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Two New Anthiine Fishes from Sagami Bay, Japan

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Abstract Two anthiine fishes from Sagami Bay are described as new: *Plectranthias altipinnatus* and *Anthias (Mirolabrichthys) flavoguttatus*. The former is closely related to *Plectranthias morgansi* (Smith) from Kenya, but biffers from it in having a larger number of dorsal rays, a smaller number of branched caudal rays, a lower body, smaller eyes, and small scales on the soft dorsal and anal fins basally. The latter closely resembles *Anthias lori* Fourmanoir et Laboute (syn. *Mirolabrichthys imeldae* Burgess) from New Caledonia, differing in its longer first anal spine, smaller number of pored lateral line scales and coloration.

Two species of small colorful fishes of the family Serranidae, subfamily Anthiinae from Sagami Bay are described as new in the present paper.

In the following descriptions, data of paratypes, when different from those of the holotype, are given in parentheses. The length of the caudal peduncle was measured diagonally from the rear base of the anal fin to the mid-base of the caudal fin. The short upper pectoral ray is included in the ray count of this fin. The last ray of the dorsal and anal fins was counted as one when branched to the base. Sex was determined by dissecting the abdomen. Counts for vertebrae and predorsal bones were made by using radiographs.

Type specimens are deposited in the Department of Zoology, University Museum, University of Tokyo (ZUMT), and National Science Museum, Tokyo (NSMT).

Plectranthias altipinnatus, sp. nov.

(Fig. 1)

New Japanese name: Chigo-hanadai

Holotype: ZUMT 54242, 42 mm in SL, male, collected by H. Masuda in February 1977, at a depth of 40 m on the rock reef off Futo, Izu Peninsula, Shizuoka Pref., Japan.

Diagnosis. The present new species closely resembles *Plectranthias morgansi* (Smith) from Kenya. These two species differ from all other species of *Plectranthias* in the combination of the following characters: (1) no antrorse spines on lower border of preopercle; (2) unbranched pectoral rays; (3) no supramaxilla; (4) long third dorsal fin with a pennant-like flap; (5) posterior scalelets composed of large and small scalelets alternating; (6) no scales on maxilla (7) three predorsal bones. The present new species differs from *P. morgansi* in having a larger number of dorsal fin rays (X, 18 instead of X, 13~15), a smaller number of branched caudal rays (13 instead of 15), a lower body depth (2.8 instead of 2.5~2.6 in SL), smaller eyes (4.75 instead of 3.8 in head), and small scales on soft dorsal and anal fins basally (absent in Smith's (1961) figure). In *P. morgansi* maxilla reaches a vertical at hind edge of pupil, but in the present new species it reaches slightly beyond posterior border of eye.

Description. Dorsal fin rays X, 18; anal fin rays III, 7; pectoral fin rays 13; branched caudal rays 13; pored lateral line scales 28 (27 on right side); gill rakers on first arch (rudiments 5)+1+6+(rudiments 5), total 17; vertebrae 10+16; predorsal bones 3.

Body oblong, strongly compressed; greatest body depth 2.80 in SL; width just behind gill opening 5.38 in SL; dorsal outline almost straight from tip of snout to origin of dorsal fin; head length 2.21 in SL; diameter of orbit 4.75 in head; snout short, 5.43 in head; interorbital space concave and narrower than eye diameter, 7.60 in head; length of caudal peduncle 2.24, depth of the same 2.84 in head.

Mouth large, oblique and protractile; upper jaw length 2.24 in head; maxilla expanding distally, extending slightly beyond eye; no supramaxilla. Nostrils close together, directly in front of eye; anterior nostril with a short tube; posterior one larger, ovoid in shape.

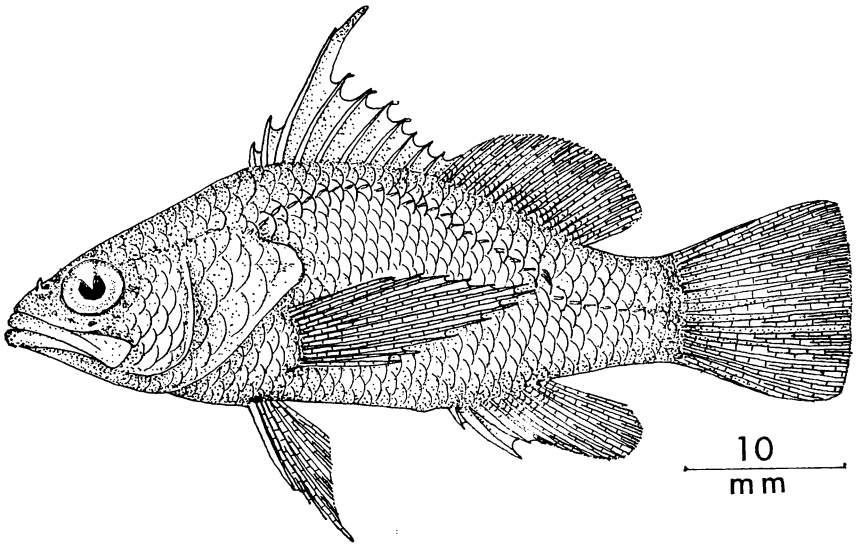

Fig. 1. *Plectranthias altipinnatus*, sp. nov., holotype, male, 42 mm SL, ZUMT 54242.

Small teeth in jaw; an incurved canine in outer row on side of lower jaw anterior to midpoint of jaw; about 6 enlarged teeth in each side of lower jaw; vomer and palatines with a narrow band of small teeth; teeth band of vomer V-shaped; tongue slender, spatulate and smooth; opercle with three flat spines, middle one largest; lower margin of preopercle without antrorse spines; upper margin of preopercle feebly serrated; subopercle and interopercle smooth. Gill rakers rather widely separate, longest one slightly shorter than gill filament.

Dorsal fin inserted above upper end of gill cleft; dorsal deeply notched; first dorsal spine short, less than half of eye diameter and second dorsal spine; third spine very long and strong, 2.04 in head, with a pennant-like flap; following spines decreasing in length to last which is slightly longer than pupil; longest (6th) soft dorsal ray 3.17 in head; anal originating below base of second dorsal soft ray; second anal spine longest and strongest, 3.39 in head; length of first anal spine 8.64, third anal spine 3.80, longest (4th) soft anal ray 2.24 in head; posterior tip of dorsal and anal fins rounded. Pectoral fin subsymmetrical, about as long as head, reaching vertical through posterior base of anal fin; the rays unbranched. Pelvic fins inserted slightly anterior to lower end of pectoral fin base, reaching vent; their length 3.75 in SL; caudal fin slightly rounded.

Scales moderately large, ctenoid; posterior scalelets composed of large and small scalelets alternating, 3 in a series from origin of dorsal to lateral line, 2 in a series from middle of spinous dorsal to lateral line and 9 from origin of anal to lateral line; head closely scaled except for snout, maxilla, lips, mandible and throat; soft dorsal and anal fin covered with small scales basally. Lateral line complete, running rather high and forming an angle under last several dorsal fin rays.

Color in life: Body dark red, ventral white, with round yellow spots which are about as large as pupil; lower side of lower jaw with four red blotches; spinous dorsal pale red; soft dorsal, anal and caudal fins with orange spots; pectral and pelvic fins pale red. In formalin, yellow.

Etymology. The Latin *altipinnatus* means high finned.

Remarks. Robins and Starck (1961) placed *Pelontrus morgansi* Smith from Kenya in the genus *Plectranthias* Bleeker. Randall (1980) has recently synonymized the genera *Sayonara* Jordan et Seale, *Isobuna* Jordan, *Xenanthias* Regan, *Pteranthias* Weber, *Zalanthias* Jordan et Richardson, *Serranops* Regan, and *Zacallanthias* Katayama, along with *Pelontrus* Smith, and described 30 species including 13 new

species for *Plectranthias*. We tentatively follow Randall (1980); however, their characters are highly various. The present new species falls in *Pelontrus*, if *Plectranthias* is split. Further comparative studies should be made to clarify the relationship among the members of *Plectranthias*.

Anthias* (*Mirolabrichthys*) *flavoguttatus, sp. nov.
(Figs. 2, 3)

New Japanese name: Asahi-hanagoi

Holotype: ZUMT 54243, 102 mm in SL, male, collected by H. Masuda, on January 24, 1979, at a depth of 50 m, around the coast of Izu-Oshima, Tokyo, Japan.

Paratypes: ZUMT 54244, 82 mm, male; NSMT-P 19137, 92 mm, male; NSMT-P 19138, 55 mm, female, collected together with the holotype.

Diagnosis. Dorsal rays X, 15; anal rays III, 7; pectral rays 18; lateral line scales 48～50; gill rakers 8～9+24～25=32～34; greatest body depth 3.09～3.40 in SL; third dorsal spine longest, especialy in male produced into a filament; front of upper lip of male forming a conical papilla; fleshy papillae along hind margin of orbit; subopercle and interopercle smooth; soft dorsal and anal fins scaled basally. Predorsal bones two. Living color of body pink, with many yellow spots arranged in irregular, wavy, broken horizontal lines; four red bars extending from base of dorsal fin to lateral line, and two on caudal peduncle.

Description. Dorsal fin rays X, 15; anal fin rays III, 7; pectoral fin rays 18; pelvic fin rays I, 5; branched caudal rays 13; pored lateral line scales 48 (49, 50 and 48); gill rakers on first arch 9+24 (9+25, 9+24 and 8+24); (vertebrae 10+16; predorsal bones 2 in ZUMT 54244).

Body elongate, compressed; greatest body depth 3.09 (3.35, 3.17 and 3.40) in SL; width just behind gill opening 5.67 (5.73, 5.86 and 6.11) in SL; dorsal and ventral outlines gently and evenly curved; head rather small and pointed; head length 3.40 (3.57, 3.47 and 3.44) in SL; diameter of orbit 4.48 (4.04, 4.42 and 3.64) in head; snout 4.17 (3.83, 3.79 and 3.72) in head; front of upper lip forming a conical papilla; interorbital space very convex and

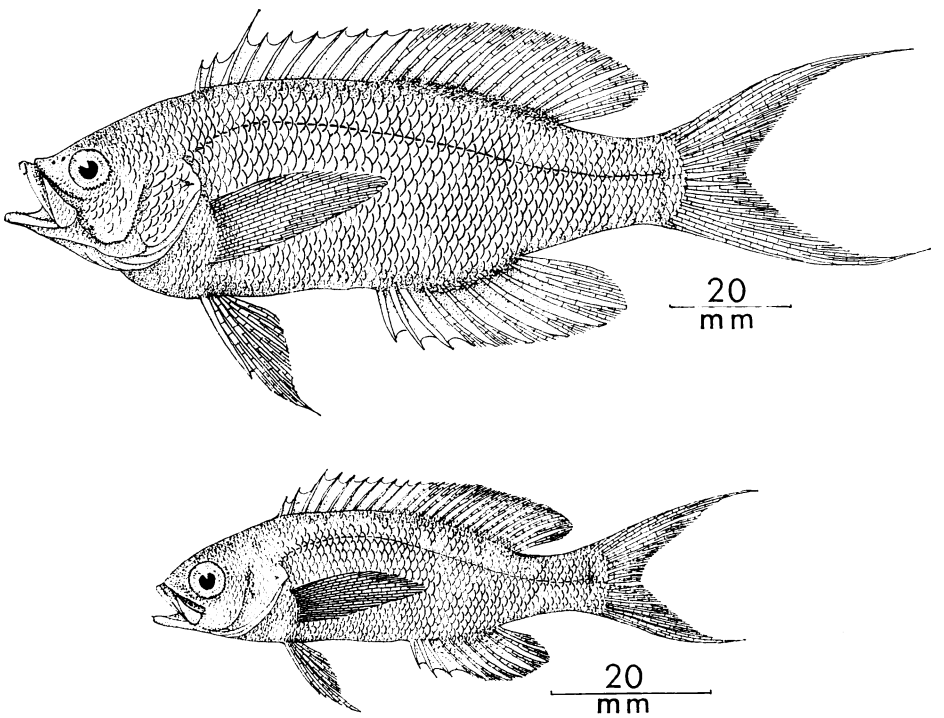

Fig. 2. *Anthias* (*Mirolabrichthys*) *flavoguttatus*, sp. nov. Top: Holotype, male, 102 mm SL, ZUMT 54243. Bottom: Paratype, female, 55 mm SL, NSMT-P 19138.

Fig. 3. Underwater photograph of *Anthias* (*Mirolabrichthys*) *flavoguttatus*, taken at Izu-Oshima at depth of about 40 m, in May 1979, by Mr. Isamu Honma.

broader than eye diameter, 3.33 (3.29, 3.31 and 3.02) in head; posterior edge of orbit with fleshy papillae; length of caudal peduncle 1.30 (1.44, 1.33 and 1.45), depth of the same 2.31 (2.05, 2.21 and 2.29) in head.

Mouth moderately large, oblique; upper jaw length 2.27 (1.92, 2.04 and 2.13) in head; maxilla expanding distally, the posterior end rounded, reaching below posterior border of pupil. Nostrils directly in front of eye; anterior nostril with a posterior flap, posterior one oblong in shape. Teeth on upper jaw in two series, outer ones enlarged, inner ones minute in a narrow band; a pair of canines on each side of tip of upper jaw; lower jaw with a band of enlarged teeth; a pair of canines on tip of lower jaw; small teeth on vomer and palatines in a narrow band; tongue smooth. Preopercle with a round angle, finely serrated along the margin; opercle with three flat spines, middle one longest, upper one obtuse and indistinct; subopercle and interopercle smooth. Gill rakers close-set and very long, the longest one much longer than gill filaments.

Dorsal fin unnotched, inserted slightly before hind margin of operculum; third dorsal spine longest and produced into a filament, the length 2.86 (1.05 and 1.39, but in female, NSMT-P 19138, not produced into a filament, the length 2.42); length of first dorsal spine 6.25 (6.57, 6.63 and 5.71), second dorsal spine 5.17 (3.59, 4.42 and 3.72) in head; anal inserted below base of second dorsal soft ray; third anal spine slightly longer than the second; length of first anal spine 3.33 (2.29, 3.79 and 4.10), second anal spine 2.73 (2.71, 3.31 and 2.91), third anal spine 2.50 (2.42, 2.65 and 2.67) and longest (4th) soft anal ray 1.36 (1.28, 1.47 and 1.68) in head; posterior margin of dorsal and anal fins rounded. Pectoral subsymmetrical, about as long as head length, reaching vertical through vent; the rays mostly branched. Pelvic fin inserted below lower end of pectoral fin base; second ray slightly filamentous, reaching to vent; caudal deeply emarginated, outer rays slightly produced.

Scales moderately large, ctenoid; no auxiliary scales on body; 5 in a series from origin of dorsal to lateral line, 3 in a series from middle of spinous dorsal to lateral line and 16 from origin of anal to lateral line; head densely scaled except for lips, mandible and throat; soft dorsal and anal fins covered with small scales basally. Lateral line normally curved, nearly concurrent with back and extending along middle of caudal peduncle to base of caudal fin.

Color in life: Body pink, with many yellow

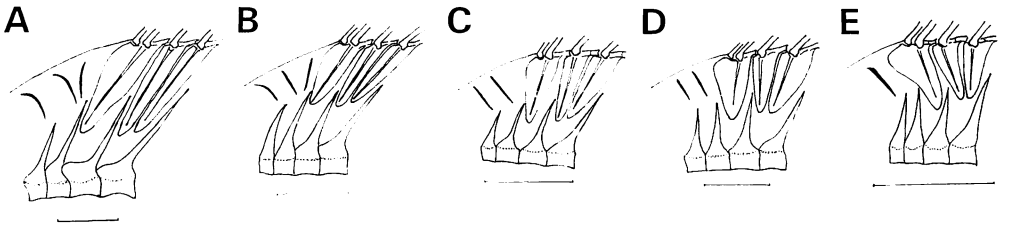

Fig. 4. Predorsal bones (black), anterior dorsal fin pterygiophores and anterior four vertebrae in species of *Anthias*. A: *A. pascalus* (Jordan et Tanaka), 95 mm SL, K5333. B: *A. tuka* (Herre et Montalban), 67 mm SL, K5777. C: *A. lori* Fourmanoir et Laboute, 58 mm SL, K5808. D: *A. flavoguttatus*, sp. nov., 82 mm SL, ZUMT 54244. E: *A. dispar* Herre, 45 mm SL, K5768. Tracing made from radiographs. Scales indicate 5 mm.

spots; these spots arranged in irregular, wavy, broken horizontal lines; a red stripe running on dorsal side from tip of snout to origin of dorsal; tip of snout and iris yellow; ventral side of head yellow; four red bars extending from base of dorsal fin to lateral line, two on caudal peduncle; dorsal and anal fins yellow, with many irregular pink lines; tip of spinous dorsal red; caudal pink, upper lobe yellow; pectoral pale pink; pelvic pink, anterior margin yellow. Color in formalin pale yellow. (Color of female, NSMT-P 19138, bears some resemblance to that of male, but ventral side of head pale pink).

Sexual dimorphism: Three specimens (ZUMT 54243, ZUMT 54244 and NSMT-P 19137) are male and NSMT-P 19138 is female. These show the following differences between sexes: (1) the body size of male (three mature males, 82 mm～102 mm SL) is larger than female (one, 55 mm SL); (2) front of upper lip of male forming a conical papilla; (3) in male the third dorsal spine produced into a filament; (4) living color of ventral side of head yellow in male, whereas pale pink in female.

Remarks. The present new species closely resembles *Anthias lori* Fourmanoir et Laboute (1976) (syn. *Mirolabrichthys imeldae* Burgess, 1977) from New Caledonia and these two species can be distinguished from others of the subgenus *Mirolabrichthys* Herre by the elongated third dorsal spine, two predorsal bones (Fig. 4), and several red bars on dorsal side of body. *A. flavoguttatus* differs from *A. lori* in the following points: (1) dorsal fin rays X, 15 (X, 16); (2) pored lateral line scales 48～50 (50～51); (3) first anal spine longer than eye diameter, its length 2.29～4.10 in head (shorter than eye diameter, its length 5.71～6.88); (4) two red saddle bars on the dorsal side of caudal peduncle; dorsal fin yellow, tip of spinous dorsal red, soft dorsal with many irregular pink lines (a horizontal red stripe extending entire length of caudal peduncle along the upper portion; dorsal fin reddish, its margin yellow).

Randall (1979) placed *Mirolabrichthys* as a subgenus of *Anthias* Bloch.

Etymology. The Latin *flavoguttatus* means having yellow spots on body.

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相模湾から得られたハナダイの2新種

片山正夫・益田　一

相模湾からハナダイの2新種を漁獲した．1種はチゴハナダイ *Plectranthias altipinnatus* で，1977年伊豆海中公園富戸沖の水深40mの岩礁地帯から1尾採集された．本種はケニア産の *Plectranthias morgansi* (Smith) に似ているが，背鰭軟条数の多いこと，尾鰭分枝軟条数の少ないこと，体高が低いこと，眼が小さいこと，背鰭，臀鰭軟条部基底に鱗があることなどで区別される．他の1種はアサヒハナゴイ *Anthias* (*Mirolabrichthys*) *flavoguttatus* で1979年伊豆大島近海の水深50mの岩礁地帯から4尾採集された．本種はニューカレドニア産の *Anthias lori* Fourmanoir et Laboute と極めてよく似ているが，臀鰭第1棘が長いこと，側線鱗数が少ないこと，また体色などの相違がある．

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