

Ichthyological Notes

New, Rare or Uncommon Fishes from Japanese Waters. V. Notes on the Rare Fishes of the suborders *Stromateoidei* and *Tetragonuroidei* (BERG). (Continued from vol. iii, no. 6, p. 256)

By Tokiharu ABE

E. Records of the fish believed to be the young of the "Medai", *Mupus japonicus*. *Mupus japonicus* (DÖDERLEIN) is distributed from Hokkaido* to Shikoku and Okinoshima (Japan Sea**), and is fished commercially all the year round from considerable depths off Bōsō Peninsula and Izu-shichitō. But as for its young, so far as the writer is aware, there has been only a brief account of two very small examples, measuring 44 mm and 80 mm in total length, by Dr. HIYAMA (1941). Late in May and early in June of 1953, the present writer received four small fish measuring 92–135 mm in total length from Mr. S. TAHIRO, Ōsaki, Wakayama Pref. They were taken by a trap net there during that period. Despite considerable differences from the adult of *Mupus japonicus* in coloration, relative depth of body, shape of pectoral and caudal fins, etc., the specimens are believed to be the young of this species which attains a total length of 1 m. In addition, the writer, during his visit to Hachijō Island (one of the Izu-shichitō) in spring, 1954, saw a few examples identical with, and of about the same size as, the small fish just mentioned at the Hachijō Branch, Tokyo Prefectural Fisheries Experiment Station.† The Hachijō specimens are believed to have been collected in 1952 or 1953. The writer wishes to express here his sincere thanks to Mr. TAHIRO and Mr. H. KAN-NO, Chief, Hachijō Branch, for their co-operation with him.

When JORDAN and HUBBS (1925) introduced the new genus *Ocycrius* with *Centrolophus japonicus* DÖDERLEIN as type, they had only two large specimens measuring "29 and 41.5 cm in length to caudal fin". They stated: "This genus is closely related to *Palinurichthys* BLEEKER, (*perciformis*) of the eastern coast of the United States, differing in the more elongate body, the longer and much more pointed lobes of the deeply forked caudal, and the lanceolate pectoral". Examination of the small fish mentioned above and the adult of the "Medai" measuring ca. 45–100 cm in total length and appearing almost daily at the Central Wholesale Market of Tokyo shows that the former are probably the young of the "Medai", and that the definition of *Ocycrius* by JORDAN and HUBBS may apply to the adult only. In the small specimens mentioned above the body is much deeper, caudal fin is not strongly forked, the pectoral fin is rounded posteriorly, and the sides of the body have dark undulated markings, but the majority of the other characters agree fairly well with those of the adult of the "Medai" (table 1). Assuming that the small specimens to be the young of the "Medai", and adopting the generic name *Mupus*†† for *Centrolophus japonicus* DÖDERLEIN, a brief note on the supposedly young examples

* One example from Kushiro and another from Monbetsu (Okhotsk Sea) have been examined by the writer through courtesy of Prof. S. SATO, Mr. K. KOBAYASHI and Mr. T. UENO, all of the Hokkaido Univ. He expresses here his thanks to them for their kindness and co-operation.

** The writer has not examined the specimens taken near Okinoshima, but according to the clerks at the Fish Market of Sakai-minato, Tottori Pref., the species occurs near Okinoshima. They call the fish "Daruma" adopting the vernacular name for this species at Kōchi.

† After this paper went to press, a young example of this species, 175 mm in total length, was received from Mr. T. KUSAKARI (Hachijō Branch). The writer expresses here his sincere thanks to him for his kindness. It was taken by a gill-net for *Cypselurus pinnatibarbus japonicus* (FRANZ) of the research vessel "Takuyo-maru", 0.3 miles off Ōhirakata (between Kan-minato and Sokodo, Hachijō Island), on April 7, 1952. The specimen retains the dark undulated markings on the sides of the body. Additional 3 specimens of the young of *M. japonicus* (110–165 mm in total length) were caught in a flying-fish gill-net on March 26 (1 specimen) and May 1 (2 specimens), 1955, off Ōne, Hachijō, and have been received by the writer from Mr. KUSAKARI.

†† Following SMITH (1949).

of the "Medai" is herewith presented.

In view of the remarkable change with age in body proportions, number of jaw teeth and coloration among the fishes of the suborders *Stromateoidei* and *Tetragonuroidei* (cf. ABE, 1954, pp. 92, 93; pp. 255, 256 of the present paper; TOMIYAMA, 1954, pp. 1002-1005) it may be inferred that the small examples listed in table 1 are the young of *Mupus japonicus*, although the writer is still somewhat uncertain as to the variability of the relative size of the eye, shape of the posterior nostril and shape of the pectoral and caudal fins. The number of scales was very difficult to count exactly, but the course of the lateral line was alike in all the specimens listed in table 1; it runs straight rearwards from below the middle of the second dorsal fin, and the curvature of the lateral line above the pectoral fin is alike in all the specimens. The teeth of the vomer and palatines are absent in all the specimens.

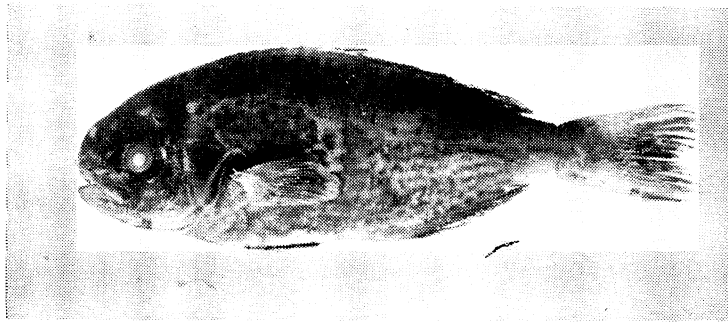


Fig. 1. Young of *Mupus japonicus* (DÖDERLEIN). Cat. No. ABE, 8995. Total length 135 mm.



Fig. 2. Young of *Mupus japonicus* (DÖDERLEIN). Cat. No. ABE, 8703. Total length 330 mm.

References

- ABE, T. 1954. New, rare or uncommon fishes from Japanese waters. IV. Records of rare fishes of the families *Lophotidae*, *Nomeidae* and *Icosteidae*. Jap. Journ. Ich., iii, no. 2, pp. 90-95.
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Table 1. Measurements of the small fish which are believed to be the young of *Mupus japonicus* (DÖBERLEIN), and measurements of larger examples of the species for comparison

Cat. No.	Locality	Date of collecting	Total length (mm)	Fork length (mm)	Standard length (mm)	Depth of body*	Least depth of caudal peduncle†	Length of head*		Length of left longest pectoral fin-ray*	Total number of vertebrae	D	A	P		Gill-rakers on 1st arch		Number of scales		Number of jaw teeth		Remarks	
								Left	Right					Left	Right	Left	Right	in left lateral line	above left lateral line†	Left	Right		
8997, ABR	Osaki	Late in May, 1953	92	89	76	38.2	10.5	32.9	7.4	7.6	21.1	—	ca. VIII 23	ca. II 19	ca. 22	ca. 22	6+1+15	—	—	ca. 10 ca. 15	ca. 15 ca. 15	Yellowish. Pectoral rounded.	
8996, ABR	"	"	115	112	94	37.8	10.6	29.8	7.0	7.0	20.2	—	ca. VIII 23	ca. III 19	23	23	—	—	—	ca. 17 ca. 23	ca. 17 ca. 23	Yellowish. Pectoral rounded.	
8995, ABR	"	"	135	130	110	37.3	10.5	29.5	6.3	6.3	19.6	25=10+15	VIII 24	II or III 19	ca. 23	ca. 22	—	—	ca. 100	ca. 15 ca. 18	ca. 18 ca. 17	Fig. 1. Yellowish. Pectoral rounded.	
9058, ABR	"	Early in June, 1953	106	102	86	36.6	9.3	31.4	7.0	8.1	19.8	—	ca. VIII 24	ca. II 19	ca. 23	ca. 23	8+16	7+1+15	—	ca. 16 ca. 17	ca. 15 ca. 17	Yellowish. Pectoral rounded.	
12110, H. U.**	Kushiro Market	August 20-25, 1949	282	267	226	33.2	9.7	26.5	6.2	5.8	21.2	—	IX 23	II 20	22	22	—	7+1+16	ca. 95	ca. 14	ca. 38 ca. 33	ca. 37 ca. 33	Length of longest fin-ray of 2nd dorsal* 16.4. Length of longest gill-raker on right 1st arch* 4.1.
10081, ABR	Near Tokyo	September 27, 1954	440	400	356	33.1	—	26.7	7.0	6.6	20.8	25	VIII 23	III 19	23	23	7+1+17	7+1+16	—	(right) ca. 15	53+x 46+x	ca. 54 48+x	Length of 1st dorsal spine* 1.5; length of 8th dorsal spine* 6.0. V. 15. Branchiostegals 6 on both sides. Liver bilobed.
12264, H. U.	Monbetsu, Kitami, Hokkaido	September 1-10, 1952	ca. 450	ca. 414	370	34.9	8.6	27.0	5.2	5.9	21.1	—	ca. VIII 24	II 20	(=ii +21)	(=ii +21)	7+1+16	7+1+16	—	—	ca. 60 ca. 55	ca. 60 ca. 50	—
10154, ABR	Amatsu, Chiba Pref.	December 16, 1954	468	412	375	31.2	8.5	—	6.5	6.3	21.3	25=10+15	VIII 24	III 19	(=ii +21)	(=ii +20)	7+1+17	7+1+17	ca. 104	ca. 14	ca. 76 ca. 72	ca. 64 69+x	Greyish brown; without markings. Interorbital breadth 10.7*.
8703, ABR	Off north-eastern coast of Japan	On loan from Mr. C. NAKAMURA	330	ca. 305	268	35.4	10.3	27.2	5.2	5.1	19.0	25	VIII 23	III 19	23	23	7+1+16	7+1+16	ca. 95	ca. 14	ca. 28 ca. 35	ca. 30 ca. 35	Fig. 2. Pectoral fin short. Length of highest fin-ray of the 2nd dorsal* 14.6. Eye small. Posterior nostril with a projection on its fore rim. This projection is absent in all the other specimens listed above. Scales in an oblique row between base of 1st dorsal spine and lateral line 13 or 14. Left inner fold of branchiostegal membrane proximally covers the right one as in the other specimens. <i>There still remains some doubt as to the name of this specimen</i> , because the eyes are considerably smaller, caudal peduncle is deeper and the fore rim of the posterior nostril has a projection which is directed backwards.

* In hundredths of standard length.

** H. U. Faculty of Fisheries, Hokkaido University.

† Counted in an oblique row beginning from the origin of the 2nd dorsal fin.

Table 2. Measurements of *Tetragomus ovieri* from Hokkaido

Cat. No.	Locality	Date of collecting	Total length (mm)	Fork length (mm)	Standard length (mm)	Greatest depth of body*	Least depth of caudal peduncle*	Length of head*		Length of snout*	Interorbital breadth* (above centers of eyes)	Least depth of preorbital*	Length of left longest pectoral fin-ray*	Total number of vertebrae	D		A		P		Gill-rakers		Number of scales		Number of ridges in a scale†	Number of jaw teeth		Number of pits on hind rim of orbit		Number of projections on hind rim of orbit		Remarks					
								left	right						left	right	left	right	left	right	in lateral line**	above lateral line†	in front of dorsal origin	left		right	left	right	left	right							
3.	Kushiro	June 3, 1953	—	ca. 350	336	14.3	4.5	19.9	3.3	3.3	6.4	5.4	3.4	10.0	53	XVII, 1	12	1	11	18 = (ii+16)	18 (=ii+16)	6	1/10	6	1/10/1	103	3/4	8	25	12	32 ca. 47	ca. 30 ca. 45+?	(17)	(13)	16	12	Depth of head* 10.0. Number of scales between origins of 1st and 2nd dorsals 37. V, 1.5 on both sides. Vomer, palatines and tongue toothed. Pharynx greatly enlarged posteriorly, with numerous papillae.
2.	Kushiro or Hanasaki	September 27, 1953	—	336	315	14.4	4.4	20.6	3.6	3.7	7.0	6.0	3.7	—	53	XVII, 1	11	1	11	ca. 15	ca. 15	6	1/12	—	ca. 102	3/4	9	25	12-13	ca. 30 ca. 40	ca. 30 ca. 40	3+(19)+24	6+(24)+19	17	18	V, 1.5 on both sides. Lateral line interrupted on both sides below 3rd and 4th dorsal spines.	
1.	Hanasaki or Kushiro	September 27, 1953, or June 3, 1953	—	318	300	14.0	4.3	19.7	3.9	4.0	6.3	5.3	3.1	9.7	53	XIII+x, 1	12	1	ca. 12	ca. 15	ca. 15	—	—	103	3/4	8	29	13-14	ca. 20 ca. 41	ca. 23 ca. 42	(15)	(15)	14	14	Depth of head* 11.3. Number of scales between origins of 1st and 2nd dorsals 31.		
12569, Hokkaido Univ.	Samani	June 10, 1953	—	ca. 380	355	19.9	4.9	20.6	3.5	3.4	6.6	6.1	3.5	—	52 or 51	XVI, 1	1	11	16	16	5	1/9	5	1/10	100	8	—	25	18-19	33 ca. 48	27 ca. 50	(16)	(15)	15	14	Depth of head* 9.3.	

* In hundredths of standard length.

** For the method of counting see p. 117.

† Below the origin of 2nd dorsal.

‡ Of the scales taken from the left side of body and below 2nd dorsal fin.

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The young were taken by a trap net on June 15, 1939 (or 1938), off Ajiro, Sagami Bay. In Japanese.
- JORDAN, D. S. and HUBBS, C. L. 1925. Record of fishes obtained by David Starr JORDAN in Japan, 1922.
Mem. Carnegie Mus., x, no. 2, pp. 93-346, pls. 5-12.
- KAMOHARA, T. 1940. Fauna Nipponica, vol. xv, fas. ii, no. 5, 225 pp. In Japanese.
- 1950. Description of the fishes from the Provinces of Tosa and Kishū, Japan. 3+288+5+48+27 pp. Kōchi. In Japanese.
- 1952. Revised descriptions of the offshore bottom-fishes of Prov. Tosa, Shikoku, Japan. Rep. Kōchi Univ., no. 3, pp. 1-122.
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- SMITH, J. L. B. 1949. The stromateid fishes of South Africa. Ann. Mag. Nat. Hist., (12) ii, pp. 839-851.
- STEINDACHNER, F. and DERLEIN, L. 1884 (1885?). Beiträge zur Kenntnis der Fische Japan's. Denkschr. mathem.-naturwiss. Class. kais. Akad. Wiss. Wien, xlix, pp. 171-212 (or 1-44), pls. 1-7.
- TOMIYAMA, I. 1954. TOMIYAMA and ABE'S "Figures and descriptions of the fishes of Japan," vol. 50, pp. 1002-1011, pls. 199-1011, pls. 199-201. Tokyo.

F. Records of the adult of Tetragonurus cuvieri from Hokkaido. Through courtesy of Mr. M. SAKURAI (Chief, Kushiro Branch, Hokkaido Regional Fisheries Research Laboratory, Fisheries Agency, Ministry of Agriculture and Forestry), the writer has received three adult examples of *Tetragonurus cuvieri* RISSO taken off the north-eastern coast of Hokkaido in 1953. The largest of the three is an adult male measuring ca. 350 mm in fork length and 336 mm in standard length. It was taken by a salmon drift net 150 miles off Hanasaki on June 3, 1953. The testes are flattened and broad. The color of the body is the darkest of the three examples. Of the two other specimens, one, probably the larger, was taken along with the largest specimen just mentioned, and the smallest was probably taken on September 27, 1953, by a trawl off Kushiro along with *Sebastolobus macrochir* (GÜNTHER) from a depth of ca. 300 m. If the smallest was not taken on September 27, 1953, the data were the same as the largest specimen, and the medium-sized specimen was taken on September 27, 1953, by a trawl as stated just above. As will be seen from table 2, the three examples are believed to be *Tetragonurus cuvieri* and not *T. atlanticus* which will be dealt with a little later.

In addition, the writer has received another adult example of *T. cuvieri* taken by a set net near Samani (near Volcano Bay, Hokkaido) on June 10, 1953. The depth of the place where the net was set was ca. 20 m. The specimen was received for study through courtesy of Prof. S. SATO, Mr. K. KOBAYASHI and Mr. T. UENO (all of the Faculty of Fisheries, Hokkaido University). The writer wishes to express his thanks to Mr. SAKURAI and the three biologists just mentioned for their kindness. The measurements of the specimens are given in table 2.

G. A record of the young of Tetragonurus cuvieri from off Torishima (north of the Bonin Islands). Through courtesy of Mr. M. IGARASHI (Ōshima Branch, Tokyo Prefectural Fisheries Experiment Station) and Prof. M. KATAYAMA (Yamaguchi University), a young example of *Tetragonurus cuvieri* RISSO has been received by the writer. He expresses here his sincere thanks to these biologists for their kindness. The fish was scooped off Torishima by a member of the crew of the research vessel "Tonan-maru" of the Tokyo Prefectural Fisheries Experiment Station in the night early in March, 1954, when it approached the vessel attracted by her lamps. The specimen measures 66.0 mm in total length, ca. 62 mm in fork length and 56.5 mm in standard length. The following measurements are given in hundredths

of the standard length: Greatest depth of body 18.4, least depth of caudal peduncle 6.2, length of head 28.3, diameter of eye 7.1 (on both sides), length of snout 8.8, interorbital breadth (above centers of eyes) 8.8, least depth of preorbital 4.4.

The total number of vertebrae (examined by X-rays as in all the other specimens of the genus *Tetragonurus* recorded in the present paper) is 53 (=27+26). D. XVIII 12 (1st soft ray low). A. I (low) 11. P. right ca. 16. V. left. 6. The 1st and 2nd interneurals are inserted between the neural spines of the 8th and 9th vertebrae.

The teeth of the upper and lower jaws are large; their number is ca. 14 (left)+ca. 14 (right) in the former, and ca. 20 (left)+ca. 20 (right) in the latter. The tips of the lower jaw teeth are directed backwards; the proximal parts of these teeth are covered by a continuous membrane. Each of the palatines bears a single row of a few fairly large teeth. The vomer bears a row of a few teeth. The tongue is narrow, concave, and seemingly toothless. The pits along the rim of the orbits are conspicuous, but the tubercles between them are far less developed than in the adult. The upper and lower keels at the caudal base are weakly developed.

The scales are arranged regularly, their ridges forming longitudinal lines; the number of these lines on the hindmost part of the caudal peduncle is 1 (mid-dorsal)+13 (left)+1 (mid-ventral)+13 (right).

The color in formalin is greenish brown above and pale below. There are very small brownish dots on sides above the anal base and around ventral side of the caudal peduncle; similar dots extends forwards from the anal origin along the dorsal part of the body cavity, leaving the ventral part of the belly whitish.

H. A record of *Tetragonurus atlanticus** from Manazuru. **Fig. 3.** On February 8, 1954, an adult example of *Tetragonurus atlanticus* LOWE was picked up by Mr. D. AOKI (Clerk at the Fish Market of Manazuru) from the fishes taken by a trap net set near the town. He has been collecting unusual fishes there in compliance with the request of the present writer for the past several years. The specimen of *T. atlanticus* just mentioned had been hung in an ice-box with a steel wire through the mouth, and some parts of the head had been damaged when the writer received the specimen. He wrote to Mrs. M. GREY (Chicago Natural History Museum) about the capture of the additional specimens of *Tetragonurus* to those reported upon by him in 1953 (ABE, 1953), because she was then preparing manuscript of a paper on the fishes of the genus. The present writer was pleasantly surprised to learn by her kind letters that she identified the specimen reported by Dr. KURONUMA in 1939 as *T. atlanticus*. Furthermore, she has given the writer an abbreviated key to the species of *Tetragonurus* in a personal letter. The writer wishes to express his thanks to Mr. AOKI and Mrs. GREY for their kindness. In an previous paper (ABE, 1953) the writer mentioned about some differences between the specimens



Fig. 3. *Tetragonurus atlanticus*. Cat. No. ABE, 9877. Total length ca. 360 mm.

* A new Japanese name, "Tsumari-doku-uroko-ibodai", is here proposed.

reported by him and the specimen reported by Dr. KURONUMA. Upon careful examination of the specimens of the fishes of the genus *Tetragonurus* accumulated by the writer, he has reached the conclusion for the time being that the latest specimen from Manazuru represents *T. atlanticus* and that Dr. KURONUMA's specimen was also of this species. The latter is believed to have been damaged by a fire during World War II, but detailed account of Dr. KURONUMA gives clues to the identification under the new light.

The specimen of *atlanticus* from Manazuru measures *ca.* 360 mm in total length, *ca.* 340 mm in fork length and 322 mm in standard length. The following measurements are given in hundredths of the standard length: Length of head 21.7, greatest depth of head 13.4, greatest depth of body *ca.* 15.7, greatest breadth of body *ca.* 9.6, least depth of caudal peduncle 4.0, diameter of orbit 6.1 (3.5 in head), length of snout 7.1, interorbital breadth (not bony interorbital breadth) above centers of orbits 6.2, least distance between ventral edge of preorbital and lower rim of orbit 3.4, length of longest pectoral fin-ray 10.1, length of longest (2nd to 4th) dorsal spines 4.0.

Total number of vertebrae 46. D. XIV, I 11 (=i+10). All the spines are received in a groove; 1st spine is not much shorter than the subsequent ones. A. I (short), *ca.* 12 (=ii+*ca.* 10). P. 16 (=ii+12+ii, left) and *ca.* 16 (=i+*ca.* 13+ii, right). V. 6 on both sides; outermost fin-ray short; scaly; there is a shallow groove near the base. The 1st dorsal spine is above the last fourth of the appressed pectoral fin. The origin of anal is below the interspace between 6th and 7th soft rays of 2nd dorsal fin.

Branchiostegal membranes have been damaged. Number of branchiostegals 6 on both sides. Pseudobranchiae whitish; there are 5 papillae below them. Number of gill-rakers on 1st arch 6+14 (left) and 6+? (right). The opening behind 4th gill-arch is fairly narrow; rakers there are smaller than in *cuvieri* taken on March 28, 1953 (*cf.* ABE, 1953, pp. 43, 44).

Scales are rather large, and arranged regularly. The number of scales counted from the one just above the upper corner of gill-opening to the one in the oblique row passing the anterior end of the lower lateral keel of the caudal peduncle is *ca.* 90 on both sides. The number of scales in a row below the origin of the 2nd dorsal fin to the one just above the lateral line is 1/2 7; the number of scales counted in the same way below the origin of the 1st dorsal fin is 7; the number of scales in a row above the origin of the anal fin to the one just below the lateral line (very difficult to count) is *ca.* 11. The number of predorsal scales *ca.* 22; the number of scales counted from the one just below the 1st dorsal spine to the one just below the origin of the 2nd dorsal fin is 32. The number of the spines along the hind free margin of a scale taken from between the origin of the 2nd dorsal fin and lateral line is *ca.* 16.

The grooves or pits along the hind margin of the orbit are absent as in KURONUMA's figure (*cf.* ABE, 1953, p. 45).

The teeth of the upper jaw are distally attenuated and separated from one another more widely than in those of the lower jaw and pointed at their tips. Their number is *ca.* 44 (left) and *ca.* 38 (right). The teeth of the lower jaw are a little broader than in those of the upper jaw, and their exposed distal parts are slightly curved backward. Their number is *ca.* 72 on the right side; the left half of the lower jaw is partly damaged, but the number of the teeth is more than *ca.* 64. The palatine teeth are arranged in a single row. Although, as stated above, the mouth has been partly damaged, there is an indication that the anteriormost 3 teeth on the vomer are arranged in a transverse row. The tongue is deeply concave on the dorsal side, broadens anteriorly and rounded at its anterior end (probably with a median incision). The teeth along the free margin of the tongue is more numerous than in *cuvieri* taken from Manazuru in 1953.

The viscera are in a poor condition, but the ovaries are believed to have been well developed, or the fish seems to have just spawned.

The color prior to preservation is uniformly blackish. The lining of the buccal and branchial cavities, gill-rakers, and the papillae below the pseudobranchiae are brownish black; the pseudobranchiae and gill-lamellae are whitish.

References pertaining to *Tetragonurus*

- In addition to those publications referred to by ABE, 1953 (p. 47), the following have been consulted:
- ABE, T. 1953. New, rare or uncommon fishes from Japanese waters. II. Records of rare fishes of the families *Dirtemidae*, *Luvaridae* and *Tetragonuridae*, with an appendix (description of a new species, *Tetragonurus pacificus*, from off the Solomon Islands). Jap. Journ. Ichth., iii, no. 1, pp. 39-47.
- PETIT, G. and AMAR, R. 1946. Capture d'un *Tetragonurus cuvieri* Risso in Saint-Tropez (Var). Bull. Mus. Hist. Nat. Marseille, vi, pp. 34-39. Not seen in the original.
- WELANDER, A. D. and ALVERSON, D. L. 1954. New and little known fishes of the eastern Pacific. Fisheries Research Papers, Washington Dept. Fisheries, i, no. 2, pp. 1-8.

Additional notes

i) *Again on Ariomma lurida*. The total number of vertebrae in the adult male and the young examples of *Ariomma lurida* JORDAN and SNYDER reported upon by the writer in vol. iii, no. 6 of this journal is 31 (ca. 14+17) and 31 (13+18), respectively.

Recently Dr. K. MATSUBARA and Mr. T. IMAI of the Kyoto University have kindly informed the writer that Dr. T. KAMOHARA has given a Japanese name, "Ōme-medai", for this species. The writer expresses here his thanks to the two former ichthyologists for their kindness. (cf. KAMOHARA, T. 1952. Revised descriptions of the offshore bottom fishes of Prov. Tosa, Shikoku, Japan. Rep. Kōchi Univ. Nat. Sci., no. 3, pp. 1-122). The record (p. 35, fig. 30) seems to be based on the same specimen as that reported upon by Prof. KATAYAMA, 1952.

ii) *Again on the adult female of Icticus pellucidus*. The total number of vertebrae of the giant female of *Icticus pellucidus* (LÜTKEN) recorded by the present writer in vol. iii, no. 6 of this journal is 40.

The End