

**FIRST RECORD OF *ACANTHOSPHEX LEURYNNIS* (JORDAN & SEALE, 1906),
A RARE VELVETFISH (SCORPAENIFORMES: APLOACTINIDAE)
IN THE GULF OF THAILAND**

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ABSTRACT

Seventeen specimens of velvetfish species *AcanthospheX leurynnis* of the Aploactinidae were found among trash fish collected from Trat, Gulf of Thailand. This appears to be the first record of the species in Thailand. A morphological description, as well as a brief discussion of the possible habitat of this species, are provided.

INTRODUCTION

Velvetfishes (Family Aploactinidae) comprise a poorly known group of Indo-West Pacific scorpaenoids. They are small to very small in size and of no commercial importance. Until now, altogether approximately 40 species have been so far described (POSS, 1984). Members of this family are characterized by modified scales or tubercles (giving the skin a velvet-like appearance), dorsal fin originating far forward on head, unbranched rays in all fins and general absence of distinct pungent spines. In addition, many possess blunt, knob-like head spines. In appearance, aploactinid fishes look like young stages of scorpaenids and may have been often overlooked for this reason.

The specimens of *AcanthospheX leurynnis*, 17 in number, were collected during a small-scale fishery survey in the village of Ao Cho, Trat Province (12 04' N, 102 33' E) carried out by the second author, from March to August 1987. They were found among samples of trash fish landed by small shrimp otter-board stern trawlers. A sample of 8 were identified as *AcanthospheX leurynnis* by Dr. W. Eschmeyer and Dr. S. Poss, through descriptions provided by the authors.

The biology and habitat of this species are practically unknown, due to its rarity and lack of economic interest. *AcanthospheX leurynnis* has been previously recorded for the South China Sea near Hong Kong (type locality, JORDAN & SEALE, 1906), and South-east India (RAMAYAN & RAO, 1970).

Prosoprodasy leurynnis JORDAN & SEALE, 1906 formerly placed in Family Scorpaenidae, was placed in the genus *AcanthospheX* by Fowler in 1938. Later DE BEAUFORT (1952) included it in the newly created Family Bathyploactidae, along

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with the genera *Klewegia* de Beaufort (1952) and *Bathyaploactis* Whitley (1933), based on the fact that all three genera share characteristics which differentiate them from other aploactinid genera, then included in the sub-family Aploactininae of the Scorpaenidae. Those characteristics are gill openings restricted to the side of the head, gill membranes attached to the isthmus, somewhat pungent dorsal spines, preorbital spines enlarged and few or no prickles present on the skin. Members of the Aploactininae (recognized by some authors as a separate family, Alpoactidae) and of Bathyaploactidae were later incorporated in the family Aploactinidae by POSS & ESCHMEYER (1978).

Many aploactinid genera are monotypic. *Acanthosphex* was believed to be one of them, but recently Poss (pers comm.) noticed a still doubtful species from Japan.

METHODS

Standard point-to-point measurements were taken on 15 specimens using a digimatic caliper accurate to hundredths of mm. In addition, 2 more specimens were used for gill raker counts only. Body proportions were computed to the hundredths of standard length, except for snout length, upper jaw length, eye diameter and interorbital width, which were calculated in hundredths of head length.

All specimens studied (17) were catalogued and deposited at the Kasetsart University Museum of Fisheries (KUMF), Bangkok, Thailand.

SPECIMENS EXAMINED

KUMF 2987, 3 specimens (19.65 – 20.78 mm SL). Ao Cho, Trat, eastern coast of Thailand. Caught southeast of Koh Mai Si Island, Sofia Bettencourt, 26 March 1987.

KUMF 2988, 2 specimens (17.25 – 19.73 mm SL). Same locality, same fishing ground as above, Sofia Bettencourt, 25 March 1987.

KUMF 2989, 3 specimens (15.32 – 19.73 mm SL). Same locality. Caught between Koh Mai Si and Koh Kradat Islands and southeast, Sofia Bettencourt, 21 June, 23 June, 26 July 1987. (Donated to Chulalongkorn University Museum of Zoology, Bangkok, Thailand).

KUMF 2990, 1 specimen (19.09 mm SL). Same locality. Caught east of Koh Mai Si and Koh Kradat Islands, Sofia Bettencourt, 26 July 1987.

KUMF 2991, 8 specimens (15.47 – 20.09 mm SL). Same locality, same fishing ground as above, Sofia Bettencourt, 28 May, 26 July, 19 August 1987.

Note: Sex of specimens unknown.

DESCRIPTION

Prosopodasys leurynnis Jordan and Seale, U.S. Nat. Mus. Proc. 29 (1906, 517 – 518, Hong Kong.

Table 1. Morphometric and meristic data for *Acanthosphex leurynnis* in % SL (except length of snout and upper jaw, eye diameter and interorbital width which are in % HL.).

Character	Range	Mean (n=15)
Dorsal fin rays	III, IV (VIII); 7-9	
Pectoral fin rays	9-10	
Ventral fin rays	I, 2	
Anal fin rays	I, 7-8	
Caudal fin rays	14	
Gill rakers	7-8	
Total length (mm)	18.2-26.7	
Standard length (mm)	15.3-20.8	
Head length	32.0-42.0	37
Head depth at 1st dorsal spine	25.0-32.0	28
Body depth at 2nd dorsal	25.0-32.0	30
Caudal peduncular length	8.0-16.0	12
Height of 1st dorsal spine	19.0-25.0	22
Total length of dorsal	73.0-87.0	79
Pectoral length	26.0-39.0	33
Ventral length	16.0-23.0	19
Anal length	20.0-32.0	25
Snout length	21.0-29.0	25
Upper jaw length	37.0-49.0	42
Eye diameter	18.0-26.0	23
Interorbital width	12.0-17.0	14

Acanthosphex leurynnis, Fowler, U.S. Nat. Mus. Proc. 85 (1938) 86.

Head stout, somewhat compressed, snout slightly straight in profile. Preorbital with a large bifurcate spine. Preoperculum with 4 spines decreasing in length from upper to lower with blunt tips and projected backwards. Mouth slightly oblique, maxillary reaching below posterior eye margin. Mandible slightly longer, bearing a pair of minute flattened chin barbels. Fine villiform teeth on jaws and vomer, none on palatines.

Body oblong, not extremely compressed, slender posteriorly. Caudal peduncle 8-16% of SL. Body and head bearing no scales or prickly tubercles. Lateral line with 8-9 pores, the last entering the end of the hypural plate.

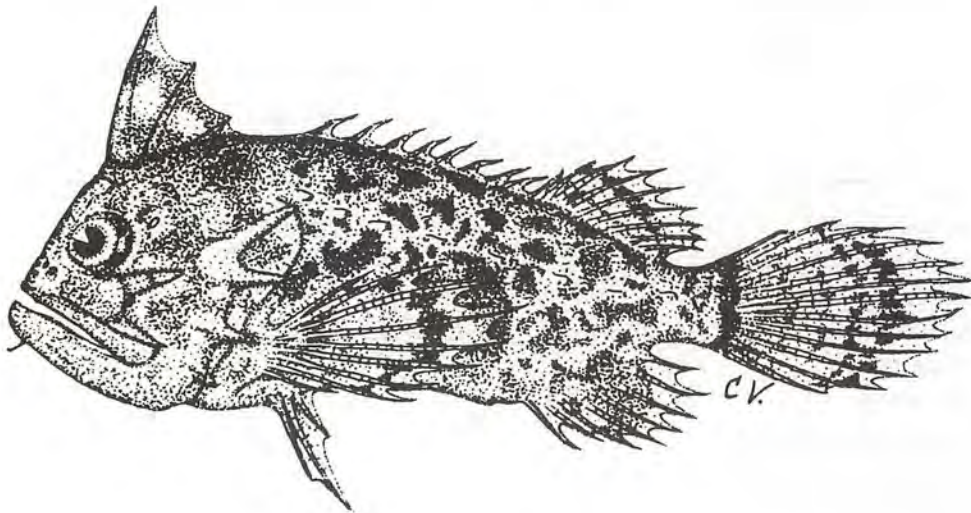


Figure 1. *Acanthosphex leurynnis* KUMF 2991; 18.69 mmSL, offshore Trat, Gulf of Thailand.

Dorsal fin origin above rear border of eye. First 3 spines separated from the remaining fin to which they are connected by a very low membrane. First spine strong, height 19–25% of SL, the 2nd and 3rd gradually shorter. Interconnective membrane of those 3 first dorsal spines high. Second lobe of dorsal bearing 8 to 9 short feeble spines, connected by a somewhat deeply notched membrane (each spine covered with integument), 7 to 9 unbranched rays. Pectoral fin extending to the base of anal fin, bearing 9 or (less frequently) 10 rays. Anal with a feeble spine and 7 to 8 rays. Caudal slightly round-ovate in shape, total ray count 14. Ventrals bearing a pointed feeble spine and two filamentous rays. No conspicuous venom glands on any fins.

Gill opening restricted to side of head, gill membranes widely connected to the isthmus, which bears no papillae or fleshy pad. Gill rakers on epibranchial with 1–2 small prickly spine clusters, ceratobranchial with 6–7 clusters.

Colour of fresh specimens creamish, mottled throughout with purplish brown irregular spots. Paler ventrally. Dorsal, ventral and anal fins slightly translucent. Pectoral, anal and caudal fins translucent, the pectoral and caudal bearing a transverse dark band on posterior third and on median part in anal. Preserved specimens become greyish and paler.

Size of specimens examined 15.3–20.8 mm SL.

Countings, measurements and body proportions of examined specimens are tabulated in Table 1. External morphology is shown in Fig. 1.

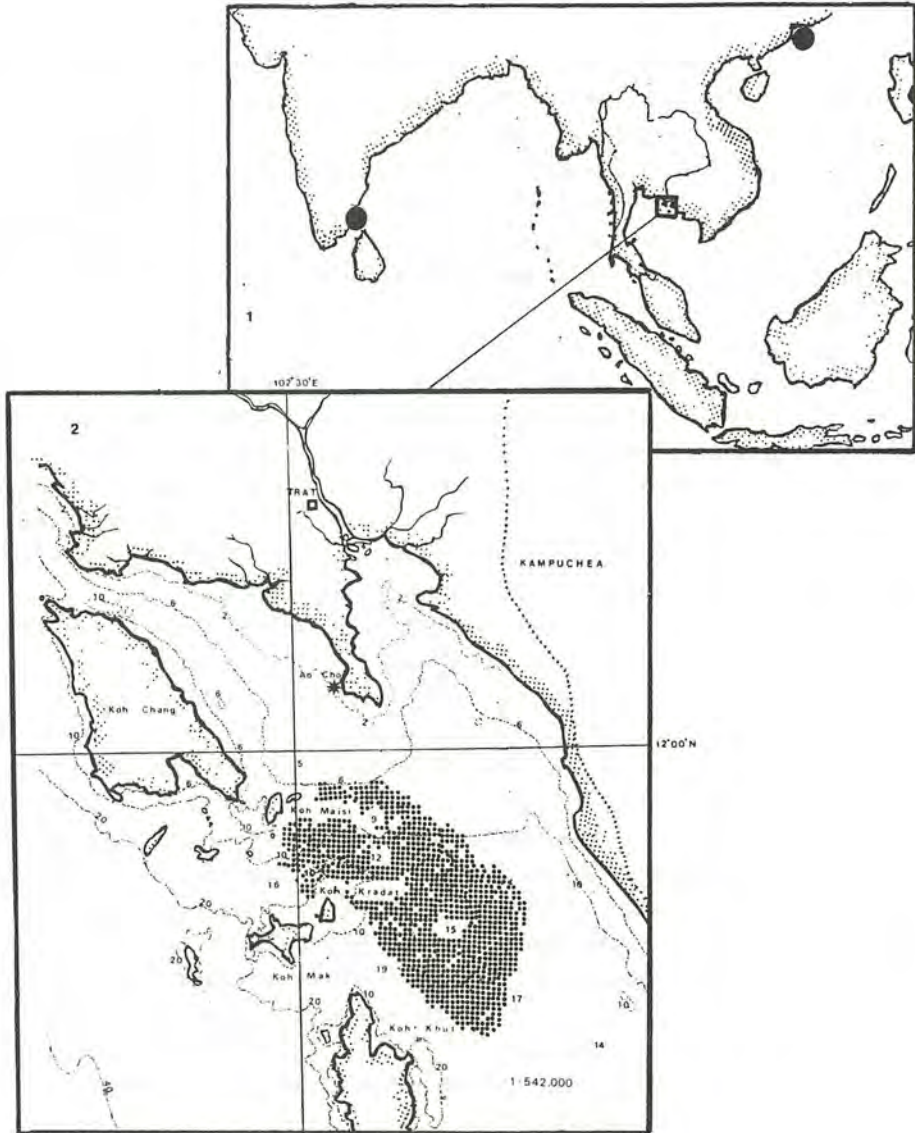


Figure 2. Map of South Asia (1) showing locations of previously known records of *AcanthospheX leurynnis*, location of new records, and (2) approximate capture site.

- = previous records;
- = new record;
- * = collection site;
- ▨ = capture area. Isobathic lines in m.

DISCUSSION

Very little is known about the biology and habitat of the Aploactinidae. POSS & ESCHMEYER (1978) mention that "members of this group are presumed to be primarily restricted to continental margins, though a few insular records are known. As a group, they are known to occur from shore to 510 m... it is suspected that most live in interstices on rocky and coral-rubble bottoms, bottoms with coralline algae, or among vegetation". In the most recent report on *Acanthosphex leurynnis* in the Bay of Bengal, RAMAYAN & RAO (1970) mention this species as having been captured by a trawl net at depths of about 20 to 30 m.

The present specimens were found scattered and in small numbers among samples of trash fish collected from local trawlers at the landing pier of the village of Ao Cho, Trat Province, during March to August 1987. The fleet of local trawlers is known to operate among the islands off Trat, especially the islands of Koh Mai Si and Koh Kradat and southeast, (11.30' - 12 00' N, 102 30' - 102 45' E) and between those islands and the mainland, at depths of about 5 to 20 m (Fig. 2). The local sediment is mainly sandmud and with some shell fragments. Both islands mentioned have scattered coral and Koh Kradat has an extensive rocky bottom.

The local fishing gear were otter-board trawlers with boom, 9-10.5 m Lao, engine 16-30 HP; wing-to-wing distance of trawl 16-20 m, 20 mm mesh size at cod end. Caught at night. Fishing mainly directed at peneid shrimps, but trash fish comprised the bulk of the catch. Trash fish were dominated by commercially unimportant groups of fishes (used only for fishmeal) and portunid crabs. Among the fishes, the groups and species most often encountered in samples containing *Acanthosphex leurynnis* were: Gobiidae (*Gnatholepis* sp, *Oxyurichthys* spp, *Acentrogobius* spp.); Apogonidae (*Apogon quadrifasciatus*); Soleidae (*Zebrias quagga*), Bothidae (*Arnoglossus aspidos*); Callionymidae (*Callionymus* spp); Bregmacerotidae (*Bregmaceros* spp); Synodontidae (*Saurida tumbil*), Monocanthidae (*Paramonocanthus choirocephalus*); Platycephalidae (*Thysanophrys* spp); Nemipteridae (*Scolopsis* spp); Leiognathidae (*Leiognathus* spp and *Secutor ruconius*); Engraulidae (*Stolephorus* spp, *Encrasicholina* spp); Cynoglossidae (*Cynoglossus* spp) and Scorpaenidae. (They are arranged in order of decreasing frequency of occurrence in the samples. Only predominant genera or species are given).

It is of interest to notice that *Acanthosphex leurynnis* was often found in baskets of trash fish containing large quantities of a scorpaenid, *Vespicula trachinoides* (CUVIER & VALENCIENNES, 1829). Juveniles of *V. trachinoides* are superficially similar to *A. leurynnis*, sharing a similar body shape, colour and separation of the 3 anterior-most dorsal spines from the rest of the fin. *Trachicephalus uranoscopus* (BLOCK & SCHNEIDER, 1801) was also seen with *A. leurynnis*, although in smaller numbers than *V. trachinoides*. Another species of Aploactinidae, *Sthenopus mollis*, was seldom seen in the catch, sometimes with *A. leurynnis*, but apparently in smaller numbers than the latter.

ACKNOWLEDGEMENTS

The authors wish to express their sincere thanks to Mr. Kungwan Juntarachote for comments and for providing facilities for data analysis, Drs. W. Eschmeyes and Stuart S. Poss who provided definite identification of the specimens, comments and bibliographic material, and to Dr. Prachit Wongrat and Mrs. Suparp Monkolprasit of KUMF for useful comments and advice.

Our sincere thanks are extended to Dr. Thosaporn Wongratana of CUMZ for his valuable suggestions and criticism of the manuscript, Mr. Grisada Dee-in and Mr. Toei Srikhacha for assisting in obtaining the study specimens, interviewing fishermen, conducting fishing trips and providing gear description. Our sincere thanks also to the fishermen and owners of Ao Cho landing piers for all the information provided. Mr. Todd Lavalle and Ms. Etain McDonell helped in revising the manuscript. Field work was made possible through a scholarship from Junta Nacional de Investigacao Cientifica e Tecnologica (JNICT), Lisbon, Portugal, and through permission from the National Research Council of Thailand granted to the second author.

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