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New Records and Descriptions of Fishes from Southwest Africa

(With Plates 2-5)

by

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Because of the two great currents of different temperatures that intermingle there together with extensive coastal upwelling, the surface waters about the Cape present a confused pattern, and considerable fluctuations in surface temperature occur. In all this however the marginal seas of Southwest Africa north of Cape Point are unusually cool, and the belt of cold sea there acts as a barrier to the intermigration of most surface and shore fishes from the warmer zones of the Indian and Atlantic Oceans. At times however conditions arise that apparently provide a more or less continuous even if temporary "warm water lane" that connects warmer areas of the eastern Atlantic and the south-western Indian Oceans. Many years ago I predicted a great future for the False Bay area as a Tunny angling centre, for it is likely that these fishes are not as greatly hampered as most others by the conditions north of the Cape which they reach from warmer Atlantic sources, while their southerly migration should be greatly aided by warmer water.

Mr. F. H. Schulein, Acting Fisheries Officer, has observed that the sea at Walvis Bay (22° 40'S x 14° 25'E), normally of temperature about 14°C is at times notably warmer than usual, temperatures up to 5°C higher than normal have been recorded from the coast to at least 30 miles out, and this may be maintained over several months. At such times anglers report catching fishes unusual in those parts, among them certain species such as **Sparodon durbanensis** (Castelnau), and **Heteromugil tricuspiciens** (Smith), both fishes typical of Southern Cape coasts. Also certain other species not before known about Walvis Bay have been caught by the Fisheries officials, and some of these, described below, have not before been recorded from Southwest Africa. One is a Carangid fish common further north in tropical West Africa, not before known to travel so far south. Mr. Schulein's temperature data and the simultaneous presence at Walvis Bay of fishes normally of warmer zones from both north and south is significant, and indicates that a broad belt of relatively warm water from tropical west Africa past Walvis Bay to the Cape is established at times. The periodic greater abundance of Tunny off Southwest Africa and about the Cape is almost certainly a consequence of such conditions.

Family Isuridae

Isurus oxyrinchus Rafinesque, 1810

This species has been reported from over much of the tropical and temperate Atlantic. While known along a wide stretch of ocean bordering the Americas it is not abundant in the western Atlantic Ocean. It appears to be better known in the tropical and temperate parts of the Eastern Atlantic, ranging from Southern Europe to the Canaries, Azores, north West Africa, and has been reported from St. Helena and Ascension Islands. It was first certainly recorded from the Southern Cape coast in 1953 (Smith, Nature, 171, 977, figs 1, 2, Algoa Bay), and "Mako" sharks have become quite well known off-shore along the Eastern Cape, Natal and Mozambique, some of over 12 ft in length have been seen and even hooked.

There has however hitherto been no record of the occurrence of any "Mako" shark in the far eastern Atlantic bordering the West African coast from 5°N southwards to the Cape, none from Southwest Africa. Mr. Schulein now reports a "Mako" shark caught off Pelican Point, Walvis Bay, of whose head he has sent a photograph. This is the first certain record of **I. oxyrinchus** from Southwest Africa. Mr. Schulein also reports that "Mako" sharks are frequently caught during Tunny fishing out at sea from Walvis Bay. It would therefore appear that this shark probably ranges along the full length of West Africa south to the Cape.

Family Rhinochimaeridae.

Neoharriotta pinnata (Schnackenbeck, 1931)

(Plate 2, A)

Harriotta pinnata Schnackenbeck, 1931, Mitt. Zool. Mus. Hamb. **44**: 40 (Walvis Bay). Poll, 1951, Exp. Ocean. Belg. Eaux Cot. Afr. **4**: part 1, Poiss. **2**: 145 fig 63. Pl 13, fig 4 (Gulf of Guinea; Congo).
Neoharriotta pinnata Barnard, 1952, Ann. Mag. nat. Hist. (12), **5**: 66, fig 1-5 (No precise locality, S.A. Museum). Smith, 1961, Sea Fishes S.A. **78**, Fig 97 (S.W. Africa).

A female, the largest yet found, 1420mm total length, from Walvis Bay was sent by Mr. J. P. Matthews, Fisheries Officer. This confirms the diagnosis of this species, now known to range from Walvis Bay (23°S) northwards along West Africa to 2°N. Lacking only the extremity of the caudal the specimen is otherwise in fine condition.

Family Albulidae

Pterothrissus belloci Cadenat, 1937

(Plate 4, D)

Cadenat, 1937, Rev. Trav. Off. Scient. **10**, (4): No. 40, 443, figs 7-9 (Senegal). Poll, 1953, Exp. Oc. Belg. Eaux Cot. Afr. **4**: pt 2, Poiss. **3**: 16, figs 5-9 (9-16°N. off west Africa). Cadenat, 1953, Bull. Inst. Afr. Noire. **15**: No. 3: 1060, fig 2 (Senegal).

This species has been found to attain a length of 350mm and to be abundant at depths of 200-250 metres over the range about 9-16°N off the coasts of Guinea and Senegal in West Africa, where it is of some significance as food. It is closely related to the Japanese *P. gissu* Hildebrand, 1887, with which it agrees in almost all details, differing mainly in the position of the dorsal origin, which in *P. gissu* is over the middle of the pectoral.

D iv 49-50. A iii 10-11. P 15-16, V i, 9. L. 1 about 90. Gillrakers (3)5+1+11-13. Body elongate, tapering posteriorly, little compressed. Gillrakers moderate, enveloped in membrane for most of length, only the apices free. Depth 4.8-5, head 3.3-3.4 in standard length. Eye 4.3-4.5 in head, 1.2 in interorbital and 1.3 in snout. The mouth inferior, the maxilla not to below the front of the eye. On the premaxilla, which forms only the front half of the upper jaw, is a band of fine recurved sharp teeth in 4-5 series, a similar band in the lower jaw. The hind part of the jaw, i.e. of the maxilla, bears a single exert series of about 12 relatively widely spaced fine sharp teeth. Palate and tongue edentate. The dorsal origin is above the end of the opercle or slightly posterior. Most scales have been lost. Colour uniform yellow grey, fins light, tips of caudal lobes dusky. Described from three specimens, 170, 180 and 190mm total length respectively from Walvis Bay, sent by Mr. Schulein.

At the same time previously unknown larval forms of this species were found. These are being described elsewhere, but indicate that this species probably lives and breeds off Walvis Bay, doubtless in deeper water.

Family Dussumieriidae.

Etrumeus teres (de Kay, 1842).

Clupea micropus Schlegel, 1846, Fauna. Jap. Poiss. 236, Pl 107, fig 2 (Japan).

Etrumeus teres, Whitehead, 1963, Bull. Brit. Mus. Nat. Hist. (Zool). 10 (6) : 321, fig 11.

This widespread species is rare in South African seas, where it is most often found in Natal. Mr. Schulein has sent two specimens, 180 and 185mm total length, taken at Walvis Bay. This is the first record from the eastern Atlantic.

Family Gonostomatidae.

Gonostoma elongatum (Gunther, 1878)

(Plate 2, B)

Gunther, 1878, Challenger, Rep. Deepsea fishes 22 : 173, Pl. 45, B (Far eastern Indian Ocean, 360-800 fms).

This species has been recorded from a wide area of the seas, taken mostly in deep water to 1,000 fathoms, but not hitherto in or near South African seas, the nearest is the Gulf of Guinea. A specimen, 152mm standard length, recently taken in deep water off Cape Point is briefly described below.

D 13. A 31. P 12. V 8. Gillrakers 7+1+10, long, slender. Depth 7.5, length of head 4.6 in standard length. Anus about midway between origin of anal and apex of pelvic, and almost exactly midway between tip of snout and base of caudal. Origins of dorsal and anal fins about opposite. Adipose fin well developed. ORB and SO distinct, OP not obvious. Almost uniform dusky black, photophores and luminous organs silvery.

Family *Fistulariidae*.

Fistularia villosa Klunzinger, 1871

This tropical species is rare in South African seas, in the Indian Ocean it is seldom found south of Natal. In the eastern Atlantic it has been recorded along west Africa to about 15°S. It has hitherto not been found about the Cape or in Angola. Mr. Schulein has now sent a specimen 600mm total length, from near Pelican Point, Walvis Bay, the first record for Southwest Africa, not before found there, and not before known in such cool seas.

Family *Alepisauridae*.

Alepisaurus ferox Lowe, 1833. (Plate 3, C)

Alepisaurus ferox Lowe, 1833, Proc. Zool. Soc. Lond.: 104; and 1845, Tr. Linn. Soc. 1: 124, Pl 19; also 395, Pl 59 (All Madeira). Barnard, 1925, Ann. S.A. Mus. 21: 250, Pl 10, fig 2 (East London). Smith 1949, Sea Fishes S.A.: 116, fig 187 (S. Africa). Known from a wide area of mostly warm seas, this large fierce species has been considered a rarity in South African seas. Long known only from a specimen found at East London, one was later found on the Pondoland coast and we have a specimen from Algoa Bay. It has not before been found off Southwest Africa. A head of a 1200mm specimen taken off Walvis Bay has been sent by Mr. Schulein. It may be noted that among the stomach contents of sperm whales (sent for identification by Mr. P. Best of the S.A. Division of Sea Fisheries) taken off our west coast in the southeastern Atlantic, remains of this species were present in several cases. All this indicates that ***A. ferox*** is more common about South Africa than has hitherto been supposed.

Family *Bramidae*

Taractes longipinnis (Lowe, 1843).

(Plate 5, A)

Brama longipinnis Lowe, 1843, Proc. Zool. Soc. Lond. 11 : 82 (Madeira). ***Taractes longipinnis***, Barnard, 1927, Ann. S.A. Mus. 21 : 595 (False Bay, Cape); and 1948, *ibid*, 36 : 374, Pl 10 (False Bay, Camps Bay, Cape). Smith, 1949, Sea Fishes S.A. : 309 (Cape). Munro, 1958, Handbk. Austr. Fish. No 30, 122, fig 797 (Australia). Gosline, 1960, Hawaiian fishes : 180, 327 (Hawaii).

A specimen 620mm total length, found by Mr. Schulein at Walvis Bay, provisionally assigned to this species, is described briefly below.

D iii 34. A ii 26. P ii, 19. Lateral series of scales 45 to caudal base, about 30 transverse from dorsal origin obliquely down, about 35 predorsal (to above front of eye). Six series of scales across cheek to angle. Depth 1.9, length of head 3.1 in standard length. Eye 4.1 in head, almost equals snout, 1.7 in width of interorbital. Gills and intestines are missing. Only a single small circular nostril is visible on the side of the snout.

Mouth very oblique, maxilla scaly, expanded posteriorly, reaches to below the hind third of the eye. Small recurved sharp caniniform teeth in bands in each jaw, the teeth become smaller and the bands taper posteriorly to 1-2 series, three similar teeth on vomer, and narrow bands on palatines.

The dorsal origin is well behind the head, 1.5 times further from caudal base than from snout tip. The front lobe is 1.4 in body depth. The anal origin is behind that of the dorsal, the lobe about equal to that of the dorsal. The pectoral is 2.2 in the standard length, about 1.5 times the head. The pelvics barely exceed an eye diameter. The whole body, most of the vertical fins and all of the head except the snout to above the front of the eye, are all fully scaly. About five series of scales along the flanks are ridged, forming continuous slight ridges along the body, none have spines. Above and below, at the base of the caudal there is a marked transverse groove. Colour, more or less uniform brown, pectorals, apices of hinder dorsal and anal rays, and scale ridges with yellowish tinge.

Records of *T. longipinnis* indicate a curious distribution, for while it is widespread there are notable intermediate gaps. These may however be apparent only as it is a great rarity and odd specimens are found only by chance. It is best known from the northeastern temperate Atlantic to Scandinavia, but it has been found also about Japan, Australia and in the central Pacific (Hawaii). Although not recorded from anywhere in the Indian Ocean proper, twice in the past century it has been thrown up at the Cape Peninsula. Otherwise it has not before been found in the Southern Atlantic, the present record from Walvis Bay is the first from the South Eastern Atlantic north of the Cape. It is curious that only one gillraker count of this species has been given, that of 11 lower rakers, by Munro (1958, *loc. cit.*). Most unfortunately the gills had been removed from this present specimen so that this count cannot be recorded.

The pectoral fin in this present specimen is longer than any yet described, and while most specimens are stated to have an edentate vomer, teeth are present on the vomer of this specimen. Descriptions vary so widely as to indicate that a world revision is greatly needed. Either the species is highly variable or several are probably being confused. A full series of growth stadia should be examined. Gillraker counts may help to provide a solution. The specimen described here agrees well with the description and illustration of Munro (1958). It is possible that the form in the southern hemisphere merits distinction.

Family Lampridae

Lampris regius (Bonnaterre, 1788)

(Plate 5, B)

A fine specimen in prime condition, 970mm total length, captured off Walvis Bay in June 1963, was sent by Mr. F. H. Schulein. D I 48. A 39. P 1, 21. V I 12. Gillrakers 2+1+13 (+ 1). Chief dimensions (in mm) are: Total length 970, standard length 820, head 300, eye 58, snout 100, postorbital 165, pectoral 240, depth of peduncle 60. The upper gillrakers are short, the lower are long, normal, all but the most anterior, which is little more than a rudiment.

A colour transparency shows the fish shortly after death as a velvety light purple above, lighter below, with numerous light spots, the fins and front of snout scarlet. Only two specimens of this species have before been recorded from South Africa, one in Table Bay, one in False Bay. Both were immaculate and the False Bay specimen was on this account made the type of a separate species, **L. immaculata**, by Gilchrist (1904, Mar. Inv. S.A. 3 : 4, Pl 12). This immaculate form, while rare, is known from a wide area of the seas. McCann, 1953, Rec. Dom. Mus. 2 : 4, Fig 3 (New Zealand) suggests sexual dimorphism, his evidence indicates the immaculate form as the male. Mr. M. J. Penrith of Cape Town has informed me that this species is not an uncommon capture on Tunny long lines in Cape waters.

Family Trachypteridae

Trachypterus nigrifrons Smith, 1956

Smith, 1956, Ann. Mag. Nat. Hist. (12), 9 : 449, fig 1.

This characteristic black-fronted species has been known from only two specimens, the type, 1210mm, and the topotype, 1300mm length, from East London. A mutilated third specimen, about 700mm, the front of the trunk missing, was found at Knysna. Recently, remains from the stomach of a big-eye tunny caught off Walvis Bay proved to be those of a specimen almost certainly this species about 900mm total length. This was partly digested and a section of the median part of the body was missing. The head is almost entire. This specimen, which has the characteristic "**nigrifrons**", differs from the types in certain details, notably gillraker count, and it has pelvic fins, paired, each of 12 rays, arising from closely adjacent knob-like bases, close behind the level of the pectoral base. The length of the pelvic fins is about 1.5 times the eye diameter and they are doubtless in an obsolescent stage, as in both type and topotype only faint basal knobs remain. Data from the four specimens are as follows:

TABLE 1.

Total length, mm	Knysna 700	Walvis Bay 900	East London Type, 1210	E. London 1300
Dorsal rays	—	—	170	155
Pectoral rays	—	—	—	12
Pelvic rays	—	12	—	—
Upper teeth	5+5	4+4	6+6	6+6
Lower teeth	4+4	3+3	5+5	5+5
Teeth on palate	None	None	3	None
Gillrakers	3+8	4+10	3+8	3+8

Family Carangidae

Decapterus punctatus (Cuvier, 1829).

This is generally accepted as a species normally confined to the Atlantic. It was first recorded from outside that ocean by Fowler (1929, *Annals Nat. Mus.* **6** : 257) who recorded without description four specimens of length 94-193mm from Natal. In 1934 Fowler (*ibid.* **7** : 423) described these specimens under the same name. Norman (*Ann. Mag. nat. Hist.* 1935, (10) **16** : 252-264) published a detailed world revision of **Decapterus** Blkr, 1851 which is useful, but it would have been more so if the chief cleavage in his main key to species had not been geographical (Norman includes the Indian **D. indicus** Day, among the Atlantic species!). According to Norman's key, Fowler's Natal specimens should more properly be identified as **D. russellii** Ruppell, 1828, and it is curious that Fowler came to align them with the Atlantic species. Among smaller Carangid fishes species of **Decapterus** Blkr. are known to be unusually wide ranging, and though primarily tropical do at times penetrate far into temperate or even cool seas, e.g. **D. lajang** Blkr. 1855 ranges from Japan and the western Pacific through the Indian Ocean to South Africa, where it has been found as far south as Mossel Bay (34°S x 22°E). On the other hand, **D. longimanus** Norman, 1935 is known only from Tristan da Cunha, which lies in the South Atlantic at 37°S x 12°E.

All workers appear to believe that there is complete cleavage at the Cape between the Atlantic and the Indo-Pacific species, and there has hitherto been no suggestion that any species of **Decapterus** might be found in all three of the major oceans. While known from tropical West Africa no species of this genus has before been found in Southwest Africa. Mr. Schulein has however sent me a specimen, 175mm standard length, taken at Walvis Bay, which has the following data.

D VIII+I,31+1. A II+I,27+1. L.1. 82, 41 pointed scutes on hind part. Gillrakers 13+36. Depth 5.0, head 4.0 in standard length. Eye 4.0, pectoral 1.4 in head. The hind section of the lateral line with scutes is as long as the remainder. The first dorsal is higher than the second. Teeth in a band across the vomer and on palatines. Colour greenish, a pupil-size dark spot on hind upper part of opercle, adjacent is a slight dusky area on the shoulder, the fins light. From its Atlantic origin, by Norman's 1935 (*loc. cit.*) key this fish falls at once with **D. punctatus** Cuvier, but on a world basis it falls equally well with **D. russellii** Ruppell.

Apart from the interest of the present first record of this genus from South West Africa, this specimen indicates that comparison of specimens of **D. punctatus** from at least the eastern Atlantic with the Indo-Pacific **D. russellii** may show them to be identical. Unfortunately no undoubted specimens of this latter species are at present available for this purpose in South Africa.

Vomer dorsalis Gill, 1862
(Plate 4, B).

Vomer dorsalis Gill, 1862, Proc. Ac. Nat. Sci. Phil. : 436 (Congo). **Selene gibbiceps** Gilchrist & Thompson, 1914, Mar. Bio. Rep. 11: 130, fig (Walvis Bay). **Vomer dorsalis**, Barnard, 1927, Ann. S.A. Mus. 21: 551 (Walvis Bay, same specimen). **Vomer gibbiceps**, Smith, 1949, Sea Fish. S.A. : 219, Fig 526 (S.W.Af). **Vomer setapinnis**, Poll, 1954, Exp. Oc. Belg. Eaux Cot. Afr. 4: pt 3A, Poiss. 4: 148, fig 44 (Congo to N. Angola).

Two specimens, 60 and 65mm standard length respectively, from Walvis Bay, are described below:

D (3)-4, IV-V+1, 24-25. A I 19-20. P 17-18. Gillrakers 7+1+30, and 2+1+33 (deformed). Depth 1.5, head 2.7 in standard length. Eye 3.1 in head, 1.6 in snout, 1.2 in preorbital depth. Nape gibbous, the profile subject to minor variations, trenchant, interorbital high, but its width less than half eye. Gillrakers long and slender, in one specimen the outer arch is deformed, there are only two rakers on the lower part of each upper limb. The pectoral is falcate, about 1.1 in head. The pelvics are minute. The breast is cultrate and bony, grading into a sharp preanal keel. Predorsal on the nape are 3 bony knobs, apparently obsolescent spines, following these are four rays or flexible spines, behind are 4-5 low stout separate spines, and one similar attached to the first rays of the soft dorsal, the front rays elevated, about twice the eye diameter, the hinder shorter. No true spines are visible before the anal, there is only a short, stout triangular movable spiny process, the soft anal rays are shorter than the eye diameter. The caudal is more or less forked, the peduncle very slender. Scales are not apparent, the lateral line is complete, highly arched in front, there are about 160 pores in its course to caudal base, no sign of scutes. Colour, as preserved, more or less yellowish brown, darker above, cheeks and abdominal area silvery. The 180mm type of **S. gibbiceps** G & T, shows indications of a few feeble scutes on the hind part of the lateral line, there are none in my specimens.

There appears little to justify distinction of **Vomer** Cuvier, 1817 from the western Atlantic **Selene** Lacepede, 1803. **Vomer** occurs on both sides of the tropical and temperate Atlantic and the relations of the forms of East and West are not yet settled. Some workers accept only one species, but there are constant definite differences between the fishes of the west and east Atlantic. The two forms appear to merit full specific distinction on the following basis.

	setapinnis (W. Atlantic).	dorsalis (W. Africa).
Dorsal rays	20-22	23-25
Anal rays	17-18	19-20
Gillrakers	6-8+26-30 (Fowler, 1936)	(2)-7+31-33

A puzzling feature pointed out by Nichols (1918, Bull. Am. Mus. nat. Hist, **19**: 673) is that specimens taken on the Pacific side at Panama have the same anal count as those from the Atlantic, but 21-24 soft dorsal rays instead of 20-22.

Further investigation of material from both sides of the Atlantic is necessary. Beyond this however it is significant that this tropical West African form is occasionally enabled to reach the latitude of Walvis Bay, where the water is normally far colder than over the normal range of this species.

Chloroscombrus chrysurus (Linn, 1758)
(Plate 4, C).

Scomber chrysurus Linn, 1758, Syst. Nat. : 494 (N. America).
Micropteryx chrysurus, Gunther, 1860, Cat. Fish. B.M. **2** : 460 (Niger, W. Africa). Pellegrin, 1914, Ann. Inst. Oc. Monaco, **6** : 67 (Senegal). **Chloroscombrus chrysurus**, Fowler 1936, Bull. Am. Mus. Nat. Hist. **70** : 712 (Trop. Atlantic). Poll 1954, Exp. Ocean. Belge Eaux Cot. Afr. **4** (3a) Poiss. **4** : 155, fig 45 (tropical W. Africa).

DI+VII+128. A II+I 25. P 21. Gillrakers 8+1+31. Body greatly compressed, belly trenchant. Depth 2.2, head 3.3, pectoral 2.7, pelvic 9 in standard length. Eye 3 in head, exceeds snout and very narrow interorbital. Teeth small, incurved, uniserial in each jaw, villiform teeth on vomer, palatines and tongue. Pectoral reaches above almost halfway along anal. Caudal broken, peduncle very slender. As preserved silvery, back olive, a small lunate black spot on upper edge of opercle, an elongate pupil-size black blotch at upper part of caudal base, pectoral base dusky. Cheek and opercles silvery, rest of head olive, tip of lower jaw dusky. One specimen, 80mm standard length, taken in a net at Walvis Bay. This species has been recorded from tropical areas both sides of the Atlantic, in West Africa it is known from Senegal to northern Angola, but has not before been recorded from South African seas.

Family Denticidae

Dentex macrophthalmus (Bloch, 1791)

(Plate 4, A)

This Mediterranean and tropical West African species is recorded by Poll, 1954, as abundant to about 16°S in West Africa.

Mr. F. Schulein has sent a 320mm specimen, which is above the average catch length, found at Walvis Bay, the first record for South-west Africa.

Family Mugilidae

Mugil (Liza) richardsonii Smith, 1849

(Plate 2, C).

Mugil richardsonii Smith, 1849, 111. Zool. S.A. Fish. Pl 29, fig 1 (South and West coasts, S.A.). Gunther, 1861, Cat. Fish. Brit. Mus. 3 : 440 (Cape seas). Gilchrist, 1902, Mar. Inv. S.A. 1 : 136 (references, S. Africa). Poll, 1959, Exp. Ocean. Belge. Eaux Cot. Africa 4 : part 3B, Poiss. 5 : 269, fig 93 (S. West Africa).

Mugil capito (non C & V, 1829) Barnard, 1925, Ann. S.A. Mus. 21 : 304 (S.A. in part). Smith, 1935, Ann. S.A. Mus. 30 : 613, figs 8 and 9, Pls 17 and 19 (South and west coasts of S.A.).

Liza ramada (non Risso 1826), Smith, 1949, Sea Fish. S.A. : 322, fig 887 (S. Africa).

As the above synonymy indicates, this species has proved troublesome to systematists. During an earlier revision of South African species of these fishes I was informed by the late J. R. Norman that Andrew Smith's types in the British Museum were badly stuffed specimens or skins, scarcely usable for critical diagnosis. Earlier, this southwest African species was identified as **M. capito** C & V, but I have since found that it cannot be identified with any from the northern hemisphere, and that it merits distinction from them. It is clearly distinct from all established known species that occur about Southern Africa and must be named anew.

Numerous specimens from the Cape northwards to Walvis Bay are clearly only one species, which is so common and abundant in the cooler waters of the Cape and south west Africa that there is no reason why Andrew Smith should not easily have got specimens. Despite the difficulty of the poor condition of the type, the specimens now examined agree so well with A. Smith's 1849 description and illustration of **Mugil richardsonii**, that they are now accepted as that species.

It differs from all others in South Africa by the following combination of characters:

Lips thin, smooth. Adipose eyelids very narrow, even in large adults. Pectorals short, 1.5-1.7 in head, when folded forward they do not reach the eye. The scaly process at the base of the first dorsal is 4-5 in the predorsal length. Soft dorsal and anal scaly only basally and in front. Anal origin only slightly before that of the first dorsal.

More than 90 gillrakers (34-36+1+56-60). Fine teeth in jaws, on vomer, palatines, pterygoids and in patches round and along the tongue. The end of the maxilla is slightly exposed.

D IV+I 8. A III 9. P 1, 15-16=16-17.

This species is apparently exclusively coastal marine, and is taken in great numbers in suspended gill nets, in seine nets and in shore traps. It is a rather small species, specimens longer than 15 inches are seldom seen.

Family **Thunnidae**

Allothunnus fallai Serventy, 1948

(Plate 3, A, B).

Allothunnus fallai Serventy, 1948, Rec. Cant. Mus. 5: 131, Pl 28 (N. Zealand). Talbot, 1960, Ann. S.A. Mus. 45: 258 (Rec. False Bay). D XVI-XVIII 11-12+7. A 14-16+7. P 25-26. Gillrakers 20-24+1+50-54, total 71-77. Body slender, fusiform, moderately compressed. Depth 5.5-6, head 3.8-4 in standard length. Eye with strong adipose eyelids, the visible part of the eye 5.5-5.8 in head, 1.3-1.4 in inter-orbital, 1.7-1.8 in snout. Snout pointed, the lower jaw projects slightly, a single series of fine incurved sharp teeth in each jaw, palate and tongue edentate. Gillrakers slender, longest at angle, about 1.5 in gill filaments, which equal vertical diameter of eye. Pectoral falcate, 2.5 in head, pelvics 3.5 in head. Caudal lunate, a feeble keel on peduncle, two small auxiliary keels on caudal base. Dorsal origin twice as far from caudal base as tip of snout, the spines rather low, the hinder widely separate, second dorsal low, falcate in front, the finlets well developed. The anal origin is below the middle of the second dorsal fin, the front a low falcate lobe, finlets well developed. Scales minute, not apparent on hind part of body.

As preserved, almost black above, lighter below. Described from four specimens, 270-282mm total length, taken by net off Walvis Bay, June 1963, sent by Mr. F. H. Schulein, Acting Fisheries Officer. This curious elongate Tunny was first recognised as new only in 1948 from a New Zealand specimen that had earlier been malidentified. This is a rare species, taken at intervals in Australasia. It obviously favours cooler seas as most have been taken there in latitudes exceeding 40°. A specimen 835mm in length was taken in 3 fathoms by speargun in False Bay, Cape, in 1960, and another on a lure in the same area, apparently the first to be captured on a line. This is the only recorded capture by an angler, which explains in great part why the species became known so late as compared with other members of the family. It apparently rarely exceeds 900mm length.

The present specimens are the first to be recorded from the Atlantic proper north of the Cape. They are of special interest in representing the earliest juvenile stadium yet known, and probably indicate that this species breeds in our seas and is normally present here. Such small specimens are scarcely likely to have come from other continents in the southern hemisphere.

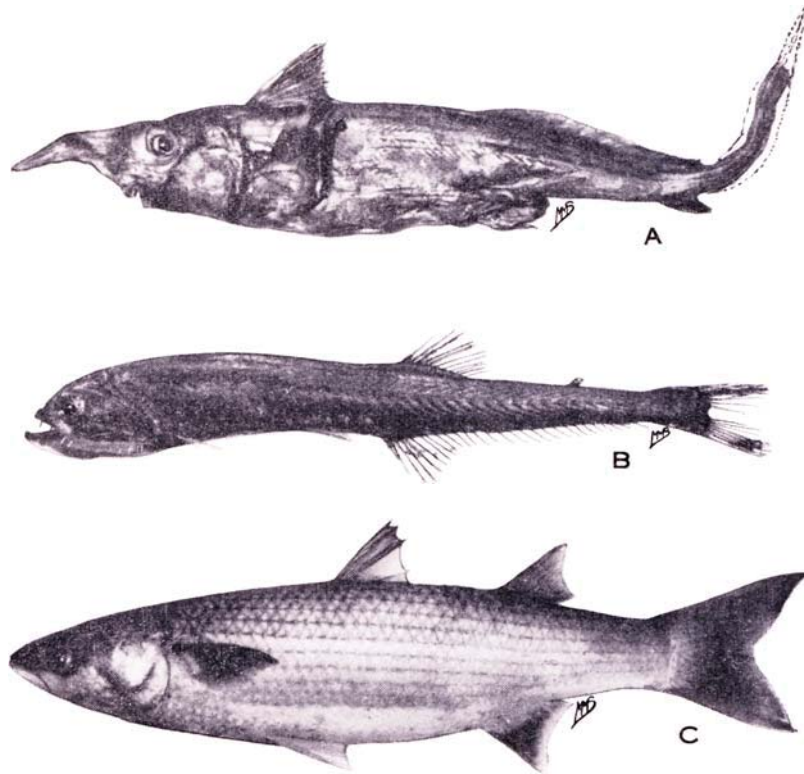


Plate 2.

A. ***Neoharriotta pinnata*** (Schn), fem. 1420mm. B. ***Gonostoma elongatum*** (Gnther), 152mm. C. ***Mugil (Liza) richardsonii*** Smith, 390mm.

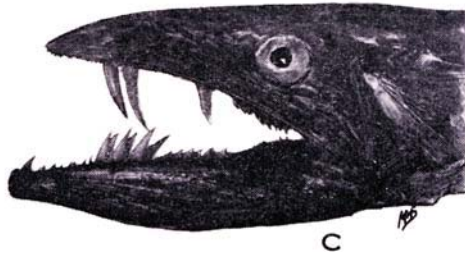
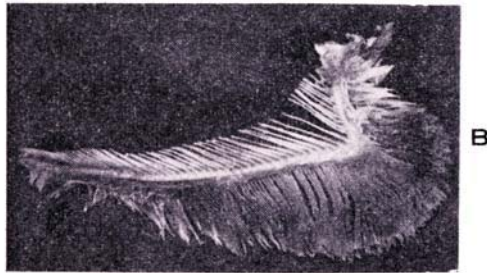
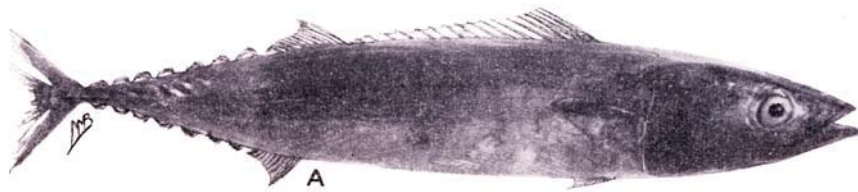


Plate 3.

A.B. *Allothunnus fallai* Serventy, 280mm. C. *Alepisaurus ferox* Lowe.

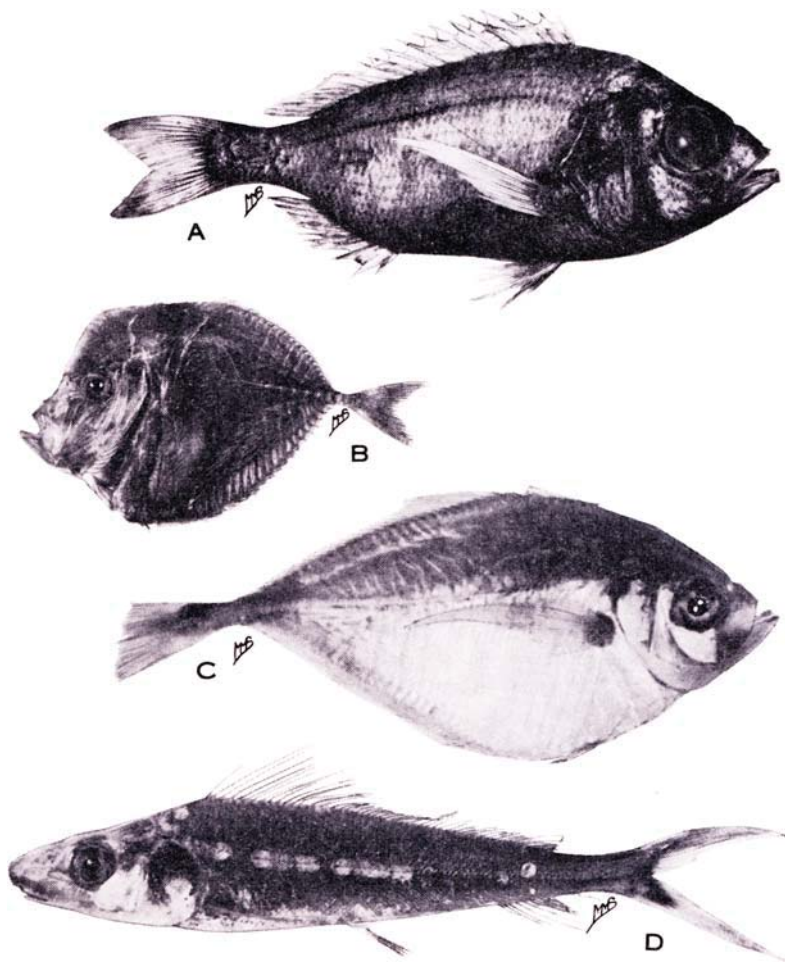


Plate 4.

A. **Dentex macrophthalmus** (Bloch), 320mm. B. **Vomer dorsalis** Gill, 75mm. C. **Chloroscombrus chrysurus** (Linn), 85mm. D. **Pterothrissus bellocci** Cadenat, 190mm.

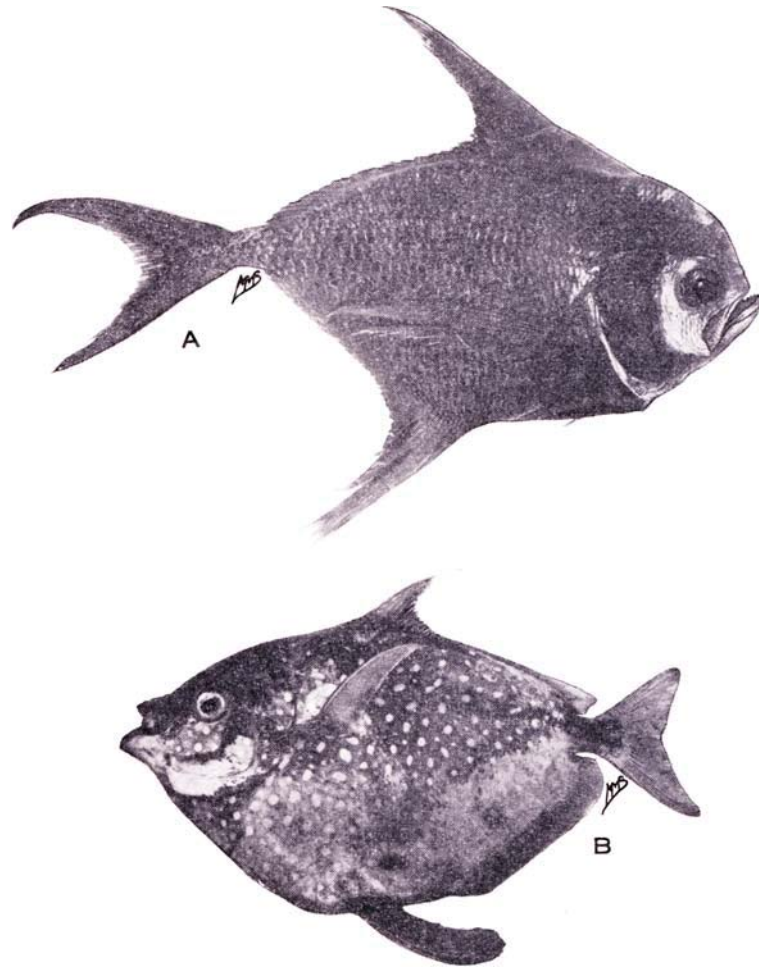


Plate 5.

A. ***Taractes longipinnis*** (Lowe), 620mm. B. ***Lampris regius*** (Bonn), 970mm.

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