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Three New Species of Australian Fishes of the Genus *Plectranthias* (Perciformes: Serranidae: Anthiinae)

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Abstract. Three new species of anthiine fishes of the genus *Plectranthias* are described from Australian waters: *P. robertsi* from 220–400 m off Queensland at 18–23°S is distinctive in having 15 dorsal soft rays, 16 pectoral rays, 32–35 lateral-line scales, filamentous upper caudal rays (easily broken) and extremely prolonged second dorsal and second pelvic rays in the male; *P. pallidus*, represented by a single specimen taken in 220 m off Townsville, is characterised by 16 dorsal soft rays, 13 pectoral rays, 28 lateral-line scales, 2 retrorse spines on the ventral margin of the preopercle, and the third dorsal spine longest, 2.0 in head length; and *P. lasti* from a specimen off Marion Reef, Queensland in 365–370 m and one from the Northwest Shelf in 202 m, is distinguished by having 14 dorsal soft rays, 15 pectoral rays, 30 lateral-line scales, no serrae on the preopercular margin, and a body depth 3.05 in SL.

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The anthiine fish genus *Plectranthias* is represented mainly by species that occur at greater depths than normally explored by SCUBA divers. Because of the small size of most of these fishes, they have little or no commercial value. As a result, few specimens have found their way to museums.

Randall (1980) revised the genus; he placed *Sayonara, Isobuna, Xenanthias, Pteranthias, Zalanthias, Serranops, Pelontrus*, and *Zacallanthias* in the synonymy of *Plectranthias*. He recognised 30 species, of which 13 were described as new. He noted that 18 of the 30 species are known from only one or two collections, and eight of these are represented by single specimens. He remarked that his revision must be considered as preliminary because the lack of material of many species precluded the detailed study of internal anatomy and because he expected more undescribed species to be discovered.

Since Randall's revision, the following eleven species have been described as new: *P. randalli* Fourmanoir & Rivaton, 1980; *P. altipinnatus* Katayama & Masuda, 1980; *P. maculatus* Fourmanoir, 1982; *P. barroi* Fourmanoir, 1982; *P. rubromculatus* (Borets, 1982), a

junior synonym of *P. kelloggi* (Jordan & Evermann); *P. fijiensis* Raj & Seeto, 1983; *P. exsul* Heemstra & Anderson, 1983; *P. chungchowensis* Shen & Lin, 1984 (Lee, 1990, however, placed it in the synonymy of *P. whiteheadi* Randall); *P. bilaticlavia* Paulin & Roberts, 1987; *P. parini* Anderson & Randall, 1991; and *P. pelicieri* Randall & Shimizu, 1994.

In the present paper we describe three more species of the genus, all taken by trawling on the continental shelf of Australia. Methods of counting and measuring of specimens follow Randall (1980). In the descriptions below, data in parentheses apply to paratypes.

Nine additional new species from outside Australian seas remain to be described. When all are named, the senior author will prepare a key.

Material and methods

Type specimens have been deposited in the Australian Museum, Sydney (AMS); Bernice P. Bishop Museum, Honolulu (BPBM); CSIRO Division of Fisheries, Hobart (CSIRO H); Northern Territory Museum, Darwin (NTM); Queensland Museum, Brisbane (QM); and the U.S. National Museum of Natural History, Washington, D.C. (USNM). Lengths given in the listing of type material are standard length (SL). Proportional measurements in the text are rounded to the nearest 0.05.

Plectranthias robertsi n.sp.

Fig. 1, Table 1

Holotype: AMS I.20968–003, female, 89.5 mm, Australia, Queensland, E of Hinchinbrook Island (18°25'S), 320–356 m, prawn trawl, personnel of Australian Museum and Australian Institute of Marine Science, 27 February 1979.

Paratypes: QM 20024, 78.4 mm, Australia, Queensland, Capricorn Channel, 22°51.7'S 152°45.7'E, 261 m, trawl, RV *Craigmin*, 3 October 1980; CSIRO H719-12-17, 6: 108–125 mm, Queensland, Capricorn Channel, SE of Swain Reefs (22°56'7"S 153°0'8"E), 325–338 m, mud bottom, scampi net, RV *Soela* Station 506-85-12, 18 November 1985; CSIRO H690-01, 3: 70–89 mm, Queensland, W of Saumarez Reef (21°33'4"S 152°58'4"E), 239–247 m, RV *Soela* Station 6-85-19, 28 November 1985; CSIRO H682-01, 81.5 mm, Queensland, E of Dunk Island (17°57'7"S 147°1', 6'E), 250–252 m, RV *Soela* Station 6-85-44, J. Stevens, 29 November 1985; CSIRO H691-01, 82 mm, E of Dunk Island (17°59'1"S 147°9'6"E), 400 m, scampi net, RV *Soela*, Station 6-85-47, J. Stevens, 29 November 1985; AMS I.25800–007, 6: 60.6–115 mm, off Townsville, 17°58'30"S 147°0'30"E, 220 m, bottom trawl, RV *Soela*, M. McGrouther, S. Reader, and H. Larson, 8 January 1986; BPBM 35053, 93.4 mm, NTM S.11746-028, 5: 70.5–112 mm, USNM 319773, 2: 64.5–97.3 mm, same data as preceding; AMS I.25801-013, 2: 54.4–74.3 mm, NTM S.11747-023, 5: 74–104 mm, same location, 9 January 1986.

Diagnosis. Dorsal rays X,15; pectoral rays 16; lateral-line complete, the pored scales 32–34; scales above lateral line to origin of dorsal fin 3; scales dorsally on head extending to posterior nostrils; scales present on maxilla; body depth 2.6–3.2 in SL; margin of preopercle finely serrate, without antrorse spines on ventral edge; fourth or fifth dorsal spine longest, 2.6–3.1 in SL; second dorsal soft ray longest, prolonged as a filament in males; second pelvic soft ray longest, greatly prolonged as a filament in males; caudal fin emarginate, the second to fourth branched rays filamentous (but easily broken); pale in alcohol with a blackish spot on first four or five lateral-line scales and adjacent scales of the row above.

Description. Dorsal rays X,15 (all rays branched, the last to base); anal rays III,7 (all rays branched, the last to base); pectoral rays 16 (one of 15 paratypes with 15 rays on one side; uppermost and lower four to eight rays simple); pelvic rays I,5; branched caudal rays 8+7; upper and lower simple segmented caudal rays 3; upper and lower procurrent caudal rays 4; lateral line complete, the pored scales 33–34 (32–35, only one of 15 paratypes with 32 and one with 35); scales above lateral line to origin of dorsal fin 3; scales below lateral line to origin of anal fin 10 (9½–10); circumpeduncular scales 15; diagonal rows of scales on cheek 7; gill rakers 6+14 (6–7+13–14, usually 6+14; 3+12 in holotype developed, i.e. higher than width of base); pseudobranchial filaments 23 (18–27); branchiostegal rays 7; vertebrae 10+16; supraneural (predorsal) bones 2, the arrangement with neural spines and anterior dorsal spines and pterygiophores as follows: 0/0/2/1+1/1/1/ (where 0 is a supraneural bone, / a neural spine, and numerals dorsal spines—after Ahlstrom *et al.*, 1976).

Body moderately deep, the depth 2.75 (2.6–3.2) in SL, and compressed, the width 1.95 (1.8–2.3) in depth; head pointed, the lower jaw slightly projecting; dorsal profile of head nearly straight, becoming convex on nape; head length 2.35 (2.3–2.4) in SL; snout length 4.15 (3.95–4.6) in head; fleshy orbit diameter 3.5 (3.25–3.85) in head; interorbital space flat, the least bony width 7.05 (5.2–7.8) in head; least depth of caudal peduncle 3.2 (3.15–3.6) in head; caudal peduncle length 2.25 (2.15–2.45) in head.

Mouth large, the maxilla reaching to or posterior to a vertical at rear edge of pupil of eye, the upper jaw length 1.95 (1.8–2.0) in head; mouth oblique, the gape forming an angle of about 30° to horizontal axis of body; a very small, splint-like supramaxilla posteriorly on maxilla; upper jaw with a band of villiform teeth, becoming broader anteriorly, the teeth in inner and outer rows toward front of jaw progressively larger medially, those immediately adjacent to symphysis slender and inwardly depressible; a narrow area without teeth at symphysis; a pair of small stout incurved canine teeth anteriorly in upper jaw separated by a gap about equal

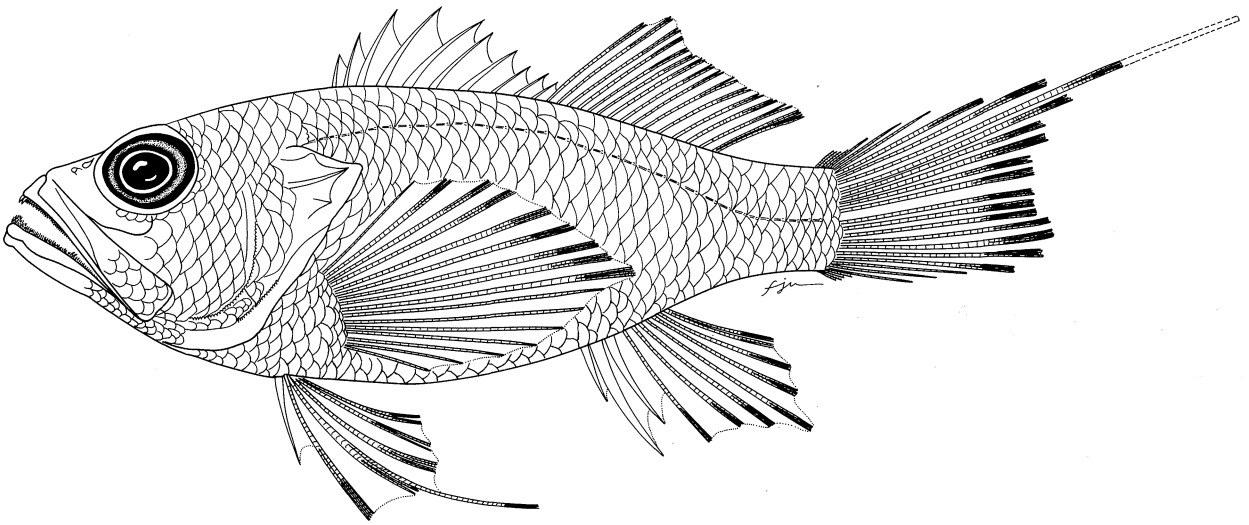

Fig. 1. Holotype of *Plectranthias robertsi*, AMS I.20968-003, 78.4 mm, female, colour pattern not shown.

to one-third orbit diameter (in some specimens there may be two close-set canines in place of a single canine); lower jaw with small conical teeth in two rows for most of jaw, expanding to five rows at adjacent to symphysis, the longest tooth a small slightly recurved canine on midside of jaw; a narrow gap with no teeth at symphysis; a V-shaped band of very small conical teeth in two rows on vomer; a narrow band of very small conical teeth in one to two rows on palatines. Tongue triangular, the pointed tip slightly rounded. Longest gill raker on first gill arch at angle, its length one-half orbit diameter and about twice length of longest gill filaments.

Opercle with three flat spines, the middle one largest and terminating most posteriorly, at level of upper edge of pupil, slightly upcurved, and closer to lower than upper spine; upper spine most anteriorly terminating, poorly developed, flexible, dorsal and posterior margin forming an angle of about 90°; lower spine acute and sharp; opercular flap well developed and pointing diagonally upward; margin of preopercle serrate, the serrae 41 in holotype (varying from 24 in a 54.4 mm paratype to 57 in a 115 mm one); no antrorse spines on ventral margin of preopercle; margin of subopercle and upper part of interopercle serrate (12 serrae on subopercle and 9 on interopercle of holotype); suprascapular serrae 3 (1–6).

Nostrils in front of upper fourth of eye, the anterior in a short membranous tube which is about three times higher posteriorly; posterior nostril ovate with a slight rim, about twice diameter of anterior nostril; internarial space about equal to diameter of posterior nostril; posterior nostril separated from edge of orbit by a distance slightly greater than nostril diameter.

Lateral line broadly arched over pectoral fin, approximately following dorsal contour of body from sixth scale on; scales finely ctenoid; scales dorsally on head extending to posterior nostrils; scales on suborbital extending to below anterior part of eye; maxilla scaled; scales on posterior half of lower jaw, none on rest of chin; a series of four fossae on anterior naked part of lower jaw, each covered by a membrane bearing a few small pores; small scales basally on all fins, variously lost.

Origin of dorsal fin above third lateral-line scale; first dorsal spine 7.2 (6.55–7.4) in head, about 1.4 in length of second spine; fourth or fifth dorsal spines longest, 2.95 (2.6–3.1) in head; last dorsal spine 7.6 (7.3–8.55) in head; second dorsal soft ray longest, greatly prolonged in males, 4.85 (2.55–5.6) in SL; origin of anal fin below base of fifth dorsal soft ray; first anal spine 5.35 (5.0–5.5) in head; second anal spine 2.5 (2.3–2.65) in head; third anal spine 3.15 (2.85–3.3) in head; second or third anal soft ray longest, 1.85 (1.55–2.0) in head; caudal fin emarginate, the second to fourth rays filamentous, the third ray longest, 1.9 in SL (broken on all paratypes; intact only on photograph of holotype); ninth pectoral ray longest, 2.6 (2.5–2.7) in SL; origin of pelvic fins anterior to base of pectorals, in vertical alignment with upper end of gill opening; second pelvic ray longest (prolonged in males; when intact, extending beyond base of anal fin), 3.3 (1.45–3.3) in SL.

Colour of holotype in alcohol: pale except for dusky pigment on first four lateral-line scales and to a lesser extent on adjacent scales of the row above (this dark blotch is larger and more heavily pigmented on most of the larger paratypes; in addition, those paratypes over about 95 mm SL have the tips of the caudal rays broadly blackish).

Colour of holotype from a Kodachrome transparency: tan, becoming silvery white over abdomen and thorax, with some silvery iridescence on opercle; first four lateral-line scales dusky, with some dark pigment on

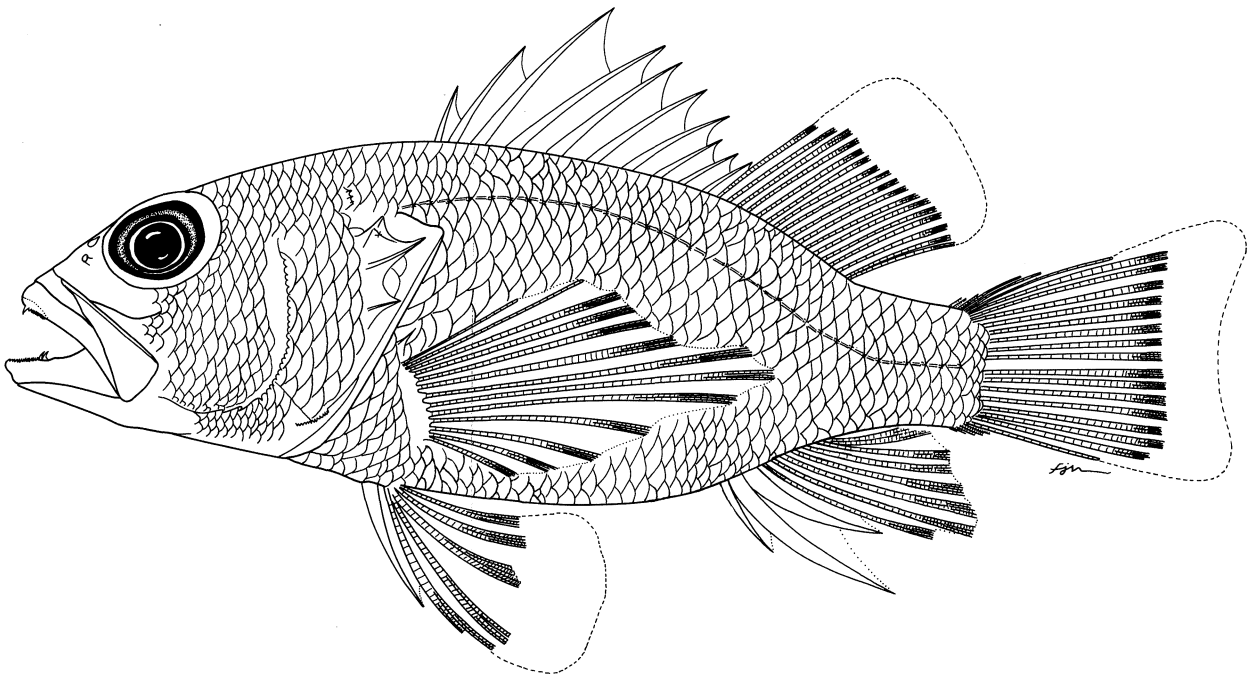

Fig. 2. Holotype of *Plectranthias pallidus*, AMS I.25800-005, 76.0 mm SL, female.

adjacent scales above; a faint narrow yellow stripe extending from eye to anterior lateral line; some indistinct faint yellow to yellow-orange blotches of about pupil size barely detectable on the photograph, one series of about four dorsally on body at base of dorsal fin and a second series along side of body; snout dusky yellowish, the upper lip more yellow; lower jaw dusky orangish, this colouration more intense anteriorly; median fins pale yellowish (more yellow on the dorsal than the anal and caudal); paired fins whitish; iris a mixture of yellow and blackish.

Remarks. We name this fish *robertsi* in honour of Clive D. Roberts who first recognised it as an undescribed species from a single specimen taken in Capricorn Channel off Queensland and had plans to name it when more material was collected. When he heard of our research on the species, he kindly made his specimen available to us.

All our specimens were collected by trawling off the coast of Queensland from 18–23° S in the depth range of 220–400 m.

This species is most distinctive in the greatly prolonged second dorsal and second pelvic soft rays of males and in the filamentous caudal rays of both sexes. Unfortunately, these elongate rays are easily broken, especially on specimens taken by trawling. In fact, the longest caudal ray, the lower branch of the third branched ray, is broken on all of our specimens. It is intact only in the photograph of the holotype, thus the caudal-fin length is given only for this specimen in Table 1.

Of the known species of *Plectranthias, P. robertsi* seems most closely related to *P. maculicauda* (Regan), known from New Zealand and New South Wales. The two have the same dorsal ray, lateral-line scale, and cheek-scale counts, no retrorse spines on the finely serrate preopercular margin, about the same body depth, a prolonged second dorsal ray, and a filamentous upper caudal ray. *Plectranthias maculicauda* differs in having modally 15 pectoral rays, 15–17 lower-limb gill rakers, and a prominent oval black spot posteriorly on the upper side of the caudal peduncle.

Plectranthias pallidus n.sp.

Fig. 2, Table 2

Holotype: AMS I.25800-005, female, 76.0 mm, Australia, Queensland, off Townsville, 17°58'30"S 147°0'30"E, 220 m, bottom trawl, RV *Soela*, M. McGrouther and S. Reader, 8 January 1986.

Diagnosis. Dorsal rays X,16; pectoral rays 13, all but upper two branched; lateral-line complete, the pored scales 28; scales above lateral line to origin of dorsal

fin 3; scales dorsally on head extending to posterior nostrils; no scales on maxilla or chin; body depth 2.75 in SL; posterior margin of preopercle serrate; ventral margin of preopercle with 2 antrorse spines; third dorsal spine longest, 2.0 in head; caudal fin slightly emarginate; colour in alcohol entirely pale.

Description. Dorsal rays X,16 (all rays branched); anal rays III,7 (all rays branched, the last to base); pectoral rays 13 (both sides counted; all but upper two branched); pelvic rays I,5; branched caudal rays 8+7; upper segmented simple caudal rays 3 (medial upper ray about three-fourths length of adjacent branched ray), lower segmented simple caudal rays 2 (medial lower ray about half length of adjacent branched ray); upper and lower procurrent caudal rays 5; lateral line complete, the pored scales 28 (not counting a single pored scale diagonally above and anterior to first lateral-line scale); scales above lateral line to origin of dorsal fin 3; scales below lateral line to origin of anal fin 11; circumpeduncular scales 14; diagonal rows of scales on cheek 6; gill rakers 5+11 (2+8 developed); pseudobranchial filaments 21; branchiostegal rays 7; vertebrae 10+16; supraneural (predorsal) bones 3, their arrangement with neural spines and anterior dorsal-fin spines and pterygiophores as follows: 0/0+0/2/1+l/l/l/ (where 0 is a supraneural bone, / is a neural spine, and numerals are dorsal spines—after Ahlstrom *et al.*, 1976).

Body moderately deep, the depth 2.75 in SL, and somewhat compressed, the width 1.8 in depth; head pointed, the lower jaw slightly projecting; dorsal profile of head only slightly convex; head length 2.3 in SL; snout length 4.25 in head; fleshy orbit diameter 4.4 in head; interorbital space flat, the least bony width 11.2 in head; least depth of caudal peduncle 3.7 in head; caudal peduncle length 2.8 in head.

Mouth moderately large, the maxilla reaching slightly posterior to a vertical at centre of eye, the upper jaw length 2.2 in head; a very small, splint-like supramaxilla posteriorly on maxilla; mouth oblique, the gape forming an angle of about 25° to horizontal axis of body; a pair of strong incurved canine teeth anteriorly in upper jaw (double on one side) separated by a gap about equal to half orbit diameter; rest of jaw with a band of villiform teeth, broadest anteriorly, a narrow gap with no teeth anteriorly at symphysis, immediately to side of midline a few teeth in the inner row of band enlarged, slender and inwardly depressible; a close-set pair of strong slightly recurved canine teeth about half way back in lower jaw; a band of villiform teeth in lower jaw, broadest anteriorly, without any enlarged teeth; teeth or two sides of jaw contiguous at symphysis; a V-shaped band of villiform teeth on vomer in three irregular rows; a narrow band of villiform teeth on palatines in two to three irregular rows. Tongue pointed.

Three prominent flat spines on opercle, the upper smallest and terminating most anteriorly, the middle one terminating most posteriorly, projecting dorsally at an angle of nearly 45° with body axis, its tip closer to upper than lower spine; opercular flap well developed and also pointing diagonally upward; posterior margin of preopercle with 27 serrae (29 on other side); ventral margin of preopercle with two antrorse spines, the one nearest angle with two serrae on its lower edge; margin of subopercle and interopercle each with six small serrae adjacent to their juncture; free edge of supracleithrum with four serrae.

Anterior nostril in a membranous tube with an elevated posterior flap in front of upper edge of pupil; posterior nostril diagonally above and behind anterior nostril, its aperture partially restricted by membrane.

Lateral line broadly arched over pectoral fin, gradually descending to an almost straight portion of five scales on posterior half of caudal peduncle; all scales finely ctenoid; head scaled except for snout, suborbital region below anterior third of eye, chin, branchiostegal rays, and opercular flap; small scales basally on median fins, but too many missing to determine extent of squamation.

Origin of dorsal fin above second lateral-line scale; first dorsal spine 5.3 in head; second dorsal spine nearly twice length of first, 1.6 in length of third; third dorsal spine longest, 2.0 in head; last dorsal spine 4.6 in head; no dorsal soft rays prolonged, the third longest, 1.95 in head; origin of anal fin below base of fifth dorsal soft ray; first anal spine 4.0 in head; second anal spine longest, 2.0 in head; third anal spine 2.5 in head; second anal soft ray longest, 1.95 in head; caudal fin slightly emarginate, its length 1.65 in head, the caudal concavity 10.4 in head; pectoral fins pointed, the eighth ray longest, extending slightly posterior to a vertical at base of third anal spine, the fin length 1.25 in head; origin of pelvic fins slightly anterior to base of pectoral fins, on line with a vertical at upper end of gill opening; length of pelvic fins 1.85 in head.

Colour in alcohol entirely pale. Life colour unknown.

Remarks. This species is named *Plectranthias pallidus* from the Latin for pale, in reference to the overall pale colouration. It is described from only a single specimen collected off Townsville, Queensland in 220 m.

Plectranthias pallidus appears to be closely related to *P. wheeleri* Randall, known from two specimens from Indonesia. The two species share the same number of dorsal soft rays, the low count of 13 pectoral rays, nearly the same lateral-line scales (28 vs. 29), the same number of cheek scales, the same number of gill rakers, 2 retrorse spines on the ventral margin of the preopercle, essentially the same dentition, and similarity in many proportional measurements. They differ in *pallidus* being slightly more elongate (depth 2.75 in SL, compared to 2.6–2.65 for *wheeleri*), having longer dorsal and anal spines, the third dorsal spine 2.0 in head of *pallidus* (2.35–2.45 in *wheeleri*), longer caudal fin (1.6 in head of *pallidus*, compared to 1.85–1.9 for *wheeleri*), and longer pelvic fins (1.75 in head of *pallidus*, compared to 1.95–2.0 for *wheeleri*). In addition, *P. wheeleri* has some dark markings in preservative, whereas there is no trace of them in *pallidus*.

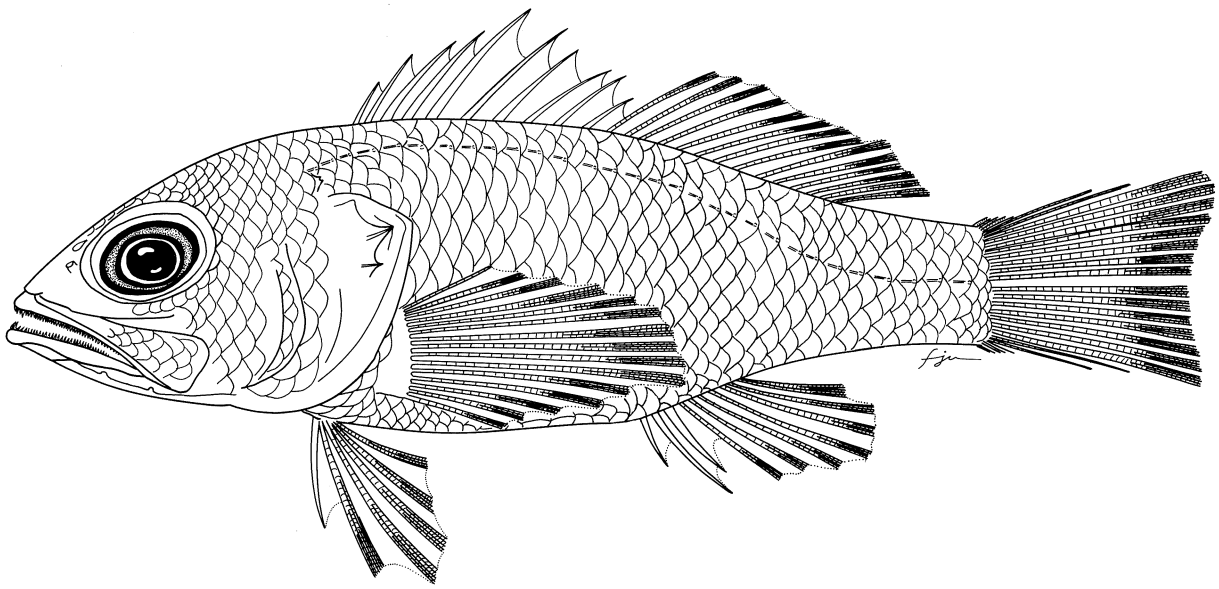

Fig. 3. Holotype of *Plectranthias lasti*, CSIRO H651-02, 68 mm, male.

Plectranthias lasti n.sp.

Fig. 3, Table 3

Holotype: AMS I.22807-056, male, 49.2 mm, Western Australia, Northwest Shelf, 175 km N of Port Hedland, 18°32'S 118°17'E, 200–204 m, Engel trawl, RV *Soela*, J.R. Paxton, 2 April 1982.

Paratype: CSIRO H651-02, male, 68.0 mm, Queensland, NE continental slope S of Marion Reef, 19°44'S 152°6'E, 365–370 m, trawl, RV *Soela* Station 6-85-32, P.R. Last, 23 November 1985.

Diagnosis. Dorsal rays X,14; pectoral rays 15 (all except uppermost branched); lateral-line complete, the pored scales 30; scales above lateral-line to origin of dorsal fin 2; scales dorsally on head extending to posterior nostrils; scales present on maxilla; body depth 3.05 in SL; margin of preopercle smooth; fifth dorsal spine longest, 2.9–3.0 in head; caudal fin emarginate; colour in alcohol pale, without dark markings.

Description. Dorsal rays X,14 (all rays branched, the last to base); anal rays III,7 (all rays branched); pectoral rays 15 (all rays branched except uppermost); pelvic rays I,5; branched caudal rays 8+7; upper and lower segmented simple caudal rays 2; upper procurrent caudal rays 5; lower procurrent caudal rays 4; lateral-line complete, the pored scales 30; scales above lateral line to origin of dorsal fin 2; scales below lateral line to origin of anal fin 8½; circumpeduncular scales 12; diagonal rows of scales on cheek 6; gill rakers 5+12 (1+7 developed); pseudobranchial filaments 15 (17); branchiostegal rays 7; vertebrae 10+16; supraneural (predorsal) bones 2, their arrangement with neural spines and dorsal spines and pterygiophores is the same as found in *P. robertsi*.

Body moderately elongate, the depth 3.05 in SL, and compressed, the width 1.65 (1.6) in depth; head somewhat pointed, the lower jaw slightly projecting; dorsal profile of head smoothly convex; head length 2.35 in SL; snout length 4.95 (4.85) in head; fleshy orbit diameter 3.3 (4.0) in head; interorbital space flat, the least bony width 10.7 (9.65) in head; least depth of caudal peduncle 3.15 in head; caudal peduncle length 2.05 in head.

Mouth large, the maxilla nearly or just reaching a vertical at posterior edge of orbit, the upper jaw length 2.0 in head length; a very small, splint-like supramaxilla posteriorly on maxilla; mouth oblique, the gape forming an angle of about 25° to horizontal axis of body; an incurved canine tooth on each side at front of upper jaw separated by a symphysial gap without teeth contained 2.7 times in orbit diameter; a band of villiform teeth in upper jaw which broadens anteriorly, the inner teeth near symphysis enlarged and inwardly depressible, one on each side longer than upper canines, a narrow gap at symphysis without teeth; posterior half of lower jaw with a narrow band of medially depressible conical teeth in three rows, those of outer very small, those of inner row much the largest; a fixed recurved canine tooth in outer row at midside of lower jaw; anterior to it two rows of inwardly depressible slender conical teeth of moderate size, these two rows gradually broadening anteriorly to as many as four or five rows adjacent

symphysis; teeth bands on two sides of lower jaw almost contiguous; lower jaw teeth becoming smaller near symphysis except one on each side in inner row enlarged and recumbent and a stout short canine in outer row; upper and lower canine teeth less developed on paratype; vomer with a V-shaped band of villiform teeth in two to three irregular rows; palatines with a narrow band of villiform teeth in two to three irregular rows. Tongue narrowly triangular with a slightly rounded tip. Longest gill raker on first gill arch the first on lower limb adjacent to raker at angle, its length one-half orbit diameter and nearly twice length of longest gill filaments on first arch.

Three flat spines posteriorly on opercle, the middle one largest and terminating most posteriorly, curving upward, its sharp tip at level of upper edge of pupil, closer to lower than upper spine; upper spine terminating most anteriorly, not pungent, posterior and dorsal margin forming an angle of about 90°; lower spine very acute and sharp; margin of preopercle, subopercle, and interopercle smooth; free margin of suprascapula partially covered by scales and not serrate (one minute spine); opercular flap well developed and angling upward in alignment with middle opercular spine.

Anterior nostril in a thin moderately long membranous tube, somewhat higher posteriorly, in front of upper edge of pupil; posterior nostril posterodorsal to anterior nostril, its ovate opening nearly twice as large as anterior nostril, separated from edge of orbit by a distance only slightly greater than nostril diameter; internarial space containing a large pore. Pores of lateralis system on head prominent, especially the five of mandibular series and the suborbital series.

Lateral line broadly arched over pectoral region, its upper part following contour of back; scales finely ctenoid; scales dorsally on head extending anteriorly to posterior nostrils; scales in suborbital region extending to below middle of orbit in holotype (unless some anterior scales are missing), and to below front of orbit in paratype; maxilla scaled; no scales on snout, lower jaw, chin, and gill membranes; small scales basally on all fins except spinous portions of dorsal and anal fins, full extent of squamation not known due to loss of scales.

Origin of dorsal fin over third lateral-line scale; first dorsal spine 7.8 (7.6) in head; second dorsal spine nearly twice as long as first; fifth dorsal spine longest, 3.0 (2.9) in head; last dorsal spine 6.4 (6.05) in head; ninth dorsal soft ray longest, 2.3 (2.4) in head; origin of anal fin below base of third dorsal soft ray; first anal spine 5.2 (5.0) in head; second anal spine 2.95 (2.9) in head; third anal spine 3.65 in head; fourth anal soft ray longest, 1.95 (2.05) in head; caudal fin broken in both specimens but seems to have been emarginate; ninth and tenth pectoral rays longest, 1.3 in head; origin of pelvic fins slightly anterior to a vertical line from upper end of gill opening; second pelvic ray longest, 1.8 in head.

Colour in alcohol uniformly pale. Colour in life unknown.

Remarks. This species is named *Plectranthias lasti* in honour of Peter R. Last who collected the paratype, recognised it as undescribed, and made the CSIRO specimen available to us.

Our two specimens have come from widely separated localities in Australia, one off Marion Reef, Queensland, and the other from the Northwest Shelf of Western Australia. They were collected by trawling in the depth range of 202–370 m. The bottom temperature for the station on the Northwest Shelf was 16.0–16.6°C.

Plectranthias lasti is clearly a close relative of *P. megalophthalmus* Fourmanoir & Randall, known from a single 61.8 mm specimen taken by a trap in 200 m off NW New Caledonia, and *P. fijiensis* Raj & Seeto, 1983 described from one 74.7 mm specimen collected by trap in 293 m off the Suva barrier reef, Viti Levu. *Plectranthias lasti* and *P. megalophthalmus* share the same pectoral-ray, and gill-raker counts, nearly the same lateral-line scale counts (30 vs. 31), smooth-edged preopercular, subopercular, and interopercular bones, similar dentition, similar squamation of the head, and the presence of a large pore between the anterior and posterior nostrils. *Plectranthias lasti* differs in having 15 instead of 14 dorsal soft rays, a deeper body (depth 3.05 in SL, compared to 3.4 for *megalophthalmus*), and smaller eye (4.0 in head of 68 mm paratype of *lasti*, compared to 2.9 for the 61.8 mm *megalophthalmus*). *Plectranthias lasti* and *P. fijiensis* also have many characters in common, including the same pectoral-ray and gill-raker counts, smooth-edged opercular bones, and essentially the same dentition and head squamation. They differ in the dorsal soft ray count (14 for *lasti*, 15 for *fijiensis*), lateral-line scale count (30 for *lasti*, 32 for *fijiensis*), body depth (3.05 in SL of *lasti*, 2.7 for *fijiensis*), and height of the longest dorsal spine (2.9–3.0 in head of *lasti*, 3.3 in *fijiensis*). In addition, the holotype of *fijiensis* is reported to have its ninth to twelfth pectoral rays unbranched, in addition to the first, whereas only the first is unbranched in *lasti*.

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Table 1. Proportional measurements of selected type specimens of *Plectranthias robertsi* expressed as a percentage of the standard length.

	HOLOTYPE	**PARATYPES**							
	AMS I.20968 –003	AMS I.25801 –013	AMS I.25801 –013	CSIRO H682 –01	BPBM 35053	CSIRO H719 –13	AMS I.25800 –045	AMS I.25800 –007	CSIRO H719 –15
Sex	female	female	female	female	male	female	male	male	male
Standard length (mm)	89.5	54.4	74.3	81.5	93.4	108.0	111.0	115.0	125.0
Body depth	36.1	31.2	35.3	33.2	36.4	37.4	35.4	38.0	38.2
Body width	18.0	15.2	17.5	18.4	16.6	19.8	16.6	16.5	19.2
Head length	42.4	41.8	42.2	43.1	42.3	43.0	42.3	41.8	41.5
Snout length	10.2	9.2	9.2	9.8	10.1	10.7	10.3	10.4	10.5
Orbit diameter	12.1	12.9	13.0	12.9	11.6	11.1	11.9	11.4	10.9
Bony interorbital width	6.0	5.4	6.1	5.7	6.2	7.1	7.9	8.0	7.6
Upper jaw length	21.5	20.6	22.0	21.3	21.1	21.7	21.6	23.1	22.0
Caudal peduncle depth	13.3	12.5	12.9	12.0	13.4	13.0	13.5	13.3	13.1
Caudal peduncle length	18.7	19.0	19.5	18.7	17.1	18.9	17.1	17.0	17.5
Predorsal length	38.8	37.9	39.7	39.0	39.9	38.3	39.8	40.3	37.8
Preanal length	69.0	68.8	67.0	68.8	67.6	68.4	68.5	69.7	70.7
Prepelvic length	39.9	36.4	35.5	37.8	36.5	38.8	38.0	40.0	40.2
Dorsal fin base	48.2	48.5	52.4	48.1	50.8	50.5	48.3	50.9	50.0
First dorsal spine	5.9	6.4	6.4	6.1	6.3	5.8	6.3	6.2	5.9
Longest dorsal spine	14.3	16.0	15.5	15.9	14.2	14.1	14.5	14.3	13.5
Last dorsal spine	5.6	5.5	5.8	5.3	5.4	5.8	5.4	4.9	5.3
Longest dorsal ray	20.7	17.8	18.7	broken	35.2	25.5	broken	broken	39.3
Anal fin base	14.7	15.3	15.0	14.7	15.1	14.8	15.6	15.8	15.2
First anal spine	7.9	7.6	8.4	8.6	7.7	8.3	7.7	8.0	7.7
Second anal spine	16.8	18.4	18.0	18.1	17.2	16.6	15.9	15.8	16.1
Third anal spine	13.5	14.7	14.1	13.8	14.1	13.0	13.5	14.0	13.4
Longest anal ray	23.1	24.0	23.9	21.2	22.5	22.4	25.4	27.0	24.9
Longest caudal ray	broken	broken	52.2	broken	broken	broken	broken	broken	broken
Pectoral fin length	38.2	37.7	37.0	37.7	38.5	37.1	40.0	38.7	39.6
Pelvic spine length	15.0	15.7	16.1	15.3	15.2	15.4	13.8	15.2	14.8
Pelvic fin length	30.2	30.1	33.2	31.8	49.2	31.0	69.3	67.6	55.3

Table 2. Proportional measurements of holotype of *Plectranthias pallidus* expressed as a percentage of standard length.

	AMS I.25800–005
Standard length	76.0
Body depth	36.6
Body width	20.2
Head length	43.8
Snout length	10.5
Orbit diameter	10.0
Bony interorbital width	3.9
Upper jaw length	19.8
Caudal peduncle depth	11.9
Caudal peduncle length	15.5
Predorsal length	41.2
Preanal length	73.8
Prepelvic length	40.7
Dorsal fin base	47.3
First dorsal spine	8.3
Longest dorsal spine	21.6
Tenth dorsal spine	9.5
Longest dorsal ray	18.4
Anal fin base	15.4
First anal spine	10.9
Second anal spine	22.0
Third anal spine	17.4
Longest anal ray	22.3
Caudal fin length	27.0
Caudal concavity	4.2
Pectoral fin length	35.6
Pelvic spine length	17.0
Pelvic fin length	23.9

Table 3. Proportional measurements of holotype and paratype of *Plectranthias lasti* expressed as a percentage of standard length.

	Holotype AMS I.22807–056	Paratype CSIRO H651–02
Standard length	49.2	68.0
Body depth	32.8	32.7
Body width	20.0	20.3
Head length	42.7	42.5
Snout length	8.6	8.8
Orbit diameter	12.8	10.6
Bony interorbital width	4.0	4.4
Upper jaw length	21.5	21.1
Caudal peduncle depth	13.6	13.4
Caudal peduncle length	20.8	20.9
Predorsal length	39.3	38.1
Preanal length	66.3	65.7
Prepelvic length	36.0	35.2
Dorsal fin base	49.2	47.2
First dorsal spine	5.5	5.6
Longest dorsal spine	14.2	14.7
Tenth dorsal spine	6.7	7.0
Longest dorsal ray	18.5	17.8
Anal fin base	16.4	16.1
First anal spine	8.1	8.5
Second anal spine	14.4	14.7
Third anal spine	11.7	11.6
Longest anal ray	21.8	20.8
Caudal fin length	broken	broken
Caudal concavity	–	–
Pectoral fin length	32.7	32.5
Pelvic spine length	13.2	13.1
Pelvic fin length	23.4	23.5