

Apogon sphenurus Klunzinger, 1884, a
Senior Synonym of *Neamia octospina*
Smith et Radcliffe, 1912

Ofer Gon

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The monotypic genus *Neamia* was created by Smith and Radcliffe in Radcliffe (1912) for a small apogonid species, *N. octospina*, which was collected by the steamer "Albatross" in the Philippines. *Neamia* differs from other genera in Apogoninae in having a small, but well developed and exposed eighth spine in the first dorsal fin, a reduced supramaxilla, a reduced pair of uroneurals, a reduced third epural, no teeth on the palatines and smooth preopercle edge and ridge (Fraser, 1972). The dorsal fins are not completely separated. A membrane is connecting the eighth spine of the first dorsal fin to the base of the spine of the second dorsal fin. Fraser (1972) suggested that *Neamia* is distantly related to *Apogonichthys*, *Foa* and *Fowleria*, all of which have a reduced supramaxilla, smooth preopercle edge and ridge, as well as a similar body shape.

In his account of *Apogon coccineus*, Klunzinger (1884) included a short note about another species, *Apogon sphenurus*, which was collected by Ehrenberg in the Red Sea. During a visit to the Zoological Museum of Humboldt University in Berlin, I was able to examine the holotype of *A. sphenurus* (the only existing specimen), which was found to be identical with *Neamia octospina* Smith et Radcliffe, 1912. Although on the verge of disintegration, the specimen was intact and had to be handled with utmost care.

The specimens listed in the material examined below are deposited in the Zoological Museum of Humboldt University, Berlin (ZMB); United States National Museum, Washington (USNM); JLB Smith Institute of Ichthyology, Grahamstown (RUSI). Measurements were made to the nearest .05th of a millimeter. Body depth was measured between the dorsal and ventral surfaces of the body at the level of the pelvic insertion. Interorbital width is the least bony width. Length of lower jaw was taken from tip of jaw to angular bone. Length of fin bases was measured from origin of first spine to origin of last spine or ray. Length of spines was taken along the leading edge.

Caudal peduncle length is the distance between verticals at posterior end of anal fin base and caudal fin base. Body width is the greatest width of the body. Pectoral fin rays were counted on both fins and include the uppermost rudimentary ray. Gill-raker counts include rudiments. A developed raker has a free moving tip and its length is about twice its base. The small scales along fin base were excluded from body scale counts. The last dorsal and/or anal fin rays are sometimes split to base, but were counted as one ray. The description below is based on the holotype of *Apogon sphenurus* and six other specimens (including the holotype) of *Neamia octospina* which were used as comparative material.

The purpose of this paper is to show the seniority of the specific name *sphenurus* over *octospina*. In addition, since the former has never been in use, and in order to maintain nomenclatural stability, the species is redescribed below as *Neamia octospina*, followed by a recommendation that the specific name *sphenurus* should be suppressed.

Neamia octospina Smith et Radcliffe, 1912

(Fig. 1)

Apogon sphenurus Klunzinger, 1884: 20 (type locality, Massawa, Red Sea).

Neamia octospina Smith and Radcliffe in Radcliffe, 1912: 441, pl. 36, fig. 2 (type locality, Palawan, Philippines).

Apogon octospinus; Lachner, 1953: 442, based on the holotype of *N. octospina*.

Material examined. ZMB 74, one specimen, 26.6 mm SL, Red Sea, Massawa, coll: Hemprich and Ehrenberg 1820-1826 (holotype of *A. sphenurus*); USNM 70251, one specimen, 27.6 mm SL, Palawan, Mantaquin Bay, Rasa Island (holotype of *N. octospina*); RUSI 4520, 2 specimens (of 4), 29.85-33.00 mm SL, Zanzibar, coll: J. L. B. and M. M. Smith, September 1952; RUSI 4522, 2 specimens, 29.5-29.7 mm SL, Seychelles, Mahé, coll: J. L. B. and M. M. Smith, October 1954; RUSI 4524, one specimen, 35.9 mm SL, collection data as for RUSI 4520.

Description. Data are for the holotype of *A. sphenurus*. Those in parentheses present the range in the measurements of characters of the comparative material. Due to the poor condition of the holotype of *Apogon sphenurus* and the loss of its scales, some measurements and scale counts were not taken. Thus, the description of these



Fig. 1. Holotype of *Apogon sphenurus*, ZMB 74, 26.6 mm SL, Massawa, Red Sea.

characters is based on the comparative material (without parentheses). Proportions of the specimens examined are presented in Table 1.

Dorsal fin rays VIII-I, 9; anal fin rays II, 8; pectoral fin rays 18 (18-19); caudal fin rays 9+8; pored lateral-line scales 23-24; scales between lateral-line and 1st dorsal fin 2; scales between lateral-line and anal fin origin 6-7; predorsal scales 4-5; branchiostegal rays 7; gill-rakers 2+12 (10-12); developed gill-rakers 8 (6-8); vertebrae 10+14.

Body short and compressed; the depth 2.45 (2.35-2.55) and head length 2.45 (2.25-2.40) in SL; body width 2.00-2.70 in depth; dorsal profile of head straight; eye small, orbit diameter 4.10 (4.00-4.95) in head length; interorbital space narrow, its width 6.40 (6.50-7.90) in head length; snout short and blunt 7.80 (5.85-7.15) in head length; front nostril small, round, with an elevated rim, located at midway between upper lip and rear nostril, at level of lower margin of pupil; rear nostril larger, oval, placed in front of eye, slightly above center of orbit.

Origin of dorsal fin on a vertical with upper end of pectoral fin base; first dorsal fin base 4.45-4.70 in SL; first dorsal spine 3.30 (2.15-3.35) in second spine; second dorsal spine 1.95 (1.95-2.60) in longest spine; longest dorsal spine, third, 1.85 (2.10-2.20) in head length; eighth dorsal spine shorter than first spine; second dorsal fin base 6.10 (5.05-5.45) in SL; spine of second dorsal fin short, 4.20 (3.95-4.70) and longest dorsal fin ray 1.65 (1.80-1.95) in head length; origin of anal fin under second dorsal fin ray; anal fin base 6.90 (6.25-7.35) in SL; first anal spine 2.00-2.55 in

second spine; second anal spine 3.95 (3.45-4.05) and longest anal ray 1.70 (1.85-2.15) in head length; margin of second dorsal and anal fins rounded; pectoral fin long and rounded, middle rays longest 3.00 (3.30-3.55) in SL, reaching posteriorly above central anal fin rays; pelvic insertion slightly in advance of dorsal fin origin; pelvic fin length 1.40 (1.70-1.75), reaching anus, and pelvic spine 2.14 (2.55-2.80) in head length; innermost (5th) pelvic ray connected by a membrane to abdomen, along the proximal third of its length; anus near anal fin origin; caudal peduncle short and deep, the depth 1.25 (1.15-1.25) in the length and the length 4.90 (4.55-5.30) in SL; caudal fin rounded to somewhat pointed.

Mouth terminal, large and oblique; upper jaw 1.90 (1.90-2.10) in head length; maxilla reaching beyond rear margin of eye, partly covered by a poorly ossified suborbital bone; lower jaw longer 1.55 (1.65-1.80) in head length; a polyserial band of small, conical teeth on both jaws and vomer; palatines toothless; posttemporal bone smooth and poorly ossified; preopercle edge and ridge smooth, its ventral edge poorly ossified; gill opening wide, extending forward under center of eye; gill membrane free from isthmus; gill-rakers moderately long, longest not more than half diameter of eye, and armed with minute spinules on inner edge; no developed gill-rakers on hypobranchial; gill-filaments as long as gill-rakers or slightly longer.

Body covered with large ctenoid scales; lateral-line complete, following dorsal profile and extending onto caudal fin; pored lateral-line scales about the same size as body scales adjacent to

them; last lateral-line scale normal; opercular bones scaled; interorbital space and snout naked; no scales on fin membranes.

Color. In alcohol, the holotype of *A. sphenurus* is dark brown, with paler fins; the stripes radiating from the eye, typical to this species, were visible only with the aid of a dissection microscope as lines of small chromatophores; the first stripe is from the upper margin of the eye to the occiput; the second stripe is from the rear margin of the eye to the origin of the lateral-line; the third stripe is from the lower margin of the eye to the ventral edge of the preopercle.

Distribution. *Neamia octospina* has an Indo-West Pacific distribution. Until 3 decades ago it was known only from the holotype of *N. octospina* (Fowler and Bean, 1930; Herre, 1953; Lachner, 1953). Smith (1955, 1961) collected it in Aldabra, Zanzibar and Mozambique, and Smith and Smith (1963) found it in Seychelles. Fishelson (1981) and Dor (1984) reported it from the Red Sea, Gon (1987) from the Maldive Islands and Hayashi in Masuda et al. (1984) from southern Japan.

Remarks. The holotype of *Apogon sphenurus* described above was collected in the Red Sea, together with many other zoological and botanical

Table 1. Proportional measurements of the holotype of *Apogon sphenurus* and other specimens (including the holotype) of *Neamia octospina* (in percent of SL).

	Holotype of <i>Apogon sphenurus</i>	Holotype of <i>Neamia octospina</i>	Other specimens				
	ZMB 74	USNM 70251	RUSI 4522	RUSI 4522	RUSI 4520	RUSI 4524	
Standard length (mm)	26.6	27.6	29.5	29.7	29.8	33.0	35.9
Length of head (mm)	10.9	11.8	12.5	12.3	13.3	14.6	14.9
Depth of body	40.6	42.6	39.8	39.3	42.0	42.0	42.3
Width of body	*	15.8	18.1	19.2	20.8	18.8	21.2
Head length	41.0	42.7	42.4	41.4	44.7	44.2	41.5
Snout length	5.3	6.0	6.8	7.1	7.5	7.1	7.1
Eye diameter	10.0	10.5	10.0	10.3	9.0	9.8	9.7
Interorbital width	6.4	6.1	5.6	5.4	5.7	5.6	6.4
Length of upper jaw	21.8	20.6	21.9	21.9	21.4	22.7	21.7
Length of lower jaw	26.3	26.1	25.4	25.1	24.6	26.2	25.3
Length of 1st dorsal fin base	*	21.4	22.4	21.5	21.4	21.7	21.7
Length of 1st dorsal spine	3.4	3.3	**	4.4	3.8	3.9	4.7
Length of 2nd dorsal spine	11.3	8.9	9.1	9.8	8.2	9.1	10.2
Length of longest dorsal spine	22.2	20.3	19.1	20.7	21.3	20.3	19.8
Length of 2nd dorsal fin base	16.3	19.6	18.6	18.3	19.8	19.2	19.1
Length of 2nd dorsal fin spine	9.8	**	9.5	10.4	9.5	10.0	9.6
Length of longest dorsal ray	25.2	**	22.7	21.2	23.4	22.7	23.0
Length of anal fin base	14.5	15.4	15.9	15.0	14.9	13.6	16.0
Length of 1st anal spine	*	4.3	4.2	5.4	4.5	4.5	5.6
Length of 2nd anal spine	10.3	**	10.8	11.9	11.5	10.9	11.4
Length of longest anal ray	23.9	**	**	20.5	22.9	20.6	22.3
Length of pectoral fin	33.3	28.8	28.5	28.8	30.1	30.1	28.1
Length of pelvic fin	28.7	**	24.4	23.6	25.1	25.0	24.6
Length of pelvic spine	19.2	16.1	15.2	16.3	15.7	14.8	14.9
Depth of caudal peduncle	16.2	16.7	16.6	17.5	18.1	17.6	17.8
Length of caudal peduncle	20.3	18.8	19.3	21.9	21.8	21.1	21.2
Snout to 1st dorsal fin	46.0	44.4	44.4	43.8	43.5	45.1	43.2
Snout to 2nd dorsal fin	65.8	63.9	63.5	63.3	63.6	65.1	62.7
Snout to anal fin	61.1	66.1	62.2	63.6	64.4	65.7	64.3
Snout to pelvic fin	36.5	37.7	40.0	38.7	39.9	43.0	39.7

* Measurements were not taken due to the poor conditions of the specimen.

** Broken.

specimens, by Hemprich and Ehrenberg for the German Academy of Science in Berlin (Klausewitz, 1964). Somehow, this specimen escaped the attention of Cuvier who described the fishes collected by the two German naturalists. Klunzinger came across the specimen about 50 years later in Berlin, where the main part of Hemprich and Ehrenberg's collection has been deposited.

In a short comment, at the end of his account of *Apogon coccineus*, Klunzinger (1884: 20) wrote that: "In Berlin there is a distinct species, *Apogon sphenurus* no. 74, named by Ehrenberg. It is distinct by the wedge form of the caudal fin, as the median rays are the longest. It was never described and I did not make any detailed notes on it". It is rather unusual that this specimen was overlooked for over hundred years although the name and the museum number of the fish, as well as the fact that it was never described, were clearly stated by Klunzinger (1884).

Although Klunzinger's note leaves no doubt that *A. sphenurus* was named by Ehrenberg (the naming is denoted by the German word "bezeichnete" in the original text), authorship can not be attributed to the latter. According to the Code (Article 50a) authorship must be given to Klunzinger who was the first to publish the name in a manner that satisfies the criteria of availability set by it. The name *Apogon sphenurus* is available as it was published in a scientific publication as a binominal scientific name and was treated as a valid name by Klunzinger, thus satisfying the requirements for availability of Article 11 of the Code. Furthermore, being a name published before 1931, it also satisfies Article 12 of the Code, which requires that in order to be available a new name must be accompanied by a description or a definition of the taxon it denotes. Although very short, Klunzinger's account of *A. sphenurus* does include a description of a character distinguishing this taxon from others. The distinctive shape of the caudal fin, as described by Klunzinger (1884), is clearly depicted by the illustration of the holotype of *N. octospina* (Radcliffe, 1912: pl. 36, fig. 2).

The name *Apogon sphenurus* has never been identified or associated by past authors with the taxon commonly known as *Neamia octospina*. Although the seniority of the specific name *sphenurus* over *octospina* is clearly shown above, using the former as the valid name for this taxon

will be in conflict with the Principle of Priority as portrayed by the International Code of Zoological Nomenclature, Article 23(b). An application for the suppression of the specific name *sphenurus* for the purpose of maintaining stability has been submitted to the International Commission on Zoological Nomenclature.

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Apogon sphenurus Klunzinger, 1884 は *Neamia octospina* Smith et Radcliffe, 1912 の古参シノニム

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Apogon sphenurus は Klunzinger (1884) によって *A. coccineus* の記載の中で簡単に記述された。ベルリンのフンボルト大学動物学博物館にある Klunzinger が登録番号を与えた標本を検討した結果、本種は従来その学名が有効とされていた *Neamia octospina* Smith et Radcliffe, 1912 と同一であることが判った。*A. sphenurus*の方が古い名称ではあるが、命名法上の混乱を避けるため破棄するのがよい。