

Pomachromis guamensis, a New Species of Damsel fish (Pomacentridae) from the Mariana Islands¹

GERALD R. ALLEN

Western Australian Museum, Perth, Western Australia 6000

HELEN K. LARSON

Australian Museum, 6-8 College St., Sydney, Australia 2000

Abstract

A new species of pomacentrid fish *Pomachromis guamensis* is described from two specimens taken off Tanguisson Point, Guam, Mariana Islands. In contrast to the other members of the genus, this species lacks distinctive markings on the caudal fin or caudal peduncle. A key to the species of *Pomachromis* is also included.

Introduction

The damselfishes of the family Pomacentridae represent a diverse group which are common on tropical and subtropical reefs. There are approximately 250 species inhabiting the Atlantic and Indo-Pacific regions. Allen (in press) recorded 162 species from the area which is comprised of Micronesia, Polynesia, and Melanesia. There is considerable need for revision among the various groups. Allen (in press) recognized 21 genera, including the genus *Pomachromis* (Allen and Randall, 1974). The present paper describes a member of this genus which was collected in 1970 by the junior author. In addition, a key to the species of *Pomachromis* is included.

The methods of counting and measuring are the same as those described in Allen (1972) except the length of the dorsal and anal spines are measured proximally at the base of the spine rather than the point at which the spine emerges from the scaly sheath. Measurements were made with needlepoint dial calipers to the nearest one-tenth millimeter (mm). Standard length is given as SL. The fraction 1/2 which appears in the fin formulae refers to the bifurcate condition of the last ray.

Type specimens have been deposited at University of Guam, Mangilao, Guam (UG) and the United States National Museum of Natural History, Washington, D.C. (USNM).

Key to the Species of *Pomachromis*

- 1a. Caudal fin and peduncle entirely pale (Mariana Islands) . . . *guamensis* n. sp.
- 1b. Caudal fin with dark upper and lower margins or large black spot on upper

¹ Contribution No. 63, University of Guam Marine Laboratory.

- caudal peduncle 2
- 2a. Upper and lower margins of caudal fin dark brown; dark color of upper caudal peduncle not forming large isolated blotch extending onto basal portion of caudal fin 3
- 2b. Upper and lower margins of caudal fin pale; dark color of upper caudal peduncle forming large blotch extending onto basal portion of caudal fin (Marshall and Caroline Islands) *exilis* (Allen and Emery, 1973)
- 3a. Brown coloration of sides confined to area above tubed lateral-line and upper edge of caudal peduncle; color abruptly pale below lateral-line (Society Islands; Pitcairn Group) *fuscidorsalis* Allen and Randall, 1974
- 3b. Brown coloration of sides not confined to area above tubed lateral-line and upper edge of caudal peduncle; color generally brown above and below lateral-line, gradually fading to tan on central portion of body (Samoa Islands; Fiji Islands; Loyalty Islands; Great Barrier Reef; Ryukyu Islands; Mauritius) *richardsoni* (Snyder, 1909)

***Pomachromis guamensis* n. sp.**

Fig. 1; Table 1

HOLOTYPE: USNM 213576 (formerly UG 4340), 41.3 mm SL, Guam Mariana Islands, off Tanguisson Point, 35 feet, emulsified rotenone, R. Jones, H. Kami, R. Randall, H. Larson, and R. Struck, February 25, 1970.

PARATYPE: UG 4457, 36.9 mm SL, Guam, Mariana Islands, off Tanguisson Point, 35 feet, captured with plastic bag, H. Larson, March 26, 1970.

DIAGNOSIS: A species of *Pomachromis* with the following combination of characters: greatest body depth 2.9–3.0 in SL; 14 dorsal spines; 18 or 19 pectoral rays; 21 gill rakers on first branchial arch; preorbital and suborbital naked with non-serrate edges; teeth incisiform with truncate tips in a single row in each jaw; color generally pale, brownish dorsally with small dark spot on upper pectoral base; body and fins without distinctive markings.

DESCRIPTION: Counts and proportions appearing in parentheses refer to the paratype when differing from those of the holotype. The proportional measurements are expressed in thousandths of the standard length in Table 1.

Dorsal rays XIV, 13 (XIV, 12 1/2); anal rays II, 13; pectoral rays 18 (19); pelvic rays I, 5; branched caudal rays 13; gill rakers on first arch 21; tubed lateral-line scales 17; vertical scale rows from upper edge of gill opening to base of caudal fin 28; horizontal scale rows from base of dorsal fin (at soft dorsal junction) to lateral-line 1 1/2; from lateral-line to anal fin origin 8; predorsal scales 16 (18), extending to anterior edge of orbits; teeth close set, incisiform, about 36 to 42 in a single row in each jaw.

Body elongate, greatest depth 2.9 (3.0) in SL; head rounded, its length 3.5 (3.2) times in SL; snout 4.8 (5.2), eye diameter 2.6 (2.9), interorbital width 4.1 (4.0), least depth of caudal peduncle 2.2 (2.4), length of caudal peduncle 2.6, of pectoral fin 1.2 (1.3), of pelvic fin 1.2 (1.3), of middle caudal rays 0.9 (1.0), in head length.

Table 1. Morphometric proportions (in thousandths of the SL) for type specimens of *Pomachromis guamensis*.

Morphometric Measurement	Holotype USNM 213576	Paratype UG 4457
Standard length (mm)	41.3	36.9
Body depth	346	331
Head length	288	312
Snout length	175	60
Eye diameter	109	108
Interorbital width	70	79
Least depth of caudal peduncle	131	127
Length of caudal peduncle	109	122
Snout to origin of dorsal fin	300	331
Snout to origin of anal fin	661	642
Snout to origin of pelvic fin	368	393
Length of dorsal fin base	569	607
Length of anal fin base	223	225
Length of pectoral fin	249	244
Length of pelvic fin	249	236
Length of pelvic spine	153	136
Length of 1st dorsal spine	63	62
Length of 5th dorsal spine	140	130
Length of 14th dorsal spine	109	114
Length of longest soft dorsal ray	182	182
Length of 1st anal spine	48	49
Length of 2nd anal spine	138	133
Length of longest anal ray	169	163
Length of caudal fin	315	317

Single nasal opening on each side of snout; mouth oblique, nearly terminal; lateral-line gently arched beneath dorsal fin, 2 1/2 scale rows below origin of spiny dorsal fin, terminating 1 1/2 scale rows below base of second soft dorsal ray; snout, isthmus, preorbital and suborbital naked, remainder of head scaled; scales finely ctenoid; small sheath scales extend about halfway out on dorsal, anal and caudal fins, and cover basal 1/5 of pectoral fin; preorbital and suborbital edges entire, but slightly crenulate; preopercle edge with small, moderately spaced denticles; opercle edge armed with a single spine; preopercle with two horizontal rows of large scales and a third row of small scales on its lower margin.

Origin of dorsal fin at level of hind border of opercle; spines of dorsal fin increasing in length to fifth or sixth spine, then gradually decreasing; length of first dorsal spine 4.6 (5.0), of fifth dorsal spine 2.1 (2.4), of fourteenth dorsal spine 2.6 (2.7), of longest soft dorsal ray 1.6 (1.7), of first anal spine 6.0 (6.4), of second anal spine 2.1 (2.3), of longest soft anal ray 1.7 (1.9), in head length; caudal fin emarginate to forked; pectoral fins pointed.

Color of holotype in alcohol: head and body mostly tan grading to brownish on upper half; scales on dorsal portion of body with dark streak on posterior margin;

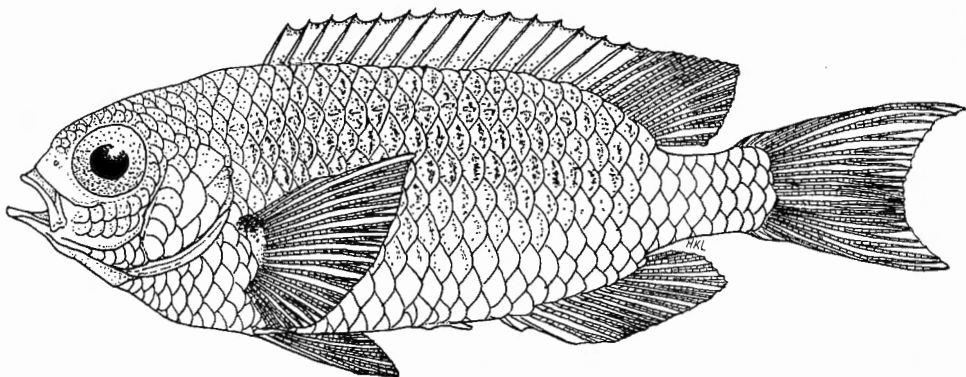


Fig. 1. Drawing of *Pomachromis guamensis*, holotype, 41.3 mm SL (USNM 213576).

small dark brown blotch on upper pectoral base, barely invading axil; spinous dorsal fin slightly dusky; remainder of fins and caudal peduncle pale yellow.

The paratype is similar in color, but is somewhat faded. Live individuals observed at the type locality were primarily sky blue turning darker dorsally, grading to pale yellow on posterior of body. The fins were more or less translucent.

REMARKS: The members of *Pomachromis* are closely related and best separated on the basis of color pattern differences. It is possible that *P. guamensis* and *P. exilis* are sympatric species. The latter species can be easily distinguished by the prominent dark blotch on the caudal peduncle and the larger spot on the upper pectoral base, which covers at least half of the axil as well. In addition, *P. guamensis* has slightly fewer gill rakers (21 vs. 22 to 24 for *exilis*).

This species was relatively common at the type locality, forming aggregations of several dozen individuals which were feeding on zooplankton a short distance above the bottom.

Named *guamensis* in reference to the type locality and only known location for this species.

References Cited

- Allen, G. R. 1972. The anemonefishes, their classification and biology. T.F.H. Publications, Inc., New Jersey.
- . In Press. Damselfishes of the South Seas. T.F.H. Publications, Inc., New Jersey.
- Allen, G. R., and A. R. Emery. 1973. *Pomacentrus exilis*, a new species of damselfish from the central-west Pacific. *Copeia* (3): 565-568.
- Allen, G. R., and J. E. Randall. 1974. Five new species and a new genus of damselfishes (Pomacentridae) from the South Pacific. *Tropical Fish Hobbyist* 21(1): 36-49.
- Snyder, J. O. 1909. Descriptions of new genera and species of fishes from Japan and the Riu Kiu Islands. *Proc. U. S. Nat. Mus.* 36 (1688): 597-610.