

SMITHSONIAN MISCELLANEOUS COLLECTIONS

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## Johnson Fund

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REPORTS ON THE COLLECTIONS OBTAINED BY THE FIRST  
JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION  
TO THE PUERTO RICAN DEEP

A NEW SPECIES OF DEEP-SEA FISH, ARGYROPELECUS  
ANTRORSOSPINUS, OF THE FAMILY  
STERNOPTICHIDAE

BY

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### A NEW SPECIES OF DEEP-SEA FISH, ARGYROPELECUS ANTRORSOSPINUS, OF THE FAMILY STERNOPTICHIDAE

By LEONARD P. SCHULTZ

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A study of the fishes of the family Sternoptichidae collected by the first Johnson-Smithsonian Deep-Sea Expedition, 1933, and others in the United States National Museum, has revealed a new species of silver-hatchet fish, *Argyropelecus antrorsospinus*, so named because the single spine at the posterior end of the abdomen curves slightly forward.

#### ARGYROPELECUS ANTRORSOSPINUS, n. sp.

Fig. 1

*Argyropelecus offersii* (non Cuvier) Goode and Bean, *Oceanic Ichth.*, p. 126, pl. 39, fig. 148 a, 1895.

*Holotype*.—U.S.N.M. no. 102989, 33 mm standard length; from first Johnson-Smithsonian Deep-Sea Expedition, tin tag number 512, station 83, off Culebra Island, latitude  $18^{\circ}32'54''$  N., longitude  $65^{\circ}23'42''$  W., to latitude  $18^{\circ}32'15''$  N., longitude  $65^{\circ}18'45''$  W., February 26, 1933, depth from 250 to 320 fathoms.

The description is based on the holotype and four paratypes, the latter from the following localities, respectively: U.S.N.M. no. 102987, 35 mm standard length, collected by steamer *Albatross*, station 2208, latitude  $39^{\circ}33'00''$  N., longitude  $71^{\circ}16'15''$  W., August 21, 1884; U.S.N.M. no. 35561, 33 mm length, collected by steamer *Albatross*, station 2209, latitude  $39^{\circ}34'45''$  N., longitude  $71^{\circ}21'30''$  W., August 21, 1884; U.S.N.M. no. 33393, 34 mm length, collected by steamer *Albatross*, station 2075, latitude  $41^{\circ}40'30''$  N., longitude  $66^{\circ}35'00''$  W., September 3, 1883 (a rather inaccurate figure of this specimen was published by Goode and Bean, *Oceanic Ichthyology*, pl. 39, fig. 148 a); U.S.N.M. no. 43855, length about 52 mm, *Albatross*, station 2717,  $38^{\circ}24'$  N.,  $71^{\circ}13'$  W., September 18, 1886. This speci-

men, which has been on exhibit for years, is very brittle and is falling to pieces, rendering impossible accurate measurements.<sup>1</sup>

*Description.*—The counts and measurements given outside the parentheses were taken from the holotype, and those inside the parentheses were taken from the four paratypes. All measurements are expressed in hundredths of the standard length. Dorsal spines including rudiments VIII (VIII, VIII, VIII, VIII); dorsal soft rays 9 (9, 9, 9, —); anal rays 8+5 (7+5, 7+5, 7+5, 7+5); pelvic fin rays 6 (—, —, —, —); pectoral fin rays 9 (9, 10, 11, —); gill rakers on anterior margin of first gill arch 8+8 (7+9, 7+9, 8+9, 7+9); branchiostegal rays 9 (—, —, —, —); abdominal plates always 12. The lanterns (fig. 1)

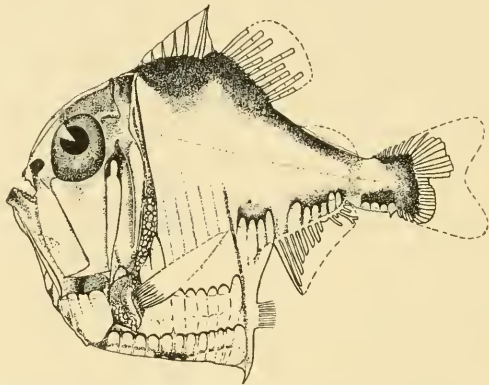


FIG. 1.—*Argyroplecus antrosospinus* n. sp. Holotype. Standard length 33 mm. Drawn by Jane Roller.

always occur in pairs on holotype and paratypes in the following numbers: Branchiostegals 6; isthmus 6; abdominal (ventral margin of abdomen) 12; anal (along base of anal fin) 6; pre-anal (in front of

<sup>1</sup> The following two specimens, referred to this species, tentatively, and with much uncertainty, are not used in the description of this new species: One, U.S.N.M. no. 102988, collected by steamer *Albatross*, is referred to this species with some uncertainty, as the abdominal spine is broken and there is no spine on the lower margin of the caudal peduncle. This fish was found in a jar containing two station numbers and may have been taken at either one of them. They are: Station 4600, southwest coast of Mexico, Point of Rocks, N. E., 10 miles, latitude 15°36' N., longitude 96°59' W., October 15, 1904, depth 500 fathoms; and station 4436, Harris Point, San Miguel Island, S. 7° E., 9.8 miles, April 15, 1904, depth 264 to 271 fathoms. The other specimen, U.S.N.M. no. 33296, also in poor condition and with the abdominal spine broken off, probably belongs to this species. It was collected by the steamer *Albatross*, station 2043, latitude 39°49'00" N., longitude 68°28'30" W., July 30, 1883. This fish has spines on the ventral portion of the caudal peduncle.



TABLE 2.—*Measurements for Argyropelecus Made on Specimens in the United States National Museum*  
(All measurements expressed in hundredths of the standard length)

(character)	<i>A. hemigymnus</i> (5 fish)	<i>A. olfersii</i> (2 fish)	<i>A. affinis</i> (2 fish)	<i>A. antrosospinus</i> (4 fish)	<i>A. aculeatus</i> (2 fish)	<i>A. shufeldti</i> (3 fish)
Length of head.....	31 to 35	31	31	31 to 34	31 to 32	32 to 35
Greatest width of head.....	13 to 18	16.8 to 17	13	16.5 to 18	17 to 18.2	15 to 16.5
Length of snout.....	9 to 12	8 to 9	8.5	9 to 9.5	9.5	8 to 11.3
Width of bony interorbital.....	1.0 to 3.3	2.2 to 3.0	1.3	2.5 to 3.4	3 to 3.3	2.5 to 3.2
Horizontal diameter of eye.....	12 to 17	13	13	12.5 to 14	12.5 to 13	14.5 to 17
Length from tip of snout to rear margin of maxillary.....	27 to 29.5	31	25.8 to 29	29.8 to 33	20 to 31.8	31 to 35
Distance from snout to origin of soft dorsal.....	50 to 53	55.5 to 56.5	51.5	55 to 59	55 to 56	58
Greatest depth of body.....	51.5 to 58.5	75.5 to 76	42 to 44	75 to 82	73 to 78	68 to 75
Least depth of caudal peduncle.....	8.5 to 12	14 to 15.5	10 to 11	12.5 to 14.5	12.5 to 13	10.5 to 13.5
Length of caudal peduncle <sup>a</sup> .....	20.5 to 25	13.5 to 17	20 to 21	14.5 to 17.5	15.5 to 19.5	13.5 to 15
Longest spine of dorsal blade.....	8 to 12	10.5 to 14.5	5.6 to 6.1	14.5 to 18.5	13 to 17	8.2 to 11.5
Length of base of dorsal blade.....	13.5 to 19	18.0 to 20.5	16 to 17	19 to 21.5	20 to 21.5	18 to 20
Length of longest gill raker.....	8.8 to 12	7 to 8	7 to 8	7.2 to 11	8.5 to 9.5	9.5 to 11.5
Length of longest pectoral fin ray.....	28 to 34	31	23.5 to 33	34.5 (1 fish)	28.5 to 32.0	31 to 37
Length of abdominal plates.....	34 to 36	39 to 41	34 to 36.5	39.5 to 41	40 to 41.5	40 to 41
Distance from origin soft dorsal to base mid-caudal fin rays.....	50 to 53.5	58.8 to 59	53 to 55.5	56 to 60	53 to 58	56 to 58
Length base soft dorsal fin.....	10.5 to 12.5	16 to 16.8	10.5 to 12	16.8 to 19	17 to 20	14.5 to 15
Length base adipose fin.....	20.5 to 24.5	15 to 16.2	14.5 to 18	16.5 to 19	18.5	.....
Length of neural process.....	6.5 to 9	7	8.5 to 9	7.8 to 9	7	8 to 9

<sup>a</sup> From base last anal ray to base mid-caudal fin rays.



anal fin and dorsal to pelvics) 4; suprapectoral (behind and above base of pectoral) 2; subcaudal (underside of caudal peduncle) 4; supra-abdominal (above abdominal series and behind the suprapectorals) 6; preorbital 1; subopercular 1; postorbital (behind and little below eye) 1; and preopercular (below eye and near lower posterior angle of preoperculum) 1. Length of head 34 (33, 32.5, 31, -); greatest width of head 18 (16.5, 16.5, 18, -); length of snout 9.5 (9, 9.5, 9, -); width of bony interorbital 3.3 (2.5, 3.2, 3.4, -); horizontal diameter of eye 13.5 (13, 14, 12.5, -); length from tip of snout to rear margin of maxillary 33.5 (33, 31, 29.8, -); snout to origin of soft dorsal 59 (56, 56.5, 55, -); height of dorsal blade 18.5 (14.5, 16.5, 15, -); length of base of dorsal blade 20 (21.5, 20, 19, -); greatest depth of body (bony ridges or dorsal blade not included) 82 (80, 77.5, 75, -); least depth of caudal peduncle 13.5 (14.5, 12.5, 13.5, -); length of caudal peduncle 16.5 (14.5, 17.5, 16.8, -); length of longest gill raker on first gill arch 11 (7.2, 7.5, 7.8, -); length of abdomen (plates) 41 (41, 39.5, 40, -); distance from origin of soft dorsal to base of caudal fin rays 59 (57.5, 60, 56, -); length of base of soft dorsal 18.5 (19, 17.3, 16.8, -); length of base of adipose fin 18.5 (16.5, 19.0, 19.0, -); length of nuchal process 8 (9, 13, 7.8, -).

This species may be distinguished from all other members of the genus *Argyropelecus* by the data presented in tables 1 and 2 and because it is the only species in which the single spine at the posterior angle of the abdomen curves somewhat forward.

*Argyropelecus elongatus* Esmark, 1871 (Forh. Vidensk. Selsk. Christiania, aar 1870, p. 489), is too briefly described to be recognized. The very inadequate description and poor figure of *Argyropelecus bocagei* Osorio, 1909 (Mem. Mus. Bocage 1, pp. 27-28, pl. 2, fig. 3), is also unrecognizable.