

**A NEW RECORD OF CALAXIUS ACUTIROSTRIS (SAKAI AND de SAINT LAURENT, 1989) (FAMILY: AXIIDAE: BORRADAILE, 1903) (CRUSTACEA: DECAPODA: AXIIDEA) OFF THOOTHUKUDI, SOUTHEAST COAST OF INDIA  
(08° 53.6'N 78° 16'E and 08° 53.8'N 78° 32'E)**

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**ABSTRACT**

*A new record of Axiidae off Thoothukudi coast of Gulf of Mannar, southeast coast of India is reported. Calaxius acutirostris species is newly recorded from Indian waters. The present species (Calaxius acutirostris) are recorded from Thoothukudi coast of Gulf of Mannar, southeast coast of India. One specimen was caught at the depth of 310 m as an incidental by-catch. It was found in tropical waters from about 08° 53.6'N 78° 16'E and 08° 53.8'N 78° 32'E/310m from Thoothukudi fishing harbour, southeast coast of India.*

**Keywords:** Crustacea, Decapoda, Axiidea, Axiidae, Calaxius acutirostris, First record

**INTRODUCTION**

The Axiidae, a family of burrowing lobsters, have traditionally been placed in the decapod infraorder Thalassinidea (Poore, 1994). The species of Calaxius fall into two broad groups, viz. Those with strongly triangular and ventrally acute abdominal pleura and those with ventrally rounded pleura (Brian Kensley and Cleveland, 2001). The first synthetic work was that of Borradaile (1903) who recognised only four families: Axiidae, Laomedidae, Thalassinidae and Callianassidae. Most of the 23 genera and subgenera defined by him are still valid, the greatest divergences from

present nomenclature being in the Callianassidae. Although as many as 18 family-group taxa have been proposed for the Thalassinidea, their relationships are disputed. The Thalassinidea are divided into three superfamilies: Thalassinoidea and Callianassoidea, more closely related to each other than to Axioidea. The Thalassinoidea contains a single family and single genus, Thalassina. Callianassoidea are divided into six families: Laomedidae, Upogebiidae, Callianideidae, Thomassiniidae, Ctenochelidae (paraphyletic), and Callianassidae. Axioidea contain four families: Calocarididae, Axiidae, Strahlaxiidae fam. nov. and Micheleidae (Poore, 1994).

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De Man (1928) recorded 14 species from the east coast of Africa and the Indian Ocean. In India, studies on Thalassinoidea have been mainly undertaken with reference to the deep sea forms (Alcock and Anderson 1894; Anderson 1896; Alcock 1901 and Borradaile 1907). Chopra (1933) discusses the taxonomic position of *Entrichocheles modestus* in the family Axiidae. On the west coast, Pillai (1954) deals with *Callianassa maxima* reporting the occurrence and natural history aspect of *Thalassina anomala*. Vaitheeswaran (2014) has reported for the first time, the occurrence of *Axiopsis consobrina*, in Thoothukudi coast of Gulf of Mannar, India. The taxonomy of some other known species is reassessed and updated and in the process it was necessary to redescribe some species and redesignate ten other genera. However, practically no work has been done on the deep sea forms along the east coast and more especially along the Tamil Nadu coast of Gulf of Mannar, Southeast coast of India.

**Superfamily: Axioidea (Huxley, 1879)**

**Family: Axiidae (Borradaile, 1903)**

**Genus: Calaxius**

- Calaxius Sakai and de Saint Laurent, 1989: 84  
 Calaxius acutirostris (Sakai and de Saint Laurent, 1989) (Fig. 1A, B, C, D, E, F)  
 Calaxius acutirostris Sakai and de Saint Laurent, 1989: 86-92, fig 25  
 Sakai, 1994: 192-193, fig 10  
 Clark et al., 2007: 64  
 Calaxius mimasensis (Sakai, 1967) Japan: 200 m (previously in the genus Calastacus)  
 Axius inaequalis Rathbun, 1901  
 Axius pailoloensis Rathbun, 1906  
 Calastacus euophthalmus de Man, 1905  
 Calocaris (Calastacus) sibogae de Man, 1925  
 Calocaris (Calastacus) jenneri Williams, 1974  
 Calacaris (Calastacus) oxypleura Williams, 1974

**MATERIAL:** 1 male measuring 14.5 cm total length and 25g weight (Fig. 1A, B, C, D, E, F)

**LOCATION:** 08° 53.6'N 78° 16'E and 08° 53.8'N 78° 32'E off Thoothukudi coast of Gulf of Mannar, Southeast coast of India; depth at trawling 310 m.

**DESCRIPTION**

Carapace smooth; rostrum with 2 or more pairs of lateral spines (Fig 1B); proximally extending onto gastric region. Gastric region with median, submedian, and lateral carinae; median carina reaching anteriorly to distal-third of rostrum, and also extending, though interrupted in its midway, posteriorly to cervical groove as a thick carina, furnished with 1-2 teeth in anterior part, and with median tubercle; submedian line not carinate, but with 2-3 teeth, and lateral carina shortly extending posteriorly, and with 2 teeth. Cervical groove clearly defined to a whole length. Cardiac region dorsally pinched, posteriorly forming median carina. Chelipeds with strong curved spines on upper margin of carpus and propodus (Fig 1F); uropodal endopod apically truncate, with 2 distal spines (Fig 1C). Scaphognathite of maxilla 2 bearing elongate posterior seta. Maxilliped 1 with endopod biarticulate, exopod with distal setose process. Maxilliped 2 with unbranched arthrobranch, podobranch with rudimentary epipod. Maxilliped 3 with ischium (Fig 1E) bearing two medial teeth, merus with two medial teeth. Telson (Fig 1C) rather setose, and two pairs of teeth on dorsal surface, about 1.8 times as long as broad, and 1.2 times as long as abdominal somite 6; lateral margins parallel, and with 5-6 small, articulating spines; posterolateral angle with 2 articulating spines; inner spine more conspicuous than outer one; posterior margin rounded, and without median tooth.

**REMARKS**

Sakai (1994) figured and described this species well and our specimens agree with

his remarks. This species is one of a number of thalassinideans previously known from north-eastern Australia described above which agree with the type specimens from the Malagasy Republic in morphological features. *Calaxius acutirostris* is similar to *C. euophthalma* (De Man, 1905), *C. manningi* (Kensley et al., 2000) and *C. tungi* (Zhong, 2000) in the possession of two well defined spines on each lateral and sublateral gastric carina. All possess two to four asymmetrical spines on each lateral margin of the rostrum. *Calaxius acutirostris* and *C. manningi* also have a similar spination pattern on the chelipeds while *C. tungi* has fewer and weaker spines. *Calaxius euophthalma* lacks prominent cheliped spines. Also belonging to this group of Indo-West Pacific species with two or three asymmetrical rostral spines are *C. mimasensis* (Sakai, 1967) and *C. sibogae* (De Man, 1925b) but these species have less spinose chelipeds than *C. acutirostris*. This species is recorded for the first time in Indian waters.

## DISTRIBUTION

From McArdle's (1901) description, and Alcock and McArdle's illustration (1902) and De Man's (1925a/b) the Bay of Bengal species (*Calastacus longispinis*) Family: Axiidae (*Eutrichocheles modestus*), and *Thalassina squamifera* (Family Thalassinidae) has been recorded earlier from Bay of Bengal and Porto Novo and southeast-west coast of India (Chopra, 1933; Balasubrahmanyam and Jacob, 1961; Sankolli 1970). Vaitheeswaran (2014) has reported for the first time, in Indian coast, the occurrence of *Axiopsis consobrina*, in Thoothukudi coast of Gulf of Mannar, India. The present record from Thoothukudi coast in Gulf of Mannar extends its distribution to the southeast coast of India. Other records from Indo-Pacific region are from Malagasy Republic; north-eastern Australia; Philippines.

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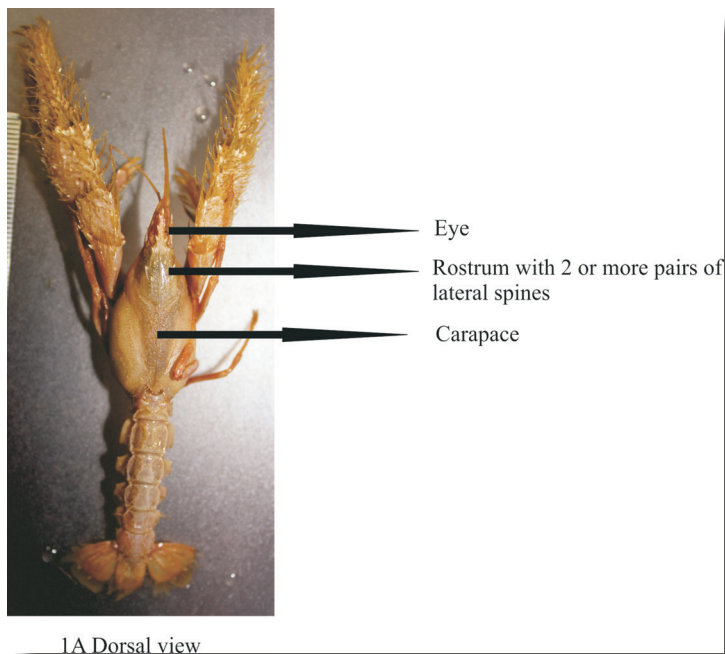
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**Fig 1**

**Calaxius acutirostris Sakai and de Saint Laurent, 1989 A. Dorsal view; B. Dorsal view of carapace, peduncles of antennule and antenna; C. telson and uropod; D. pereopod ; E. maxilliped and ischium in mesial view; F. propodus–dactylus, setae, mesial**





1 B Dorsal view of carapace, peduncles of antennule and antenna



IC telson and Uropod



ID Pereopod



Maxilliped and Ischium in median view

Fig: 1E. *Calaxius acutirostris* (Sakai and de Saint Laurent, 1989)



Propodus - Dactylus, Setas, Mesial

Fig: 1F. *Calaxius acutirostris* (Sakai and de Saint Laurent, 1989)