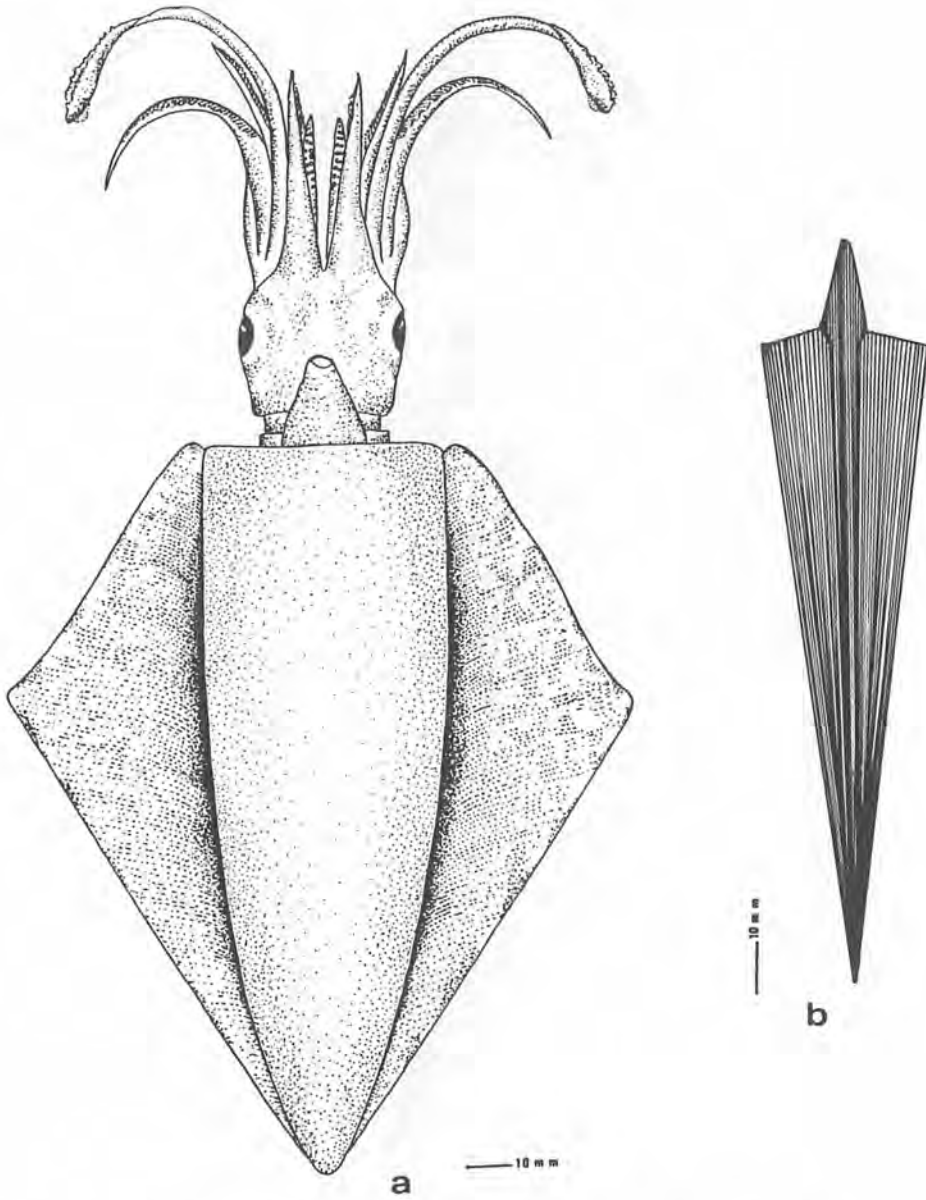


Figure 2. Ventral view (a) and gladius (b) of the same specimen as Fig. 1.

Table 1. Measurements (mm) and indices of 3 *Thysanoteuthis rhombus* specimens from the Andaman Sea, coast of Thailand.

Parameter	PMBC no. 6025	PMBC no. 6024.	Phuket Aquarium
Sex	male	female	female
Total Length (TL) in mm	820	825	925
Mantle Length (ML) in mm	445	450	525
Mantle Width Index (MWI)	35.3	35.6	34.3
Gladius Length (GL) in mm	*	450	*
Gladius Length Index (GLI)	*	100	*
Gladius Width Index (GWI)	*	20.2	*
Rachis Length Index (RLI)	*	12.2	*
Rachis Width Index (RWI)	*	3.3	*
Fin Length Index (FLI)	88.8	100	95.2
Fin Width Index (FWI)	86.3	87.8	93.3
Arm Length Index- (ALI-III)	43.1	41.1	41.3
Club Length Index (CILI)	33.7	46.7	45.1
Sucker teeth Count (STC)	25	22	24
Head Length Index (HLI)	15.7	15.6	16.2
Head Width Index (HWI)	23.6	23.3	22.5

N.B. * Specimens were not dissected. Abbreviations follow the recommendations of ROPER & VOSS (1983).

Remarks: ROELEVELD & PHEIFFER (1987) reported for the first time that the male *Thysanoteuthis rhombus* (ML 190 mm) has the left ventral arm (arm IV) modified to form a hectocotylus like many other kinds of squids. The hectocotylus is characterized by having the suckers towards the tip of the left arm markedly reduced in size, particularly on the ventral side of the arm when compared with the normal right arm, and the ventral protective membrane is expanded and strongly ribbed. The hectocotylus does not occur in our male specimen.

T. rhombus attains a large size (at least 100 cm mantle length and 20 kg weight) and is a very powerful swimmer (ROPER et al., 1984). Records of catch by commercial fisheries of this species are known from Japan (OSAKO & MURATA, 1983). The species is also distributed in the Indian Ocean but probably in smaller abundance. The prospects of commercial fishing of these species are not entirely known, but it is said that they usually do not form a large or dense school (CHIKUNI, 1983). NISHIMURA (1966) reported that *Thysanoteuthis rhombus* is generally found in male-female couples, and thus two individuals are caught together in most cases. If one individual of a couple is taken the other will remain about in search of its missing companion.

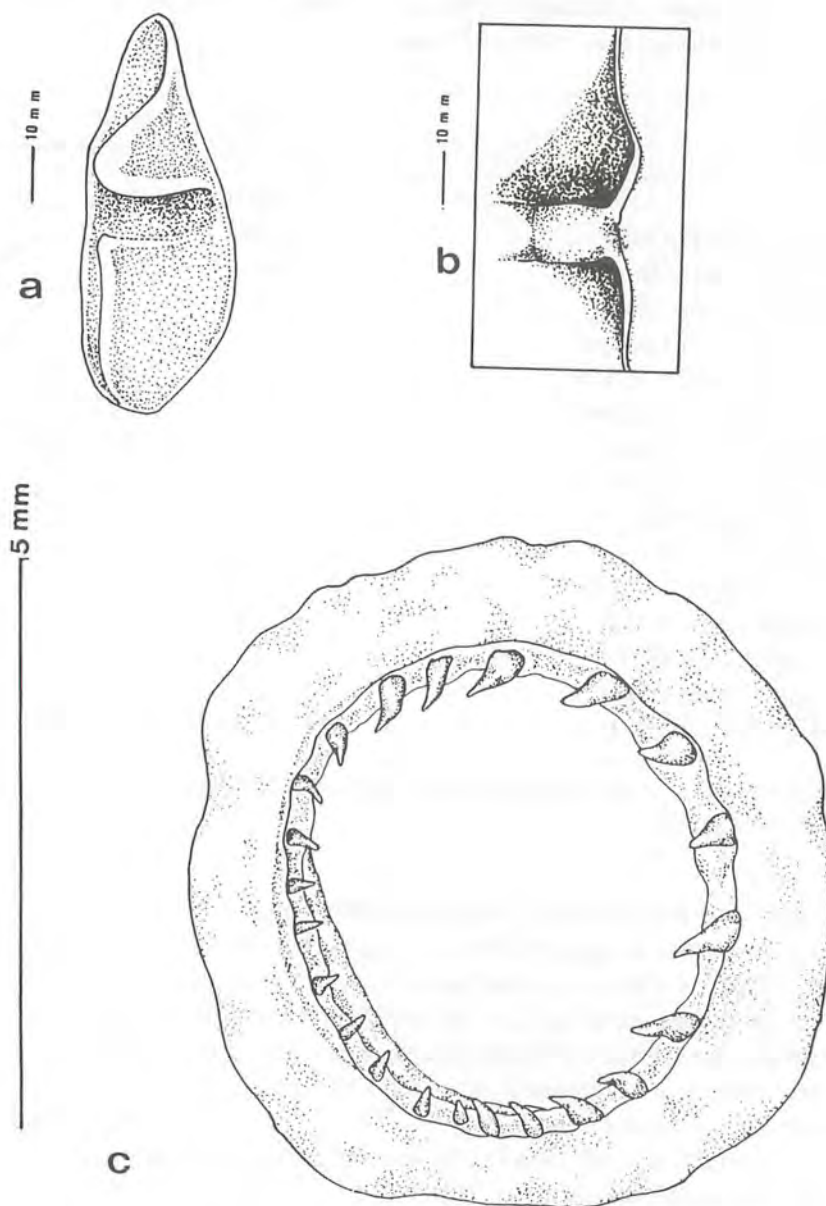


Figure 3. The funnel mantle locking cartilage (a and b) and sucker of arm III (left) of the same specimen as Fig. 1.

ACKNOWLEDGEMENTS

The authors would like to express their thanks to Mr. Somboon Thamrongkiatkul who collected and donated the specimens to the PMBC Reference Collection, to Mrs. Oonchit Bhatia and Mr. Supot Chantrapornsyl of the Phuket Aquarium Section, PMBC, for their generous loan of the specimen, to Mr. Sakol Nuampan for drawing the figures and to Mr. Jumrone Keogaeo for typing the manuscript.

The authors also are indebted to Dr. C. C. Lu of the National Museum of Victoria and Dr. W. Y. Brockelman for providing helpful comments on the final manuscript.

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