

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A NEW CLINID FISH SPECIES, *PARACLINUS*
FEHLMANNI, FROM ECUADOR

BY VICTOR G. SPRINGER AND ROBERT E. TRIST
Smithsonian Institution, Washington, D.C.



While routinely identifying fishes collected by Dr. H. A. Fehlmann on the coast of Ecuador, we encountered a new species of *Paraclinus* Mocquard. This new species is the second in the genus known from Ecuador and it and its congener, *P. mexicanus*, are the southernmost representatives of *Paraclinus* in the eastern Pacific. The new species represents the twelfth eastern Pacific member of *Paraclinus*, which was recently revised for that area by Rosenblatt and Parr (1969).

The methods used are those of Hubbs (1952), except that all anal fin elements are counted (the last two anal rays were counted as two) and the caudal fin counts are of the number of segmented rays.

***Paraclinus fehlmanni* new species**

Fig. 1

Holotype: U.S. National Museum 202697, male, 40.3 mm standard length (SL), Bahia de Santa Elena, Ecuador (02° 13' 11" S, 80° 55' 22" W), area exposed by rocks at low tide and small tide pools, 0-6 feet, poisoned, 4 May 1966, H. A. Fehlmann, HA-102.

Paratypes: USNM 202714, 13 (26.2-43.6), taken with the holotype, and 202713, 3 (17.1-22.7), tip of Punta Ancon, Anconcito village, Golfo de Guayaquil, Ecuador (02° 20' 33" S, 80° 53' 40" W), large tide pool formed by sandstone, both cemented and loose rocks, 0-5 feet, 5 May 1966, H. A. Fehlmann, HA-103.

Description: (Asterisks signify characters of the holotype.) Dorsal fin consisting of spinous elements only: XXIX (3 specimens), XXX(13)*, XXXI(1); anal fin spines II*, rays 18 (8), 19(9)*; pectoral rays 13 (16)*, 14(1); pelvic rays I, 3*, innermost ray separated from middle ray by a well-developed membrane*; segmented caudal rays 13*; branchios-



FIG. 1. *Paraclinus fehlmanni*, USNM 202714, female, 34.3 mm SL; right side of fish printed to appear as left side; ventral-most pectoral ray somewhat distorted.

tegal rays 6*; precaudal vertebrae 11*, caudal vertebrae 24 (3) or 25 (14)*, total, 35 or 36*; lateral line scales in arched portion 15 (1), 16 (15)*, 17 (1); in straight portion 19 (7)*, 20 (10), total, 35 (8)* or 36 (9).

All scales without flaplike projections on posterior margins. Rosenblatt and Parr (1969, fig. 1) use the nature of squamation in the region behind the nape and above the anterior end of the lateral line as a specific character in *Paraclinus*. Specimens of *P. fehlamnni* exhibit all gradations from a large, naked area (their fig. 1a) to a restricted naked area (their fig. 1b) in this region. Pectoral base naked. Opercular spine simple, flat (not needlelike), rounded to pointed triangle, extending posteriorly to level of second to third dorsal spine. Nuchal and orbital cirri palmate, irregularly frayed or with a few equal branches on distal margins (both cirri simple flaps in one specimen). Nasal cirrus, simple, short filament. Dorsal fin membrane incised not at all to two-fifths (one-eighth or less in 11 of 17 specimens) length of fourth dorsal spine, between third and fourth dorsal spines.

Proportional measurements, as percent SL, are given here for the 14 specimens ranging from 26.2–43.6 mm SL. Except for orbital diameter, lengths of upper jaw, preanal region, and first and second dorsal spines (all discussed below) there are no noticeable sexual or size associated differences in proportions in these specimens. The proportions are given as ranges followed in parentheses by averages.

Head length, 24.6–28.0 (26.1); snout length, 5.4–7.2 (6.0); interorbital width, 2.1–3.7 (3.1); predorsal length, 20.6–22.6 (21.9); origin of first dorsal spine to insertion of last spine, 74.0–79.4 (76.2); origin of first anal spine to insertion of last ray, 41.0–47.7 (44.6); caudal peduncle depth, 6.9–8.8 (7.6); horizontal preopercle width, 6.0–8.7 (6.8); insertion of first dorsal spine to origin of third, 3.6–5.5 (4.9); insertion of third dorsal spine to origin of fourth, 1.5–5.1 (4.0); length of third dorsal spine, 6.1–9.8 (8.2); length of fourth dorsal spine, 5.3–7.4 (6.5); length of 22nd dorsal spine, 8.4–10.5 (9.2); length of penultimate dorsal spine, 5.5–8.1 (7.0); length of ultimate dorsal spine, 4.3–7.2 (5.5); length of first anal spine, 4.2–6.0 (5.4); length of second anal spine, 5.4–7.2 (6.4); length of longest caudal ray, 19.5–22.6 (20.9); length of longest pectoral ray, 19.2–22.8 (20.7); length of longest pelvic ray, 14.2–18.6 (16.3); nuchal cirrus length 1.2–2.2 (1.6); nasal cirrus length, 0.8–1.8 (1.2); orbital cirrus length, 1.3–2.7 (1.9).

Orbital diameters gave evidence of relative decrease with increase in SL. In three specimens 17.1–22.7 mm SL, they were 7.6–8.9; in two specimens 26.2–29.4, they were 7.3–8.0; in nine specimens 31.9–37.4, they were 6.4–7.5; in three specimens 40.3–43.6, they were 5.4–7.2.

Upper jaw lengths in the six males, 12.5–17.9 (15.0); jaw extending to or beyond level of posterior margin of orbit (four males), to slightly beyond mid-orbital level (two males). Upper jaw lengths in the eight females, 11.5–13.1 (12.1); jaw extending to level of mid-orbit in three

females, slightly beyond mid-orbit in three females, to posterior margin of orbit in two females.

Preanal length in the six males, 49.3–51.8 (50.8), apparently not changing relative to size; in the eight females, 50.8–56.9 (53.7), increasing in relative size with increase in SL.

First dorsal spine length in five males, 9.4–12.2 (10.7), possibly increasing in relative length with increase in SL; in seven females, 11.2–14.7 (13.0), increasing in relative length with increase in SL; no overlap in relative spine lengths between males and females of similar SL.

Second dorsal spine lengths in four males, 10.0–11.4 (10.4); no indication of increase in relative length with increase in SL; in eight females, 10.7–14.3 (12.6); increasing in relative length with increase in SL; no overlap in spine lengths between males and females of similar SL.

Color in alcohol: Head and body varying from completely pale to irregularly dusky, with posterior scale margins outlined in dusky. No evidence of banding on body in any specimen. Dusky specimens with a pale to dusky, darkly outlined bar or line extending posteroventrally from orbit. Dorsal, anal, and caudal fins clear to dark dusky; dark spot over 21st to 23rd dorsal spine in 13 of 17 specimens (absent in 4). Caudal occasionally with some evidence of alternating dark and pale spots on rays. Pectorals and pelvic rays with alternating dark and clear spots in all specimens.

Etymology: Named for H. Adair Fehlmann, Smithsonian Oceanographic Sorting Center, in recognition of his outstanding contributions to ichthyology as evidenced by a long and productive history of ichthyological collecting.

Discussion: Some specimens of *Paraclinus fehlmanni* will key to statement 2a, *P. beebei* Hubbs, in Rosenblatt and Parr's (1969) key to eastern Pacific *Paraclinus*. Other specimens will not key beyond statement 1b, and are thus unidentifiable with any other species of *Paraclinus*. In lacking scales on the pectoral base, *P. fehlmanni* differs from all other eastern Pacific species of *Paraclinus* except *P. beebei*, to which it appears to be most closely related. It differs from *P. beebei*, which is known from Baja California to Panama, in having: spotted pectoral fins (unmarked in *P. beebei*, R. H. Rosenblatt, *in litt.*), 29 to 31 dorsal spines (usually 30; 27 to 29 in *P. beebei*); 18 or 19 segmented anal rays (16 to 18 in *P. beebei*); 35 or 36 lateral line scales (32 to 35 in *P. beebei*); and in commonly attaining a size over 36 mm SL (rarely to 36 mm in *P. beebei*; most specimens under 30 mm).

Aside from lacking scales on the pectoral base, *P. fehlmanni* can be separated from its other eastern Pacific congeners as follows (only some differences noted): from *P. sini* Hubbs in lacking membranous flaps on the posterior scale margins; from *P. ditrichus* Rosenblatt and Parr in having I, 3 pelvic rays (as opposed to I, 2); from *P. mexicanus* (Gilbert), also known from Ecuador, *P. magdalanae* Rosenblatt and Parr, *P. stephensi* Rosenblatt and Parr, and *P. monophthalmus* (Günther) in lacking a

segmented dorsal ray; from *P. walkeri* Hubbs in having 6 branchiostegal rays (instead of 7); from *P. integripinnis* (Smith) in having the opercular spine always simple and in usually having fewer dorsal spines and anal rays; from *P. tanygnathus* Rosenblatt and Parr in having one to three more dorsal spines, two or three more lateral line scales, and in not having the membrane between the third and fourth dorsal spines deeply notched; and from *P. altivelis* (Lockington) in lacking a segmented dorsal ray and in having the first dorsal spine much shorter than the predorsal length.

Paraclinus fehlmanni differs from all its Atlantic congeners in having the combination of three segmented pelvic rays with no segmented dorsal ray.

Rosenblatt and Parr reaffirmed Hubbs (1952) and Springer's (1955) findings that overall phyletic lines are not possible to distinguish in *Paraclinus*. The additional new species contributes nothing more to such discussion.

LITERATURE CITED

- HUBBS, C. 1962. A contribution to the classification of the blennioid fishes of the family Clinidae with a partial revision of the eastern Pacific forms. Stanford Ichthyol. Bull., vol. 4, no. 2, pp. 41-165.
- ROSENBLATT, R. H. AND T. D. PARR. 1969. The Pacific species of the clinid fish genus *Paraclinus*. Copeia, 1969, no. 1, pp. 1-20.
- SPRINGER, V. G. 1955. Western Atlantic fishes of the genus *Paraclinus*. Texas Journ. Sci. (1954), vol. 6, no. 4, pp. 422-441.

