

ON THE IDENTITY OF THE SPECIES OF THE FISH GENUS *ARGENTINA* IN THE INDIAN OCEAN

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The eastern North Atlantic and Mediterranean fish *Argentina sphyraena* has been recorded twice from the western Indian Ocean, once by GILCHRIST and VON BONDE (1924:33) and once by PFAFF (1956:148). As I have previously written (COHEN 1958), the specimens of the former authors were listed but not described, and have apparently been lost. The specimens collected by the Danish research vessel "Galathea" and noted by Dr. PFAFF have, however, been made available for study through the kindness of Dr. JØRGEN NIELSEN, to whom I express thanks.

Although I predicted that the eastern Indian Ocean argentininid would probably be referable to the genus *Glossanodon*, I must admit error. Examination of the material taken shows that the species is quite plainly an *Argentina*, although not *A. sphyraena*. It is in fact much closer to *A. elongata*, though differing from all of the three named subspecies. As I have only two specimens and thus no idea as to the degree of variability of the taxonomic characters which I have used, it is with some trepidation that I predict the existence of a full species; however, this seems a wiser course than describing the form as a subspecies, a category which is even more dependent upon analysis of variation. Therefore I describe a species with the realization that when additional material is available re-evaluation and perhaps recognition as a subspecies will be necessary.

Argentina euchus n. sp.

Argentina sphyraena (non Linnaeus 1758) GILCHRIST and VON BONDE 1924, p. 3 (synonymy; St. 295, lat. 26°00'45"S., long. 33°19'50"E., 180 fms., St. 375, lat. 29°42'40"S., long. 31°39'20"E., 201 fms.). – BARNARD 1925, p. 128 (brief descr. from literature). – SMITH 1953, p. 96, fig. 127 (brief descr., from literature, fig. is *Argentina silus*). – PFAFF 1956, p. 148 (off Natal).

Diagnosis. – This species can be distinguished from *A. sphyraena* and *A. silus* by its branchiostegal ray count of five rather than six; from *A. sialis* in having six gill rakers on the lower arm of the first gill arch rather than 14 to 21; from *A. striata* in having 17 pectoral rays, a low number of teeth on the palatines and vomer and 10 ventral rays, rather than 18 to 20 pectoral rays, a high number of teeth and 11 to 13 ventral rays; from *A. elongata* in having 10 ventral rays rather than 11 to 13 rays and having 48 to 49 lateral line scales rather than 51 to 54 lateral line scales. Some differences between *A. euchus* and the subspecies of *A. elongata* are summarized in table 1.

Counts and measurements (in mm.). – The holotype first followed by the paratype in parenthesis – Dorsal 11 (11); anal 12 (12); pectoral 17-17 (?-17); ventral 10-10 (10-10); gill rakers 2+1+6 (3+1+6); lateral line scale rows 48 (49); standard length 158 (146); preanal 131 (119); preventral 83.5 (76.5); predorsal 71.4 (60.2); prepectoral 46.0 (42.9); head length 45.2 (40.2); snout 16.6 (13.6); eye 14.1 (13.7); maxillary length 8.0 (7.1); maxillary width 2.8 (2.5); body depth at dorsal fin 23.4 (22.0); body width behind head 19.0 (17.0); depth of head 20.5 (20.5); least depth of caudal peduncle 9.4 (9.0); vertebrae in paratype 48.

Description. – Body elongate, almost rectangular in cross section, more strongly compressed posteriorly. Greatest depth at the origin of the dorsal fin, tapering to the caudal peduncle. The dorsal profile of the head descending in a very slight curve from the eye to the snout. The dorsal rim of the orbit projecting only very slightly, if at all, into the dorsal profile of the head. The interorbital is broad and flat between the supraocular canals, which are themselves raised slightly above the flat surface. Lateral to the canals the frontals slope down somewhat over the top of the orbit. The preorbital forms

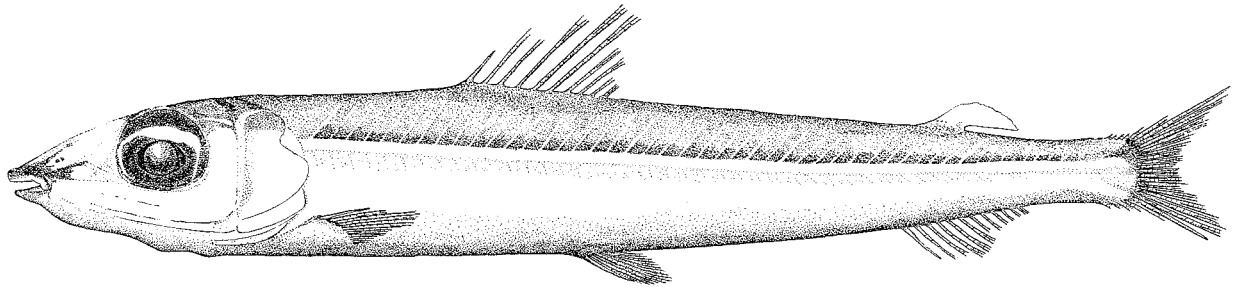


Figure 1. Paratype of *Argentina euchus* n. sp. Drawn by MIRIAM SCHAFFER.

a sheath which covers the dorsal edge of the maxillary when the mouth is closed. Sensory papillae are present on portions of the membrane covering the premaxillary. Both the upper and lower jaws are rounded when viewed ventrally. When the mouth is closed, the upper jaws project slightly. There is no knob at the symphysis of the lower jaws.

The palatines and the head of the vomer bear a continuous band of small, closely spaced, posteriorly directed teeth. The band varies in width from a single tooth at the posterior ends of the palatines to as much as 5 or 6 teeth at the apex of the vomer. It is not possible to distinguish between vomerine and palatine teeth without dissection. The tongue bears 7 strong teeth. The gill rakers on the lower arm of the first arch are small, very widely spaced, roughly triangular in shape, and compressed. The base of the inner edge of each raker bears a fleshy pad. The rakers increase in size from the angle anteriorly, the largest being about as long as the maxillary is wide. The three rakers on the upper arm of the first arch are reduced to very small pointed structures.

The pectoral fin originates behind a vertical from the posterior tip of the opercles. The pectoral fin is inserted at an angle of about 40 degrees from the horizontal. The distance between the bases of the innermost pectoral rays is slightly less than the eye diameter.

The fin rays are all broken off short. Not a single scale remains on the specimens.

The ventral half of the body is light brown. An indistinct orange-brown band begins in the midline at the level of the origin of the dorsal fin and extends posteriorly, becoming wider and then almost disappearing on the caudal peduncle. The dorso-lateral part of the body is colored by dark brown chromatophores which are more densely distributed on the sides of the fish than on top. Above the lateral line the chromatophores are expanded and form a narrow but well defined dark brown line which runs the length of the fish, becoming indistinct only on the caudal peduncle, where it merges with a dark brown area along the base of the caudal fin. A single dark streak runs along the midline of the dorsum. The muzzle and the top of the skull behind the interorbital area are dark. The holotype is generally lighter than the paratype.

Holotype: A specimen 158 mm. in standard length, taken at "Galathea" St. 202 in the Indian Ocean, latitude 25°20' S., longitude 35°17' E., 590 m (Copenhagen University Zoological Museum No. 19519). Paratype: 146 mm. Data as for the holotype.

The name is derived from the Greek word *euchos*, the thing prayed for, and refers to the fact that this specimen is the answer to a longstanding puzzle.

Table 1. Comparisons between the holotype and paratype of *Argentina euchus* and the three subspecies of *Argentina elongata*. Measurements are expressed as percent of standard length.

Species	<i>A. euchus</i> holotype	<i>A. euchus</i> paratype	<i>A. elongata elongata</i>	<i>A. elongata australiae</i>	<i>A. elongata kagoshimae</i>
No. of examples.....	1	1	21	12	17
Ventral fin rays.....	10	10	11 (11-13)	12 (11-13)	12 (11-12)
Gill rakers on first arch.....	2+1+6	3+1+6	2 (1-3) +1+9 (8-10)	1 (1-2) +1+6 (6-7)	2 (0-3) +1+6 (5-6)
Lateral line scale rows.....	48	49	54 (51-54)	54 (51-54)	54 (51-54)
Preanal distance.....	82.9	81.5	82.8 (79.2-85.2)	83.8 (82.5-85.0)	85.0 (83.1-87.2)
Maxillary width.....	1.7	1.7	1.5 (1.3-1.6)	1.4 (1.2-1.5)	1.4 (1.2-1.5)
Body depth at dorsal fin....	14.8	15.1	13.3 (11.9-15.3)	10.8 (10.1-11.5)	12.5 (10.4-14.7)
Head depth.....	13.0	14.0	12.1 (10.9-13.6)	11.0 (10.5-11.4)	11.1 (10.4-12.6)

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