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## ON A NEW RECORD OF A THREADFIN FISH *FILIMANUS PERPLEXA* FELTES (PISCES : PERCIFORMES : POLYNEMIDAE) FROM INDIA

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### INTRODUCTION

The threadfin fish family Polynemidae (Perciformes : Pisces) comprises 8 genera consisting of about 40 species throughout the world (Motomura, 2004). Talwar and Kacker (1984) and Talwar (1991) stated that only 12 species are known to occur in the coastal marine waters of our country. These are represented by one species of *Eleutheronema* Bleeker, two or three species of *Filimanus* Myers, one species of *Leptomelanosoma* Motomura and Iwatsuki, five species of *Polydactylus* Lacepede and two species of *Polynemus* Linnaeus (Motomura, 2004). The genus *Filimanus* Myers comprises six species in the world (Feltes, 1991). This genus can be well distinguished from *Polydactylus* Lacepede in having narrow tooth bands in premaxillaries, palatines and ectopterygoids, and the space between the tooth bands in jaws at symphysis is almost twice the width of tooth bands; basisphenoid is not in contact with prootic bone. Presence of *Filimanus heptadactyla* in Indian waters is doubtful and the reports of this species are mostly based on misidentification of *Polydactylus mullani* (Hora) or *Filimanus similis* Feltes. Hence, this genus in Indian waters is represented by only two species, viz., *Filimanus similis* Feltes and *Filimanus xanthonema* (Valenciennes). Motomura (2004) has rightly observed that many authors (Marathe and Bal, 1958; Nayak, 1959; Kagwade, 1970) have misidentified *F. similis* Feltes, *Polydactylus mullani* Hora and *Polydactylus sextarius* (Bloch & Schneider) as *F. heptadactyla*. During the study of polynemid fishes of Indian coast, the authors came across two specimens of unidentified fishes collected from the Great Nicobar Island of Andaman and Nicobar group of Islands, India during 1992. These were determined as *Filimanus perplexa* Feltes and presented here as a new record to the Indian coast.

A brief description of the species is presented here under with a discussion comparing its related threadfin fish species occurring in the world.

### *Filimanus perplexa* Feltes

1991. *Filimanus perplexa* Feltes, *Copeia*, 1991(2) : 307, fig. 5 (type locality : northwest of Denpsagar, Bali, Indonesia).

2004. *Filimanus perplexa* : Motomura, *FAO species catalogue for fishery purposes*, (3) : 25, fig. 51, pl. If.

*Material examined* : Reg. No. ZSI-F. 9998/2, 2 ex., 108-114 mm SL, Locality : Campbell Bay, Great Nicobar Is.; Collected by Dhandapani and party; Date of collection : 27 Oct., 1992.

*Diagnostic features* : D VIII + I, 11; A III, 14-15; P 13 + vii; total GR 51-52; LL 49-51; Ltr 6/9. Depth 3.0 to 3.1, head 3.0 to 3.1 in standard length; eyes 4.6 to 5.2 in head. Maxilla extends beyond posterior margin of adipose eyelid. Lip on lower jaw well developed. Teeth villiform in narrow bands on jaws, palatine and ectopterygoids. Width of tooth bands on upper and lower jaws less than space separating tooth bands at symphysis. Vomerine tooth patch inconspicuous. Posterior margin of preopercle serrated. Upper jaw length about twice in head length, less than pectoral fin base (including base of free filaments). Pectoral fin insertion well below midline of body. Upper

A photograph of *Filimanus perplexa* Feltes from Great Nicobar Island

pectoral fin rays all unbranched, its tip just reaching to level of pelvic fin tip. Free pectoral filaments 7 (asymmetrically 6 and 7 in one specimen); first filament shortest, reaching to level of anal fin origin; third and fourth filaments longest, reaching beyond caudal fin base. Airbladder simple. Colour : golden yellow; base of pectoral filaments white, light brown on posterior portion.

*Distribution* : Known only from Sumatra, Java, Bali, Indonesia and Thailand.

#### DISCUSSION

Feltes (1991) revised the genus *Filimanus* Myers, 1936 with the description of two new species and so, recognized only six species under this genus in the world. Only *F. hexanema* (Cuvier) and *F. perplexa* Feltes have 13 to 15 anal fin rays and free pectoral filaments extending beyond midpoint of anal fin base (Motomura, 2004). Other species of this genus have less number of anal fin rays and shorter pectoral filaments. *F. hexanema* differs from *F. perplexa* in having 6 pectoral filaments which are mostly white in colour and not reaching beyond caudal fin base. The former is also a deeper species, its depth being 29 to 32 per cent of standard length (32 to 37 per cent in *F.*

*perplexa*). In the above described specimens, the body depth contained between 32 to 33 per cent of standard length and the pectoral filaments usually 7, which extend beyond caudal fin base with their posterior part brown in colour which led us to designate them as *F. perplexa* Feltes.

Other polynemids having longer free pectoral filaments that reaching beyond anal fin base are *Parapolynemus verikeri* (Saville-Kent), *Pentanemus quinquarius* (Linnaeus), all *Polynemus* species and two *Polydactylus* species, *P. macrophthalmus* (Bleeker) and *P. longipes* Motomura, Okamoto and Iwatsuki. Anal fin base is distinctly longer with 24 to 30 rays in *P. quinquarius*, which is known to occur along the west coast of Africa. Other three genera, *Polynemus* Linnaeus, *Polydactylus* Lacepede and *Parapolynemus* Feltes, differs from the genus *Filimanus* in having wider tooth bands and narrower gap between maxillary tooth bands at symphysis. Further, *Parapolynemus verikeri* have 10 to 12 anal fin rays and 30 to 43 gill rakers and similarly, *P. longipes* and *P. macrophthalmus* have 10 to 11 anal fin rays and 25 to 32 gill rakers. All the *Polynemus* species have higher lateral line scale count (more than 65) and lower total gill raker count (24 to 34), whereas *F. perplexa* is known to have 47 to 55 gill rakers. However, in *Polynemus* species the pectoral fin insertion is at midline of body.

The distribution of this species in the Andaman Sea is known by a single specimen from Phuket, Thailand. This report extends its distributional range westward to the Great Nicobar Island, India.

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#### REFERENCES

- Feltes, R.M., 1991. Revision of the polynemid fish genus *Filimanus*, with the description of two new species. *Copeia*, **1991**(2) : 302-322.
- Kagwade, P.V., 1970. The polynemid fishes of India. *Bull. Cent. Mar. Fish. Res. Inst.*, (18) : 1-69.
- Marathe, V.B. and Bal, D.V., 1958. A brief comparative account of the axial skeleton of six polynemids from Bombay waters. *J. Univ. Bombay*, **26**(B) : 139-151.
- Motomura, H., 1904. Threadfins of the world. An annotated and illustrated catalogue of polynemid species known to date. Family Polynemidae. *FAO species catalogue for fishery purposes*. No. 3. FAO, Rome : 117 p, 151 figs., 6 pls.
- Nayak, P.D., 1959. Occurrence of hermaphroditism in *Polydactylus heptadactylus* Cuv. & Val. *J. mar. biol. Assoc. India*, **1** : 257-259.
- Talwar, P.K., 1991. Pisces. *In* : Animal Resources of India, *Zool. Surv. India* : 577-630.
- Talwar, P.K. and Kacker, R.K., 1984. *The Commercial Sea Fishes of India*. Handbook. *Zoological Survey of India*, (4) : 997 p.