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CYSELURUS NARESII (GUNTHER, 1889) (PISCES : EXOCOETIDAE) : A NEW RECORD IN INDIAN WATERS

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INTRODUCTION

During the course of our studies on the flying fishes of family Exocoetidae the authors came across a specimen hitherto not known from Indian coast. On close examination this specimen is turned out to be *Cypselurus naresii* (Gunther, 1889).

The genus *Cypselurus* Swainson, 1838 is represented by 12 species out of about 60 species under 7 genera of Exocoetid fishes known in the world (Heemstra and Parin, 1986). There are at least 6 species of *Cypselurus* occurring in the Indian Ocean (Parin, 1996). But *C. angusticeps* Nichols and Breder, 1935, *C. hexazona* (Bleeker, 1853) and *C. opisthopus* (Bleeker, 1866) are apparently not recorded from Indian coast. *C. naresii* is known to be widely distributed in tropical Indian Ocean and in the Pacific Ocean (Parin, 1984), but as the above three species it is also not recorded from Indian waters.

C. naresii differs from other known species *i.e.* *C. oligolepis* (Bleeker, 1866) and *C. poecilopterus* (Valenciennes, 1847) of the Indian coast in having its pelvic fin origin about midway between head and caudal fin and, head length approximately equal the distance between dorsal fin origin and origin of upper caudal fin lobe. The pelvic fin origin is much nearer to head than caudal fin and, the head length shorter in these two later cited species. Moreover, *C. poecilopterus* have spotted pectoral fin.

A brief description of *C. naresii* is presented hereunder with the remarks on the species of the genus *Cypselurus* known from the Indian Ocean.

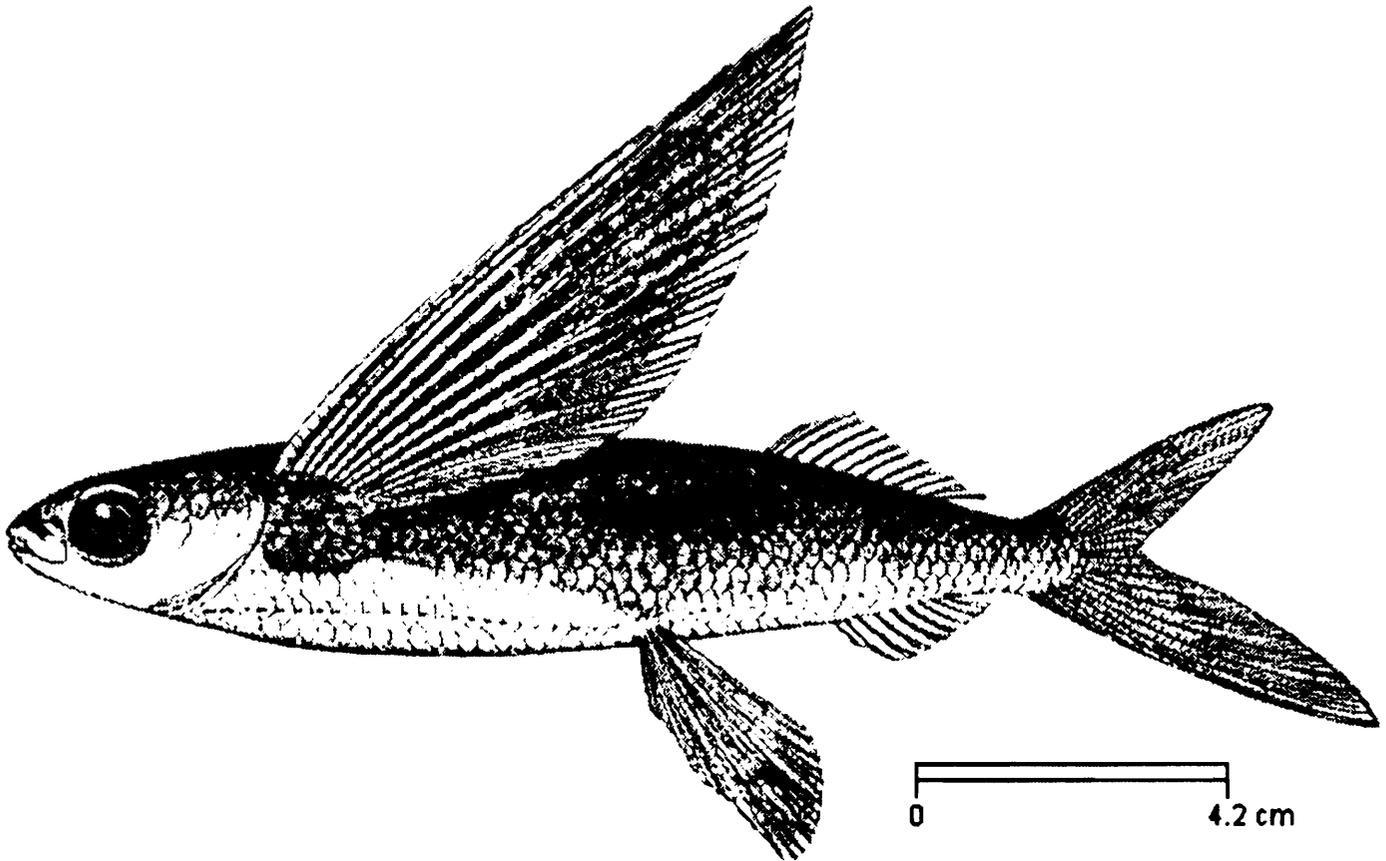
***Cypselurus naresii* (Gunther, 1889)**

1889. *Exocoetus naresii* Gunther, *Zool. Challenger Exp.*, **31** : pt. 78 (Type locality : Cape York, Queensland, Australia).
1922. *Cypsilurus naresii*: Weber and de Beaufort, *Fish. Indo-Aust. Archip.*, **4** : 188.
1984. *Cypselurus naresii* : Parin, *FAO species identification sheets for fishery purposes. Fishing Area 51 (W. Indian Ocean)*, **2** : EXOC Cyp 10.

Material examined : Reg. No. ZSI-F 9678/2, 1 ex., 170 mm SL, Locality : Nagapattinam, Tamil Nadu, Collected by R. P. Barman and party, on 08-07-2003.

Description : D 10; A 7; P i, 14; total GR 22; predorsal scales 32; LL 48. Body depth less than 20%, head length about 26.5% of standard length. Upper jaw not protrusible; lower jaw included beneath the upper; palatine teeth present. Distance between dorsal fin origin and origin of upper caudal fin lobe equals head length. Anal fin originates 5 rays behind origin of dorsal fin. Pectoral fin long, its length about 66% of standard length; reaching to caudal peduncle, beyond anal fin base. Pelvic fin large, reaching to end of anal fin base; its insertion closer to anal fin origin than to pectoral fin base and approximately at midpoint of distance between hind margin of head and origin of lower caudal fin lobe. Caudal fin deeply forked, its lower lobe longer than upper. Scales large, cycloid, and deciduous. Lateral line low on body; pectoral branch of lateral line absent; 9 scale rows above lateral line and origin of dorsal fin base.

Colour : Dark above, pale below; dorsal fin grayish; pectoral fin brownish black, unpigmented below 9th ray; pelvic fins with distal half black between 2nd and 4th ray.



Cypselurus naresii

Distribution : Tropical waters of Indian and Pacific oceans : from Gulf of Aden and East Africa to Southern Japan, Fiji and New South Wales, Australia.

Remarks : The taxonomy of the Indo-Pacific species of flying fishes is ambiguous and some authors included *Cheilopogon* Lowe, 1840 in the genus *Cypselurus* that amounted to confusion (Heemstra and Parin, 1986). Talwar (1984) reported the occurrence of 6 species of *Cypselurus* in our area, of which only 2 species *i.e.*, *C. exsiliens* (Linnaeus, 1771) and *C. oligolepis* are to be placed under this genus in *sensu stricto*. Talwar (1984) has placed *C. poecilopterus* under *Cheilopogon spilopterus* (Valenciennes, 1846), as a synonym (Barman *et al.*, in press) while *C. spilopterus* is known to occur in the east Indo-Pacific, from Andaman Sea to Samoa and Ryukyu islands. Talwar (1984) followed Chandy (1954) erroneously in recording *C. exsiliens* from Indian waters which definitely refers to *Cheilopogon nigricans* (Bennett, 1840) since *C. exsiliens* is known

Table 1. : Morphometric characters of the specimen studied (*C. naresii*).

No.	Characters	Measurements	% of SL
01.	Standard Length (SL)	170 mm	–
02.	Head Length	45 mm	26.5
03.	Maximum depth at mid-body	33 mm	19.4
04.	Depth at dorsal fin origin	30 mm	17.6
05.	Eye diameter	15 mm	8.8
06.	Pectoral fin length	112 mm	65.9
07.	Pelvic fin length	55 mm	32.4
08.	Length of upper caudal fin lobe	35 mm	20.6
09.	Length of lower caudal fin lobe	55 mm	32.4
10.	Distance from snout tip to dorsal fin origin	125 mm	73.5
11.	Distance from snout tip to pelvic fin origin	105 mm	61.8
12.	Distance of dorsal fin origin to upper caudal fin origin	43 mm	25.3
13.	Distance of anal fin origin to lower caudal fin origin	30 mm	17.6
14.	Distance between dorsal fin origin and anal fin origin	32 mm	18.8
15.	Distance between dorsal fin origin and pelvic fin origin	35 mm	20.6
16.	Distance between pectoral fin origin and anal fin origin	95 mm	55.9
17.	Distance between pelvic fin origin and anal fin origin	35 mm	20.6
18.	Distance between pectoral fin origin and pelvic fin origin	65 mm	38.2

to occur in the Western Atlantic Ocean and so, unlikely to occur in the Indian coast. Similarly, report of *Cypselurus comatus* (Mitchill, 1815), also a Western Atlantic species, from Ceylon by Munro (1955) is erroneous (De Bruin *et. al.*, 1995), which could be *C. naresii*. The identity of *Cypselurus starksi* Abe, 1953 from Andamans (Kyushin *et. al.*, 1977) is uncertain, since it is known only from Southern Japan. There are three other species, *viz.*, *C. angusticeps* Nichols and Breder, 1935, *C. hexazona* (Bleeker, 1853) and *C. opisthopus* (Bleeker, 1866) known to occur in the Indian Ocean but are yet to be recorded from Indian waters.

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REFERENCES

- Barman, R. P., Mishra, S. S. and Das, A. (in press). On the occurrence of *Cypselurus poecilopterus* (Valenciennes) (Pisces : Exocoetidae) in the Indian waters. *J. Bombay nat. Hist. Soc.*
- Chandy, M. 1954. Notes on the Indian flying fishes of the genus *Cypselurus* Swainson. *Rec. Indian Mus.*, **52** : 177-184.
- De Bruin, G. H. P., Russell, B. C. and Bogusch, A. 1995. *FAO Species identification field guide for fishery purposes. The Marine Fishery Resources of Sri Lanka*. Rome, FAO : 400 pp., 32 pls.
- Heemstra, P. C. and Parin, N. V. 1986. Exocoetidae. *In* : Smith, M. M. and Heemstra, P. C. (Eds.), *Smith's Sea Fishes* : 391-396.
- Kyushin, K., Amaoka, K., Nakaya, K. and Ida, H. 1977. *Fishes of Indian Ocean*. Japan Marine Fishery Resource Research Center : 392 pp.
- Munro, I. S. R. 1955. *The Marine and Fresh water Fishes of Ceylon*. Dept. of External Affairs, Canberra : 349 pp.
- Parin, N. V. 1984. Exocoetidae. *In* : Fischer, W. and Bianchi, G. (Eds.), *FAO species identification sheets for fishery purposes. W. Indian Ocean (Fishing Area 51)*. FAO, Rome, **2** : page var.
- Parin, N. V. 1996. On the species composition of flying fishes (Exocoetidae) in the west-central part of Tropical Pacific. *J. Ichthyol.*, **36**(5) : 357-364.
- Talwar, P. K. 1984. *Commercial Sea Fishes of India*. Z.S.I., Kolkata, Handbook (4) : 697 pp.