

# A review of the anthiine fish genus *Plectranthias* (Perciformes: Serranidae) of the Western Indian Ocean, with description of a new species, and a key to the species

Phillip C. Heemstra<sup>1</sup> and John E. Randall<sup>2</sup>

<sup>1</sup> South African Institute for Aquatic Biodiversity  
Private Bag 1015, Grahamstown, 6140 South Africa, e-mail p.heemstra@saiab.ac.za

<sup>2</sup> Bishop Museum, 1525 Bernice St., Honolulu, HI 96817-2704, USA,  
e-mail jackr@hawaii.rr.com

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**ABSTRACT.** Thirteen species of the serranid fish genus *Plectranthias* Bleeker (1873) are recognized in the Western Indian Ocean (including the Red Sea and Persian Gulf): *Plectranthias bauchotae* Randall 1980, *P. gardineri* (Regan 1908), *P. inermis* Randall 1980, *P. intermedius* (Kotthaus 1973), *P. klausewitzii* Zajonz 2006, *P. longimanus* (Weber 1913), *P. maugei* Randall 1980, *P. morgansi* (Smith 1961), *P. nanus* Randall 1980, *P. pelicieri* Randall & Shimizu 1994, *P. vexillarius* Randall 1980, *P. winniensis* Tyler 1966, and a new species, *P. elaine* sp. nov., from the east coast of South Africa is described. Diagnoses, distributions, illustrations and a key to the Western Indian Ocean species are given.

**KEYWORDS:** Serranidae, Anthiinae, new species, *Plectranthias*

## INTRODUCTION

As part of a multi-authored project to review the taxonomy and diversity of the coastal fishes of the Western Indian Ocean, we examined specimens of the serranid Subfamily Anthiinae. A new species of the genus *Plectranthias* was recognized from unidentified material in the South African Institute for Aquatic Biodiversity, and is described in this paper. New morphological data and new distributions for *Plectranthias gardineri*, *P. longimanus*, *P. morgansi*, *P. pelicieri* and *P. winniensis* are recorded. Diagnoses and a key for all Western Indian Ocean *Plectranthias* species are also presented.

The serranid fish genus *Plectranthias* Bleeker 1873 was revised by Randall (1980) who recognized 30 species, 13 of which were new. Most species are found in tropical waters on coral or rocky reefs in depths of 20 to 300 m. They are solitary, sedentary, and some species are seen perched on the substrate like hawkfishes (Cirrhitidae), which have a similar gestalt. The smaller, cryptic coral reef species, such as *Plectranthias nanus*, *longimanus* and *winniensis* are rarely seen by scuba divers, because they reside in the hidden interstices of the reef. The species that occur in the rugged, deep-reef habitat (50 to 300 m) are not often caught in trawls, and because of their small size (most species less than 10 cm SL) they are rarely caught on the large hooks used by anglers fishing in their habitats. Consequently, most *Plectranthias* species are rare in fish collections, and 20 of the valid species are known from only one or two specimens.

The genus *Plectranthias* comprises a heterogeneous assemblage of 45 currently recognized valid species. Thirteen species are here recognized from the western Indian Ocean (west of the southern tip of India and including the Red Sea).

## METHODS

The posterior most dorsal and anal-fin rays are split to their base but counted as a single ray. The spinous rays of the dorsal and anal fins are termed dorsal-fin spines and anal-fin spines; and their numbers are given in Roman numerals in the fin formulae. The soft (segmented) fin rays are called rays and their numbers are given in Arabic numerals. Some species of *Plectranthias* have fleshy appendages at the tips of some dorsal-fin spines. If the appendage is longer than the eye diameter, we call it a 'banner'; if it is shorter than the eye diameter, then it is a 'cirrus'. Gill-raker counts are of the first gill arch, include all rudiments, with the raker at the angle of the arch included in the count for the lower limb, and are given as A-B / C-D where A-B is the range of counts for the upper limb and C-D the range of counts for the lower limb. Cheek scale counts are the oblique series of large scales between the eye and the lower rear edge of the preopercle. Standard length (SL), head length and snout length were measured from the front edge of the upper lip to the caudal fin base, rear edge of the opercular membrane, and the front edge of the bony orbit respectively. Eye diameter and interorbital width are of the bony orbit. Body depth

Table 1. Comparison of the characters of Western Indian Ocean *Plectranthias* species.

Species	Preopercle lower edge antrorse spine/s	Interopercle & subopercle serrae	Body depth - % SL	Dorsal fin rays	Pectoral-fin rays / branched	Anal-fin rays	Branched caudal-fin rays	Caudal fin rear margin	Lateral-line complete	Interorbital (IO) & top of head scaly	Scale series on cheek / maxilla	Gill-rakers	Longest D spine / banners
<i>bauchotae</i>	2	weak	39-43	16	14-15 / yes	7	15	emarginate	yes	scaly	6-7 / no	5 / 10-12	3 <sup>rd</sup> / short banners
<i>gardineri</i>	1 small spine	distinct	37-39	14	14-15 / no	6 or 7	13	rounded	no	scaly	6 / yes	4-5 / 9-11	4 <sup>th</sup> / none
<i>inermis</i>	no	smooth	32-37	16-20	13 / no	7	13	truncate	yes	mid-IO	4-5 / no	5-6 / 10-12	3 <sup>rd</sup> / large
<i>intermedius</i>	2	distinct	37-38	17	14-15 / yes	6 or 7	15	UR long	yes	mid-IO	10 / yes	5-6 / 12	3 <sup>rd</sup> or 4 <sup>th</sup> / none
<i>klausewitzii</i>	no	smooth	32-37	14-15	14-15 / yes	7	15-17	emarginate	yes	scaly	7-8 / no	4-5 / 11-13	3 <sup>rd</sup> / short
<i>longimanus</i>	2	distinct	32-38	13-15	12-13 / no	6 or 7	15	~ rounded	no	mid-IO	4-5 / no	4-6 / 9-12	4 <sup>th</sup> / none
<i>maugei</i>	no	smooth	37-38	15	13 / no	7	14	lunate	yes	scaly	6 / no	5 / 11-12	4 <sup>th</sup> / short cirri
<i>morgansi</i>	no	weak	39-41	13-15	13-14 / no	7	15	truncate	yes	scaly	5 / no	5-6 / 11-12	3 <sup>rd</sup> / long
<i>nanus</i>	2	weak	28-34	16	14-16 / no	6	15	rounded	no	mid-IO	4 / no	5-6 / 13-14	4 <sup>th</sup> / none
<i>pelicieri</i>	2	irregular	35-38	15-17	13 / no	7 or 8	15	emarginate	yes	naked	5 / no	5 / 11-12	3 <sup>rd</sup> / long cirri
<i>elaine</i>	2 large spines	distinct	41-48	13-15	12-14 / yes	7	15	emarginate	yes	scaly	5 / no	4-6 / 10-12	3 <sup>rd</sup> / banner
<i>vexillarius</i>	irregular	smooth	37	17	13 / no	7	15	emarginate	yes	scaly	7 / no	4 / 10	3 <sup>rd</sup> / banner
<i>winniensis</i>	2	0-2 weak	29-36	16-17	16-18 / no	7	15	concave	no	mid-IO	4-5 / no	4-6 / 11-15	4 <sup>th</sup> / none

**Table 2.** Fin ray counts for Western Indian Ocean *Plectranthias* species.

Species	Dorsal-fin rays								Anal-fin rays			Pectoral-fin rays					
	13	14	15	16	17	18	19	20	6	7	8	12	13	14	15	16	17
<i>bauchotae</i>				8						8				7	1		
<i>elaine</i>		1	4							7		3	2	6			
<i>gardneri</i>		11							2	9				5	10		
<i>inermis</i>				3	11	3	2	1		14		13	8				
<i>intermedius</i>					2				1	1				1	2		
<i>klausewitzii</i>		2	1							7				1	2		
<i>longimanus</i>	25	17	2						15	27		9	43				
<i>maugei</i>			3							3			3				
<i>morgansi</i>	1	2	2	1						6		1	3	7			
<i>nanus</i>					2				1	1					2		
<i>pelicierii</i>			1	12	6					17	2	3	35				
<i>vexillarius</i>					1					1			1				
<i>winniensis</i>			1	25	8					20						19	24

is the greatest depth of the body. Lateral-line scale counts are the number of tubed scales in the lateral-line. Configuration of supraneural bones and anterior neural spines is given in the formula of Ahlstrom et al. 1976: 0/0+0/2/1+1/1/1/ with supraneurals indicated by 0, neural spines by / and pterygiophores with their associated spines by Arabic numerals.

Museum codes for material that we examined are as follows: ANSP (Academy of Natural Sciences, Philadelphia), BMNH (The Natural History Museum, London), BPBM (Bernice P. Bishop Museum, Honolulu, Hawaii), HUMZ (Hokkaido University Museum of Zoology, Hakodate), MNHN (Muséum National d'Histoire Naturelle, Paris), SMF (Senckenberg Research Institute and Natural History Museum, Frankfurt am Main). The name of the J.L.B. Smith Institute of Ichthyology was changed to the South African Institute for Aquatic Biodiversity, Grahamstown, with SAIAB as the acronym for its fish collection.

**Genus *Plectranthias* Bleeker 1873**

**DIAGNOSIS** (based on Western Indian Ocean species): Dorsal fin with 10 spines, 13–20 rays; the fin margin slightly to deeply notched before the soft-rayed part; anal fin with 3 spines, 6–8 rays; the last dorsal and anal fin rays are usually double (split to the base, but counted as a single ray); pectoral fin rays 12–18, branched or unbranched. In species with branched pectoral fin rays, the pectoral-fin rays of juveniles may be unbranched. The proximal part of the median and pectoral fins are covered with minute, thin scales. Body oval to oblong, depth 2.3–3.1 in SL. Body scales large, distinctly ctenoid; lateral-line complete or interrupted below soft dorsal fin. Head more or less covered with scales. Maxilla with a low ridge along dorsal edge. Vomer and palatines with teeth. Branchiostegal rays 7; vertebrae 10+16; supraneurals 2 or 3.

**KEY TO PLECTRANTHIAS SPECIES OF THE WESTERN INDIAN OCEAN**

- 1a. Preopercle, interopercle and subopercle smooth; dorsal-fin rays 16–20; pectoral-fin rays 13, none branched; third dorsal-fin spine with a long, fleshy banner at the tip ..... *P. inermis*
- 1b. Preopercle serrate dorsally, the serrae distinct, small or minute; interopercle and subopercle smooth or serrate; dorsal-fin rays 13–17; pectoral-fin rays 12–15; the central rays branched in adults of some species; third dorsal-fin spine with or without a banner ..... 2
- 2a. Lateral-line interrupted below soft dorsal fin, with 12–22 tubed scales, peduncle with or without pored scales ..... 3
- 2b. Lateral-line complete, with 27–34 tubed scales extending to caudal fin base ..... 6



- 3a. Body depth 2.3–2.5 in SL, subequal to head length; maxilla with a row of 5–11 small ctenoid scales dorsally; no antrorse spines on lower edge of preopercle ..... *P. gardineri*
- 3b. Body depth 2.6–3.4 in SL, less than head length; no scales on maxilla; ventral edge of preopercle with 1 or 2 separate antrorse spines (often hidden by skin and scales) ..... 4
- 4a. Dorsal-fin rays 13–15; pectoral-fin rays 12–13; body mottled dark brown, small black spots on peduncle, a row of 5 black spots from base of lower caudal rays along ventral surface of peduncle and anal-fin base .....  
..... *P. longimanus*
- 4b. Dorsal-fin rays 16–17; pectoral-fin rays 14–18; colour pattern not as in 4a ..... 5
- 5a. Pectoral-fin rays 14–16; branched caudal-fin rays 15; head and body mottled dark brown, with 2 small dark brown spots, one above the other on caudal fin base ..... *P. nanus*
- 5b. Pectoral-fin rays 16–18; branched caudal rays usually 13; head and body reddish brown with red spots, but no small dark brown spots at base of caudal fin ..... *P. winniensis*
- 6a. Body pale, with a dark band or series of dark spots along base of dorsal fin and curving ventrally onto peduncle; cheek with 10 oblique scale series ..... *P. intermedius*
- 6b. No dark band along dorsal-fin base; oblique cheek scale series 4–8 ..... 7
- 7a. Top of head and interorbital area naked; ventral edge of preopercle with 2 antrorse spines ..... *P. pelicieri*
- 7b. Top of head scaly to at least mid-interorbital area ..... 8
- 8a. Ventral edge of preopercle with 2 antrorse spines; body depth 2.1–2.6 in SL ..... 9
- 8b. Ventral edge of preopercle smooth or irregular; body depth 2.3–3.1 in SL ..... 10
- 9a. Dorsal-fin rays 16; pectoral-fin rays 14–15; subopercle and interopercle serrae weak ..... *P. bauchotae*
- 9b. Dorsal-fin rays 15; pectoral-fin rays 12–14; subopercle and interopercle serrae distinct ..... *P. elaine* sp. nov.
- 10a. Dorsal-fin rays 17, a few elongate; 3<sup>rd</sup> dorsal fin spine elongate, with a fleshy banner at tip ..... *P. vexillarius*
- 10b. Dorsal fin rays 13–15 ..... 11
- 11a. Caudal fin lunate; head and body pale with 8 small dark blotches dorsally; a short cirrus at tip of each dorsal-fin spine ..... *P. maugei*
- 11b. Caudal fin emarginate or truncate; some dorsal-fin spines without cirrus at tips ..... 12
- 12a. Body oval, depth 2.4–2.6 in SL; lateral-line scales 9–16, usually with dark pigment; first two interspinous membranes of dorsal fin white, 3<sup>rd</sup> dorsal-fin spine elongate, with a long white banner at tip; no cirri on the other dorsal-fin spines; pectoral-fin rays 13–14, central rays usually unbranched ..... *P. morgansi*
- 12b. Body oblong, depth 2.7–3.1 in SL; no dark pigment on lateral-line scales; pectoral-fin rays 14–15, central rays branched; 3<sup>rd</sup> dorsal-fin spine longest, with a short cirrus at tip ..... *P. klausewitzii*

### *Plectranthias bauchotae* Randall

Fig. 1

*Plectranthias bauchotae* Randall 1980: 116, Fig. 4. (Banc de l'Étoil, S of Madagascar; 25°54' S, 44°36' E); Katayama & Yamamoto 1986: 389, Fig. 2. (Redescription based on seven specimens from Saya de Malha Bank, NE of Madagascar).

**DIAGNOSIS.** Dorsal fin rays X, 16, the fin margin distinctly notched before soft-rayed part, 3<sup>rd</sup> spine longest, 1.7 in head length, with a cirrus (about one-third length of spine) at spine tip; dorsal spines 2, 4, 5 and 6 with a shorter cirrus at their tip; penultimate and last dorsal-fin spines subequal, about half length of 3<sup>rd</sup> spine; anal-fin rays III, 7, 2<sup>nd</sup> spine longest, twice length of first spine but shorter than longest anal-fin ray; caudal fin

emarginate, branched rays 15; the tips of uppermost rays broken, but their length estimated as 1.4 in head; pectoral-fin rays 14, upper and lowermost rays unbranched, rest branched, fin length 1.2 in head, reaching vertical at 4<sup>th</sup> anal-fin ray; pelvic fins not reaching anus, 1.7 in head. Body oval, greatest depth 2.3–2.6, head length 2.2–2.4 in SL; peduncle depth 3.4–3.9, orbit diameter 3.4–4.1, bony interorbital width 5.6–6.8, snout length 3.6–4.2 all in head length. Lateral-line complete, with 30–32 tubed scales; 2 rows of large scales between 5<sup>th</sup> dorsal spine and lateral-line; circum-peduncular scales 14; scales on top of head reach rear nostrils; operculum scaly; 6 or 7 oblique series of large scales on cheek; snout, maxilla, suborbitals and lower jaw naked. Preopercle posterior edge with 39–41 serrae, lower edge with 2 small antrorse spines; subopercle with 3 weak serrae; interopercle with 0–3 weak serrae. Lower jaw with a pair of moderate canines near



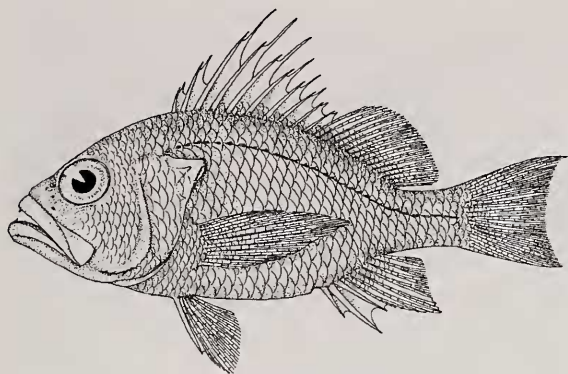


Fig. 1. *Plectranthias bauchotae*, 119 mm SL, Saya de Malha Bank, HUMZ 72438 (from Katayama and Yamamoto 1986).

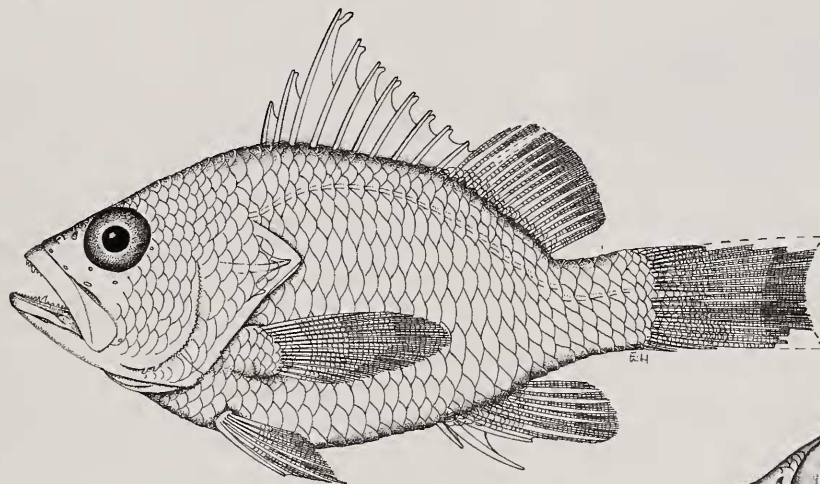


Fig. 2. *Plectranthias elaine*, holotype, 56 mm SL, SAIAB 28200. Enlarged view of head to show spination of head bones and scalation. (Drawn by Elaine Heemstra).

*Plectranthias elaine* sp. nov.

Fig. 2, Table 3

*Holotype*. SAIAB 28200, 56 mm SL, male, South Africa, off Qolora River, Eastern Cape Province (32°38.2' S, 28°27.6' E); depth 114 m; trawl; Clive Potter, collector; 13 June 1983.

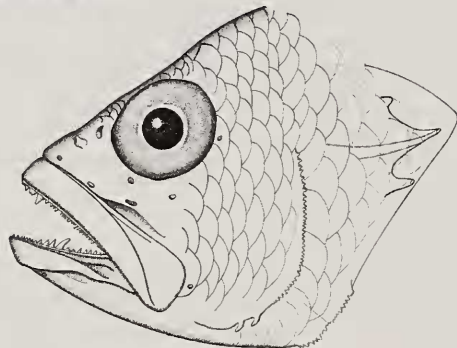
*Paratypes*. BPBM 35049, 42 mm SL, South Africa, off Jesser Point, Sodwana Bay, KwaZulu-Natal (27°32.8' S, 32°42.6' E) depth 68 m; dredge; R/V MEIRING NAUDE Sta. ZH3; Richard Kilburn, collector; 3 June 1987. SAIAB 28204, 21 mm SL, female, South Africa, off Kosi Bay (26°54.6' S, 32°56.6' E); depth 75 m; dredge; R/V MEIRING NAUDE Sta. ZA13; Richard Kilburn, collector, 7 June 1987. SAIAB 28205, 29 mm SL, female; 22 mm SL; data same as BPBM 35049.

**DESCRIPTION.** Holotype data are given first, followed by data for paratypes (in parentheses) if different;

symphysis. Gill-rakers 5 / 10-12. Three supraneural bones: 0/0+0/2/1+1/1/1/.

Life colour from Katayama and Yamamoto (1986): "Body reddish yellow with two diffuse dark red bars posteriorly, first bar under posterior dorsal-fin spines and anterior soft rays, 2<sup>nd</sup> bar at base of peduncle; small yellow spots scattered on body side; fins reddish yellow." In alcohol uniform buff.

**REMARKS.** Known from the 82 mm SL holotype, collected south of Madagascar and seven specimens (80-119 mm SL) collected in 125-191 m from the Saya de Malha Bank northeast of Madagascar. *P. bauchotae* is larger than any of the other *Plectranthias* species in the Western Indian Ocean.



additional measurements are given in Table 3. Dorsal-fin rays X, 15, the fin margin moderately notched before soft-rayed part, 3<sup>rd</sup> spine longest, 24% (30%) SL, 1.8 in head length; short cirrus behind tips of spines 3, 4 and 5; anal-fin rays III, 7, 2<sup>nd</sup> spine longest; 2<sup>nd</sup> and 3<sup>rd</sup> anal-fin rays elongated; pectoral fins with 14 rays, all branched except upper and lowermost 2 or 3 rays, fin reaching vertical at 3<sup>rd</sup> (4<sup>th</sup>) anal-fin ray; caudal fin slightly emarginate, principal rays 17, branched rays 15; 3 uppermost principal rays slightly produced; pelvic fins not reaching anus. Body oval; depth 2.1 (2.3-2.5), head length 2.3 (2.2-2.4), peduncle depth 7.2 (7.6) in SL; orbit diameter greater than snout length, 3.8 (3.4), snout length 4.8 (4.4-5.0), bony interorbital width 7.4 (9.8) in head length. Lateral-line complete, with 31 (28, 30) tubed scales; 2 rows of large scales between middle dorsal-fin spines and lateral-line; 3 scales from dorsal-

**Table 3.** Measurements as %SL of the holotype and BPBM 25049, paratype of *Plectranthias elaine*.

	Holotype	Paratype
Standard length (mm)	56 mm	42 mm
Body depth	48	41
Body width	24	21
Head length	44	44
Snout length	9.2	10
Orbit diameter	12	13
Interorbital width	5.9	4.5
Upper jaw length	22	21
Maxilla width	5.4	4.8
Pectoral-fin length	34	36
Pelvic-fin length	25	25
Snout to D-fin origin	41	42
Snout to anal-fin origin	69	71
Peduncle depth	14	14
Peduncle length	19	18
Upper caudal-fin rays	30	30
Lower caudal-fin rays	28	28
Anal-fin length	32	31
First anal-fin spine	7.7	6.9
Second anal-fin spine	15	16
Third anal-fin spine	14	14
Third dorsal-fin spine	24	24
Fourth dorsal-fin spine	19	21
Last dorsal-fin spine	7.5	10
Pelvic-fin spine	14	15

fin origin to lateral-line; circum-peduncular scales 5-2-7 = 14; dorsal part of head and interorbital area scaly to posterior nostrils; preorbital, snout, maxilla and lower jaw naked; opercle, interopercle and subopercle scaly; cheek with 6 (4 or 5) oblique scale series; proximal third of soft dorsal fin and proximal half of anal fin scaly; caudal and pectoral-fin bases scaly. Preopercle rounded, posterior edge with 36 (14, 23) serrae; ventral edge with 2 large antrorse serrae, hidden by skin and scales; subopercle and interopercle edge distinctly serrate. Maxilla reaching vertical at rear edge of pupil; proximal part of maxilla with a low, narrow ledge

along dorsal margin, but no supramaxilla; (the 42 mm SL paratype has a minute, splint-like supramaxilla on rear upper edge of both maxillae). Upper jaw with a band of villiform teeth, a widely separated pair of short, stout, fixed conical teeth, one on each side of diastema in front of an inner group of 7 slender depressible teeth; lower jaw with a band of villiform teeth in 3-5 irregular rows becoming wider anteriorly, an outer series of 10 slightly larger teeth at front of jaw barely projecting above lower lip; 2 fixed canines about one-third jaw length posteriorly from front of lower jaw; vomer with a chevron band of villiform teeth; palatines with a short band of 3 irregular rows of villiform teeth. Gill-rakers on lower limb 7 or 8 plus 3-5 rudiments, upper limb with 1 developed raker and 4 or 5 rudiments. Three supraneural bones: 0/0+0/2/1+1/1/1/1/.

Fresh colour unknown; preserved specimens immaculate.

**REMARKS** The 56 mm SL holotype is an adult male. Maximum size for this species is probably about 60 mm SL. The four type-specimens were collected with trawl and dredge off the South African east coast between Kosi Bay (26°55' S) and the Qolora River mouth (32°38' S) in depths of 68, 75, 85 and 114 m. The smallest specimen (21 mm SL) is a female with moderately large ova.

**ETYMOLOGY.** This species is named to honour Elaine Heemstra, in recognition of her numerous and valuable contributions to the study of fishes by her beautiful and accurate paintings and drawings and her astute observations of these fascinating creatures. The species epithet is a noun in apposition.

### *Plectranthias gardineri* (Regan)

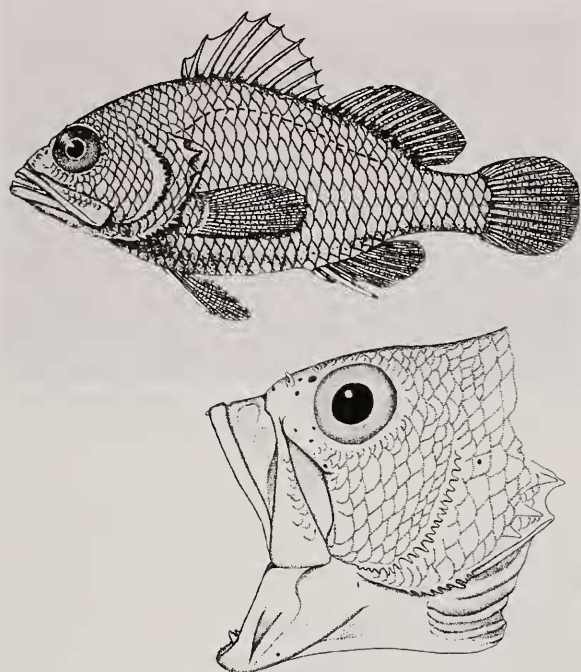
Fig. 3, Pl. 1 A

*Xenanthias gardineri* Regan 1908: 223, Pl. 28, Fig. 1 (Seychelles, Amirante Ids); Smith 1961: 367, Fig. 5 (copy of Regan's original figure).

*Plectranthias gardineri*: Randall 1980: 129, Fig. 8 (redescribed from four syntypes, 29 mm SL specimen designated as lectotype; copy of Regan's original figure); Randall & Shimizu 1994: 114, Fig. 3 (new data from five specimens 29-32 mm SL, from type locality in the Seychelles; colour photograph of fresh specimen).

**DIAGNOSIS.** Dorsal-fin rays X, 14-15, fin margin notched almost to base before soft-rayed part, 3<sup>rd</sup> or 4<sup>th</sup> spine longest, 1.9-2.3 in head length; no cirrus at spine tips; anal-fin rays III, 6-7, 2<sup>nd</sup> spine longest, twice length of first spine and longer than longest anal-fin ray; caudal fin rounded, branched rays 13-14; pectoral-fin rays 14-15, unbranched, fin 1.3-1.5 in head, reaching between verticals at anal-fin origin and 3<sup>rd</sup> ray; pelvic fins not reaching anus, 1.7-2.0 in head. Body oval, greatest depth 2.3-2.5, head length 2.3-2.5, peduncle depth 6.7-7.4 in





**Fig. 3.** *Plectranthias gardineri*, drawing of type specimen (32 mm SL, from Regan 1908). Head of 33 mm SL, non-type specimen, Mahé, Seychelles, SAIAB 62607 (drawn by Elaine Heemstra).

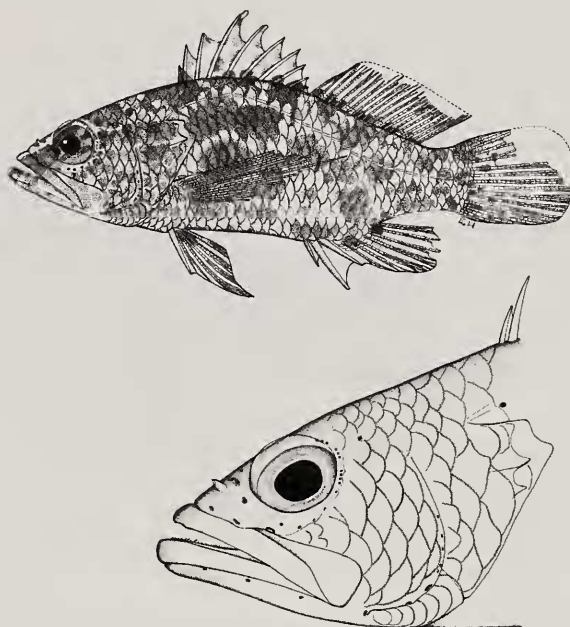
SL; orbit diameter 3.6–3.9, snout length, 4.1–4.8, bony interorbital width 8.0–8.5, all in head length. Lateral-line incomplete, ending below middle of soft dorsal fin, with 16–20 tubed scales; 1 row of large scales between 5<sup>th</sup> dorsal-fin spine and lateral-line; circum-peduncular scales 12; scales on top of head extend to rear nostrils; operculum scaly, with 5–7 oblique series of large scales on cheek and a series along interopercle; snout, suborbitals and lower jaw naked. Maxilla reaches past vertical at rear edge of eye; a row of 7–11 small ctenoid scales along (below) dorsal ledge of maxilla. Preopercle edge with 14–20 coarse serrae posteriorly; no antrorse spine on lower edge; subopercle and interopercle with 7–9 coarse serrae. Gill-rakers 4–5 / 9–11. Two supraneural bones: /0+0/2/1+1/1/1/. Fresh colour of 33 mm SL fish (from Randall and Shimizu 1994, Fig. 3): Head and body dull red, shading to pale yellow ventrally, irregular pale yellow or white blotches at bases of median and pectoral fins; spinous dorsal fin pale bluish white, as if daubed with thick paint; upper lip pale, with several red or white vertical bars. Iris reddish orange, with short thin radiating blue-grey streaks.

**REMARKS.** Depth range 46–64 m. Known only from the Seychelles: five type-specimens, 29–32 mm SL, from Amirante Ids, six additional specimens collected in 1993 east of Bird Id, and another six collected in 2003 off Mahé.

### *Plectranthias inermis* Randall

Fig. 4, Pl. 1 B, C

*Plectranthias inermis* Randall 1980: 135, fig. 11 (Philippines: Luzon, Batangas, Caban Id.). Heemstra 1996: 140, figs 1A & 2 (redescription incorporating original data, plus four specimens from Mauritius and new data from three Philippine fish; colour photograph of 38-mm SL fresh fish from Mauritius; drawing of head of 45 mm SL fish from Mauritius). Kuitert 2004: 109 (colour photographs of three live Pacific fish).



**Fig. 4.** *Plectranthias inermis*, 45 mm SL, Mauritius, SAIAB 51834. Head of same specimen (drawn by Elaine Heemstra, from Heemstra 1996).

**DIAGNOSIS.** Dorsal-fin rays X, 16–20, fin margin divided to base before soft-rayed part, 3<sup>rd</sup> spine longest, 2.0–2.8 in head length, the tip with a long banner-like flap (about one-third length of spine); other dorsal spines (2, 4, 5 and 6) have a short cirrus at their tips; penultimate and last dorsal-fin spines subequal, length about one-fifth of 3<sup>rd</sup> spine; anal-fin rays III, 7, 2<sup>nd</sup> spine longest, twice length of first spine but shorter than longest anal-fin ray; caudal-fin emarginate, branched rays 13–14; pectoral-fin rays 13, unbranched, fin length subequal to head, reaching to or past rear end of anal-fin base; pelvic fins reaching anus or 1 mm short of anus, 1.6–1.8 in head. Body oblong; greatest depth 2.3–2.9, head length 2.2–2.4, peduncle depth 6.2–7.0 in SL; orbit diameter 3.6–4.1, snout 3.9–5.1, bony interorbital width 11–14, all in head length. Lateral-line complete, with 28 tubed scales, or incomplete with 1–3 scales missing



tubes; one row of scales between 5<sup>th</sup> dorsal spine and lateral-line; circum-peduncular scales 14; scales on top of head extend to rear part of interorbital space; operculum scaly; cheek with 4 oblique series of large scales and a 5<sup>th</sup> series of 2-3 scales hidden by the 4<sup>th</sup> series; snout, maxilla, suborbitals and lower jaw naked; proximal two-thirds of maxilla with low ridge along dorsal margin. Preopercle edge smooth or with 1-5 minute serrae posteriorly; subopercle and interopercle smooth. Gill-rakers 5-6 / 10-12. Three supraneural bones: 0/0+0/2/1+1/1/1/.

Head and body covered with irregular or square-like, close-set reddish-yellow blotches, those on head more yellow; on the body, the pale grey or whitish interspaces form a grid-like pattern; median fins transparent, with reddish rays and spines; 3<sup>rd</sup> interspinous membrane of dorsal fin pale reddish proximally and white distally; soft dorsal, caudal and anal-fin rays whitish; pelvic fins whitish, with a red spot in axil and another red spot at base of 2<sup>nd</sup> anal-fin spine.

**REMARKS.** We examined 26 specimens, 17-45 mm SL; they were collected with rotenone or quinaldine on coral reefs, in caves or on coral rubble at depths of 14-65 m from Mauritius, Christmas Id (Indian Ocean), Molucca Ids, New Britain and the Philippines.

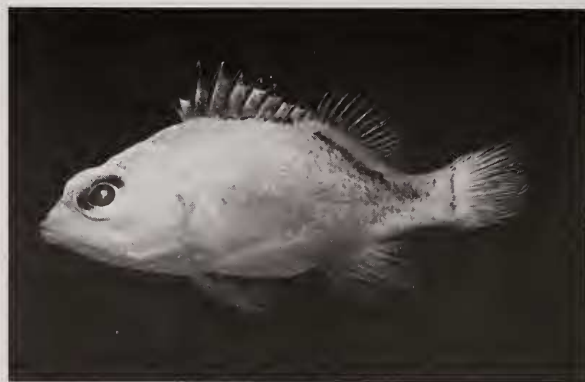
### *Plectranthias intermedius* (Kotthaus)

Fig. 5

*Xenanthias intermedius* Kotthaus 1973: 26, figs 293-296 (Gulf of Aden, 60 nautical miles off Socotra).

*Plectranthias intermedius*: Randall 1980: 138, fig. 12 (redescription based on original description and examination of 89 mm SL paratype from Gulf of Aden).

**DIAGNOSIS.** Dorsal-fin rays X, 17, fin margin distinctly notched before soft-rayed part, 3<sup>rd</sup> or 4<sup>th</sup> spines longest, 2.6 in head length; no banner-like flap or cirri at spine tips; anal-fin rays III, 6-7, 2<sup>nd</sup> spine longest, twice length of first spine but shorter than longest anal-fin ray; caudal fin truncate or slightly emarginate, branched rays 15; pectoral fin with 14 or 15 rays, the middle 9-10 rays divided at the tips, the fin length 1.3 in head length, reaching vertical at 2<sup>nd</sup> anal-fin spine; pelvic fins reaching 3 mm short of anus, 2.0 in head. Body oval; greatest depth 2.6-2.7, head length 2.2, peduncle depth 8 in SL; orbit diameter 3.0, snout 4.7, bony interorbital width 12, all in head length. Lateral-line complete, with 31-34 tubed scales; 1 row of large scales between 5<sup>th</sup> dorsal-fin spine and lateral-line; circum-peduncular scales missing; head, including interorbital area, snout, lower jaw, distal end of maxilla, interopercle, subopercle, and opercle scaly; cheek with 6 oblique series of large scales. Preopercle posterior edge with 26 large serrae, ventral edge with 2 antrorse spines; subopercle and interopercle with about 4 serrae. Gill-rakers 5-6 / 12.



**Fig. 5.** *Plectranthias intermedius*, 81 mm SL, holotype, ZIM 5132, 60 miles southwest of Socotra (from Kotthaus 1973).

Live colour not recorded. Colour in alcohol: head and body buff, with a blackish band or series of small dark blotches at base of spinous dorsal fin, continued below soft-rayed part after a gap below dorsal-fin notch; blackish band deflected ventrally onto midlateral part of peduncle; narrow, vertical black bar at caudal-fin base.

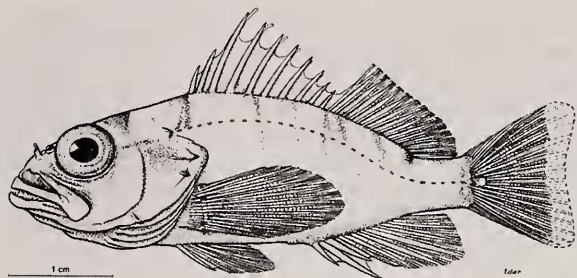
**REMARKS.** Known only from 2 type specimens, 81 and 89 mm SL, from 190-290 m, 60 nautical miles southwest of Socotra. The distinctive black stripe below the dorsal-fin base separates *P. intermedius* from all other species of *Plectranthias*.

### *Plectranthias klausewitzii* Zajonz

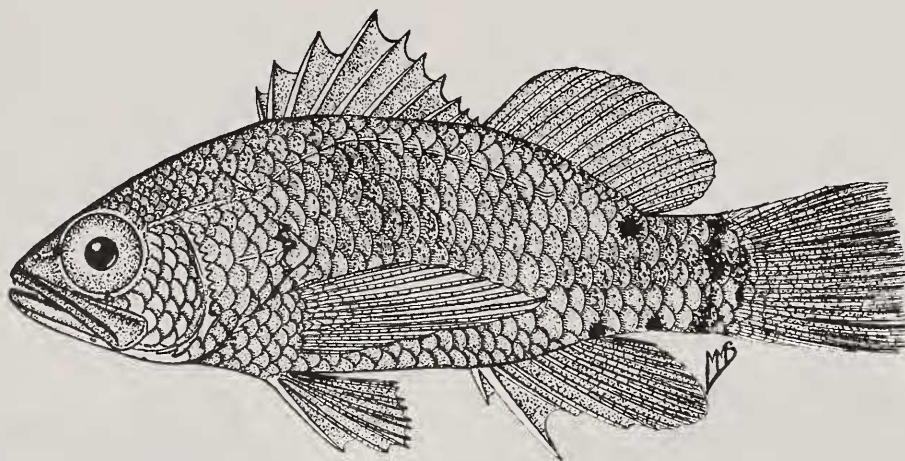
Fig. 6

*Plectranthias klausewitzii* Zajonz 2006: 21, fig. 2 (south end of Red Sea, off Perim Id).

**DIAGNOSIS.** Dorsal-fin rays X, 14 or 15, the fin margin deeply notched before soft-rayed part; 3<sup>rd</sup> dorsal spine longest, 1.9-2.3 in head length, with a short cirrus at tip; dorsal-fin spines 4, 5, and 6 also with a shorter cirrus at their tips; penultimate and last dorsal-fin spines subequal, about one-third length of 3<sup>rd</sup> spine; anal-fin rays III, 7, 2<sup>nd</sup> spine longest, twice length of first spine, but shorter than longest anal-fin ray; caudal fin emarginate, branched rays 15-17; pectoral-fin rays 14 or 15, most rays branched; fin length 1.4-1.6 in head, reaching vertical at 3<sup>rd</sup> anal-fin ray; pelvic fins not reaching anus, 1.7-1.9 in head length. Body oblong; greatest depth 2.7-3.1, head length 2.2-2.4 in SL; peduncle depth 3.1-3.3, orbit diameter 3.0-3.4, snout 4.4-5.0, bony interorbital width 10-12, all in head length. Lateral-line complete, with 29 tubed scales; 2 rows of scales between 5<sup>th</sup> dorsal spine and lateral-line; circum-peduncular scales 11-13; scales on top of head reach almost to rear nostrils; opercle scaly; cheek with 7-8 oblique series of scales; snout, maxilla, suborbitals and lower jaw naked; maxilla with a low ridge along dorsal margin; no supramaxilla. Posterior edge of



**Fig. 6.** *Plectranthias klausewitzii*, 45 mm SL, off Perim Id, southern Red Sea (drawn by G. Eder, from Zajonz 2006).



**Fig. 7.** *Plectranthias longimanus*, 26 mm SL, off Lamu, Kenya, SAIAB 3648 (drawn by M.M. Smith, from Smith 1961).

***Plectranthias longimanus* (Weber)**

Fig. 7, Pl. 1 D

*Pteranthias longimanus* Weber 1913: 209, fig. 54 (Indonesia: Paternoster Ids); Smith 1961: 366, fig. 4.

*Plectranthias longimanus*: Randall 1980: 148, fig. 16 (redescription based on four syntypes, 20 mm SL fish designated as the lectotype; new data from six fish from Kenya, one from Grand Comoro Id and numerous specimens from the western central Pacific); Heemstra & Randall 1986: 514 (diagnosis, Fig. 166.16, drawing, Plate 34, colour photograph); Winterbottom et al. 1989: 28, Fig. 151 (monochrome photograph of 12-mm SL juvenile); Randall 1996: 129 (new records from the Pacific and Seychelles); Kuitert 2004: 112 (colour photographs of three live Pacific fish).

**DIAGNOSIS.** Dorsal-fin rays X, 13–15, the fin margin divided to the base before soft-rayed part, 4<sup>th</sup> spine longest, 1.9–2.5 in head length; anal-fin rays III, 6–7, 2<sup>nd</sup> spine longest, twice length of first spine but shorter than longest anal-fin ray; caudal fin truncate to slightly

preopercle serrate, ventral edge smooth, or with 2 or 3 minute, recumbent serrae, hidden by skin; subopercle and interopercle smooth. Gill-rakers 3–5 / 11–13. Three supraneural bones: 0/0+0/2/1+1/1/1/1/.

Live colour not recorded. Preserved fish pale, with 9 or 10 faint, narrow, dark oblique bars from dorsal midline of body ventrally.

**REMARKS.** Females mature at 44 mm SL; attains at least 55 mm SL. Known only from seven specimens, 34–54 mm SL, collected from depth of 228–235 m in the Bab al-Mandab Strait at the south end of the Red Sea. We examined a paratype, SAIAB 65098, 39 mm SL.

rounded, branched rays 13–15; pectoral-fin rays 12–13, unbranched; fin length 1.0–1.3 in head, reaches vertical at 5<sup>th</sup> anal-fin ray; pelvic fins not reaching anus, 1.7–1.9 in head. Body oblong; greatest depth 2.6–3.1, head length 2.2–2.4 in SL; peduncle depth 2.9–3.3, orbit diameter 3.0–3.4, snout 4.4–5.0, bony interorbital width 10–12, all in head length. Lateral-line incomplete, ending below dorsal-fin rays, with 12–15 tubed scales, 1 row of scales from 5<sup>th</sup> dorsal spine to lateral-line; circum-peduncular scales 12; scales on top of head reach middle of interorbital space; operculum scaly; cheek with 4 oblique series of large scales; snout, maxilla, suborbitals and lower jaw naked. Maxilla with a low ledge along entire dorsal margin and no supramaxilla. Preopercle posterior edge with about 12 small serrae; lower edge with 2 well-separated antrorse spines, subopercle and interopercle serrate. Gill-rakers 4–6 / 9–12. Two supraneural bones: 0/0/2/1+1/1/1/1/.

Fresh colour of 23 mm SL fish from the Comoros: body pale, with longitudinal series of brown zigzag stripes; a square black spot at base of upper and lower 6 caudal fin rays, followed posteriorly by a golden yellow spot above and below a smaller black spot on upper



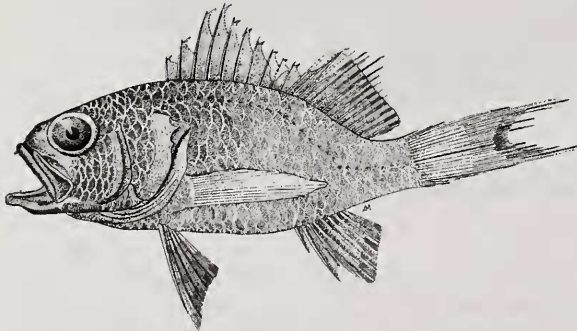
and lower middle caudal rays; a black spot on each side of a white spot at base of anal fin rays; proximal part of dorsal fins reddish brown; dorsal-fin spines 4 to 7 with red tips; a dark brown square blotch at base of last 6 dorsal-fin rays; several small, irregular white spots randomly scattered over head and body; ventral part of abdomen and head white; snout and front of lower jaw reddish brown.

**REMARKS.** Females mature at about 19 mm SL, males at about 23 mm SL; attains 29 mm SL. Depth range: 6–73 m. *Plectranthias longimanus* is widely distributed on coral reefs of continental areas and various island groups of the Indo-West Pacific region: known from South Africa (KwaZulu-Natal), Mozambique, Kenya, Madagascar, Comoros, Seychelles and Chagos to Indonesia, Philippines, Taiwan, Japan (Honshu and Okinawa), New Caledonia, Fiji, Caroline, Marshall, Loyalty and Solomon Islands. Common in scuba-rottenone collections on coral reefs.

### *Plectranthias maugei* Randall

Fig. 8

*Plectranthias maugei* Randall 1980: 152, fig. 18 (Madagascar, off Tuléar, depth 250 m).



**Fig. 8.** *Plectranthias maugei*, 56 mm SL, holotype, off Madagascar, MNHN 1978-83 (drawn by L. A. Mauge, from Randall 1980).

**DIAGNOSIS.** Dorsal-fin rays X, 15 (not 16, as given in the key for *P. maugei* in Randall, 1980), the fin margin moderately notched before soft-rayed part, the 4<sup>th</sup> spine longest, 2.2–2.3 in head length, (3<sup>rd</sup> spine as long in one of two paratypes); a short cirrus behind tip of each dorsal-fin spine, and some dorsal-fin soft rays are exerted; anal-fin rays III, 7, 2<sup>nd</sup> spine longest, twice length of first spine but shorter than longest anal-fin ray; caudal fin lunate, branched rays 14, the upper and lower caudal rays elongated; pectoral-fin rays 13, unbranched, the fin length 1.0–1.1 in head length, reaches vertical at 5<sup>th</sup> anal-fin ray; pelvic fins not reaching anus, 1.6–1.7 in head length. Body deep; greatest depth 2.6–2.7, head length 2.3–2.4 in SL; peduncle depth 3.3–3.6, orbit diameter 3.5–3.6, snout 4.9–5.0, bony interorbital width 9.3–10, all in head length. Lateral-line complete, with 29–30

tubed scales; 2 rows of scales between 5<sup>th</sup> dorsal spine and lateral-line; circum-peduncular scales 14; scales on top of head reach almost to rear nostrils; opercle scaly; cheek with 6 oblique series of large scales; snout, maxilla, suborbitals and lower jaw naked. Preopercle posterior edge with 23–29 minute serrae, ventral edge, subopercle and interopercle smooth. Gill-rakers 5 / 11 or 12.

Live colour not recorded.

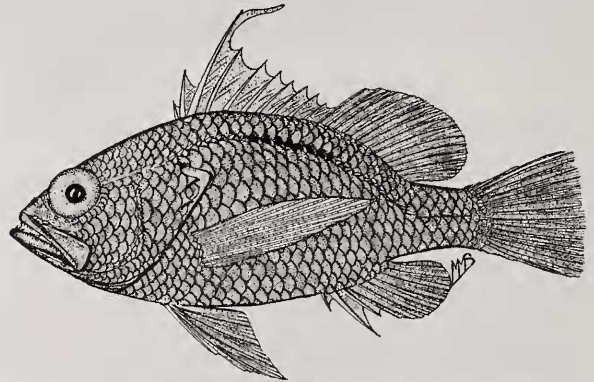
**REMARKS.** Known only from the three type specimens (51–58 mm SL) trawled southwest of Madagascar in 250 m.

### *Plectranthias morgansi* (Smith)

Fig. 9, Pl. 1 E

*Pelontrus morgansi* Smith 1961: 365, Fig. 3 (Kenya: off Lamu in ~ 80 m); Kotthaus 1973: 26, Fig. 291 (1 specimen from off Mombasa in 208–267 m).

*Plectranthias morgansi*: Randall 1980: 158, Fig. 21 (copy of original drawing). Heemstra & Randall 1986: 514, fig. 166.17 (copy of original drawing, also Plate 34, fig. 166.17 colour photograph of fresh 48 mm SL fish from off Kenya), three specimens from 138 m off South Africa; Kuiter 2004: 113 (colour photograph of fish from Kenya).



**Fig. 9.** *Plectranthias morgansi*, 37 mm SL, holotype, off Kenya, SAIAB 134 (drawn by M.M. Smith, from Smith 1961).

**DIAGNOSIS.** Dorsal-fin rays X, 13–15, the fin margin slightly notched before soft-rayed part, the 3<sup>rd</sup> spine longest, 22–26% SL, 1.7–2.3 in head length, with a long white, banner-like flap (about half spine length) behind tip of spine; anal-fin rays III, 7–8, 2<sup>nd</sup> spine longest, twice length of first spine and subequal to longest anal-fin ray; caudal fin truncate, but upper branched rays slightly produced, the branched rays 14–15; pectoral-fin rays 13 or 14, usually unbranched (2 specimens, 36 and 38 mm SL, have 3 or 4 middle pectoral rays bifurcate at tips), fin length 1.0–1.2 in head and reaching to between verticals at anal-fin origin and 5<sup>th</sup> anal-fin ray; pelvic fins not reaching anus, 1.6–1.7 in head length. Body oval; greatest depth 2.4–2.6, head length 2.2–2.4



in SL; peduncle depth 3.1–3.6, orbit diameter 3.0–3.7, snout 4.7–5.7, bony interorbital width 8.1–12, all in head length. Lateral-line complete, with 28–30 tubed scales; 1 or 2 rows of scales between 5<sup>th</sup> dorsal-fin spine and lateral-line; circum-peduncular scales 14; scales on top of head reach to rear nostrils; opercle scaly; cheek with 4–5 oblique series of large scales; snout, maxilla, suborbitals and lower jaw naked. Proximal two-thirds of maxilla with a low narrow ledge along dorsal margin; supramaxilla rudimentary or absent. Preopercle rounded, finely serrate, no antrorse spines on ventral edge, subopercle smooth or with a few serrae, interopercle distinctly serrate. Gill-rakers 4–6 / 11–12. Three supraneural bones: 0/0+0/2/1+1/1/1/. Colour (from photograph of a 48 mm fresh fish with most body scales missing): Head and body reddish orange dorsally, with scattered irregular yellow blotches; red blotch at mid-spinous dorsal fin, continued ventrally as a wide oblique reddish orange band across 6 darkly pigmented lateral-line scales, the band becoming fainter on ventral 3<sup>rd</sup> of body; interspinous membranes of first 3 dorsal-fin spines white, and extended as a white banner-like flap behind tip of 3<sup>rd</sup> spine. Preserved specimens buff, dusky areas on nape and below rear half of spinous dorsal fin; lateral-line scales 9 to 16 darkly pigmented.

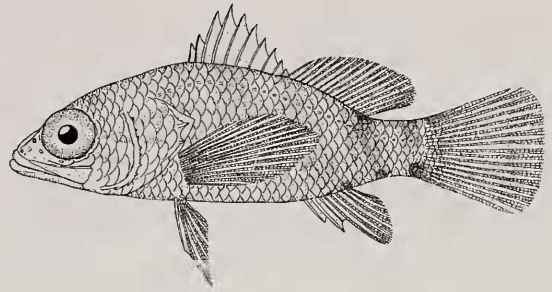
**REMARKS.** We examined seven specimens, 28–48 mm SL. Depth range 80–267 m. Known from South Africa (off Mtentu River, Eastern Cape Province; Scottburgh and Park Rynie, KwaZulu-Natal Province) and Kenya (off Lamu, Malindi and Mombasa).

### *Plectranthias nanus* Randall

Fig. 10

*Plectranthias nanus* Randall 1980: 159, Fig. 22 (Guam, Mariana Ids.); Randall 1994: 261, Fig. 1 (2 specimens, 15 & 16 mm SL, new record for Red Sea); Randall 1996: 129 (new records from Pacific); Kuitert 2004: 112 (colour photograph of fresh fish from Christmas Id, Indian Ocean).

**DIAGNOSIS.** Dorsal-fin rays X, 16 (rays 13–15 in Pacific fish), the fin margin notched almost to the base before soft-rayed part, 4<sup>th</sup> spine longest, 2.5–3.0 in head length; no banners or cirri at tips of dorsal-fin spines; anal-fin rays III, 6–7, 2<sup>nd</sup> spine longest, twice length of first spine, but shorter than first ray; caudal fin rounded, with 13–15 branched rays; pectoral-fin rays 14–16, fin length 2.5–3.2 in SL and reaching to between verticals at anal-fin origin and 3<sup>rd</sup> anal-fin ray; pelvic fins not reaching anus, 2.3–2.6 in head. Body oblong, greatest depth 2.9–3.6, head length 2.2–2.6 in SL; peduncle depth 2.9–3.3, orbit diameter 3.4–4.0, snout 4.5–4.7, all in head length. Lateral-line incomplete, with 15 tubed scales ending below soft dorsal-fin rays, and a mid-lateral series of pored scales on peduncle; circum-peduncular scales 14; 1 row of large scales between 5<sup>th</sup> dorsal spine and lateral-line; scales on top of head



**Fig. 10.** *Plectranthias nanus*, 16 mm SL, Khor Obhour, Saudi Arabia, Red Sea, ANSP 162460 (drawn by T. Shimizu, from Randall 1994).

reach mid interorbital area; cheek with 4–5 oblique series of large scales; snout, maxilla, suborbitals and lower jaw naked. Maxilla reaches vertical at rear edge of eye; supramaxilla rudimentary or absent. Preopercle rounded, with 4–17 coarse serrae dorsally, ventral edge with 2 antrorse spines, subopercle and interopercle smooth or with a few weak serrae. Gill-rakers 4–6 / 11–14, including rudiments.

According to Randall (1980): “The complex colour pattern of *P. nanus* is remarkably similar to that of *P. longimanus*, the latter differing mainly in lacking the narrow dark vertical band on the caudal [fin] base”.

**REMARKS.** The two Red Sea *P. nanus* were collected in 23 m with rotenone by William F. Smith-Vaniz. The species is widely distributed in the Pacific Ocean (Randall 1980, 1994). Except for the two Red Sea fish, it has not been found in the Western Indian Ocean.

### *Plectranthias pelicieri* Randall & Shimizu

Fig. 11

*Plectranthias pelicieri* Randall & Shimizu 1994: 109, figs 1 & 2 (Mauritius; colour photographs of live fish); Heemstra 1996: 143 (diagnosis; data from two Mauritius specimens); Kuitert 2004: 110 (six colour photographs of live fish).

**DIAGNOSIS.** Dorsal-fin rays X, 15 or 16, the fin margin deeply notched before soft-rayed part, 3<sup>rd</sup> spine longest, 19–26% SL, 2.0–2.3 in head length, a fleshy banner (~ half spine length) at tip of 3<sup>rd</sup> dorsal-fin spine and a shorter cirrus at tips of spines 4–7; anal-fin rays III, 7, 2<sup>nd</sup> spine slightly longer than 3<sup>rd</sup> spine and half of longest anal-fin ray; caudal fin emarginate, branched rays 14–15; pectoral-fin rays 13–14, unbranched; fin length 1.0–1.2 in head and reaching to between verticals at 3<sup>rd</sup> anal-fin spine and 5<sup>th</sup> anal-fin ray; pelvic fins reaching to anus, 1.6–1.7 in head. Body oblong, greatest depth 2.6–2.9, head length 2.2–2.4 in SL; peduncle depth 3.1–3.6, orbit diameter 3.0–3.8, snout 4.7–5.7, bony interorbital width 8.1–12, all in head length. Lateral-line complete, with 28–30 tubed scales; 2 rows of scales

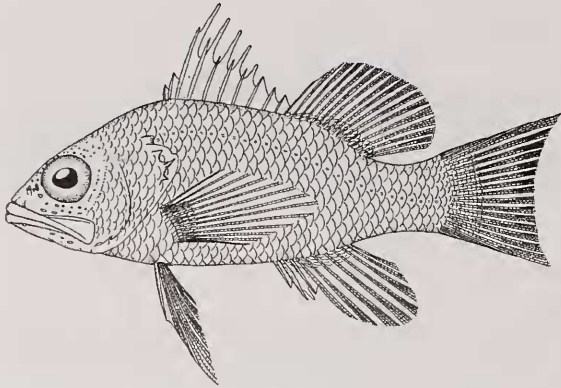


Fig. 11. *Plectranthias pelicieri*, 40 mm SL, holotype, BPBM 34646 (drawn by T. Shimizu, from Randall & Shimizu 1994).

between 5<sup>th</sup> dorsal spine and lateral-line; circum-peduncular scales 14; interorbital and top of head naked; opercle scaly; cheek with 4–5 oblique series of large scales, the 5<sup>th</sup> series mostly covered by scales of the 4<sup>th</sup> series; snout, maxilla, suborbitals and lower jaw naked. Maxilla with well developed ledge along dorsal margin; supramaxilla well developed, rudimentary or absent. Preopercle rounded, finely serrate, lower edge with a ventrally-directed spine at rounded corner and 2–3 separate antrorse spines anteriorly, hidden by skin; subopercle smooth or with a few serrae; interopercle distinctly serrate anteriorly. Gill-rakers 4–6 / 11 or 12. Three supraneural bones: 0/0+0/2/1+1/1/1/.

Randall and Shimizu (1994: Fig. 2) illustrated a live fish in an aquarium. The body is reddish, shading to orange-yellow on abdomen and above front of anal fin, with several vertical pale blue, lavender or chalky white streaks (edged with red on lower part of body); a pale diffuse whitish zone below dorsal fin, with a series of 10 red spots along fin base; caudal fin pale greenish yellow with 4 red spots at base; anal fin with red spots proximally and dull gold spots distally. Head dull golden yellow, with irregular red streaks, 3–5 pale pink or white spots on cheeks and below eye, and a yellow-edged red ocellus on opercle. The cirri on the dorsal-fin spines are greyish brown.

**REMARKS.** Females are mature at about 34 mm SL, males at about 40 mm SL. In addition to the type specimens, we examined five specimens, 22–44 mm SL, from South Africa (off KwaZulu-Natal) and seven specimens, 27–46 mm SL from Mauritius. A 35-mm SL fish contained a large ovary with ripe ova; our largest fish, 44 mm SL, is a male with well-developed testes. Depth range 50–95 m. In the Indian Ocean this species is known from Mauritius and South Africa (northern KwaZulu-Natal). It probably also occurs off Madagascar and Mozambique at comparable depths. Colour photographs of live *Plectranthias pelicieri* from the Izu and Ryukyu Islands were published by Senou & Yunokawa 1995.

## *Plectranthias vexillarius* Randall

Fig. 12

*Plectranthias vexillarius* Randall 1980: 173, Fig. 27 (Gulf of Oman); Randall 1995: 123, Fig. 271 (synopsis of original description; copy of original photograph of preserved holotype).



Fig. 12. *Plectranthias vexillarius*, 82 mm SL, holotype, USNM 213545, Gulf of Oman (from Randall 1980).

**DIAGNOSIS.** Dorsal-fin rays X, 17, the fin margin slightly notched before soft-rayed part, 3<sup>rd</sup> spine longest, 24% SL, 2.1 in head length; last spine 1.5 times in length of first dorsal-fin ray; a long banner-like flap (~ half spine length) behind tip of 3<sup>rd</sup> dorsal-fin spine and a shorter cirrus behind tips of other dorsal-fin spines; anal-fin rays III, 7, 2<sup>nd</sup> spine slightly longer than 3<sup>rd</sup> spine and half of longest anal-fin ray; caudal fin emarginate, branched rays 15; pectoral-fin rays 13, unbranched; fin length 2.5 in SL and reaching to vertical at last anal-fin ray; pelvic fins reaching slightly past anus, 1.8 in head length. Body oblong, greatest depth 2.7, head length 2.1 in SL; peduncle depth 3.1–3.6, orbit diameter 3.0–3.8, snout 4.7–5.7, bony interorbital width 8.1–12, peduncle depth 4.1, all in head length. Lateral-line complete, with 28 tubed scales; 2 rows of scales between 5<sup>th</sup> dorsal-fin spine and lateral-line; circum-peduncular scales 14; interorbital scales extend almost to nostrils; opercle scaly; cheek with 7 oblique series of large scales; snout, maxilla, suborbitals and lower jaw naked. Preopercle rounded, with 33 fine serrae, ventral edge irregular, without distinct spines; subopercle and interopercle smooth. Gill-rakers 6 / 13. Two supraneural bones: /0+0/2/1+1/1/1/1/.

Fresh colour unknown. In alcohol: Body pale, with 4 irregular rows of large brown blotches (some eye-size); dorsal blotches roundish, with pale centre or U-shaped; nape and upper rear part of head with brown blotches; faint brown band from mid-eye to opercle and another band extending posteriorly from lower part of eye.

Known only from the 82 mm holotype collected in the Gulf of Oman from 49–63 m.



*Plectranthias winniensis* (Tyler)

Fig. 13

*Pteranthias winniensis* Tyler 1966: 2, Fig. 1 (Seychelles, St. Joseph Id, Amirante Group).

*Plectranthias winniensis*: Randall 1980: 182, Fig. 31; Heemstra & Randall 1986: 515, Fig. 166.18 (diagnosis, drawing of head); Randall & Anderson 1993: 14 (report of lost specimen). Heemstra 1996: 144, Fig. 1B (redescription based on nine additional fish, colour photograph of 26-mm SL fresh fish from Mauritius, others from Grand Comoro Id, Mauritius and South Africa: KwaZulu-Natal); Randall 1996: 129 (new records from Pacific); Kuitert 2004: 112 (colour photograph of fresh fish from Aliwal Shoal, South Africa).



**Fig. 13.** *Plectranthias winniensis*, 38 mm SL, SAIAB 56572, Margate, South Africa (photo by P. C. Heemstra).

**DIAGNOSIS.** Dorsal-fin rays X, 15–17, the fin margin notched almost to the base before soft-rayed part, 4<sup>th</sup> spine usually longest, 14–17% SL, 2.4–3.1 in head length. No banner or cirrus at tip of dorsal-fin spines; anal-fin rays III, 7, 2<sup>nd</sup> spine slightly longer than 3<sup>rd</sup> spine; caudal fin rounded, branched rays 13; pectoral-fin rays 16–18, unbranched; fin length 1.0–1.7 in head and reaching to between verticals at 2<sup>nd</sup> anal-fin spine and 3<sup>rd</sup> anal-fin ray; pelvic fins reaching 1–3 mm less than anus, 1.5–1.8 in head. Body oblong, greatest depth 2.8–3.2, head length 2.3–2.4 in SL; peduncle depth 2.9–3.7, orbit diameter 3.0–2.7, snout 4.4–5.7, bony interorbital width 10–11 in head. Lateral-line incomplete, with 8–27 tubed scales ending below soft dorsal fin; 1–2 rows of scales between 5<sup>th</sup> dorsal-fin spine and lateral-line; circum-peduncular scales 13–14; top of head scaly to mid interorbital area; cheek with 4–5 oblique series of large scales, the 5<sup>th</sup> series mostly covered by scales of the 4<sup>th</sup> series; snout, maxilla, suborbitals and lower jaw naked. Supramaxilla rudimentary or absent. Preopercle rounded, finely serrate, lower edge with 2 antrorse spines hidden by skin; subopercle and interopercle with 0–2 weak serrae. Gill-rakers 4–6 / 11–15. Three supraneural bones: 0/0+0/2/1+1/1/1/1/.

Head and body russet to reddish orange, with dusky scales dorsally; abdomen yellow-orange; dorsal and anal fins yellow proximally, transparent distally with

pale pink rays; red blotch at base of last three anal-fin rays and at base of first three dorsal-fin spines; caudal fin transparent, the rays silvery red; white-edged red spot at base of lower six rays.

**REMARKS.** Females mature at about 31 mm SL. Found on outer reefs in depths of 23–28 m. Widely distributed from the Gulf of Aqaba in the Red Sea to Hawaii and the Tuamotu Ids; in the Indian Ocean, *P. winniensis* is known from the Red Sea, South Africa (Sodwana Bay, Leadsman Shoal, Landers Reef off Park Rynie and Margate, KwaZulu-Natal), Grand Comoro Id, Seychelles, Maldives and Mauritius.

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## MATERIAL EXAMINED

Except for type specimens, the material listed here does not include specimens previously listed by Heemstra and Randall (1986), Heemstra (1996), Randall (1980), Randall and Shimizu (1994). Measurements are standard lengths.

*Plectranthias gardineri*. **Seychelles**, Amirante Ids: BMNH 1908.3.23.62, 28.5 mm, lectotype; BMNH 1908.3.23.63–6, 38 mm, paralectotype; Mahé: SAIAB 62607, 6: 24–33 mm.

*Plectranthias klausewitzii*. **Red Sea**, Perim Id: SAIAB 65098, 39 mm, paratype.

*Plectranthias longimanus*. **South Africa**, KwaZulu-Natal, Kosi Bay: SAIAB 11798, 23 mm; SAIAB 28199, 2: 22 & 24 mm. Sodwana Bay: SAIAB 8849, 25 mm; SAIAB 9289, 2: 19 & 24 mm; SAIAB 9622, 23 mm; SAIAB 64628, 28 mm. Leadsman Shoal: SAIAB 15967, 2: 23 & 25 mm. Aliwal Shoal: SAIAB 59772, 27 mm; SAIAB 62122, 25 mm. **Comoro Ids**: SAIAB 39457, 18 mm. **Seychelles**, Amirante Ids: ANSP 106344, 3: 19, 20, 23 mm.

*Plectranthias morgansi*. **Kenya**, off Lamu, SAIAB 134, 35 mm, holotype; SAIAB 806, 28 mm paratype; Mombasa: SAIAB 13875, 48 mm. **South Africa**, KwaZulu-Natal, Aliwal Shoal: SAIAB 82758, 24 mm. Park Rynie: SAIAB 15929, 37 mm. Eastern Cape Province, off Mtentu River: SAIAB 20025, 36 mm.



*Plectranthias nanus*. Red Sea, Saudi Arabia: ANSP 162460, 16 mm.

*Plectranthias pelicieri*. South Africa, KwaZulu-Natal, Sodwana Bay: SAIAB 28208, 2: 35 & 44 mm. Kosi Bay, BPBM 32807, 41 mm; SAIAB 28206, 38 mm; SAIAB 28207, 22 mm. Mauritius: SAIAB 51837, 31 mm; SAIAB 56847, 3: 21, 41, 46 mm.

*Plectranthias winniensis*. South Africa, KwaZulu-Natal, Sodwana Bay: SAIAB 17261, 19 mm; SAIAB 63074, 30 mm; SAIAB 64545, 22 mm. Leadsman Shoal: SAIAB 15968, 23 mm; Aliwal Shoal: SAIAB 46426, 38 mm; SAIAB 59732, 34 mm; SAIAB 60215, 31 mm; SAIAB 62202, 40 mm. Landers Reef, Park Rynie: SAIAB 40445, 33 mm; SAIAB 59785, 25 mm; SAIAB 61157, 37 mm. Mauritius: SAIAB 51836, 29 mm; SAIAB 52689, 2: 20 & 22 mm. Gulf of Aqaba, Ras Abu Galum, Sinai Peninsula: HUJF 8324, 8: 22–30 mm.

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PLATE 1



A. *Plectranthias gardineri*, 33 mm SL, BPBM 35487, off Bird Island, Seychelles (photo J. Randall).



B. *Plectranthias inermis*, 38 mm SL, BPBM 24777, Mauritius (photo J. Randall).



C. *Plectranthias inermis*, 45 mm SL, SAIAB 51834, Mauritius (photo P. Heemstra).



D. *Plectranthias longimanus*, 28 mm SL, SAIAB 59772, South Africa (photo P. Heemstra).



E. *Plectranthias morgansi*, 48 mm SL, SAIAB 13875, Kenya (photo P. Heemstra).



F. *Plectranthias pelicierii*, Mauritius (photo T. Shimizu)



G. *Plectranthias pelicierii*, 43 mm SL, SAIAB 51837, Mauritius (photo P. Heemstra)



H. *Plectranthias winniensis*, 28 mm SL, South Africa, SAIAB 63074 (photo P. Heemstra).