MORE NEW FISH NAMES AND RECORDS.

By GILBERT P. WHITLEY, F.R.Z.S.

Curator of Fishes, The Australian Museum, Sydney.
(Contribution from The Australian Museum.)

Family DASYATIDAE.

Genus BATHYTOSHIA Whitley, 1933.

BATHYTOSHIA BREVICAUDATA (Hutton).

Trygon brevicaudata Hutton, Ann. Mag. Nat. Hist. (4), xvi, 1875, p. 317. Dunedin, New Zealand

"Sting ray" Anon., Journ. Voy. "Endeavour," London, 1771, pp. 112 & 116, and of later accounts of Cook's voyage. Sting Ray Bay, now Botany Bay, New South Wales.

Trygon thalassia Hutton, 1872; George, 1880, *non* Muller & Henle, 1841.

Trygon or *Dasyatis pastinaca* of Austr. authors, *non Raja pastinaca* Linne, 1758.

Trygon, Dasyatis or *Bathytoshia brevicaudatus* of Austr. authors.

Trygon schreineri Gilchrist, Trans. Roy. Soc. S. Africa, iii, 1913, p. 33 & fig. False Bay, South Africa

Dasybatis agulhensis Barnard, Ann. S. Afr. Mus. xxi, 1925, p. 78, Agulhas Bank, South Africa

Dasybatus latus Baughman, Copeia, 1946, 1, p. 43. Sydney. *Non Trygon lata* Garman, 1880.

This large stingray has been recorded from New Zealand, New South Wales, Bass Strait, South and Western Australia, and South Africa.

Two females were caught in the Cook Graving Dock, Sydney, on 27th November, 1952, and transferred to Taronga Park Aquarium. One died and had no embryos in her. The other, about 9ft. long and 6ft. wide, gave birth to eight young during the night of 9/10 March, 1953, 102 days after being placed in captivity. Mr. D. Boness, of the Aquarium staff, told me that the water was milky with fluid from the mother the next day. The young were dead when found in the morning, light grey in colour (post-mortem effect), and had barbs pointed, not sheathed, and had no umbilical cords, so they were probably overdue. The total weight of all the embryos was 22½lb. There were three males and five females, all the females being larger than the males. The largest female was 25in. in total length (snout to end of tail) by 14¼in. wide and weighed 3½lb. The smallest male was 22½in. in length, 12in. wide, and weighed 2½lb.

Apart from Seymour George's notes (Trans. N.Z. Inst. xiii, 1880, p. 426) of a New Zealand female which gave birth to at least three young in March, 1880, the above seems to be the only note of birth, sex-ratio of embryos and number in litter in *Bathytoshia brevicaudata,* and I am indebted to Mr. Boness for his observations. In my "Fishes of Australia," i, 1940, p. 210, I noted from the Manly Aquarium, Sydney, that the allied species, *B. thetidis,* gave birth to two young, 23½ by 13 inches, with no umbilical scar, barb protected by a bulb, and dorsal fin present. That birth was in November, 1939.

Family AMIIDAE.

PSEUDAMIATUS, gen. nov.

Orthotype, *Pseudamia heintzi* Lehman = *Pseudamiatus heintzi.* New name for *Pseudamia* Lehman (Tromso Mus. Aarsheft Naturh. (39), vol. 70, 1951, p. 5), preoccupied by *Pseudamia* Bleeker, Nederl. Tijdschr. Dierk. ii, 1865, p. 284, another genus of fishes.

Family PALAEONISCIDAE.

STEREOLEPIDELLA, gen. nov.

Orthotype, *Stereolepis marginis* Casier—*Stereolepidella marginis.*

New name for *Stereolepis* Casier Bull. Inst. Roy. Sci. Nat. Belg. 28, 1952, p.47), preocc. by Ayres, Proc. Calif. Acad. Sci. ii, 1859, p. 28, another genus of fishes.

Family MURAENIDAE.

Genus NOTORABULA Whitley, 1934.

NOTORABULA CALLORHYNCHA (Gunther).

(Plate iii. Fig. 1.)

Muraena callorhyncha Gunther, Cat. Fish. Brit. Mus. viii, 1870, p. 122.

Rabula callorhynchus Ogilby, Proc. Roy. Soc. Qld. xx, 1907, p. 11.

Notorabula callorhyncha Whitley, Rec. Austr. Mus. xix, 1934, p. 154.

I am indebted to Mr. A. Fraser-Brunner for the accompanying illustration of the unique holotype in the British Museum (Natural History), from Fremantle, Western Australia.

Family ISTIOPHORIDAE.

Sub-family MARLINAE.

Genus ISTIOMPAX Whitley, 1931.

Makaira Lacepede, Hist. Nat. Poiss. iv, 1803, p. 688. Haplotype, *M. nigricans* Lac. (pl. xiii, fig. 3, opp. p. 537) from near La Rochelle, France. Emended to *Machaera* by Cuvier, 1832, and Agassiz, 1846 *(non* Gould, 1841).

Marlina Grey, Natural History (N. York), xxviii, 1928, p. 47. Haplotype, *Tetrapturus mitsukurii* Jordan & Snyder, Journ. Coll. Sci. Imp. Univ. Tokyo, xv, 1901, p.303, pl. xvi, fig. 5, from Japan. The Striped Marlin.

Istiompax, Whitley, Austr. Zool. vi, 1931, p. 321. Orthotype, *I. australis* (Wall) from New South Wales. The Black Marlin.

Kajikia Hirasaka & Nakamura, Bull. Oceanogr. Inst. Taiwan iii, 1947, p. 11. Logotype, *Tetrapturus mitsukurii* Jordan & Snyder, by present designation. A synonym of *Marlina,* the Striped Marlin.

Marlina Hirasaka & Nakamura, *op. cit.,* p. 15. Haplotype, *Makaira marlina* Jordan & Evermann, Occas. Pap. Calif. Acad. Sci., xii, 1926, p. 59, pl. xvii, from Mexico, a Black Marlin. Preocc. by *Marlina* Grey, 1928, which is probably at least subgenerically distinct.

Eumakaira Hirasaka & Nakamura, *op. cit,* p. 16. Haplotype, *E. nigra* H. & N., from South China Sea and Japan Current.

Makaira is unrecognisable, and *Marlina* Grey and *Kajikia* are doubtful synonyms of *Istiompax.*

ISTIOMPAX HOWARDI, sp. nov.

(Plate iii. Fig 3.)

A fine immature female marlin swordfish, over 11 ft. long and weighing 402 lb., was taken off Bermagui, New South Wales, in March, 1953, by Colonel John Howard, who generously presented it to the Australian Museum, where a cast of it is being made for exhibition. It does not exactly fit any described species, and seems, from authors' keys, to be intermediate between several nominally distinct forms, whilst retaining enough characteristics of its own to warrant the bestowal of a new name.

Diagnosis.—A marlin with general characters of the Black Marlin *(Istiompax australis* and allied species), but with depressible pectoral fins and bluer colouring above; it has a narrow rostrum, a long ventral skin-groove, and the rather low anterior profile of the Striped Marlin *(Marlina mitsukurii* and allies), yet it has a deeper body than a Striped Marlin, without light bands, and without the elevated first dorsal fin. The first dorsal fin has large dark spots, and the posterior spines are short. Vertebrae 11+13=24. Body robust, not compressed, its depth less than one-fifth of total length. Lateral line indistinct. Spinous dorsal lobe lower than depth of body. Ventral fins much shorter than the long, low pectorals.

Description.—Br. 7, D.xl/7; A.xvi./7; P.1,21; V.1; C. more than 20, General facies as usual in marlins; the proportions can be ascertained from the figure and the dimensions given below. Sword 4.6 in length to caudal fork

Dimensions in inches.

Total length—133.
Length to caudal fork—122.
Girth—52.
Snout to tail base—114.
Breadth of sword above lower jaw—2.
Tip of snout to ant. border of eye—26½.
Snout, tip to maxillary border—32½.
Body depth—20½ below first dorsal or 19 above first anal.
Head—42.
Eye—2½.
Interorbital—7½.
Postorbital—12⅝.
Lower jaw—14.
Maxillary fold—6.
Eye to preop. margin—7½.
Spread of tail—42.
Level of second dorsal and anal origins to middle caudal rays—25.
Caudal lobe—27½.
Caudal keels—3½.
Minimum depth of caudal peduncle —4½.
Length of caudal peduncle—11½.
Height of first dorsal fin—15.
Height of second dorsal fin—4.
Base of second dorsal fin—5½.
Last ray of second dorsal fin—5¼.
Median dorsal spines—2½.
Height of first anal fin—14.
Origin of pectoral to that of anal—36½.
Pectoral fin, length—21⅜.
Pectoral fin, base—2½.
Ventral fin, length—7½ (incomplete).

Upper jaw (sword) straight, slightly flattened above, rounded and granular below. Profile evenly elevated, not so steep as in Black Marlin *(I. australis)*. Very small teeth on jaws, vomer, palatines and tongue. Free end of tongue convex. Few scales on sides of head, cheeks and temples, none on eye. Gills reticulate, without rakers; a slit behind the last.

Form robust, rounded, not compressed. No rugose area behind operculum. A groove extends from behind first dorsal sheaths along most of the short interdorsal area. A more pronounced median groove along the belly from behind ventral fins to near anal. Scales rhomboid, slender, closeset or imbricate, subdermal. Lateral line indistinct. Caudal peduncle almost elliptical in transverse section, with two fleshy keels on each side.

First dorsal fin lower than body, its margin concave and posterior spines very short. The 30th and 32nd dorsal spines may be missing, as there are long membranes where these might have occurred after the 29th spine; if so, the dorsal formula would have been xlii/7. First anal lobe acute, rounded. Insertion and end of second dorsal in advance of levels of those of second anal. Pectoral very long, adpressible, reaching more than halfway to anal, its insertion low, level with lower jaw. Ventrals narrow and short, with fused rays.

The stomach contained unidentifiable fish bones. The sausage-like roes ran most of the way along the coelome, but were not ripe. Air-bladder with more than one row of vescicles. Flesh reddish to pink, of edible quality, but rather "dry" to taste. No internal parasites noticed, but some *Caligus* external to shoulders.

Colour in life, blue above, with very indistinct bands from some aspects. After freezing, generally bluish to gunmetal grey, a ragged line of junction between the dark upper and silvery lower parts of sides. No light or blue area on first dorsal fin, which is uniform dusky with large, darker, round spots, perhaps originally blue. Pectoral grey. No cross-bars on body.

Described and figured from the female holotype, 11 ft. 1 in. long and weighing 402 lb., taken off Bermagui, New South Wales, early in March, 1953, by Colonel John Howard.

Australian Museum regd. No. IB.2924. Cast and portions preserved. Differs from other marlins as described, especially in proportions, colour, depressible pectorals, ventral skin-fold, and maxilla not far behind eye.

The accompanying figure has been reduced to a total length of 12 cm. (i.e., about one-twenty-eighth natural size) for direct comparison with Gregory and Conrad's graphed typical body-forms of marlins (Bull. Amer. Mus. Nat. Hist. lxxvi, 1939, pp. 443-456, fig. 1). It agrees best with their Blue Marlin, but differs in having anal base farther back in relation to second dorsal base, and in its less tapering thorax. Could Colonel Howard's fish be, as he himself suggested, an old female striped marlin? The differences between it and Australian striped marlins seen by me appear to be the comparatively shorter sword, lower dorsal lobe, and more posterior insertion of the second anal fin.

The description of *Makaira nigricans tahitiensis* Nichols & LaMonte (Amer. Mus. Novit. 807, 1935, p. 1, fig. 1), the Silver Marlin of Tahiti, since said to range to western Mexico, differs in proportions from the Bermagui marlin.

The so-called "Black Marlin" known as "Boydtown Ben," 1,226 lb. in weight, washed ashore at Eden, New South Wales, may have been a Howard's Marlin, which species rather than the black would thus be the giant marlin of eastern Australia.

Mr. Peter Goadby caught what appears to be a young example of this species, about 5 feet long and 25 lb. weight, at Hayman Island, Queensland, in May, 1953. The middle dorsal rays were long, also the ventral fins.

ISTIOMPAX DOMBRAINI, sp. nov.

"Blue Marlin?" D'Ombrain, Outdoors and Fishing (Sydney), Oct., 1950, p. 24, 5 figs. Off Port Stephens, New South Wales.

Resembles the Black Marlin, *I. australis* (Wall, 1854), in most characters, and in having pectoral fin rigidly extended, not adpressible along body, and dorsal lobe not much elevated, but has a thinner and more tapering sword.

When first caught has distinct pale blue bars on upper part of body and a very marked blue patch near pectoral fin (sometimes with another patch behind it on lower side of thorax). It has more numerous large, cobalt-blue spots all along the spinous dorsal fin than is customary in Black Marlin. Most specimens weigh less than 150 lb., but some reach 200.

Named after Mr. Athel D'Ombrain, of Newcastle, New South Wales, the well-known naturalist, who has taken specimens of this fish and provided me with photographs and data from the type-locality, off Port Stephens, New South Wales.

Mr. Peter Goadby has taken this species in southern Queensland, having seen 22 fish in February, 1951, near Hutchison Shoals, off Cape Moreton. In black-and-white photographs it usually has more "white" of eye than other marlins.

Family SCORPAENIDAE.

Sub-family PTEROIDICHTHYINAE.

Genus RHINOPIAS Gill, 1905.

Rhinopias Gill, Proc. U.S. Nat. Mus. xxviii, 1905, p. 225. Orthotype, *Scorpaena frondosa* Gunther, Proc. Zool. Soc. Lond., 1891, p. 482, pl. xxxix, from Mauritius.

Peloropsis Gilbert, Bull. U.S. Fish. Comm. xxiii, 1903, 2, publ. 5 Aug., 1905, p. 630. Orthotype, *P. xenops* Gilbert, from Hawaiian Islands. *Rhinopias* is earlier. published 23 Feb., 1905.

Pteropelor Fowler, Proc. U.S. Nat. Mus. lxxxv, 1938, pp. 51 and 77. Orthotype, *P. noronhai* Fowler, from near Hong Kong, China.

Pteropelor is evidently a synonym of *Rhinopias,* named 33 years earlier in the same publication. There are four species of this rare genus, distinguished by their proportions, size of supraocular and other tentacles, fin-counts, and naked or scaly breasts.

RHINOPIAS GODFREYI, sp. nov. (Plate iii, Fig. 2.)

Br. 7. D.xi,10; A.iii,6; P.14; V.i,5; C.11? (damaged, reconstructed in figure). Sc.24. L.lat.5. Tr.4/12.

Head (21 mm.) 2.3, depth (16) 3 in standard length (49). Eye (4.5) 4.6 in head. Interorbital (4) 2 in snout (nearly 8). Maxillary, 10; upper caudal rays, about 18; predorsal length, 16; and ocular tentacle, 14 mm.

Maxillary reaches below eye, its truncate expansion equals interorbital. Bands of small acute teeth in jaws and on vomer, none on palatines. Interorbital deeply concave. Gill-openings very wide, separated by keel-like isthmus, behind which is a small, branched, median skinny flap. No opening behind last gill-arch. No barbels. Snout rising obliquely to a bump before the preocular concavity in the profile. Nostrils large, with branched flaps (less than diameter of eye) and small spines on each side. Supraorbital spines obsolete. Very small coronal spine on each side, then occipital and nuchal spines close together. Three postocular spines followed by suprascapular; preorbital spine small, directed a little backward. Suborbital stay with four spines. Three spines and two skinny flaps around pre-

opercular edge. Two divergent opercular spines, the lower the longer. Humeral spine obsolescent. Eyes moderate, surface with lappets; supraorbital tentacles enormous, fimbriate. A large flap overhangs maxilla.

Most of head and an area of body above pectoral base naked. Breast scaly. Body compressed, its width near the gills (7 mm.) less than half its depth. Scales imbricate, cycloid, some with small papillae or fleshy flaps. Lateral line reduced to about five tubes anteriorly, sloping down axially, and with the tubes long, slender and exposed.

Dorsal fin originating well behind eye, over operculum, its anterior spines long and with excavate membranes, becoming smaller, weaker and united at the notch; soft dorsal rounded, higher than spinous. Anal similar to soft dorsal. Pectoral base on lower half of fish, its rays all simple, the longest reaching about anterior dorsal and anal rays; lowermost rays not detached as feelers, though their membranes are well incised. Ventrals originating behind level of first dorsal origin, joined to body but not to one another.

Brown, obscurely clouded and mottled with blackish, darkest on supraocular tentacles and some fins, notably the anal. Some small whitish spots on head and along back, and more distinctly along front ventral and anal spines and rays. Larger irregular white areas on pectoral and dorsal fins. No notable axillary pattern.

Described and figured from the unique holotype of the species, 49 mm. in standard length or about 2.6 inches overall. Australian Museum, Regd. No. IB. 2977.

Loc.: Exmouth Gulf, north-western Australia; prawn trawl from M.V. "Lancelin," 3rd August, 1952. Collected and presented by Mr. Kitchener Godfrey, of C.S.I.R.O. Division of Fisheries,, to whom I am grateful for assistance in collecting and studying tropical Australian fishes, and after whom this novelty is named.

Rhinopias godfreyi differs from *R. frondosa* (Gunther) in having slenderer form, fewer flaps, one more anal ray, fewer and slenderer pectoral rays, and has no large white spots. It differs from *R. noronhai* (Fowler) in lacking supraorbital spines and having enormous supraocular tentacles, breast scaly, and minor proportional differences.

From *R. xenops* (Gilbert), the new species is distinguished by its high supraocular tentacles, lower spinous dorsal fin, slenderer caudal peduncle, fewer pectoral rays, and obsolete supraorbital spines. A *Rhinopias* has been figured in colour by Deraniyagala (Atlas Vertebr. Ceylon i, 1952, p. 109, pl. xxxii), who found it in a hollow in a lump of dead coral from Ceylon.

Family ALEUTERIDAE.

Genus AROTROLEPIS Fraser-Brunner, 1941.

AROTROLEPIS NOTONECTIANUS (Whitley).

Monacanthus filicauda notonectianus Whitley Austr. Zool. vi, 1931, p. 330, and fig. Maroubra and Coogee, New South Wales.

Arotrolepis notonectianus Fraser-Brunner, Ann. Mag. Nat. Hist. (11) viii, 1941, p. 184.

Arotrolepis filicauda notonectianus Marshall, Ichth. Notes ii, 1953, p. 60 (Redcliff, South Queensland).

The stranding of many thousands of dead and dying leatherjackets of this species along the ocean beaches of eastern Australia in February, 1953, aroused much interest. On the 14th February, fishermen reported that many of these fishes were coming to the surface several miles from the coast of New South Wales from about Newcastle to Long Bay, and by the 27th at the latest they had also been recorded from Ulladulla and other places as far south as Pambula; on the 6th March Mr. John G. Johnson aboard s.s. "Bundaleer" abeam of Gabo Island light collected some others. Thus a species hitherto known from a couple of bottles of Museum specimens was shown to exist in untold thousands, from south Queensland to Victoria.

At the same time there was an epidemic amongst the allied northern species, *A. filicauda* (Gunther), for the same Mr. J. G. Johnson brought me examples from thousands of surfaced dying fish encountered at the end of February from 50 miles north to 50 miles south of High Peak (S. Lat. 22°), between the Percy Group and North Reef, Queensland.

All were obviously sick fish, would not take food, quivered, had much difficulty in balancing and swimming, and had blister-like pustules, full of a milky fluid, in the body-cavity. The fluid, under a high-powered microscope, was seen to be full of countless numbers of sporozoa, evidently the cause of the mortality. For references to diseases caused by sporozoa, see Dean's Bibliography of Fishes iii, 1923, pp. 548-549, wherein similar symptoms are noted.

I have noticed small batches of A. *notonectianus* washed up on the ocean beaches near Sydney in previous years, from January to March, some times as late as May, but in 1953 the number of fish killed reached epidemic proportions. No other species of local leatherjacket or other fishes were affected. The mortality was at first attributed to gunnery or depth charges, but the Royal Australian Navy denied responsibility ; other "explanations" proffered at the time were merely fanciful or guesswork.

Family TRIURIDAE.

Genus TRIURUS Lacepede, 1800.

TRIURUS LAEVIS (Pennant).

Ostracion laevis Pennant, Brit. Zool. iii, 1776, ed. 4, p. 129, pl. xix, fig. 54, Plymouth, England.

Triurus laevis Whitley, Mem. Qld. Mus. xi, 1937, p. 147 (q.v. for refs. to syn. and bibliogr.). *Id.* Hale, S. Austr. Nat. xxii, 4, 1914, p. 1 and fig, (S, Australia),

Ranzania truncata Raven, Amer. Mus. Novit. 1038, 1939, p. 1 and figs. (W. Australia—anatomy and refs.). *Id.* Oliver, Rept. Mus. Wellington, N.Z., 1941, p. 8 (Kermadecs).

Ranzania laevis Phillips, Proc. Roy. Soc. N. Zeal. lxxi, 1941, p. 245, fig. 6 (Kermadecs and New Zealand) *Id.* Anon., "West Australian" (newspaper), 22nd May, 1947 (W. Australian occurrences). *Id.* Powell, Native Anim. N. Zealand, 1947, p. 73, fig. 344. *Id.* Fraser-Brunner, Bull. Brit. Mus. Nat. Hist., Zool. i, 6, 1951, p. 93, figs 3-5.

Triurus truncatus Fowler, Proc. Acad. Nat. Sci. Philad. xcvi, 1944, p. 199, and Mem. Bish. Mus. xii, 1949, p. 158 (New Hebrides).

"Strange Fiji Fish," Anon., "Weekly News" (Auckland, N.Z.), 24 Sept., 1952, p. 37, 2 figs. (Near Suva, Fiji.)

"Oblong Sunfish," Anon., Anglers' Digest (Sydney), Nov., 1953, p. 137, fig. (Vila), New Hebrides.

Mr. Eric A. Nicholson, of the Clarence Valley Field Naturalists' Club, sent an Oblong Sunfish to the Australian Museum from Mulloway, north of Woolgoolga, New South Wales (about 30° S. Lat.), where it had been taken in shallow water by a boy, David Featherston, early in March, 1953. It was slightly less than one foot long and 2 lb. in weight. The clavus has 18 rays.

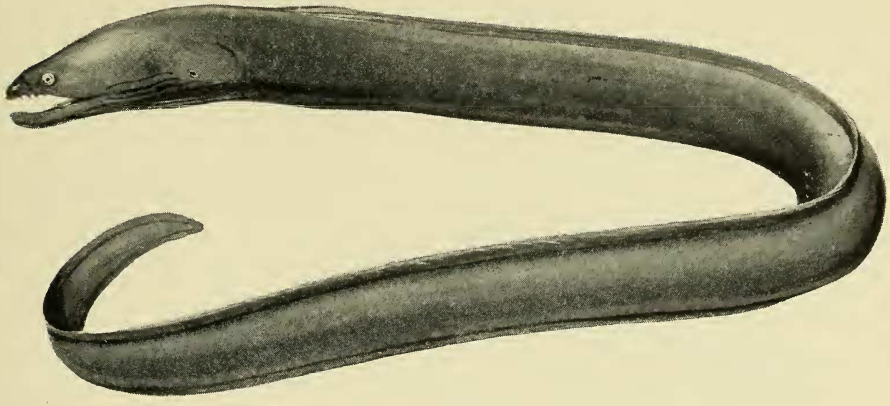
A sketch of another specimen washed up at Shelly Beach, Cronulla, was sent to me by Mr. John Merton.

New record for New South Wales.

The above references bring my 1933 and 1937 bibliographies of this species up to date as far as Australasia and Oceania are concerned.

EXPLANATION OF PLATE III.

Fig. 1: Eel, *Notorabula callorhyncha* (Gunther). Fig. 2: Scorpion Fish, *Rhinopias godfreyi* Whitley. Fig. 3: Marlin, *Istiompax howardi* Whitley.



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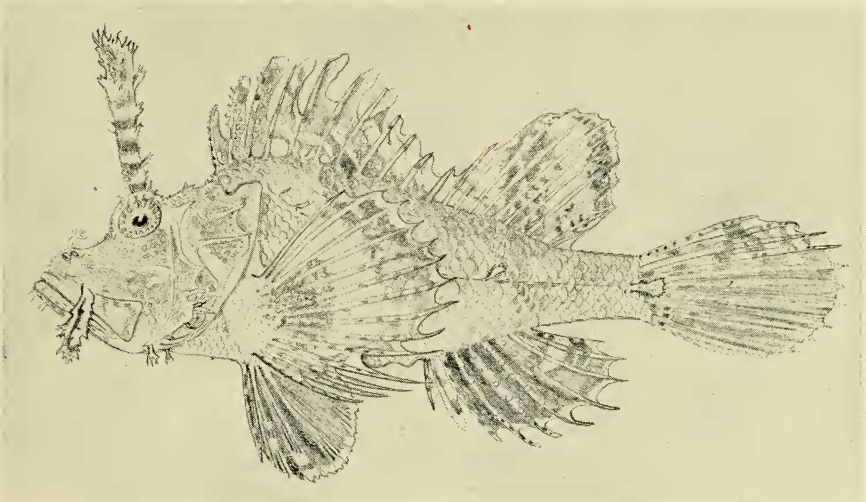

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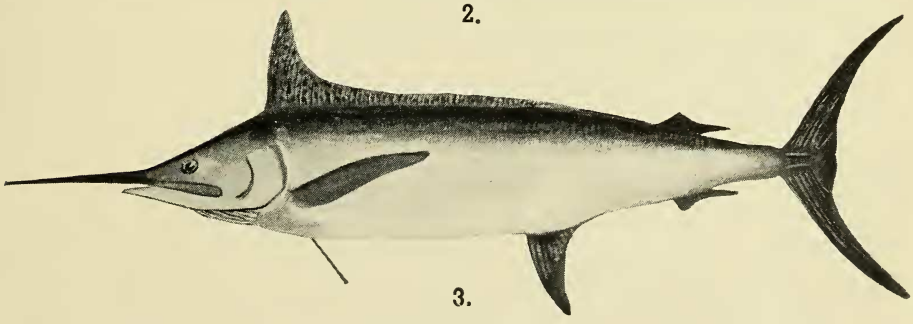

3.

1. Eel. 2. Scorpion Fish. 3. Marlin.

A. Fraser-Brunner, J. Beeman and G. P. Whitley del.