

First Record of the Angelfish, *Centropyge colini* (Pomacanthidae), from Guam, Mariana Islands

Robert F. Myers

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Two specimens of the angelfish *Centropyge colini* Smith-Vaniz et Randall (1974) were collected recently from 36 to 43 m off Guam, Mariana Islands. This species was previously known only from the Cocos-Keeling Islands in the Indian Ocean on the basis of four specimens. Individuals from both locations appear to be morphologically identical. Both of the Guam specimens were photographed in color; one while living in an aquarium, the other freshly dead (Fig. 1), and were subsequently deposited in the University of Guam Marine Laboratory (UG) fish collection. Counts and measurements follow Randall and Wass (1974). Data in parentheses apply to the smaller of the two specimens, if different from the larger one.

Centropyge colini Smith-Vaniz et Randall
(Fig. 1)

Material. UG 6181, male, 69.9 mm SL, crevice in the ceiling of a cave on the side of a vertical dropoff, 36 m, Orote Pt., Guam, Mariana Islands, quinaldine, by R. Myers and V. Tyndzik, Aug. 28, 1978; UG 6182, male, 59.7 mm SL, same location as above, 43 m, handnets, by J. Eads, Mar. 10, 1979.

Description. D. XIV, 16 (17); A. III, 17; P₁ 16 (upper 2 and lower-most unbranched); P₂ I, 5; principle caudal rays, 17 (upper and lowermost unbranched); pored lateral-line scales 41 (34); near-vertical scale rows from upper end of gill opening to mid-base of caudal fin 46; scales above lateral line to origin of anal fin 24; circumpeduncular scales 26 (28); gillrakers 6+12 (4+12); branchiostegal rays 6.

Body deep, the depth 1.8 (1.6) in SL, and compressed, the width behind gill opening 3.2 (3.3) in depth; head length 3.3 in SL; dorsal profile of head about 45° (57)° from horizontal; snout 2.6 (3.3) in head; eye 2.9 (2.6) in head; bony interorbital width 3.6 in head; caudal peduncle deeper than long, the

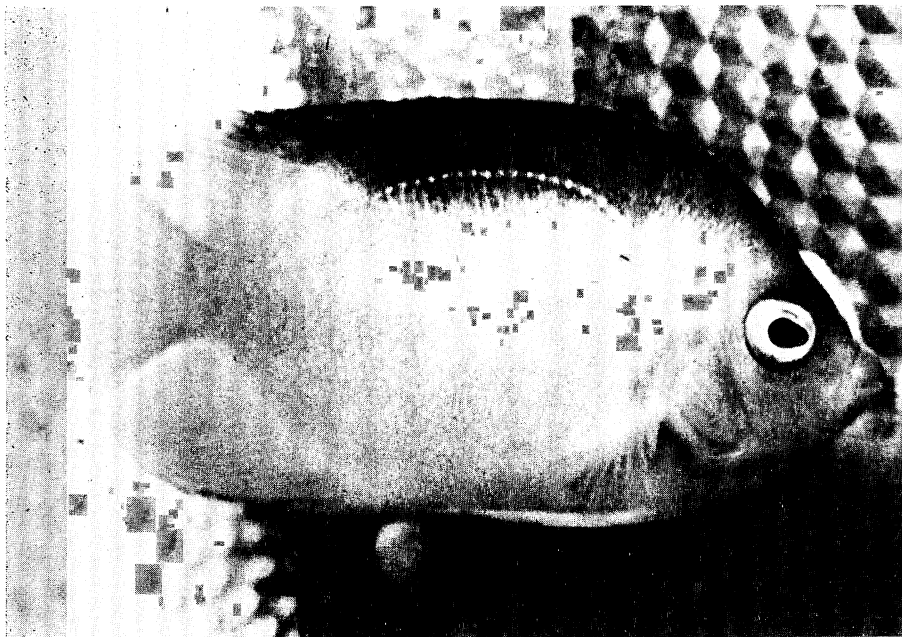


Fig. 1. Living specimen of *Centropyge colini*, UG 6182, 59.7 mm SL.

least depth 7.0 in SL, the length 1.5 (1.3) in least depth.

Mouth small, terminal, the gape slightly diagonal; teeth slender, elongate, close-set, flexible, tricuspid in four rows in front of jaws.

A stout spine at corner of preopercle, its length slightly less than or approximately equal to eye diameter; 20 (19) spinules along upper margin of preopercle; 5 (4) small spines

on lower margin; interopercle with 2 (1) small spines; subopercle with 9 (3) small spines; posteroventral margin of preorbital with 4 (2) small spines, anteroventral margin with 4 (2) small spines.

Scales coarsely ctenoid, up to 32 ctenii on the posterior margin, the exposed portion strongly ridged; auxiliary scales on head, nape, thorax and abdomen; head and body completely scaled except for lips, a narrow area

Table 1. Selected measurements expressed as percent SL, and counts of known specimens of *Centropyge colini*. Data for the type specimens are taken from Smith-Vaniz and Randall (1974).

Characters	Guam		Cocos-Keeling
	UG 6181	UG 6182	Holotype and Paratypes N=4 (3 ♂, 1 ♀)
Sex	♂	♂	
Standard length (mm)	69.9	59.7	44.3~58.4
Greatest depth of body	57.2	62.0	56.7~60.3
Width of body behind gill opening	17.9	18.6	18.4~21.6
Head length	30.1	30.7	30.4~33.2
Snout length	11.9	9.4	8.6~9.8
Diameter of eye	10.6	11.7	11.1~12.8
Preopercular spine length	9.0	11.6	10.2~11.7
Postorbital length of head	14.3	13.9	13.7~14.6
Bony interorbital width	8.4	8.5	7.7~9.0
Least depth of caudal peduncle	14.3	14.2	13.5~14.2
Length of caudal peduncle	9.7	10.9	9.8~10.5
Snout to origin of dorsal fin	36.5	40.0	37.2~38.4
Snout to origin of pelvic fins	39.3	37.2	35.2~38.0
Length of caudal fin	21.5	25.5	23.2~26.2
Length of pectoral fin	24.0	27.6	25.2~27.1
Length of pelvic fin	31.9	35.7	34.6~38.4
Length of pelvic spine	22.3	28.5	24.3~26.9
Length of dorsal-fin base	70.2	76.7	72.9~75.2
Length of first dorsal spine	8.6	11.4	8.2~9.2
Length of second dorsal spine	11.7	16.4	13.9~15.2
Length of third dorsal spine	15.9	19.9	15.1~19.6
Length of last dorsal spine	14.3	17.8	15.5~21.4
Length of longest dorsal ray	18.6	21.9	18.9~21.9
Length of anal-fin base	37.9	39.7	36.3~40.7
Length of first anal spine	14.3	16.9	15.0~15.8
Length of second anal spine	18.3	19.6	21.3~22.3
Length of third anal spine	21.9	26.0	22.9~25.3
Length of longest anal ray	20.0	23.5	20.7~24.8
Dorsal fin rays	XIV, 16	XIV, 17	XIV, 16~17
Anal fin rays	III, 17	III, 17	III, 17
Pectoral fin rays	16/16	16/16	15~16
Caudal fin rays	17	17	17
Gillrakers	6+12	4+12	5+11~6+12
Pored lateral-line scales	41	34	32~42

around dark eye ring and a small area around anterior nostril; median fins scaled almost to margins except outermost portion of spinous membranes; pectoral fins scaled basally, pelvic rays scaled. Lateral line steeply arched, ending near end of dorsal fin, a separate portion on the peduncle.

First nine interspinous membranes incised one-fourth or more the length of spines, sometimes a small cirrus projecting posteriorly from the tip of each spine, not extending above spine-tip. Posterior margins of dorsal and anal fins slightly angular. Caudal fin rounded; pectoral fins slightly pointed, reaching a vertical at anus; outermost pelvic fin ray nearly reaching origin of anal fin; pelvic spine 1.4 (1.3) in length of longest ray.

Color in life bright lemon yellow except deep blue dorsally from the nape at a point directly above pupil posteriorly to the fourth dorsal ray, ventrally to two scale rows below lateral line; orbit with a narrow dark blue border somewhat wider dorsally; a dusky blotch more than one half the diameter of eye above pectoral base; iris of eye mostly yellow, otherwise dark blue dorsally and with a dark blue central ring, thicker dorsally and sometimes incomplete ventrally.

Remarks. The only differences noted between Guam and Cocos-Keeling specimens of *Centropyge colini* are minor variations in color pattern which probably reflect differences in the condition of the specimens when they were examined rather than geographic variation. Smith-Vaniz and Randall (1974) state that in life the border of the orbit is dark brown and the iris is hazel with a narrow yellow ring around the pupil. In both Guam specimens, the orbital border was dark blue in life, and the iris yellow with limited areas of dark blue which become more accentuated with time after death.

Centropyge colini is known only from steep dropoffs into deep water. In the Cocos-Keeling Islands it was collected between 51 and 73 m. Off Guam it has been collected or observed between 36 and 48 m in a large cave in the face of a dropoff that plunges vertically or near vertically from 24 to well over 200 m. It was observed singly or in groups of up to five individuals only in a

portion of the cave rich in crevices. The most common pomacanthids observed sharing this habitat were *Centropyge multifasciatus* Smith et Radcliffe and *Pygoplites diacanthus* (Boddaert) which, along with *Centropyge heraldi* Woods et Schultz, *C. shepardi* Randall et Yasuda, *Apolemichthys trimaculatus* (Cuvier) and *Pomacanthus imperator* (Bloch) occurred to depths of 50 m or more.

The two specimens reported herein extend the known distribution of *Centropyge colini* by 5,900 km. Morphological similarity between Guam and Cocos-Keeling specimens suggests that the two populations are not genetically isolated. It is undoubtedly more widespread and is expected to turn up in the intervening areas as more collections are made by scuba divers in the deep outer reef slope environment.

Acknowledgments

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Literature cited

- Randall, J. E. and R. C. Wass. 1974. Two new pomacanthid fishes of the genus *Centropyge* from Oceania. *Japan. J. Ichthyol.*, 21(3): 137~144, figs. 1~2.
- Smith-Vaniz, W. F. and J. E. Randall. 1974. Two new species of angelfishes (*Centropyge*) from the Cocos-Keeling Islands. *Proc. Acad. Nat. Sci. Philadelphia*, 126(8): 105~113, figs. 1~6.

(University of Guam Marine Laboratory, P. O. Box EK, Agana, Guam, 96910 U.S.A.)

キンチャクダイ科 *Centropyge colini* のグアムからの記録

Robert F. Myers

グアム島から *Centropyge colini* が採集された。この種類は今まで 5900 km もへだたった Cocos-Keeling 諸島からしか知られていなかったものである。