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LEIOGNATHUS ELONGATUS (GUNTHER) (LEIOGNATHIDAE : PISCES) A NEW RECORD FROM INDIAN SEAS

ABSTRACT

This short communication reports the new record of *Leiognathus elongatus* (Gunther) from Madras waters with description, raising the species of silverbellies to 21 known from the Indian Seas.

Introduction

The fishes of the family Leiognathidae popularly know as Silverbellies and Ponyfish constitute an important fishery round the year along the south Indian Coast.

Day (1878) recorded 14 species from Indian Seas. Weber and de Beaufort (1931) reported 16 species from the Indo-Australian Archipelago. From Sri Lanka, Munro (1955) reported 12 species. Tiews *et al.* (1965) recorded 17 species from Philippines. Hille (1968) gave an illustrated key to the species of the family from Thailand. In the systematic review of this family, James (1975) reported 17 species occurring in Indian waters. Rani Singh and Talwar (1978) reported a new species *Leiognathus indicus*. Jones (1985) revised the Australian species and listed the occurrence of 15 species. Shen and Lin (1985) listed 12 species from Taiwan. Jayabalan (1985) reported another new species *Gazza shettyi*. Recently James and Badrudeen (1990) reported a new species *Leiognathus striatus* from the Gulf of Mannar.

During the course of the study on the biology and fishery of these fishes from Madras, the authors collected several specimens of *Leiognathus elongatus* (Gunther) hitherto not reported from the Indian Seas. The occurrence of this species is reported in this paper with description of the same. With this species the number of silverbelly species known from the Indian Seas becomes 21.

Leiognathus elongatus (Gunther)

Material : Fifty specimens ranging from 49 to 65 mm Standard length (61-77 mm total length) collected from trawl catches at Kasimedu landing centre in Madras on 14.7.1986. Three specimens were deposited in the Reference Collection Museum of the Central Marine Fisheries Research Institute (No. F.98/596).

Description : D. VIII, 16; A. III, 14; P_1. 15-16; P_2. I,5; C.16 (Fig. 1).

As percent of standard length : Head 27.27-30.90 (mean 29.15); height 24.61-31.14 (29.35); second dorsal spine length 8.62-18.64 (14.64); second anal spine length 6.90-12.73 (9.68) and Pectoral 10.34-19.64 (16.54).

Distribution : East coast of Africa, Celebes, Philippines, Japan, Thailand, Taiwan and south east coast of India.

Remarks : James (1975), following Weber and de Beaufort (1931), regarded *Equula elongata* Gunther, 1874 its homonym *Leiognathus elongatus* Smith and Pope 1906

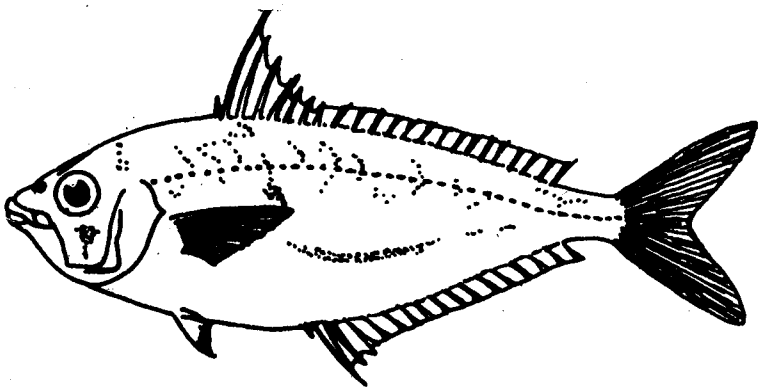

FIG. 1. *Leiognathus elongatus* (Gunther).

Eye 29.41-38.89 percent in head, equal to snout and interorbital space. Head naked, scales small, chest and breast fully scaled, top of head scaleless. Second spine of dorsal and anal not elongate. Protracted mouth points downward, mandible slightly concave.

Body very elongate and moderately compressed. Dorsal and ventral profiles almost evenly curved and tapering gently to form a slender caudal peduncle. Small teeth in each jaw. Pectoral axil black, spine on the anterior upperside of the orbit. No scales on the cheeks or even the scale pockets, gill rackers varies between (5-6) + (14-16) = 19-22 bearing small spine in each gill racker.

Colour : Body silvery, upper half with irregular brown marblings and spots, horizontal yellowband at midhight of spinuous part of dorsal fin and margins of fins orange. A black spot at base of each dorsal and anal ray.

and *Leiognathus stercorarius* Evermann and Seale 1907 as synonyms. All these species were originally described as being very elongate and *L. elongatus* Smith and Pope and *L. stercorarius* were also described as having scales on the suborbital. Recently, Munro (1964, 1967) and Rani Singh and Talwar (1978) also reported the presence of scales in the sub-orbital in *L. rapsoni* and *L. indicus* respectively.

Gunther's description of *E. elongata* does not mention scales on the sub-orbital and makes it impossible to determine whether scales were present in the holotype or not. Examination of the data of the holotype (as given by James, 1975) of *L. elongatus* Smith and Pope does not reveal evidence of scale pockets on the sub-orbital, although scale pockets are clearly visible all over the body. Jones (1985) has not observed evidence of scale or scale pockets on the sub-orbital region of *L. elongatus* freshly

trawled or museum specimens. However, she cites the personal communication of Dunlap, that he has observed, sub-orbital scales on fresh specimens of *L. elongatus* collected by him and notes that the scales are extremely deciduous and do not usually leave any evidences of scale pockets on the specimen. Dunlap and Nagi (1984) reassessed the taxonomic status of elongate leiognathid *Leiognathus elongatus,* those ponyfishes with scales on the cheeks obtained in the Philippine Island and Japan in 1982 and 1983. Based on the differences in external morphology and components of the internal light-organs, the specimens fall into two distinct groups. They recognised group I as *L. stercorarius* Evermann and Seale and *L. elongatus* (Gunther) under the group II. From the above observations it is known that the scales are extremely deciduous and do not leave any evidence of scale pockets on the specimen and hence these characters need not be distinctive to identify this species.

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Although Hille (1974) and James (1984) record its *(L. elongatus)* presence in the Eastern Indian Ocean and Western Central Pacific and, Western Indian Ocean respectively, there is no evidence of record of collection with full details of morphometric and meristic characters. Hence, collection of this species in Indian waters (Bay of Bengal) proves that this species do occur in shoals very rarely.

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ANIMAL ASSOCIATIONS IN ECHINODERMS

ABSTRACT

Echinoderms being benthic organisms of limited movements give shelter to several organisms which live in association with them without harming them. They show association with other groups as well as among themselves. In extreme cases some of the associations can be termed as semi-parasitic. Observations made during the last 30 years in the field and the laboratory are presented in the paper.

Introduction

Information on animal associations on echinoderms is rather scanty and widely scattered. During the last 30 years, these associations in the laboratory and field in the Gulf of Manner and Palk Bay, Andaman and Nicobar Islands and also in the Lakshadweep were observed. Some information is published on the subject by H. L. Clark (1921), Mukerji (1932), Chopra (1931), Panikkar and Prasad (1952), Arnold (1953), Ganapati and Radhakrishna (1963), Jones and Sankarankutty (1960), Jones (1964), Jones and Mahadevan (1965), Nayar and Mahadevan (1965 a, 1965 b), Evangeline (1966), A. M. Clark (1967, 1976), Ganapati and Sastry (1972), Bakus (1973), Jones and Kumaran (1980) and Sastry (1985). In this paper the following associations are considered.

Holothuria scabra and *Pinnotheres deccanensis*

A pea-crab *Pinnotheres deccanensis* is found to live inside the cloaca of this *Holothuria scabra.* The crab was always found at the enlarged basal part of the respiratory tree. Only female crabs with eggs were collected. Particulars about males are not known. Probably they are free living. Very rarely two crabs were also found in one specimen. One crab was removed and put in a trough along with a holothurian of the same species. First the crab moves about aimlessly on the surface of the holothurian until it comes to the cloacal region. Then it holds on to the skin of the holothurian near the cloaca with one of its chelipeds. After the crab has inserted a part of its body inside the holothurian it remains passive. When the holothurian lets off water the cloacal opening is kept wide open. During such times the crab slowly gains entry into the holothurian. It takes about two hours for the crab to enter completely into the body of the holothurian. The crab probably enters the holothurian for breeding purposes alone, because always only females with well developed eggs were collected. They may be guided towards the opening of the cloaca by the current of water since the eyes are highly reduced. Chopra (1931) has reported the occurrence of this crab inside the same species of holothurian from the Andamans. He has also reported a male specimen. This would have probably entered during the breeding season and it was accidently collected at that time. Jones and Mahadevan (1965) have also described this association.