Japanese Journal of Ichthyology
Vol. 33, No. 3 1986

魚類学雑誌
33巻3号 1986年

Two New Anthiine Fishes from the Eastern Tropical Atlantic

Masao Katayama and Kunio Amaoka

(Received April 22, 1985)

Abstract Two anthiine fishes from the eastern tropical Atlantic are described as new *Holanthias cyprinoides* and *Anthias helenensis*. The former is distinguished from the other Atlantic species of *Holanthias* in having the forked caudal fin with rounded lobes and from the Indo-Pacific species in having no elongated dorsal spines or soft rays. The latter is closely related to *Anthias asperilinguis* Günther (South America, Atlantic coast), but differs from it in having more pectoral fin rays and more gill rakers. The present investigation on *Anthias* suggests that Atlantic *Anthias* is a genus distinct from *Pseudanthias* of the Indo-Pacific.

Two anthiine fishes were collected in 1982 during a survey of demersal fish off west Africa at depths between 160 m and 460 m by the Japan Marine Fishery Resource Research Center. In the present paper, these are described as new under the names *Holanthias cyprinoides* and *Anthias helenensis*. Furthermore, *Anthias helenensis* is compared with *Pseudanthias pleurotaenia* (Bleeker), *Franzia squamipinnis* (Peters) and *Mirolabrichthys tuka* Herre et Montalban. It is clear that *A. helenensis* is distinct from those three Indo-Pacific species. This suggests possible generic separation of Atlantic *Anthias* from *Pseudanthias*, *Franzia* and *Mirolabrichthys* of the Indo-Pacific.

In the following descriptions, data for the paratypes, when different from those of the holotype, are given in parentheses. Type specimens are deposited in the Laboratory of Marine Zoology, Faculty of Fisheries, Hokkaido University (HUMZ). Osteological observations were made on the following specimens: *A. helenensis* (HUMZ 100158 and HUMZ 100163), 172 mm SL and 157 mm SL, *Franzia squamipinnis* (Katayama's Coll. No. K. 5923), 103 mm SL, and *Mirolabrichthys tuka* (K. 5985), 109 mm SL. Counts of vertebrae and predorsal bones were taken from radiographs.

Holanthias cyprinoides sp. nov.
(Fig. 1)

Holotype. HUMZ 100019, 193 mm SL, west of the island of Pagalu (3°01′S, 0°46′E) at a depth of 260–261 m, Nov. 19, 1982.

Paratypes. HUMZ 100018 and HUMZ 100020, 233 mm and 172 mm SL, collected with holotype; HUMZ 100136 and HUMZ 100137, 222 mm and 229 mm SL, collected from type locality on Nov. 20, 1982.

Diagnosis. Dorsal-fin rays X, 15; anal-fin rays III, 7–8 (usually 7); pectoral-fin rays 20–21; pored lateral-line scales 38–42; caudal-peduncle scales 20–22; gill rakers 12–14+26–29, total gill rakers 39–43; head length 32–34% SL; greatest body depth 35–39% SL; prevomerine tooth patch with well-developed backward prolongation; large oval patch of teeth on tongue; endopterygoids toothless. Caudal fin deeply emarginate with rounded lobes; no elongate dorsal fin rays; second pelvic soft ray filamentous; dorsal and anal fins naked.

Description. Dorsal-fin rays X, 15; anal-fin rays III, 7 (7–8); pectoral-fin rays 20 (20–21) (all but upper two branched); pelvic-fin rays I, 5; branched caudal-fin rays 13; pored lateral-line scales 39 (38–42); gill rakers 13+26=39 (12–14+27–29=40–43); vertebrae 10+16; two predorsal bones.

Body oblong, compressed; greatest body depth 2.84 (2.58–2.77) in SL; width just behind gill opening 5.94 (5.55–5.87) in SL; dorsal and ventral profiles of head gently curved; head length 2.92 (2.84–3.11) in SL; snout length 4.40 (3.73–4.03) in head length; diameter of orbit 3.47 (3.56–4.38) in head length; interorbital space convex, the bony width 4.00 (3.45–4.03) in head length; length of caudal peduncle 1.52 (1.53–1.59), least depth of the same 2.75 (2.53–2.71) in head length.

Mouth large and oblique; lower jaw projecting beyond upper when mouth closed; upper jaw length 2.20 (2.00–2.24) in head length; maxillary nearly reaching vertical through posterior edge of pupil; maxillary broadly expanded posteriorly, its greatest depth 1.65 (1.42–1.59) in eye diameter;

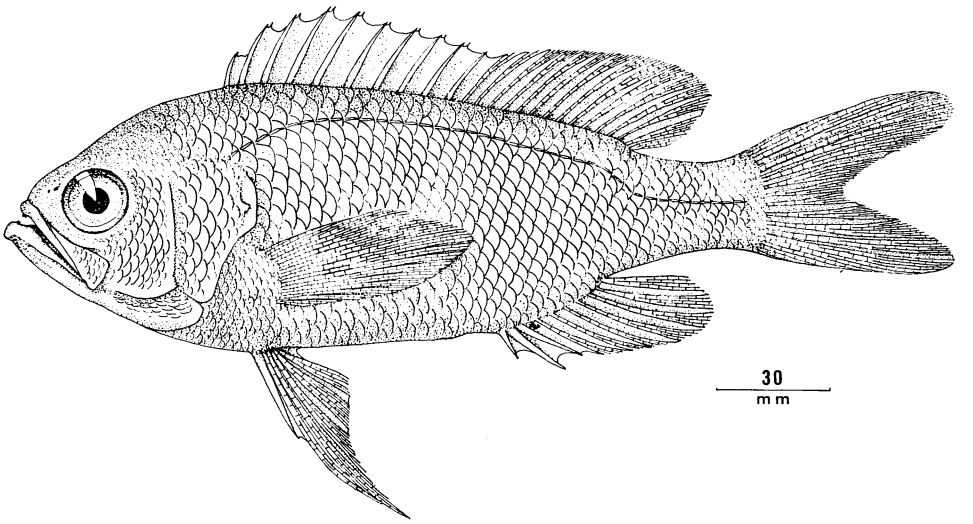


Fig. 1. *Holanthias cyprinoides* sp. nov., holotype, HUMZ 100019, 193 mm SL.

no supramaxillary. Nostrils close together, directly in front of eye; anterior nostril on elevated rim with produced posterior flap; posterior nostril larger, ovoid in shape. Upper jaw with outer series of large conical teeth and inner band of villiform teeth; each of the anteriormost one or two teeth of outer series near symphysis enlarged into a canine; one or two teeth of inner band near symphysis enlarged into an incurved canine(s); lower jaw with one or two canines anteriorly on each side of symphysis and posteriorly two or three canines; a band of conical teeth on side of lower jaw; prevomer and palatines with teeth; prevomerine tooth patch with a well-developed backward prolongation; no teeth on endopterygoids; large oval patch of teeth on tongue. Opercle with three flat spines, the middle one longest; vertical limb of preopercle finely serrate; horizontal limb smooth; distal margins of subopercle and interopercle smooth. Gill rakers numerous, longer than gill filaments.

Dorsal fin unnotched, inserted above upper end of gill opening; fourth dorsal spine longest, its length 3.00 in head length (in HUMZ 100020, 3.03; third dorsal spine longest in HUMZ 100136, HUMZ 100018 and HUMZ 100137, 2.71–3.41); ninth dorsal soft ray longest, its length 2.06 in head length (in HUMZ 100020, 1.73; in HUMZ 100136, HUMZ 100018 and HUMZ 100137 sixth dorsal soft ray longest, 1.49–1.81). Anal fin originating below base of third dorsal soft ray; second anal spine about as long as third one; length of first anal spine 6.73 (7.56–7.60), second anal spine 3.30 (3.36–4.05), third anal spine 3.30 (3.13–4.05) in head length; fourth anal soft ray longest, its length 1.81 (1.52–1.81) in head length; posterior margins of dorsal and anal fins rounded. Pectoral fin subsymmetrical, shorter than head, reaching vertical through vent, its length 3.64 (3.64–4.00) in SL; upper two fin rays unbranched. Pelvic fin inserted slightly anterior to lower end of pectoral-fin base; second pelvic soft ray filamentous, its length 1.81 (1.52–1.81) in head length. Caudal fin deeply emarginate with broadly rounded lobes, the longest ray 3.11 (3.13–3.30) in SL.

Scales large, ctenoid; six (five or six) in a series from origin of dorsal fin to lateral line, two in a series from middle of spinous dorsal fin to lateral line and 18 from origin of anal fin to lateral line; rows of scales on cheek seven or eight; head closely scaled except for lips, tip of snout anterior to nostrils and throat; dorsal and anal fins naked. Lateral line forming an angle below last dorsal soft ray.

Body pale in formalin. Color from Ektachrome transparency: body yellowish brown; a yellow oblique band from tip of snout passing below eye and extending to base of pectoral fin; another longitudinal yellow band runs from hind edge of orbit to opercular margin; fins yellowish grey.

Remarks. Randall, Maugé and Plessis (1979) placed *Odontanthias* Bleeker and *Scalantarus* Smith in the synoymy of *Holanthias* Günther.

The present new species differs form *Holanthias*

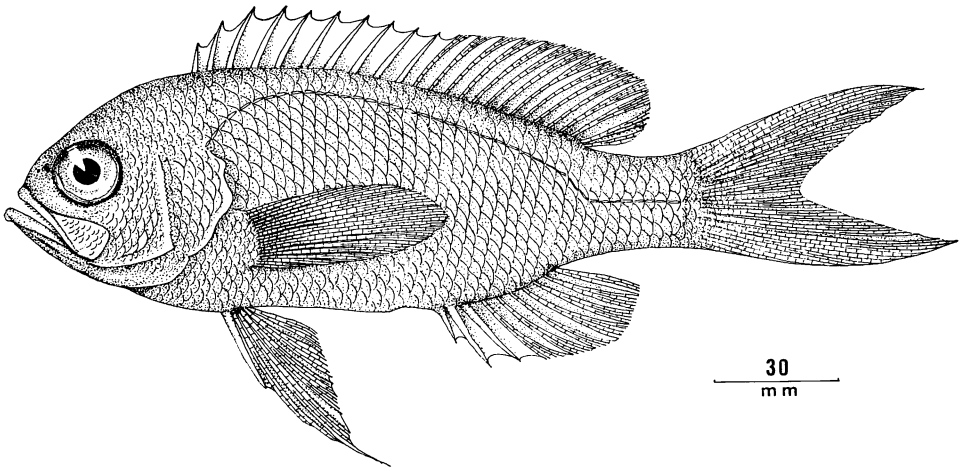


Fig. 2. *Anthias helenensis* sp. nov., holotype, HUMZ 100156, 163 mm SL.

fronticinctus (Günther, 1868) from St. Helena in having the caudal fin forked (truncate or convex in *H. fronticinctus*), no endopterygoid teeth, a smaller number of lateral-line scales (38–42 instead of 52) and different coloration. It differs from *H. caudalis* Trunov, 1976 from off the island of Ascension in having the caudal fin forked (second and third upper rays of lower lobe of caudal fin strongly elongated in *H. caudalis*), no elongated dorsal and anal soft rays (elongated dorsal and anal soft rays in *H. caudalis*), a smaller number of pored lateral-line scales (38–42 instead of 46–47) and different coloration. *H. cyprinoides* is distinguished from *H. martinicensis* (Guichenot, 1868) from the western Atlantic in having deeply forked caudal fin with round lobes (crescent caudal fin with outer principal rays of upper and lower lobes somewhat produced in *H. martinicensis*), a larger number of pectoral fin rays (20–21 instead of 16–18) and different coloration. The present new species is distinguished from the members of *Holanthias* of the Indo-Pacific in having no elongated dorsal spines or soft rays.

Etymology. This species is named *cyprinoides* because it resembles the carp in shape.

Anthias helenensis sp. nov.
(Fig. 2)

Holotype. HUMZ 100156, 163 mm SL, north of the island of St. Helena (11°37′S, 5°13′W) at a depth of 163–460 m, Nov. 11, 1982.

Paratypes. HUMZ 100157, 165 mm SL; HUMZ 100158, 172 mm SL; HUMZ 100159, 154 mm SL; HUMZ 100160, 179 mm SL; HUMZ 100161, 153 mm SL; HUMZ 100162, 142 mm SL; and HUMZ 100163, 157 mm SL—all collected with holotype.

Diagnosis. Dorsal-fin rays X, 15; anal-fin rays III, 7; pectoral-fin rays 19–21; pored lateral-line scales 38–42; caudal-peduncle scales 18; gill rakers 11–12+29–31, total gill rakers 40–43; greatest body depth 34–37% SL; posterior border of anterior nostril never produced into a long, slender filament; tongue and endopterygoid toothless; pelvic fin produced, 34% SL; caudal fin deeply forked, both lobes produced; lateral line forming an angle below last dorsal ray. Predorsal bones two; pyloric caeca three.

Description. Data for morphometric characters appear in Table 1 and frequency distributions of pectoral-fin rays, gill rakers and pored lateral-line scales in Tables 2–4.

Dorsal-fin rays X, 15; anal-fin rays III, 7; pectoral-fin rays 20 (19–21) (all but upper two branched); pelvic fin rays I, 5; branched caudal-fin rays 13; pored lateral-line scales 40 (38–42); gill rakers 12+29=41 (11–12+29–31=40–43); vertebrae 10+16.

Body oblong, compressed; greatest body depth 2.81 (2.68–2.92) in SL; width just behind gill opening 6.52 (6.04–6.62) in SL; dorsal and ventral profiles of head gently curved; head length 3.02 (2.85–3.02) in SL; snout length 4.15 (4.07–4.75) in head length; diameter of orbit 3.09 (3.02–3.43) in head length; interorbital space convex, about as wide as eye diameter 3.42 (3.43–3.86) in head length; length of caudal peduncle 1.39 (1.38–1.61); least depth of the same 2.63 (2.60–2.76) in head length.

Table 1. Proportional measurements of three species of Atlantic *Anthias* expressed as thousandths of standard length. Data on *A. asperilinguis* and *A. menezesi* are from Anderson and Heemstra (1980). Standard lengths are in mm.

Characters	*A. helenensis*				*A. asperilinguis*				*A. menezesi*			
	N	Range	$\bar{X}$	Holotype	N	Range	$\bar{X}$	Holotype	N	Range	$\bar{X}$	Holotype
Standard length	8	142–179	161	163	10	54–156	125	143	14	85–167	131	132
Head length	8	331–350	339	331	10	344–373	364	359	14	344–381	361	372
Body depth	8	342–373	363	356	10	356–405	381	387	14	367–412	396	407
Snout length	8	70– 84	77	80	10	76–101	90	86	14	66–101	81	99
Eye diameter	8	98–114	104	107	10	111–144	125	117	14	102–155	123	117
Postorbital length of head	8	164–176	172	166	10	151–163	156	159	14	155–177	161	157
Upper jaw length	8	156–169	163	160	10	156–173	166	164	14	163–182	174	175
Maxillary width	8	56– 69	61	56	10	60– 69	63	67	14	61– 73	68	73
Interorbital width	8	75–102	92	97	10	60– 77	70	76	14	62– 76	70	71
Predorsal length	8	297–328	311	307	10	308–351	324	315	14	305–354	337	319
Preanal length	8	629–673	652	629	10	653–722	694	689	14	633–718	654	718
Length of caudal peduncle	8	214–242	230	239	10	217–263	235	236	14	226–250	235	237
Depth of caudal peduncle	8	124–134	129	128	10	107–129	121	125	14	119–137	130	137
Pectoral fin length	8	268–288	280	282	10	301–ca. 347	330	332	11	324–365	344	335
Pelvic fin length	2	339–ca. 393	—	ca. 393	6	ca. 347–>636	—	>636	3	518–ca. 756	672	>551
Anal fin length	8	288–352	315	306	10	279–>344	—	>344	13	308–366	332	ca. 318
Upper caudal-fin lobe length	2	ca. 368–442	—	ca. 368	1	ca. 493	—	—	2	ca. 529–>697	—	ca. 529
Lower caudal-fin lobe length	2	ca. 374–497	—	ca. 374	4	ca. 410–>463	—	>428	3	>372–>590	—	>503
Third dorsal spine	8	90–110	98	98	8	109–ca. 136	121	—	9	104–>134	—	>108
Fourth dorsal spine	7	102–118	108	103	9	115–ca. 153	129	>125	11	118–>147	—	120
Longest dorsal spine	8	102–118	108	104	9	119–ca. 160	133	—	11	124–152	141	124
First anal spine	8	51– 65	55	55	10	50– 69	59	ca. 52	12	53– 74	63	>59
Second anal spine	8	94–109	102	110	8	105–144	119	>116	11	98–141	118	112
Third anal spine	8	97–111	105	110	9	110–145	126	145	11	118–151	132	>129

Mouth large and oblique; lower jaw projecting beyond upper when mouth closed; upper jaw length 2.08 (2.01–2.30) in head length; maxillary nearly reaching vertical through posterior edge of pupil; maxillary broadly expanded posteriorly, its greatest depth 1.90 (1.48–1.96) in eye diameter; no supramaxillary. Nostrils close together, directly in front of eye; anterior nostril on elevated rim with a produced posterior flap; posterior nostril longer, ovoid in shape. Upper jaw with outer series of well-spaced large teeth, curving slightly anteriorly and inwardly; one or two in outer series near symphysis enlarged into a canine(s); inner band of villiform teeth; some teeth of inner band near symphysis stouter and one or two canines directed backward; lower jaw with one or two canines anteriorly on each side of symphysis and posteriorly a canine on each side; a series on side of lower jaw similar to outer series of upper jaw; prevomer and palatines with villiform teeth; prevomerine tooth patch approximately triangular, with posterior border convex; tongue smooth. Opercle with three flat spines; the middle one longest; its tip closer to tip of lower than upper spine; preopercular margin finely serrated, serrae at angle somewhat enlarged; distal margins of subopercle and interopercle slightly serrated near their junction. Gill rakers numerous, longer than gill filaments.

Dorsal fin unnotched, inserted slightly anterior to upper end of gill opening; fourth dorsal spine longest, its length 3.23 (2.94–3.30) in head length; fin membrane produced into short filament behind each dorsal spine; longest soft dorsal ray ninth (ninth or tenth) 1.83 (1.71–1.94) in head length. Anal fin originating below base of second dorsal soft ray; second anal spine more robust than first or third, as long as or slightly shorter than third spine; length of first anal spine 6.00 (5.32–6.70) in head length, second anal spine 3.00 (3.03–3.53) in head length, third anal spine 3.00 (3.16–3.97) in head length; third anal soft ray longest, its length 1.86 (1.72–2.06) in head length; posterior margins of dorsal and anal fins rounded. Pectoral fin subsymmetrical, shorter than head, reaching to vertical through base of first anal spine, its length 3.54 (3.47–3.73) in SL; upper two pectoral-fin rays unbranched. Pelvic fin inserted slightly anterior to lower end of pectoral-fin base; second pelvic soft ray filamentous, its length 2.55 (in HUMZ 100159, 2.57) in head length; pelvic fin reaching to midpoint of anal-fin base. Caudal fin deeply emarginate, outer rays produced.

Scales large, ctenoid; four (four or five) in a series from origin of dorsal fin to lateral line, two in a series from middle of spinous dorsal fin to lateral line and 16 (16–18) from origin of anal fin to lateral line; caudal-peduncle scales 18; rows of scales on cheek seven or eight; head closely scaled except for lips, tip of snout anterior to nostrils and throat; dorsal and anal fins naked. Lateral line forming an angle below last dorsal ray.

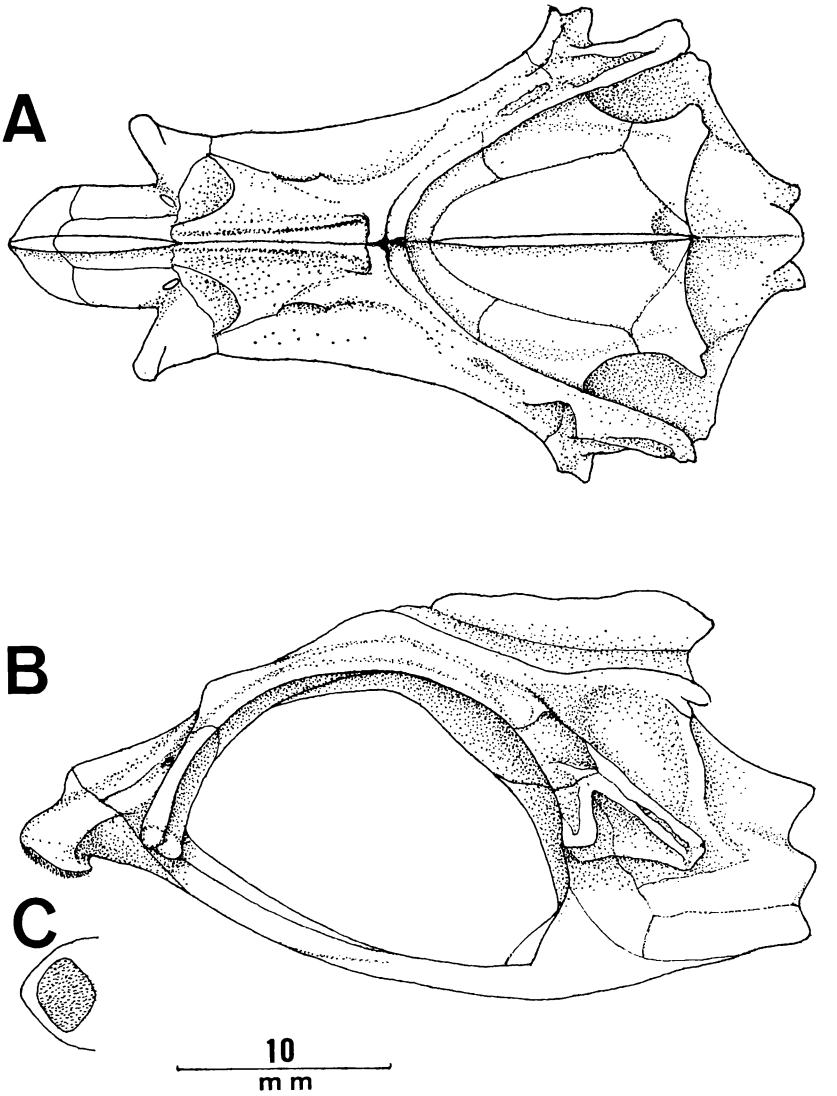
Body pale in formalin. Color from an Ektachrome transparency: body chocolate-colored; each scale on side of body with a vertically elongate white spot; all fins except for pelvic fin chocolate-colored; pelvic fin pale pink.

Internal characters: Cranium (Fig. 3) rather high, its base largely curved; anterior excavation of frontals shallow; interorbital region rather wide and flattened, its width 3.45 in cranium length; sensory canal of frontals on each side connected by a lateral branch; posterior part of frontals without a broad convex smooth area; supraoccipital crest high, inserted slightly posterior to middle of orbit; a transverse ridge in front of crest; exoccipital condyles for first vertebra widely separate. Vertebrae 10+16. Predorsal bones two (Fig. 5E). Epipleural ribs on first 11 vertebrae; pleural ribs on vertebrae three through ten. Pyloric caeca short, three.

Remarks. The present new species differs from *Anthias anthias* (Linnaeus, 1758) from Mediterranean and eastern Atlantic (Fowler, 1936: 774 and Poll, 1954: 76) in lacking any produced dorsal spines, in having relatively short pelvic fins and in having different coloration. Anderson and Heemstra (1980) described two new species, *A. woodsi* and *A. menezesi*, redescribed *A. asperilinguis* Günther, 1859, and presented a key to western Atlantic species of *Anthias*. The present new

Table 2. Frequency distributions of number of pectoral-fin rays in four species of Atlantic *Anthias*. In Tables 2, 3 and 4 data are from Anderson and Heemstra (1980).

	16	17	18	19	20	21
A. asperilinguis			2	8		
A. menezesi		1	10	3		
A. woodsi	1		11			
A. helenensis				1	5	1



Fg. 3. Dorsal (A) and lateral (B) aspects of cranium and prevomerine teeth (C) in *Anthias helenensis*.

species is closely related to *Anthias asperilinguis* from the Atlantic coast of South America, but differs from it in usually having more pectoral-fin rays and more gill rakers (Tables 2, 3). *A. helenensis* is also similar to *A. menezesi* from off Brazil and Uruguay and *A. woodsi* which ranges from South Carolina to Dry Tortugas, Florida, but differs from *A. menezesi* in usually having more pectoral fin rays, a smaller number of gill rakers and no teeth on tongue (Tables 2, 3), and from *A. woodsi* in usually having more pectoral fin rays, a smaller number of pored lateral-line scales (Tables 2, 4), and fewer caudal-peduncle scales (18 instead of 21–24) and usually more dorsal soft rays (15 instead of 14). Further *A. helenensis* can be distinguished easily from the other Atlantic species of *Anthias*. *A. nicholsi* Firth, 1933, from New Jersey to the Straits of Florida, in the Gulf of Mexico, and from Guyana to northeastern Brazil has a smaller number of pored lateral-line scales (31–34). *A. tenuis* Nichols, 1920 from Bermuda, North Carolina, southeastern Gulf of Mexico, Puerto Rico and southern Caribbean Sea has a long, slender filament on posterior border of anterior nostril. *A. salmopunctatus* Lubbock et Edwards, 1981, from St. Paul's Rocks has the

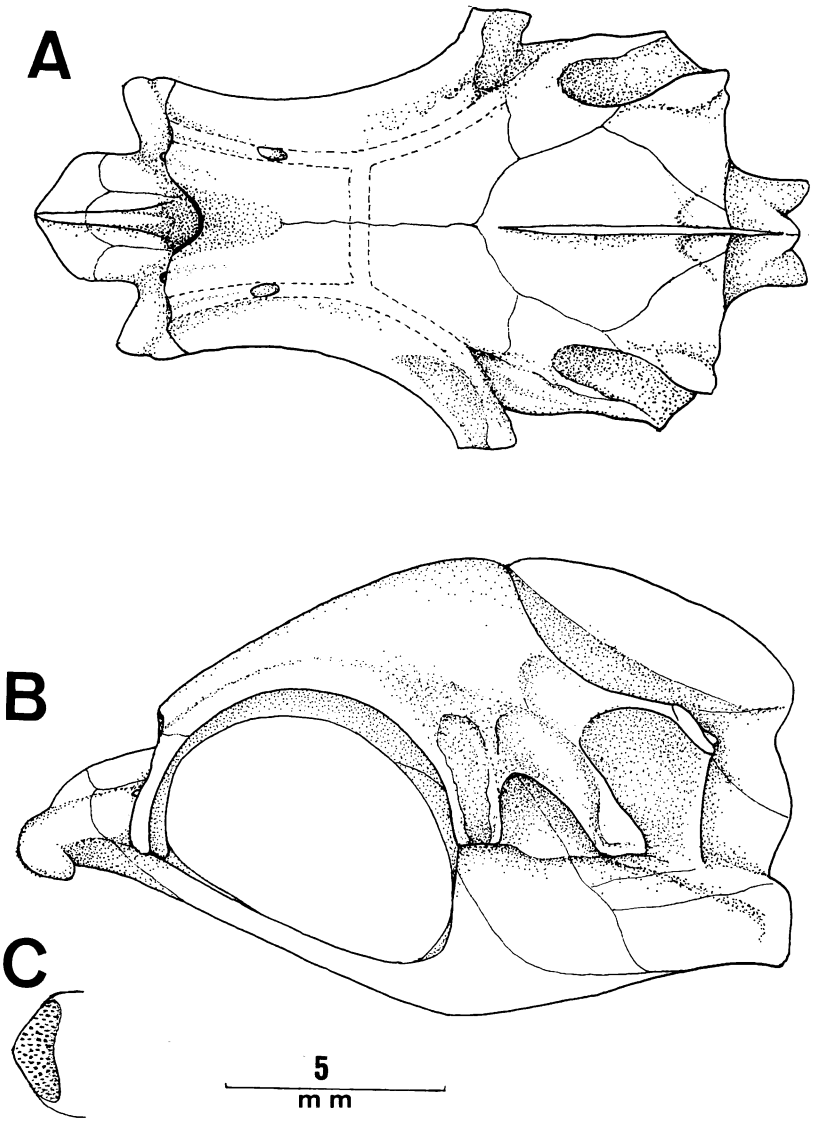


Fig. 4. Dorsal (A) and lateral (B) aspects of cranium and prevomerine teeth (C) in *Pseudanthias pleurotaenia* (Bleeker).

lateral line interrupted, with 34–37+12–15 pored scales and 26–28 caudal-peduncle scales.

Recently the genera *Pseudanthias* Bleeker, 1873, *Franzia* Jordan et Thompson, 1914, and *Mirolabrichthys* Herre, 1927 have usually been assigned to *Anthias* Bloch, 1792, without detailed comparisons (Randall, 1979). We studied the internal characteristics of *Pseudanthias pleurotaenia* Bleeker (the type species of *Pseudanthias* Bleeker), *Franzia squamipinnis* (Peters) (the type species of *Franzia*), *Mirolabrichthys tuka* Herre et Montalban *in* Herre (the type species of *Mirolabrichthys* Herre) and *Anthias helenensis* and found that the first three species are closely related, but that *Anthias helenensis* is reasonably separable from three species. In the cranium, *A. helenensis* differs from the others in having a shallow anterior excavation (versus a deep anterior excavation), flattened interorbital region (versus convex interorbital region), no broad smooth area on posterior part of frontals (versus a broad, convex and smooth area), high supraoccipital crest, inserted above middle of orbit (versus inserted above posterior border of orbit), and posterior border of

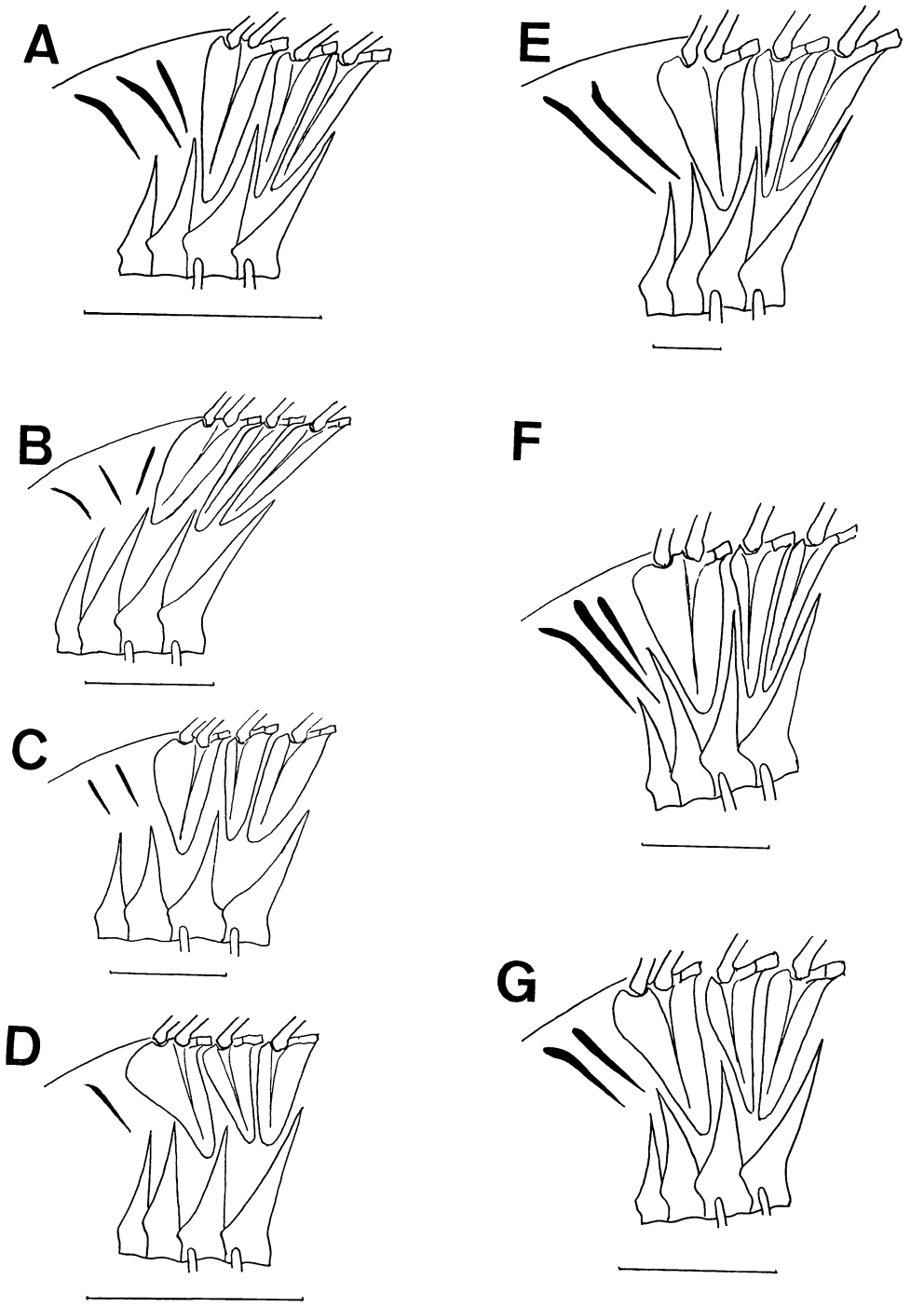


Fig. 5. Predorsal bones (black), anterior dorsal fin pterygiophores and anterior four vertebrae in seven species of anthiine fishes. A, *Franzia squamipinnis* (Peters), K 5340, 78 mm SL. B, *Mirolabrichthys tuka* Herre et Montalban, K 5777, 67 mm SL. C, *Mirolabrichthys flavoguttatus* (Katayama et Masuda), ZUMT 54244, 82 mm SL. D, *Mirolabrichthys disper* Herre, K 5768, 45 mm SL. E, *Anthias helenensis* sp. nov., HUMZ 100162, 142 mm SL. F, *Pseudanthias pleurotaenia* (Bleeker), K 5827, 75 mm SL. G, *Pseudanthias kashiwae* (Tanaka), K 5732, 67 mm SL. Tracing made from radiographs.

Table 3. Frequency distributions of total number of gill rakers on first arch in four species of Atlantic *Anthias*.

	38	39	40	41	42	43	44	45	46	47	48
A. asperilinguis	4	3	3								
A. menezesi				1		1	5	2	2	1	2
A. woodsi	4	6	2								
A. helenensis			1	2	3	2					

Table 4. Frequency distributions of number of pored lateral-line scales in five species of Atlantic *Anthias*.

	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
A. asperilinguis						1	3	4	1		1							
A. menezesi						1	7		1	1								
A. woodsi												1		1	5	3	1	1
A. nicholsi	8	19	8	2														
A. helenensis								1	4	1	1	1						

prevomerine tooth patch largely convex (versus shallowly concave) (Figs. 3, 4). *A. helenensis* has three pyloric caeca, but other three species have none. *A. helenensis* (Fig. 5E) and five species of western Atlantic *Anthias* (Anderson and Heemstra, 1980) have two predorsal bones. Most *Pseudanthias* have three predorsal bones (but *P. kashiwae* has only two) and *Franzia squamipinnis* has three. Species of *Mirolabrichthys* vary in their numbers of predorsal bones: e.g. *M. tuka* and *M. pascalus* three, *M. flavoguttatus* and *M. lori* two, and *M. dispar* and *M. bicolor* one (Fig. 5). In external features *Anthias helenensis* and the other Atlantic *Anthias* differ from the species of *Pseudanthias*, *Franzia* and *Mirolabrichthys* in reaching a larger size and in having the lateral line forming an angle below last dorsal ray. Although in *Mirolabrichthys* the front of the upper lip of males forms a conical papilla and the number of predorsal bones is variable, *Pseudanthias*, *Franzia* and *Mirolabrichthys* closely resemble each other in external and internal characters. It may be concluded, therefore, that *Pseudanthias* is a valid genus and that *Franzia* and *Mirolabrichthys* are closely related to *Pseudanthias*. Though the type species of *Anthias* (*Anthias anthias*) has not been studied, *Anthias helenensis* and the related Atlantic species (*A. woodsi* Anderson et Heemstra, 1980, *A. menezesi* Anderson et Heemstra, 1980, and *A. asperilinguis* Günther, 1859) seem to constitute a genus distinct from *Pseudanthias*.

Acknowledgments

We are grateful to Mr. K. Fujimura and Mr. T. Sato, Japan Marine Fishery Resource Research Center, for supplying the specimens for identification. Heartfelt thanks are also due to Dr. W. D. Anderson, Jr., Grice Marine Biological Laboratory, College of Charleston, for copies of literature, and to an anonymous reviewer who provided helpful comments on the manuscript.

Literature cited

Anderson, W. D., Jr. and P. C. Heemstra. 1980. Two new species of western Atlantic *Anthias* (Pisces: Serranidae), redescription of *A. asperilinguis* and review of *Holanthias martinicensis*. Copeia, 1980 (1): 72–87.

Bleeker, P. 1873. Révision des espèces indo-archipelagiques du groupe des Anthianini. Ned Tijdschr. Dierk., 4: 155–169.

Bloch, M. E. 1792. Naturgeschichte der ausländischen Fische. 6. Berlin, iv+126 pp.

Firth, F. E. 1933. *Anthias nicholsi*, a new fish taken off Virginia in the deep-water trawl fishery. Copeia, 1933(4): 158–160.

Fowler, H. W. 1936. The marine fishes of West Africa, based on the collection of the American Museums Congo Expedition, 1909–1915. Bull. Am. Mus. Nat. Hist., 70(1/2): i–vii+1–1493.

Guichenot, A. 1868. Index generum ac specierum anthiadidorum hucuusque in Museo Parisiensis observatorum. Ann. Soc. Linn. Départ. Maine-et-Loire, 10: 80–87.

Günther, A. 1859. Catalogue of the acanthoptery-

gian fishes in the collection of the British Museum. 1. London, xxxi+524 pp.

Günther, A. 1868. Report on a collection of fishes made at St. Helena by J. C. Melliss, Esq. Proc. Zool. Soc. London, 15: 225–228, pls. 18–19.

Herre, A. 1927. A new genus and three new species of Philippine fishes. Philip. J. Sci., 32: 413–419.

Jordan D. S. and W. F. Thompson. 1914. Record of the fishes obtained in Japan in 1911. Mem. Carnegie Mus., 6(4): 205–313.

Linnaeus, C. 1758. Systema nature. 1. 824 pp.

Lubbock, R. and A. Edwards. 1981. The fishes of Saint Paul's Rocks. J. Fish Biol., 18: 135–157.

Nichols, J. T. 1920. A contribution to the ichthyology of Bermuda. Proc. Biol. Soc. Wash., 33: 59–64.

Poll, M. 1954. Poissons. IV.—Téléostéens Acanthoptérygiens. Rés. Sci., Expéd. Oceanogr. Belg. Eaux Côt. Afr. Atlant. Sud. (1948–49), 4(3A): 1–390, pls. 1–9.

Randall, J. E. 1979. A review of the serranid fish genus *Anthias* of the Hawaiian Islands, with descriptions of two new species. Contr. Sci. Nat. Hist. Mus. Los Angeles Cty., (302): 1–13.

Randall, J. E., L. A. Maugé and Y. B. Plessis. 1979. Two new anthiine fishes of the genus *Holanthias* from the southern and western Pacific. Japan. J. Ichthyol., 26 (1): 15–25.

Smith, J. L. B. 1964. A rare anthiid fish from Cock Islands, Pacific, with a résumé of related species. Ann. Mag. Nat. Hist., Ser. 13, 7: 533–537, pl. 12.

Trunov, I. A. 1976. New species and species recorded for the first time in the pelagic area of the tropical Atlantic of the families Serranidae, Emmelichthyidae and Ariommidae. Vop. Ikhtiol., 16 (2): 263–273. (In Russian.)

(MK: 2–11–22 Tatara, Hofu 747, Japan; KA: Laboratory of Marine Zoology, Faculty of Fisheries, Hokkaido University, Hakodate 041, Japan)

東大西洋熱帯海域から得られたハナダイ亜科の2新種

片山正夫・尼岡邦夫

アフリカ西岸の熱帯海域の水深 160 m–460 m からハナダイ類の2新種 *Holanthias cyprinoides* と *Anthias helenensis* が漁獲された．前種は尾鰭が深く二叉し，上下両葉の先端が円味を帯びること，背鰭および臀鰭に延長した棘および軟条がないことなどで，同属の他種と区別される．後種は大西洋側の南アメリカ産の *Anthias asperilinguis* Günther と極めてよく似るが，胸鰭軟条数，鰓耙数などの多いことなどで相違する．*A. helenensis* とインド・太平洋産の *Pseudanthias pleurotaenia* スミレナガハナダイ，*Franzia squamipinnis* キンギョハナダイ，*Mirolabrichthys tuka* (いずれも各属の模式標本) などとの比較研究の結果，*A. helenensis* はインド・太平洋産の3種とは側線の後方部に彎曲部のあること，頭蓋骨の形態，前鋤骨歯帯の形，predorsal bones の数および幽門垂の存在などの相違がみられる．これらのことから大西洋産の *Anthias* はインド・太平洋産の *Pseudanthias*, *Franzia*, *Mirolabrichthys* などとは別属のように思われる．今後 *Anthias* の模式標本である *Anthias anthias* (Linnaeus) との比較研究が必要である．

(片山: 747 防府市多々良 2–11–22; 尼岡: 041 函館市港町 3–1–1 北海道大学水産学部水産動物学講座)