

**New Records of a Pomacentrid Fish,
Dascyllus melanurus and a Cirrhitid Fish,
Paracirrhites hemistictus from
Japanese Waters**

Hitoshi Ida, Mitsuhiro Sano, Naomasa Kawashima,
and Fujio Yasuda

(Received April 14, 1977)

Recent investigations of the coral fish fauna of Ryukyu and Ogasawara Islands have yielded two fishes new to Japan: *Dascyllus melanurus* Bleeker, Pomacentridae, and *Paracirrhites hemistictus* (Günther), Cirrhitidae. *Dascyllus melanurus* is a common fish in the tropical zones of the Indo-Pacific, and has possibly been overlooked in Japanese waters due to its close resemblance to *D. aruanus* (Linnaeus). *Paracirrhites hemistictus* occurs also widely in the Indo-Pacific. In view of the rather scanty morphological information so far available on the species, a full description is made of the material presently examined.

Dascyllus melanurus Bleeker
(Japanese name: Yosuji-ryukyusuzume*)

Fig. 1

Material: MTUF (Museum, Tokyo University of Fisheries) 22378, a specimen, sex undetermined, 35.5 mm in standard length, caught by a dip net from inshore water at the depth of about 2 m near the living horned coral at Aja (26°15' N, 127°40' E), Okinawa Island, Ryukyu Islands on March 2, 1977.

Description. D. XII, 12; A. II, 13; P₁. ii, 16; P₂. I, 5; branched caudal rays 7+6, upper and lower caudal spinules 2 each; scales on lateral line 15+8 (interrupted); scales above lateral line to dorsal origin 3, below lateral line to anal origin 7; vertebrae 11+15 (urostyler vertebra counted as one, counts are based on radiograph).

Measurements expressed in hundredths of standard length (35.5 mm): depth of body through base of second dorsal spine 63.4; head length to fleshy rim of opercle 36.3;

snout length 10.1; horizontal diameter of orbit 14.1 equal to greatest length of orbit; inter-orbital width 14.6, least depth of caudal peduncle 19.2; snout to dorsal origin 48.5; snout to anal origin 68.5; snout to pectoral insertion 35.5; snout to pelvic insertion 42.5; dorsal base 56.3; anal base 26.5; length of third (longest) dorsal spine 21.4; length of second (longest) anal spine 17.7; length of pectorals 33.2; length of pelvis 35.2.

The specimen is in almost complete agreement with the description of the *D. melanurus* given by Allen (1975).

Color when alive: Head and body silverly white with three black vertical bands. The first running from nape through eye to isthmus; its width about equal to eye diameter. The second extending from anterior part of dorsal to base of pelvis; its width equal to the distance between first and sixth dorsal spines. The third broad, occupying dorsally from tip of tenth dorsal spine to that of fourth soft dorsal ray, involving anterior part of caudal peduncle and covering ventrally from first soft anal to tip of longest (4th) soft anal, leaving a small posterior part of soft dorsal and of soft anal translucent. Caudal black posteriorly, with a narrow white distal margin. Pectorals transparent. Pelvis blackish.

Notes. Cantor (1849: 1222) replaced *Dascyllus* with *Tetradrachmum* regarding the former name as preoccupied by *Dascillus* used for Coleoptera. However, we retain *Dascyllus* according to the International code of zoological nomenclature, Article 56 (a). *Dascyllus melanurus* occurs widely in the Indo-Pacific. It ranges north from Luzon south to Timor, and east from Ponape and Solomon west to Maldives (Bleeker, 1854, 1877; Günther, 1862, 1881; Jordan and Richardson, 1910; Montalban, 1927; Fowler, 1928; Fowler and Bean, 1928; de Beaufort, 1940; Herre 1953; Munro, 1967; Allen, 1975). The present record seems to extend the range of this fish to southern Japan. This species seems abundant in the area immediately south of Ryukyu Islands: according to Mr. Hirokazu Kishimoto of the Iriomote Station, Tokai University (personal communication), the fish is com-

* After Hiyama and Yasuda (1971), named for material from the Philippines.



Fig. 1. *Dascyllus melanurus*, 35.5 mm SL, from Okinawa Island, Ryukyu Islands.

monly observed in Yaeyama Islands. Because of the strong resemblance of the fish to *D. aruanus*, it is possible that *D. melanurus* has been confused with *D. aruanus* by underwater observers in southern Japan. The only characters differentiating *D. melanurus* from *D. aruanus* are the large black blotch on the caudal fin and the first and second bands which run vertically rather than obliquely as in *D. aruanus*.

Paracirrhites hemistictus (Günther)

(New Japanese name: Irezumi-gonbei)

Fig. 2

Material: MTUF 22379, a female, 245.4 mm in standard length, caught by a hand spear from inshore water at the depth of about 4 m, on rocky bottom at Tatsumi Bay (27°03'N, 142°13'E), Chichijima, Ogasawara Islands in May, 1976 by Mr. Johnson Kimura of the Ogasawara Fisheries Center of Tokyo.

Description. D. X, 11; A. III, 6; P₁. i, 6, vii; P₂. I, 5; branched caudal rays 7+6; scales on lateral line 49; scales above lateral line to dorsal origin 6, below lateral line to anal origin 12; scale rows on cheek 6; gill rakers 6(upper)+1(middle)+11(lower); vertebrae 10+16 (urostylar vertebra counted as one, counts are based on radiograph).

Measurements expressed in hundredths of standard length (245.4 mm): depth of body through base of fifth dorsal spine 31.8; head length to edge of opercle 35.0; snout length 13.2; horizontal diameter of orbit 4.0; interorbital width 6.9; upper jaw length 14.1; least depth of caudal peduncle 12.8; snout to dorsal origin 36.9; snout to anal origin 65.8; snout to pectoral insertion 31.6; snout to pelvic insertion 40.7; dorsal base 52.1; length of fourth (longest) dorsal spine 11.1; length of first (longest) dorsal ray 15.2; anal base 15.1; length of third anal spine 9.2; length of first (longest) anal ray 15.7; length of pectorals (ninth pectoral ray) 21.2; length of pelvics 17.2; length of pelvic spine 9.1.

Snout blunt, its profile with slight depression before nostrils. Interorbital space concave. Lips thick, broad; maxillary reaching below middle of orbit. Hind edge of anterior nostril with a fringe of cirri. Upper margin of preopercle with fine serrations; a slight concavity in margin of preopercle immediately below serrated portion. Edge of opercle (opercle partly damaged) with two indistinct flat spines. Upper jaw with a band of villiform teeth, broadest forward, and an outer row of large conical teeth of which a pair on front formed into canines; lower jaw with a patch of villiform teeth in its anterior portion,

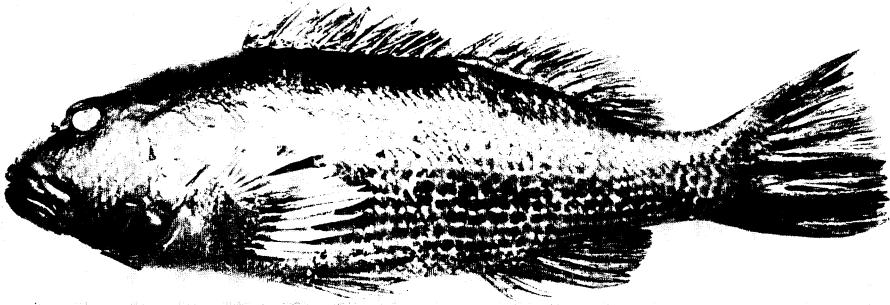


Fig. 2. *Paracirrhites hemisticus*, 245.4 mm SL, from Chichijima, Ogasawara Islands.

a row of large conical teeth along outer margin of the patch and two or three canines on both sides; vomer with a patch of teeth; palatine teeth absent. Gill rakers short, tubercle-like. Scales cycloid; cheek scales large, but smaller than those on opercle and body; scales on anterior part of snout to nostrils smaller than those on the other part of the head; interorbital space with small scales; bases of soft dorsal, anal, caudal, and pectorals with scales.

Base of spinous dorsal longer than that of soft dorsal; longest dorsal spine shorter than longest dorsal ray; tenth dorsal spine noticeably longer than ninth spine. First and eighth to last pectoral rays unbranched, second to seventh rays branched. First anal ray longest; second, third, and other rays decreasing in size posteriorly. Caudal truncate.

Color when alive: Dorsal side of body dark brown, densely covered with numerous black spots, ventral side light brown with light blackish spots which connected each other forming horizontal lines. A prominent bright pinkish white spot as large as eye on lateral line below eighth and ninth dorsal spines. Head reddish brown, without black spots. Spinous portion and upper half of soft portion of dorsal reddish brown; lower half of soft dorsal, anal, and caudal dark brown, margin of lower caudal lobe orange; pectorals orange; pelvics dark orange.

Notes. Günther (1874) distinguished *Cirrhites hemisticus* (= *Paracirrhites hemisticus*) from

C. polystictus (= *P. polystictus*) mainly by the shape of the pinkish white marking on the body, i.e., lateral stripe in the former (p. 69, pl. 50, B) and roundish spot on the lateral line in the latter (p. 70, pl. 50, A). Marshall (1950) reported on a single specimen which shows intermediate color patterns to the two Günther's types, *hemisticus* and *polystictus*, and suggested that they belong to a single species, *Amblycirrhites hemisticus* (= *Paracirrhites hemisticus*). Randall (1955) considered that the two forms are valid specifically, suggesting the possible hybrid origin of the Marshall's intermediate specimen. Schultz (1960) examined five specimens from Bikini Atoll and concluded that *P. polystictus* is the male of *P. hemisticus* on the basis of the fact that three of the five with the color pattern of *hemisticus* were proved to be females and other two with that of *polystictus* males. However, Randall (1963) indicated that the two color patterns are not associated with sex, showing a case to the contrary in his material. Therefore, he considered that these two forms represent two color variants of a single species with dichromatism.

The single specimen available for this study did not permit us to make further investigation of the status of the two forms. We tentatively followed the views of recent workers (Marshall, 1950; Schultz, 1960; Randall, 1963), and identified our specimen as *P. hemisticus* though its color pattern was of *polystictus* type.

Prior to this study, *P. hemisticus* (including

P. polystictus as a synonym) has been known to range from Marshall Islands to the north to Tuamotu Islands to the south and from Tuamotu Islands to the east to Cocos-Keeling Islands to the west (Günther, 1874; Fowler, 1925, 1928; Schultz, 1943, 1960; Marshall, 1950; Randall, 1955, 1963, 1973; Kami et al., 1968; Bagnis et al., 1974). The record from Hawaii Islands by Fowler (1928) based on Andrew Garrett's material in the Agassiz Museum was rejected by Randall (1963: 406 and 411).

Acknowledgments

We wish to thank Mr. Seiki Tsutsumi and Mr. Johnson Kimura of Ogasawara Fisheries Center of Tokyo, who provided the Ogasawara specimen and information, and Mr. Minoru Maeshiro who kindly helped us in collecting material at Okinawa. We are grateful to Dr. Yasuhiko Taki of The Institute for Breeding Research, Tokyo University of Agriculture, for his useful advice and critical reading of the manuscript.

Literature cited

- Allen, G. R. 1975. Damsel-fishes of the south seas. T. F. H. Publications, Hong Kong, 240 pp., 249 figs.
- Anonymous. 1961. International code of zoological nomenclature adopted by the XV international congress of zoology. International trust for zoological nomenclature, London, xviii+176 pp.
- Bagnis, R., P. Mazellier, J. Bennett, and E. Christian. 1974. Fishes of Polynesia. Lansdowne Press, Melbourne, 368 pp., many figs.
- Beaufort, L. F. de. 1940. The fishes of the Indo-Australian Archipelago VIII. E. J. Brill, Leiden, xv+508 pp., 56 figs.
- Bleeker, P. 1854. Derde Bijdrage tot de kennis der ichthyologische fauna van de Banda-eilanden. Nat. Tijdschr. Ned. Ind., 6: 89~114.
- Bleeker, P. 1877. Atlas Ichthyologique des Indes Orientales Néerlandaises. 9. Frederic Muller and Company, Amsterdam, 80 pp., pls. 363~420.
- Cantor, T. 1849. Catalogue of Malayan fishes. J. Asiatic Soc., 18(2): 983~1443, pls. 1~14.
- Fowler, H. W. 1925. Fishes of Guam, Hawaii, Samoa, and Tahiti. Bull. B. P. Bishop Mus., 22: 1~38.
- Fowler, H. W. 1928. The fishes of Oceania. Mem. B. P. Bishop Mus., 10: i~iii+3~540, figs. 1~82, pls. 1~49.
- Fowler, H. W. and B. A. Bean. 1928. Contributions to the Biology of the Philippine Archipelago and adjacent regions. The fishes of the families Pomacentridae, Labridae, and Calyodontidae, collected by the United States Bureau of Fisheries Steamer "Albatross", chiefly in the Philippine Seas and adjacent waters. Bull. U. S. Nat. Mus., 100(7): i~viii+1~525, pls. 1~49.
- Günther, A. 1862. Catalogue of the fishes in the British Museum. IV. London, xxi+534 pp.
- Günther, A. 1874. Andrew Garrett's Fische der Südsee. Heft III. J. Mus. Godeffroy, 2(7): 49~96, pls. 41~60.
- Günther, A. 1881. Andrew Garrett's Fische der Südsee. Heft XV. J. Mus. Godeffroy, 4(15): 217~260, pls. 121~140.
- Herre, A. W. 1953. Check list of Philippine fishes. Fish and Wildlife Service, U. S. Dept. Int., Res. Rep., 20: 977 pp.
- Hiyama, Y. and F. Yasuda. 1971. Living fishes of the Japanese coastal waters. Kodansha, Tokyo, 337 pp., 527 figs. In Japanese.
- Jordan, D. S. and R. E. Richardson. 1910. Check-list of the species of fishes known from the Philippine Archipelago. Dept. Interior, Bur. Sci., Manila, no. 1: 1~78.
- Kami, H. T., I. I. Ikehara, and F. P. Deleon. 1968. Check-list of Guam fishes. Micronesica, 4(1): 95~131.
- Marshall, N. B. 1950. Fishes from the Cocos-Keeling Islands. Bull. Raffles Mus., Singapore, (22): 166~205, pls. 18~19.
- Montalban, H. R. 1927. Pomacentridae of the Philippine Islands. Monogr. Bur. Sci. Manila, Philippine Islands, 24: 1~117, 19 pls.
- Munro, I. S. R. 1967. The fishes of New Guinea. Department of Agriculture, Stock and Fisheries, Port Moresby, New Guinea: xxxvii+651 pp., 23 text-figs., 78 pls., 6 color pls.
- Randall, J. E. 1955. Fishes of the Gilbert Islands. Atoll Res. Bull., (47): i~xi+1~243, figs. 1~2.
- Randall, J. E. 1963. Review of the hawkfishes (family Cirrhitidae). Proc. U. S. Nat. Mus., 114 (3472): 389~451, pls. 1~16.
- Randall, J. E. 1973. Tahitian fish names and a preliminary checklist of the fishes of the Society Islands. Occ. Papers, B. P. Bishop Mus., 24 (11): 167~214.
- Schultz, L. P. 1943. Fishes of the Phoenix and Samoan Islands collected in 1939 during the expedition of the U. S. S. "Bushnell". Bull. U. S. Nat. Mus., 180: i~x+1~316, figs. 1~27, pls. 1~9.

Schultz, L. P. 1960. Family Cirrhitidae. In Fishes of the Marshall and Marianas Islands. Bull. U. S. Nat. Mus., 202(2): 251~266, text-figs. 105~106, pls. 106, 110~111.

(Ida: School of Fishery Sciences, Kitasato University, Sanriku-cho, Kesen-gun, Iwate 022-01; Sano, Kawashima, and Yasuda: Tokyo University of Fisheries, 4-5-7 Konan, Minato-ku, Tokyo 108, Japan)

日本で初記録のヨスジリュウキュウスズメとイレズミゴンベイ

井田 斉・佐野光彦・川島尚正・安田富士郎

沖縄島の沿岸で採集されたスズメダイ科のヨスジリュウキュウスズメ (*Dascyllus melanurus*) と小笠原諸島の沿岸で採集されたゴンベイ科のイレズミゴンベイ (*Paracirrhites hemistictus*) を記載した。イレズミゴンベイには体側の白桃色斑の形に二つのタイプが知られている。本標本は Günther (1873) の *Cirrhites polystictus* の斑紋と一致するが、Randall (1963) ちに従い 同名を *P. hemistictus* のシノニムとみなした。

(井田: 022-01 岩手県気仙郡三陸町 北里大学水産学部; 佐野・川島・安田: 108 東京都港区港南 4-5-7 東京水産大学魚類学講座)