

A new species of damselfish (genus *Pomacentrus*) from north-western Australia

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Abstract

A new species of damselfish, family Pomacentridae, is described from Churchill Reef, off the Kimberley coast of north-western Australia. *Pomacentrus limosus* sp. nov. is described from two specimens, 45.7 and 28.9 mm SL, collected by the author during August 1991. It is similar in appearance to *P. amboinensis*, *P. azuremaculatus*, and *P. javanicus*, but differs primarily in its higher counts of tubed lateral-line scales and pectoral rays, and also certain features related to colour pattern. The habitat of *P. limosus* consists of rocky outcrops on relatively flat, silty bottoms.

Introduction

The pomacentrid genus *Pomacentrus* contains 54 currently recognised species that are widely distributed in the tropical Indo-west and central Pacific region (Allen, 1991). The present paper describes a new species, assigned to this genus, collected on a recent expedition by the Western Australian Museum to reefs and islands along the Kimberley coast of north-western Australia. Two specimens were obtained by the author while SCUBA diving at Churchill Reef.

Methods of counting and measuring follow those of Allen (1972) and Randall and Allen (1977). The counts and proportions which appear in parentheses are those of the paratype if differing from the holotype. A summary of proportional measurements is presented in Table 1. Type specimens are deposited at the Western Australian Museum, Perth (WAM).

Systematics

Pomacentrus limosus sp. nov.

Figure 1

Holotype

WAM P. 30317-001, 45.7 mm SL; Churchill Reef, Western Australia (15°31'S, 123°17'E), 8.9-8.5 m depth, rotenone, G. Allen, 24 August 1991.

Paratype

WAM P. 30317-002, 28.9 mm SL, collected with holotype.

Diagnosis

A species of *Pomacentrus* Lacepède characterised by the following combination of features: dorsal rays XIII, 15; anal rays II, 15-16; pectoral rays 18; tubed lateral-line scales

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Table 1: Morphometric proportions (as percentage of standard length) for type specimens of *Pomacentrus limosus*.

Character	Holotype	Paratype
Standard length (mm)	45.7	28.9
Body depth	47.0	46.7
Body width	21.9	17.6
Head length	31.1	32.9
Snout length	5.9	6.6
Eye diameter	13.1	14.2
Interorbital width	8.1	6.9
Least depth caudal peduncle	13.1	12.5
Length caudal peduncle	13.8	14.5
Snout to origin dorsal fin	36.1	37.4
Snout to origin anal fin	65.0	60.2
Snout to origin pelvic fin	37.6	36.7
Length dorsal-fin base	62.6	63.3
Length anal-fin base	29.5	36.3
Length pectoral fin	27.6	28.0
Length pelvic fin	36.5	36.7
Length pelvic spine	16.8	17.6
Length 1st dorsal spine	6.3	6.2
Length 7th dorsal spine	13.8	15.2
Length 13th dorsal spine	16.8	18.0
Length longest soft dorsal ray	22.8	20.8
Length 1st anal spine	6.8	6.9
Length 2nd anal spine	16.0	18.3
Length longest soft anal ray	21.9	21.1
Length caudal fin	29.5	37.0

18; total gill rakers on first arch 21; colour pale grey without conspicuous markings, except membranous tips of dorsal spines black and juvenile with black ocellus at base of soft dorsal fin. It is similar in appearance and perhaps closely related to *P. azuremaculatus* Allen, but this species differs in having only 14-16 tubed lateral-line scales and horizontal rows of prominent blue spots on the dorsoanterior part of the body.

Description

Dorsal rays XIII, 15; anal rays II, 16 (II, 15); pectoral rays 18, branched caudal rays 13, gill rakers on first branchial arch 8 + 13 (7 + 14); lateral-line scales with tubes 18; vertical scale rows 28; scales above lateral-line to base of dorsal spines $1\frac{1}{2}$; scales below lateral-line to anus 9.

Body moderately deep for the genus, the depth 2.1 in standard length, and compressed, the width 2.2 (2.6) in depth; head length contained 3.2 (3.0) in standard length; snout 5.3 (5.0); eye 2.4 (2.3); interorbital width 3.8 (4.8), least depth of caudal peduncle 2.4 (2.6) length of caudal peduncle 2.3, all in length of head.

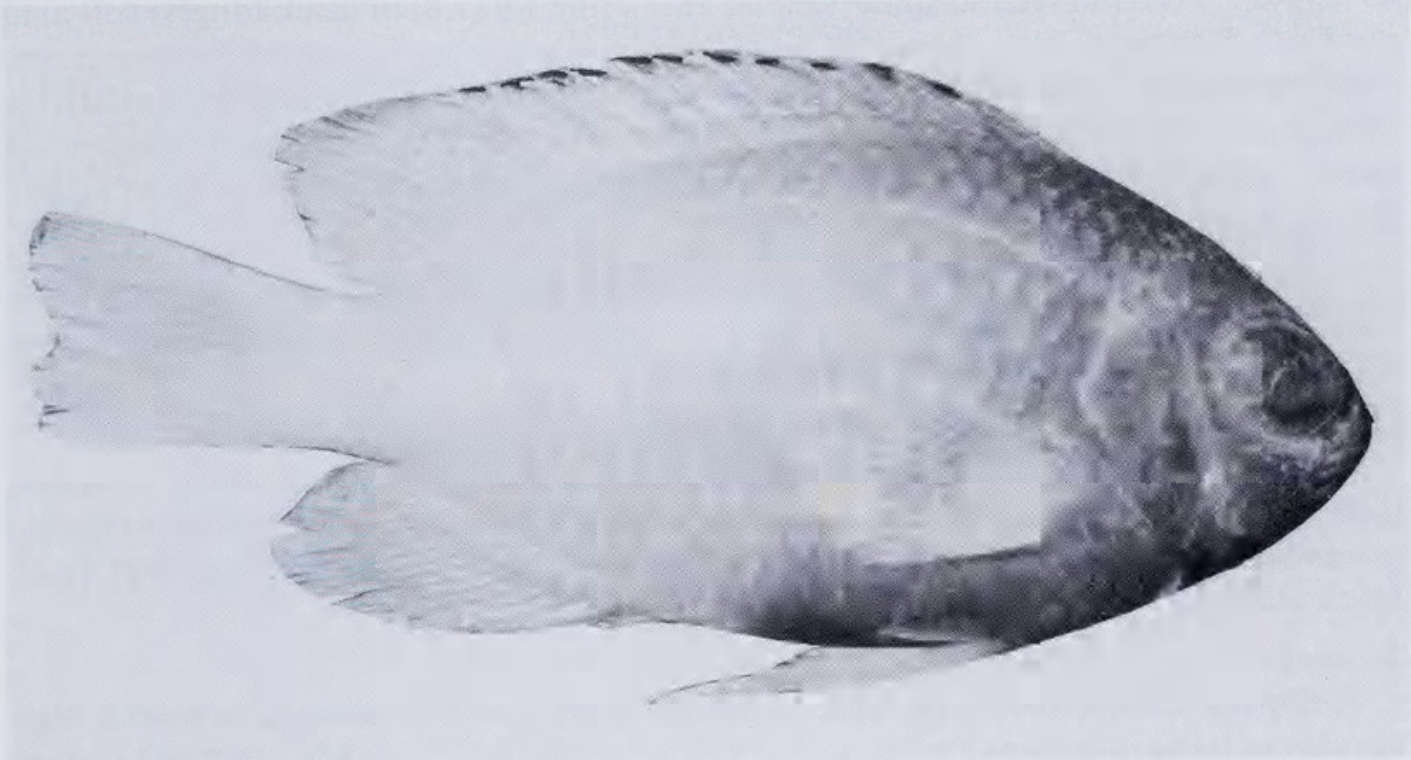


Figure 1: *Pomacentrus limosus*, holotype, 45.7 mm SL.

Mouth oblique, lower jaw slightly inferior, the maxilla reaching level of anterior part of pupil; teeth of jaws biserial, those of outer row conical with narrowly rounded tips, upper jaw with about 34 teeth in outer row, the largest about equal to diameter of nostril in height; lower jaw with about 32 teeth in outer row, the largest slightly larger than upper teeth; a secondary row of slender buttress teeth behind those of outer row in the spaces between them; single nasal opening on each side of snout; nostril with a low fleshy rim; preorbital with moderately large, posteriorly directed spine; suborbital with a few small serrae; pre-suborbital relatively narrow, the greatest depth about one-third of eye diameter, the lower margin free; vertical limb of preopercle distinctly serrate; opercle series entire except a single flattened spine present on upper portion near angle. Scales of head and body finely ctenoid; preorbital, suborbital, snout tip, lips, chin, and isthmus scaleless; preopercle with 3 major scale rows and an additional row of small scales along lower margin; dorsal and anal fins with a basal scaly sheath; caudal fin scaled nearly two-thirds distance to end of lobes; pectoral fins scaled on basal one-fourth; axillary scale of pelvic fins about half length of pelvic spine.

Tubes of lateral-line ending below anterior rays of soft portion of dorsal fin; 1-2 pored scales posterior to tubed scales; a series of 8 pored scales midlaterally on caudal peduncle to caudal base.

Origin of dorsal fin at level of fourth tubed scale of lateral line; spines of dorsal fin gradually increasing in length to last spine, membrane between spines moderately incised; last dorsal spine 1.8 in head; first dorsal spine 2.7 (2.9) in last spine; seventh dorsal spine 1.2 in last dorsal spine; longest soft dorsal ray 1.4 (1.6) in head; length of base of dorsal fin 1.6 in standard length; first anal spine slightly longer than first dorsal spine,

its length 2.4 (2.7) in second spine; second anal spine 1.9 (1.8) in head; longest soft anal ray 1.4 (1.6) in head; base of anal fin 2.1 (1.7) in base of dorsal fin; caudal fin emarginate with slightly rounded lobes, its length 1.1 (0.9) in head length; pectoral fin relatively short, reaching to about level of anus, the longest ray 1.1 (1.2) in head length; filamentous tips of pelvic fins reaching beyond origin of anal fin, the longest ray 0.9 in head length.

Colour in life

Overall pale grey, nearly whitish with scattered blue spots on head; narrow black margin distally on spinous dorsal fin; juvenile paratype with pale-rimmed black spot, about pupil size, at base of soft dorsal rays 8-11.

Colour in alcohol

Grey, darker on top of head and dorsoanterior portion of body; a small, inconspicuous dusky "ear" spot near origin of lateral line; membranous tips of dorsal spines black, giving appearance of narrow black margin; juvenile paratype with small black ocellus at base of soft dorsal rays 8-11.

Remarks

P. limosus differs from most other members of the genus in having a relatively high number of pectoral rays and tubed lateral-line scales (both 18 in number) in combination with a plain pale colouration. Among sympatric species of *Pomacentrus*, *P. amboinensis* Bleeker is most similar. However, it differs in usually having fewer (16-17) pectoral rays and tubed lateral-line scales and a slightly higher (22-24) gill raker count. Moreover, it usually possesses a pale yellowish colouration and has a pronounced dark spot at the base of the upper pectoral-fin rays. Additionally, in the juvenile stage the ocellus is situated in the middle portion of the soft dorsal fin rather than at its base.

Other similar species, not present along the Kimberley coast, include *P. azuremaculatus* Allen from the Java Sea and west coast of Thailand, and *P. javanicus* Allen from the Java Sea. The former species has similar counts and proportions to *P. limosus* except for a lower (14-16) tubed lateral-line scale count. It also differs in having horizontal rows of prominent blue spots on the dorsoanterior part of the body. *Pomacentrus javanicus* has a similar appearance, but generally has lower counts, including 13-14 soft dorsal rays, 16-17 pectoral rays, 16 tubed lateral-line scales and 19-20 gill rakers. Its juvenile stage lacks an ocellus on the soft dorsal fin, instead it possesses a small black spot on the upper caudal peduncle, just behind the last dorsal ray. All of the above mentioned species are illustrated and diagnosed in Allen (1991).

P. limosus was encountered only at Churchill Reef, one of many sites collected between Wyndham and Broom, during the 1991 expedition. This locality is situated approximately 80 km offshore from the mainland and some 10-12 km from Adele Island, lying immediately west. Churchill Reef is an area of heavy siltation, very limited underwater visibility, and massive (about 6-8 m) tidal fluctuations. Nevertheless corals are well represented. About 20-30 individuals of *P. limosus* were observed in 8-10 m depth, around rocks outcrops surrounded by more or less flat silt-sand bottom.

The species is named *limosus* (Latin: muddy) with reference to the silty nature of the habitat in which this fish occurs.

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