

**NEMIPTERUS LUTEUS (SCHNEIDER, 1801) (NEMIPTERIDAE, PISCES)
THE VALID NAME FOR A THREADFIN BREAM FROM
THE INDO-PACIFIC REGION**

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ABSTRACT

Nemipterus luteus (Schneider, 1801) is shown to be the valid name for a threadfin bream from the Indo-west Pacific region and that *N. striatus* (Valenciennes, 1830), *N. filamentosus* (Valenciennes, 1830), *N. nematophorus* (Bleeker, 1853) and *N. macronemus* (Gunther, 1859) are its junior synonyms. A detailed description of this species, on the basis of specimens collected from Kakinada is given.

INTRODUCTION

DURING the course of investigations on the biology and fisheries of nemipterid fishes in the trawler catches off Kakinada (Lat. 16° 15' N to 17° 10' N and Long. 82° 22' to 82° 35' E), the author collected several specimens of a *Nemipterus* species which agree with Day's (1875) description of *Synagris striatus* Jerdon, 1851 and also with the description of *Nemipterus nematophorus* (Bleeker) given by Weber and de Beaufort (1936). The fact that these two specific names were not treated as synonyms by these authors and neither of them had even referred to the other specific name, prompted the author to probe into their taxonomy. It has been found that these two species are junior synonyms of *Nemipterus luteus* (Schneider, 1801) and that the latter is the valid name for the specimens mentioned above. Most of the recent authors (Weber and de Beaufort, 1936; Fischer and Whitehead, 1974) recognise *N. nematophorus* (Bleeker, 1853) as valid, which is also shown to be a junior synonym of *N. luteus* in the present paper.

The name *Nemipterus luteus* has almost become a forgotten name (though the name is 'available' in the meaning of the Code) and some authors (Fisher and Whitehead, 1974) have even treated it as a doubtful species. The nomenclatorial status of this species is discussed and adequate description on the basis of specimens collected from off Kakinada, is presented in this paper.

I am thankful to Dr. M. Boeseman, Curator, Rijksmuseum van Natuurlijke Historie, Leiden for sending data on holotypes of *Dentex filamentosus* Valenciennes and *D. nematophorus* Bleeker. I am also thankful to Dr. Martine Desoutter of Museum National D' Histoire Naturelle, Paris for kindly sending data on the specimen of *Dentex luteus* Valenciennes and for sending relevant literature. Dr. P. K. Talwar, Superintending Zoologist, Zoological Survey of India, Calcutta has kindly sent the original description and figure of *C. lutea* Schneider; I am thankful to him for this help.

HISTORICAL RESUME

Schneider (1801) described *Coryphaena lutea* on the basis of a specimen from Tranquebar. The description is very brief; the figure shows: D. X, 9; A. III, 7 and caniniform teeth in upper jaw.

Valenciennes (1830) described *Dentex luteus* from Pondicherry on the basis of a 7 inches long specimen. He described the species as: *suborbital very high, teeth decrease in size towards interior of the mouth in such a way that it is difficult to notice the canines which are eight in number. The scales are large and there are forty scales in the lateral line. Valenciennes (1830) considered *Coryphaena lutea* Schneider as a doubtful synonym of his *Dentex luteus* and stated:

“We have found this species in the Berlin Museum among fishes of Bloch. First he had confused this fish with his *Sparus japonicus* because we have seen it written as such by his own hands. However, he appears to have recognised it afterwards and it seems that the figure given by Bloch in tab 58 of the of edition of Schneider and also the short description on p. 297 under the name *Coryphaena lutea* were made after the same one. Some traces of reddishness could also be seen on this specimen which Bloch had mistaken for bands in his painting. His specimens more entire than ours shows that the third ray of caudal is prolonged into a filament. It is 7 inches long from the tip of snout to the end of caudal lobe; the caudal filament is one inch long.

Gunther (1859) recorded *Synagris luteus* (Cuv. and Val.) and treated *Coryphaena lutea* Schneider, as a doubtful synonym of it. He did not give the description of this species in detail except for a few meristic data and stating that “teeth nearly equal (Val)”.

Day (1875) stated “There are two of Bloch’s specimens marked *Dentex luteus* at Berlin; one evidently the skin from which Bl. Schn.’s figure has been taken, the artist not having reversed it whilst he had delineated the eye too small and the (?) elongated dorsal spines are broken. On the second specimen which has no elongated dorsal spine is Val’s label, “C’est le vrai *C. lutea* Bl. Schn”.

Valenciennes (1830) described *Dentex striatus* on the basis of an 8-inch long specimen from Tranquebar in the Berlin Museum (*vide*: Bauchot and Daget, 1972). He named the species as *striatus* following the unpublished manuscript description of *Coryphaena striata* by Bloch. He described the species as: suborbital very high, scales slightly longer, ciliated; the limb of preopercle strongly striated, the canines are feeble; the body with longitudinal lines. Caudal lobes in the specimen are not complete and so it is not possible to say whether they had filaments.

Jerdon (1851) recorded *Dentex striatus* C. V. from Madras. He described only the colour of the species as: alternate longitudinal bands of rosy and yellow, dorsal purple beneath, yellow in the middle and rosy externally. Anal blended with pale rosy, others tinged with rosy.

*Here and elsewhere in this paper, the English translation of Valenciennes’ French text is quoted.

Day (1875) described *Synagris striatus* (Jerdon) from Madras but figured species as *Synagris luteus* in plate VIII, figure 5. Among others, the description shows that there are 8 canines in the upper jaw, the vertical limb of preopercle serrated, the first two dorsal spines and upper caudal lobe are produced and filamentous. Day (1875) who stated that "Bl. Schn.'s figure (of *Coryphaena lutea*) is probably coloured from a description in which it was said to have been striated or banded; and instead of placing such longitudinally he has given them as vertical", treated *Coryphaena lutea* Schneider as a doubtful synonym of *Synagris striatus* (Jerdon).

Valenciennes (1830) described *Dentex filamentosus* from Surinam (Sumatra). The description shows that the first dorsal spine (actually the first two dorsal spines in the holotype), upper caudal lobe and pelvic ray are produced and filamentous; canines 8 in number, preopercular border finely serrated.

Bleeker (1853) described *Dentex nematophorus* from Padang (Sumatra). Gunther (1859), Weber and De Beaufort (1936) and Fisher and Whitehead (1974) described *Synagris* (or *Nemipterus*) *nematophorus* (Bleeker). These accounts among others, show that the first two dorsal spines and the upper caudal lobe are produced and filamentous and that there are canines in the upper jaw.

Gunther (1859) described *Synagris macronemus* from Surinam. He treated *Dentex filamentosus* Valenciennes, 1830, as a junior synonym of his *S. macronemus* apparently under the erroneous impression that the name *D. filamentosus* Valenciennes, 1830 was preoccupied by *Dentex filamentosus* Valenciennes 1841 in: Webb. and Berthelot, *Hist. nat. canaries. Ichthy.*, pl. 6, though the former has priority and the latter is a synonym of *Dentex gibbosus* (Rafinesque, 1810) (Vide, Bauchot and Daget, 1972) but at the same time stated that "It is not certain from the imperfect description of Valenciennes whether the fish *D. filamentosus* Valenciennes, 1830, should be referred to *Synagris* or to *Dentex*; according to the figure it has the habit of *Synagris* but the scales on the preoperculum are arranged in more than three series, as in *Dentex*". It has since been confirmed (Weber and De Beaufort, 1936) that there are only three rows of scales on preoperculum of the holotype of *Dentex filamentosus* Valenciennes, 1830 which is also the type species of the genus *Nemipterus* Swainson.

The important taxonomic characters of all the above species taken from the available descriptions and in some cases from types, are presented in Table 1.

DISCUSSION

It is clear from the above that several earlier authors described *Nemipterus luteus* under five different specific names evidently being uncertain of the nomenclatorial status of the nominal species they described. This is because :

1. the original description of *Coryphaena lutea* Schneider is most inadequate
2. Bloch prepared a description of *Coryphaena striata* but never published it and deposited a specimen in the Berlin Museum under this unpublished name, and

3. the type specimen of *Coryphaena lutea* Schneider and the specimen labelled *C. striata* in the Berlin Museum are apparently damaged.

The earliest published account for the species under discussion is that of *Coryphaena lutea* Schneider, 1801. Since the efforts made by the present author to get the type specimen of this species in the Berlin Museum re-examined were not fruitful and since the original description (including the figure) is not adequate on whether the first two dorsal fin spines and upper caudal lobe are produced in this species (these two being the most important diagnostic characters), it is, however, inferred that the first two dorsal spines and the upper caudal lobe were produced and filamentous in the holotype because (1) Valenciennes (1830) stated that he came across a specimen of *C. lutea* in the Berlin Museum and that he believed that the description and figure of *C. lutea* Schneider were made after this specimen. He further stated that "...montre que le troisieme rayon la caudale se prolonge en un long filament" (the third ray of caudal is prolonged into a filament) in *C. lutea* Schneider in the Berlin Museum, and (2) Day (1875) stated that in a specimen marked *Dentex luteus* at Berlin Museum, "...from which Bl. Schn.'s figure (of *C. lutea*) has been taken", "...the (?) elongated dorsal spines are broken".

It is clear from the above statements that though Valenciennes examined the specimen in the Berlin Museum quite before Day had examined it, the former did not even notice the possibility of the first dorsal filaments being broken. Valenciennes only noticed the caudal filament and by the time Day examined this specimen, the caudal filament also was, perhaps, broken.

There is a specimen of *Dentex luteus* (examined by Valenciennes, 1830) in the Paris Museum, the data of which are presented in Table 1. This agrees well with *Coryphaena lutea* Schneider.

The description of *Dentex striatus* Valenciennes, 1830 (based on the specimen of Bloch: *Fide* Bauchot and Daget, 1972) is inadequate to relate it to *C. lutea* Schneider. The subsequent description of this species by Day (1875), however, shows the important characters clearly and this agree well with *C. lutea* Schneider.

The original description of *Dentex filamentosus* Valenciennes, 1830 shows, among others, that only the first dorsal spine is produced and filamentous. An examination of holotype of this species shows that the first two spines of dorsal are produced and filamentous, as against only one as described by Valenciennes (1830).

The data on the holotype of *Dentex nematophorus* Bleeker, 1853 (Table 1) indicates that it agrees closely with *C. lutea* Schneider, 1801.

The original description *Synagris macronemus* Gunther, agrees with *D. filamentosus* Valenciennes, 1830. Gunther (1859) obviously repeated the same mistake as Valenciennes (1830) in stating that only the first dorsal spine is produced. However, since he treated *D. filamentosus* of Valenciennes (1830) as a synonym of his *S. macronemus* it is believed that his *macronemus* also is a synonym of *Nemipterus luteus* (Schneider).

It is, thus, clear that *Dentex striatus* Valenciennes, *Dentex filamentosus* Valenciennes, *Dentex nematophorus* Bleeker and *Synagris macronemus* Gunther are junior synonyms of *Nemipterus luteus* (Schneider).

TABLE 1. Comparison of *Coryphaena* (= *Nemipterus lutea* Schneider) and its synonyms

Particulars	<i>C. lutea</i> Schneider, 1801	<i>D. luteus</i> Valenciennes, 1830	<i>D. filamentosus</i> Valenciennes, 1830	<i>D. striatus</i> Valenciennes, 1830	<i>S. striatus</i> Day, 1875	<i>N. nematophorus</i> Bleeker, 1853
Material	Original description and subsequent descriptions of type.	No. 8087 Paris Mus. specimen examined by Valenciennes.	Holotype No. 1018 Leiden Museum	Specimen in Berlin Mus. described by Valenciennes.	Description of Day, 1878	Holotype No. 5696 in Leiden Museum
Locality	Tranquebar	Pondicherry	Surinam (Sumatra)	Tranquebar	Madras	Padang (Sumatra)
Total length	180 mm	202 mm	305 mm including caudal filament	203 mm	—	208 mm including caudal filament
Dorsal fin	X, 9	X, 9	X, 9	—	X, 9	X, 9
Anal fin	III, 10 (III, 7 in fig.)	—	III, 7	—	III, 7	III, 7
Pectoral rays	17	17	17	—	17	17
Lateral line scales	—	—	47 or 48	—	48	48
L. tr.	—	—	3-1-10	—	3½/10	3½-1-9½
First two dorsal spines	The (?) elongated dorsal spines are broken (Day)	Filamentous	Produced, distally very close.	—	Produced & filamentous	Produced and filamentous
Upper caudal lobe	Third ray of caudal produced into a filament (Valenciennes)	Broken	With long filament	Broken	Produced and filamentous	Produced and filamentous
Canines	—	Present in upper jaw	Present in upper jaw, 3+3 on either side	Present in upper jaw, feeble	8 in upper jaw	Present in upper jaw
Hind border of preoperculum	—	—	—	Serrated	Serrated	almost denticulate

The name *Nemipterus luteus* (Schneider, 1801) cannot be suppressed on the ground that it is a *nomen oblitum* since Article 23 (b) which provide for this, is repealed (*vide* Declaration 43 in *Bull. Zool. Nomen.*, 27 (3 & 4): 133-163, 1970).

A detailed description of *N. luteus* along with its synonyms is given below.

***Nemipterus luteus* (Schneider, 1801) (Fig. 1)**

- Coryphaena lutea* Schneider, 1801, p. 297, tab. 58; Tranquebar.
Dentex luteus Valenciennes, 1830, p. 250; Pondicherry.
Dentex striatus Valenciennes, 1830, p. 252; Tranquebar.
Dentex filamentosus Valenciennes, 1830, p. 254; Surinam (Sumatra).
Dentex nematophorus Bleeker, 1853, p. 500; Padang (Sumatra).
Syngnys macronemus Gunther, 1859, p. 380; Surinam.
Syngnys striatus Day 1875, p. 90, Madras.
Syngnys luteus Day, 1975, pl. VIII, fig. 5.
Nemipterus nematophorus Weber and De Beaufort, 1936, p. 366. Fisher and Whitehead, 1974.

Material examined: 20 specimens ranging from 140 to 216 mm TL* from Trawler catches of Kakinada.

Meristic data: D. X, 9; p. 16-18 (16 in 1, 17 in 18, 18 in 1; N: 20); V. I, 5; A. III, 7; L. 46-49 (46 in 5, 47 in 7, 48 in 6, 49 in 1; N: 19); L₁tr. 4, 3/9-10; G. R. 10-12 (10 in 2, 11 in 7, 12 in 8; N: 17).



Fig. 1. *Nemipterus luteus* (Schneider, 1801).

Body proportions as percentage of standard length: Body depth at dorsal origin 30.1-34.1 (31.7)**; head length 32.0-35.8 (33.6), predorsal length 28.0-34.5 (33.3), prepelvic length 31.6-35.5 (33.4), preanal length

* Total length is measured from tip of snout to tip of lower caudal lobe.

** Values in paranthesis are mean values.

60.6-66.1 (63.9), length of dorsal fin base 50.5-57.5 (54.0), length of anal fin base 15.9-21.2 (19.7), pectoral length 29.0-34.1 (32.0), pelvic length 27.3-32.9 (30.3), depth of caudal peduncle 10.3-12.2 (11.2).

Body proportions as percentage of head length : Depth of head behind preopercular border 78.8-90.0 (82.7) horizontal eye diameter 28.8-38.9 (32.7), snout length 23.7-31.6 (27.6), interorbital length 16.3-21.2 (18.9) height of suborbital 10.5-20.0 (15.0).

Other characters : Mouth terminal, oblique; maxillary reaches to below anterior border of pupil. Teeth in several rows in both jaws; in upper jaw 3-4 canines on the outer row on either side, canines absent in lower jaw. Height of suborbital equal to about half vertical diameter of eye; suborbital surface rugose. Vertical border of preopercle finely serrated. Scales ctenoid; 3 rows of scales on preopercle. The first two dorsal spines are produced and filamentous, when folded they extend beyond posterior border of dorsal fin upto nearly base of caudal; spinous dorsal (excepting filaments) shorter than the soft, pectorals falcate, reach upto above 2nd or 3rd anal spine, the first ray of pelvic produced reaching 3rd anal spine, spinous anal shorter than soft portion. Caudal forked; the second branched ray of upper caudal lobe produced into a filament.

Colour : Body pink above and silvery below. A yellow blotch below lateral line near origin. A longitudinal band on either side of the base of dorsal fin with irridiscent shine. Similar band on lateral line. Three longitudinal yellow bands below lateral line but above pectoral base. One yellow band on either side, on ventrolateral sides. The two dorsal filaments and upper border of dorsal deep yellow; the remaining portion of dorsal fin pink. Pectoral and pelvic light pink. Anal pale with a longitudinal yellow band above middle of the fin. Caudal pink except the tips of upper rays in the upper lobe and the filament which are deep yellow.

Distribution : East coast of India, coasts of Sumatra, Borneo, north Celebes and Philippines.

Remarks : *Nemipterus luteus* occurs in the trawler catches off Kakinada in fair quantities when there is fishing at depths of over 55 metres. The peak period of abundance for this species at Kakinada is January-March. During 1976 an estimated 35.3 tonnes of this species were landed forming 6.7% of the total nemipterid catches of the year.

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