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NOTES ON THE PIPE-FISHES OF CALIFORNIA

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I

Syngnathus leptorhynchus Girard

Siphostoma barbarae Swain, *Proc. U. S. Nat. Mus.*, 7, 1884, p. 238; Jordan and Evermann, *Bull. U. S. Nat. Mus.*, 47, pt. 1, 1896, p. 765.

Syngnathus barbarae Hubbs, *Univ. Cal. Publ. Zool.*, 16, 1916, p. 159.

After comparing the published descriptions of *S. barbarae* with specimens of *S. leptorhynchus* from near Santa Barbara, California, the type-locality of *barbarae*, the writer has come to the conclusion that the type and only known specimen of *barbarae* is a *leptorhynchus* with an injured tail. The following table indicates that the proportional measurements of *barbarae* are not clearly distinctive. Those of the first column were taken by Dr. C. H. Gilbert from the type of *S. barbarae*.

TABLE OF MEASUREMENTS IN HUNDRETHS OF LENGTHS TO ANUS OF
Syngnathus leptorhynchus FROM SANTA BARBARA

Length to anus, mm.	91	80	74	64
Length of head	30.5	32.5	35	26
Length of snout	14.9	18	21	12.5.
Greatest depth of snout	5.1	4.5	4	4.5
Least depth of snout	3	2.5	3	3
Diameter of eye	2.8	3.5	4	4
Greatest depth of trunk	9	6	6.5	7.5
Base of dorsal	29	26	23	30

Of three adults of *S. leptorhynchus* collected in El Estero, near Carpenteria, Santa Barbara County, on July 4, two were males, one containing eggs in its brood pouch, the other well-developed embryos.

Syngnathus leptorhynchus appears to be the southern representative of *S. griseo-lineatus*, differing from that form in having fewer dorsal rays and fewer caudal rings. There is apparently no basis for records of *leptorhynchus* north of Point Conception.

II

Syngnathus griseo-lineatus Ayres

The characters of this species, like those of the other forms inhabiting the California coast, are subject to considerable variation. The following table of measurements and counts is based on specimens from the entire known range of the species.

TABLE OF DIAGNOSTIC COUNTS AND MEASUREMENTS OF
Syngnathus griseo-lineatus

LOCALITY	SANTA CRUZ		SAN FRANCISCO				MENDOCINO COUNTY, CALIFORNIA				PUGET SOUND		
Total length to caudal	210	161	145	142	230	216	214	175	165	176	162		
Length of eye	8.2	6.3	6.7	6.0	8.5	8.3	8.2	7.7	7.3	6.9	6.7		
Length of snout	1.7	2.0	2.0	2.0	1.7	1.7	1.8	1.8	1.85	1.95	1.95		
Dorsal rays	40	38	38	37	39	37	40	41	39	40	39		
Precaudal rings	19	19	19	19	18	18	18	18	19	18	19		
Caudal rings	43	42	43	42	41	42	42	41	41	40	41		
Rings under dorsal	$1 + 8\frac{1}{4}$	$\frac{1}{2} + 8\frac{1}{2}$	$1 + 8\frac{1}{4}$	$1 + 8$	$1 + 8\frac{1}{4}$	$\frac{1}{2} + 8\frac{1}{2}$	$1 + 8\frac{1}{4}$	$1 + 8\frac{1}{4}$	$1 + 8\frac{1}{4}$	$1 + 8\frac{1}{4}$	$1 + 8\frac{1}{4}$		
Rings over brood pouch.....	..	..	..	23	..	25	..	..	..	..	25		

III

Syngnathus californiensis Storer

This species is known to range only from central California to Coronado,¹ the Puget Sound records being based on specimens of *S. griseo-lineatus*,² and the specimens recorded from San Bartolomé Bay, Lower California,³ being typical of *S. crilis*.⁴

TABLE OF DIAGNOSTIC COUNTS AND MEASUREMENTS OF
Syngnathus californiensis

LOCALITY	CORONADO		LA JOLLA		MONTEREY		CENTRAL CALIFORNIA		BALLENAS BAY
Total length to caudal..	224	....	163	155	186	160	157	176
Length of eye	8.2	8.0	8.5	8.0	8.8	7.8	7.3	9.1	
Length of snout	2.0	1.8	1.8	1.8	1.6	1.75	1.8	1.75	
Dorsal rays	43	43	43	42	41	43	....	39
Precaudal rings	19	21	20	20	21	21	21	20	
Caudal rings	48	47	48	45	47	48	47	47	
Rings under dorsal....	1 + 9	1 + 9	1 + 9	1 + 8	1 + 8¼	1 + 8¼	1 + 9	1 + 8¼	
Rings over brood pouch	23	..	..	..	..	..	..	..

¹ Hubbs, *Univ. of Cal. Publ. Zool.*, 16, 1916, p. 158.

² Starks, *Ann. Carn. Mus.*, 7, 1911, p. 177.

³ Starks and Morris, *Univ. Cal. Publ. Zool.*, 3, 1907, p. 183.

⁴ Osburn and Nichols, *Bull. Amer. Mus. Nat. Hist.*, 35, 1916, p. 154, fig. 7.