Japanese Journal of Ichthyology
Vol. 28, No. 4 1982

魚類学雑誌
28巻4号 1982年

A Remarkable Tilefish Record and Comments on the Philippine Tilefishes

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(Received November 27, 1980)

During the course of a revision of the branchiostegids and malacanthids the senior author noted a paucity of specimens from world collections (Dooley, 1978). The Philippine tilefishes and blanquillos were particularly not well known. Early works by Herre (1926a, b, 1934, 1953) along with a few museum specimens were the only sources of documentation. With the publication of the F.A.O. species identification sheets from the western central Pacific (Fisher and Whitehead, 1974) and other recent surveys (Rau and Rau, 1980), fishes from this region have become better known.

In the fall of 1977, during a survey of Philippine commercial fishes, the second author secured a photograph of an unknown species of *Branchiostegus* (Fig. 1). In 1978, two specimens known locally as 'barko barko' were acquired from local fisherman and sent to the senior author for identification. A third specimen and a photograph was kindly sent by J. E. Randall during a visit to the Philippines. The specimens were first thought to represent a new species of *Branchiostegus*, however, thorough examination instead revealed an incredible range extension of *B. sawakinensis* Amirthalingam, 1969 by more than 9,600 km.

Branchiostegus sawakinensis, 'barko barko' or 'little ship', is rarely known from the fish market at Cebu City, Philippines. Local fisherman think it is migratory. It is caught over sandy bottom by trawl in waters deeper (60～100 ftms) than most local fishermen exploit. The rarity may possibly also be due to its inhabitation of burrows, although this is speculative. Many other species of branchiostegids and malacanthids are known to inhabit self-constructed burrows (Dooley, 1978). Little biological information is known regarding *B. sawakinensis* from the Philippines. The scant knowledge regarding *B. sawakinensis* was discussed by Amirthalingam (1969) in his species description from the Red Sea. There, the species is known as 'shawra or theena', meaning mud and reflecting the species habitat. In the Red Sea *B. sawakinensis* is caught in 40～50 ftms, considered poisonous by local fisherman, and generally discarded. All other tilefishes are considered highly desirable food fish. A comparison of Red Sea and Philippine specimens of *B. sawakinensis* revealed virtually identical coloration patterns. Coloration patterns have proven to be very important in identification of tilefishes. The following is from Amirthalingam's (1969) description (includes a color plate) of *B. sawakinensis*. . . 'when fresh it is a colorful fish with varied pastel shades, that no description can convey, adequately, its beauty. Rose violet round the eye and silvery yellow below; deep gold blotch above the operculum; black rectangular markings at base and yellow above on the membrane of the dorsal fin; reddish brown above the lateral line and yellow below; rows of black spots on scales between lateral line and pectoral axil; gold triangle above and olive brown one below with vivid yellow and orange bands between them on caudal fin.' Fresh coloration of Philippine specimens is comparable with Amirthalingam's (1969) description. In addition, the caudal fin of the Philippine specimens had 10～15 bright yellow spots, most evident on the ventral portion. This was not mentioned by Amirthalingam (1969) nor evident from his plate.

A comparison of Red Sea, E. African and Philippine specimens can be seen in Table 1. In addition, specimens from both areas share along with *B. wardi*, a unique arrangement of the adductor mandibulae complex (Marino and Dooley, in press) in having subdivisions of the $A_{1\beta}$ muscle.

Other Philippine branchiostegids include: *B. japonicus*, *B. vittatus* and *B. ilocanus*. The two latter species were described by Herre in 1926b and 1928 respectively. Neither species have been verified as valid species inasmuch as they have not been collected since, and the types were apparently destroyed in World War II (Dooley, 1978). Therefore, the only verifiable records are *B. japonicus* and now *B. sawakinensis*. *B. argentatus* and *B. albus* may exist in Philippine waters, but have not been seen as yet.

Malacanthids, the closely related shallow

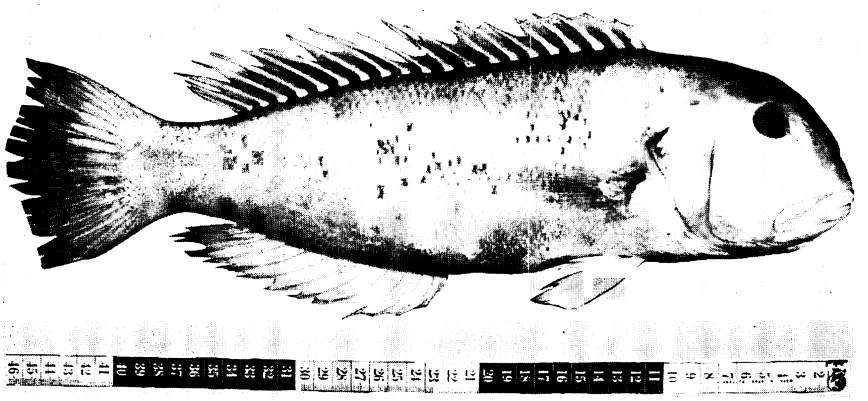

Fig. 1. *B. sawakinensis*; fresh specimen; 376 mm SL; 440 mm TL; Samar Sea Philippines; 60–100 ftms, 1978; photo by N. Rau.

water group, are well represented in the Philippines. Both Indo-Pacific species of *Malacanthus* (*M. latovittatus* and *M. brevirostris* (=*hoedtii*)) have been recorded (Herre, 1926a, 1934, 1953; Dooley, 1978). The genus *Hoplolatilus* is represented by four recently described species from the Philippines: *H. purpureus* and *H. marcosi* collected from Tingloy Island off Orensi near Mabini, Batangas, Luzon in 18～24 m depths (Burgess, 1978); *H. chlupatyi* from Cebu (Klausewitz et al., 1978); and *H. starcki* recently collected in the Philippines (Fricke, 1981). *H. fronticinctus* has also been collected off Luzon (J. E. Randall, pers. comm.). *H. cuniculus*

Table 1. Comparison of Red Sea and E. African specimens of *Branchiostegus sawakinensis* with Philippine individuals. Ranges and modes are given.

Characters	Red Sea, E. Africa (N=8)	Philippines (N=3)
Standard length	208～390 mm	295～376 mm
Head length	26～31 (28)%SL	28～30 (29)%SL
Orbital diameter	22～27 (23)%HL	18～21 (19)%HL
Suborbital depth	21～29 (25)%HL	27～30 (28)%HL
Cheek depth	37～49 (43)%HL	45～48 (46)%HL
Snout length	39～46 (43)%HL	41～45 (43)%HL
Body depth	25～29 (27)%SL	27～29 (28)%SL
Peduncle depth	11～12 (11)%SL	12～13 (12)%SL
Predorsal length	29～34 (32)%SL	32～35 (34)%SL
Dorsal fin length	55～58 (57)%SL	57～59 (58)%SL
Anal fin length	29～32 (30)%SL	26～30 (28)%SL
Pectoral fin length	23～26 (25)%SL	23～24 (24)%SL
Pelvic fin length	13～17 (15)%SL	16～18 (17)%SL
Dorsal fin rays	VII, 15	VII, 15
Anal fin rays	II, 11～12 (12)	II, 12
Pectoral fin rays	18～19	18～19
Pelvic fin rays	I, 5	I, 5
Pored lateral line scales	47～50	49～50
Cheek scales	8～11 (10)	9～10 (9)
Scales above lateral line	8～9	7
Scales below lateral line	19～21	17～22
First arch gill rakers	18～21 (20)	19～20 (19)
Total gill rakers all arches	51～58 (53)	51～55 (53)

and *H. fourmanoiri* may eventually be recorded from Phillipine waters (Randall and Dooley, 1974).

Acknowledgments

The authors wish to thank Dr. John E. Randall for his donation and loan of specimens, photograph, and helpful information.

Literature cited

Amirthalingam, C. 1969. A new fish from the Red Sea. Sudan Notes Rec., 50: 129～133.

Burgess, W. E. 1978. Two new species of tilefishes (family Branchiostegidae) from the western Pacific. Trop. Fish Hobbyist, 26 (1263, No. 5): 43～47, 3 pls.

Dooley, J. K. 1978. Systematics and biology of the tilefishes (Perciformes: Branchiostegidae and Malacanthidae), with descriptions of two new species. U. S. Dept. Comm., NOAA, Tech. Rept. NMFS. Circ., 411: V+78 pp., 44 figs.

Fisher, W. and P. J. P. Whitehead (Eds.) 1974. F.A.O. species identification sheets for fishery purposes. Eastern Indian Ocean (fishing area 57) and western central Pacific (fishing area 71). 4 vols.

Fricke, R. 1981. Une nouvelle station d'*Hoplolatilus starcki* Randall et Dooley 1974: les Philippines (Pisces, Perciformes, Percoidei, Malacanthidae). Rev. Fr. Aquarilo., 7 (1980): 117～120.

Herre, A. W. 1926a. Four rare Philippine fishes. Philipp. J. Sci., 31 (2): 217～227.

Herre, A. W. 1926b. Four new Philippine fishes. Philipp. J. Sci., 31 (4): 533～543.

Herre, A. W. 1928. Three new Philippine fishes. Philipp. J. Sci., 35 (1): 31～37.

Herre, A. W. 1934. Notes on fishes in the zoological museum of Stanford University. I. The fishes of the Herre Philippine Expedition of 1931 (reprinted 1972, Newton Gregg Publ., Kentfield, Calif.), 106 pp.

Herre, A. W. 1953. Checklist of Philippine fishes. U. S. Fish Wildl. Serv., Res. Rec. 20: 977 pp.

Klausewitz, W., J. E. McCosker, J. E. Randall and H. Zetzsche. 1978. *Hoplolatilus chlupatyi* n. sp., un nouveau poisson marin des Philippines (Pisces, Perciformes, Percoidei, Branchiostegidae). Rev. Fr. Aquariol., (2): 41～48.

Marino, R. P. and J. K. Dooley. (In press). Phylogenetic relationships of the tilefish family Branchiostegidae (Perciformes) based on comparative myology. J. Zool., London.

Randall, J. E. and J. K. Dooley. 1974. Revision of the Indo-Pacific branchiostegid fish genus *Hoplolatilus*, with descriptions of two new species. Copeia, 1974 (2): 457～471.

Rau, N. and A. Rau. 1980. Commercial marine fishes of the central Philippines (Bony fishes). German Agency Tech. Cooper., Eschborn, Germany, 623 pp.

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フィリピン産アマダイ類について

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フィリピン産アマダイ類を調査したところ，紅海から記載された *Branchiostegus sawakinensis* Amirthalingam, 1969 の存在が確認され，紅海から 9600 km 以上離れた海域での分布が判明した．本種はフィリピンにおいて深さ 100～200 m の砂底上で採集される．紅海産の標本の記載にない，尾鰭の 10～15 箇の明黄色斑がある．紅海産，アフリカ東岸，フィリピン産の比較を Table 1 に示した．フィリピン産のアマダイ類をリストすると次のようになる．1. *Branchiostegus japonicus*; 2. *B. sawakinensis*; 3. *B. vittatus*; 4. *B. ilocanus*; 5. *Malacanthus latovittatus*; 6. *M. brevirostris* (=*hoedtii*); 7. *Hoplolatilus purpureus*; 8. *H. marcosi*; 9. *H. chlupatyi*; 10. *H. starcki*.

以上のうち 3 と 4 は原記載 (Herre, 1926, 1928) 以来存在が確認されておらず，タイプ標本は戦時中失なわれた．以上のほか *H. fronticinctus* がルソンで採集されており，また *B. argentatus*, *B. albus*, *H. cuniculus*, *H. fourmanoiri* がフィリピン海域に分布する可能性がある．