

**ON LANCET FISHES OF THE GENUS ALEPISaurus LOWE
FROM THE INDIAN OCEAN**

BY

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ON LANCET FISHES OF THE GENUS ALEPISaurus LOWE FROM THE INDIAN OCEAN*

A PERUSAL of the literature shows that up to now only one species of lancet fish *Alepisaurus ferox* Lowe has been recorded from the Indian Ocean (Barnard, 1925; Smith, 1936, 1961). Recent reports by Gibbs (1960) indicate that two species, *A. ferox* Lowe and *A. brevirostris* Gibbs (1960), occur in the North-Western Atlantic. *A. ferox* has also been recorded from several localities from the Atlantic and the Pacific and at present the following are considered synonyms of this species: *Alepisaurus azureus* Valenciennes (1849) from Canary Islands; *Alepisaurus richardsoni* Bleeker (1855) from Van Diemens Land [based on Richardson's (1844) description of a head]; *Alepisaurus altivelis* Poey (1861) from Cuba; *Alepidosaurus borealis* Gill (1863) from the Pacific; *Alepidosaurus serra* Gill (1863) also from the Pacific; *Alepidosaurus poeyi* Gill (1863) from Cuba (based on drawings of a specimen made by Poey); and *Alepidosaurus oesculapius* Bean (1883) from the Pacific. For discussion on these synonyms reference is invited to Mead (1955) and Gibbs (1960).

A. brevirostris Gibbs has thus far been known only from North-Western Atlantic, the holotype having been caught in longline at $38^{\circ} 49' N.$, $64^{\circ} 02' W.$ and paratypes taken from several localities from this general area of the Gulf Stream.

From January to May 1964 while carrying out longline fishing for tunas and marlins in the Arabian Sea, Western, Southern and Central parts of the Indian Ocean and the Maldives-Laccadive Seas from the U.S. Research Vessel ANTON BRUUN, a large series of over 100 specimens of *A. ferox* were caught from 26 longline stations and six specimens of *A. brevirostris* were caught from five longline stations. The former species showed a size range of 494 to 1,573 mm. in standard length and weight from less than 1 kg. to 13.6 kg. The latter species caught at Stations 304, 305, 307, 313 and 315 measured 504 to 767 mm. in standard length and weighed less than 1 kg. each.

While *A. ferox* was found to be fairly widespread both north and south of the equator up to $34^{\circ} S.$ latitude, the distribution of *A. brevirostris* was found to be restricted to between

$24^{\circ} 16' S.$ and $35^{\circ} 34' S.$ latitude (along $55^{\circ} E.$ and $75^{\circ} E.$ longitudes).

Since this is the first time that *A. brevirostris* is being recorded from the Indian Ocean, the frequency of fin ray counts of the species as well as the salient characters by which the two species may be distinguished are given in Tables I and II based on the data collected by me on fresh specimens.

TABLE I
Frequency of fin ray counts

Species	First dorsal fin												No. of specimens		
	37	38	39	40	41	42	43	44	45	46	47	48	49		
<i>A. ferox</i>	3	7	15	22	18	13	6	7	2	..	1	1	..	95	
<i>A. brevirostris</i>	1	1	..	2	1	1	6	
Pectoral rays	specimens				Pelvic rays				specimens				No. of specimens		
	13	14	15	16	7	8	9	10	14	15	16	17	18		
2	66	24	4	96	1	1	55	30	87	—	16	45	30	3	94
5	1	6	6	..	6	1	2	3	6

Examination of gonads of specimens of both species when caught showed that they were all females in different stages of maturity. This is not surprising as on the basis of histological examination, Gibbs (1960) has shown that both species evince hermaphroditism as both male and female gonadal structures are present, the testes lying dorsal to the much larger ovaries in the groove between them (see also Mead, 1960).

Now that the identity of the second species of *Alepisaurus*, namely *A. brevirostris*, is well established, it will not be surprising if this species is also identified from the collections from the Pacific Ocean.

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TABLE II
Salient characters of *A. ferox* and *A. brevirostris* from the Indian Ocean

Characters	<i>A. ferox</i> Lowe (Fig. 1 B)	<i>A. brevirostris</i> Gibbs (Fig. 1 A)
1. Snout	.. Long, pointed, 7·69 to 8·52% of standard length	Short, bluntly rounded, 4·18 to 5·09% of standard length
2. Head	.. Head long, 17·53 to 20·24% of standard length	Head short, 14·50 to 15·25% of standard length
3. Eye	.. Relatively smaller, being 10·34 to 20·00% of head length and 29·92 to 52·63% of snout length	Relatively large, being 17·54 to 23·53% of head length and 56·75 to 75·00% of snout length
4. Pectoral fin	.. Generally 14 to 15 rays and exceptionally 13 or 16 rays	Generally 13 rays and exceptionally 14 rays
5. Dorsal fin	.. Origin above level of posterior margin of operculum; first few anterior rays of fin elongate and free from membrane, rest of fin more or less of even height up to a point half-way between P_2 and A , after which the rays become abruptly shorter in a graded series. Fin metapbrane without any white spots	Origin much anterior to posterior margin of operculum; first few rays of dorsal not elongate but fin gradually arcuate and fin membrane with conspicuous irregular horizontal rows of white spots
6. Body colouration	.. Body colour light with small melanophores; exceptionally a few ocellated melanophores may be seen	Body colour dusky to dark with large melanophores, most of which are ocellated

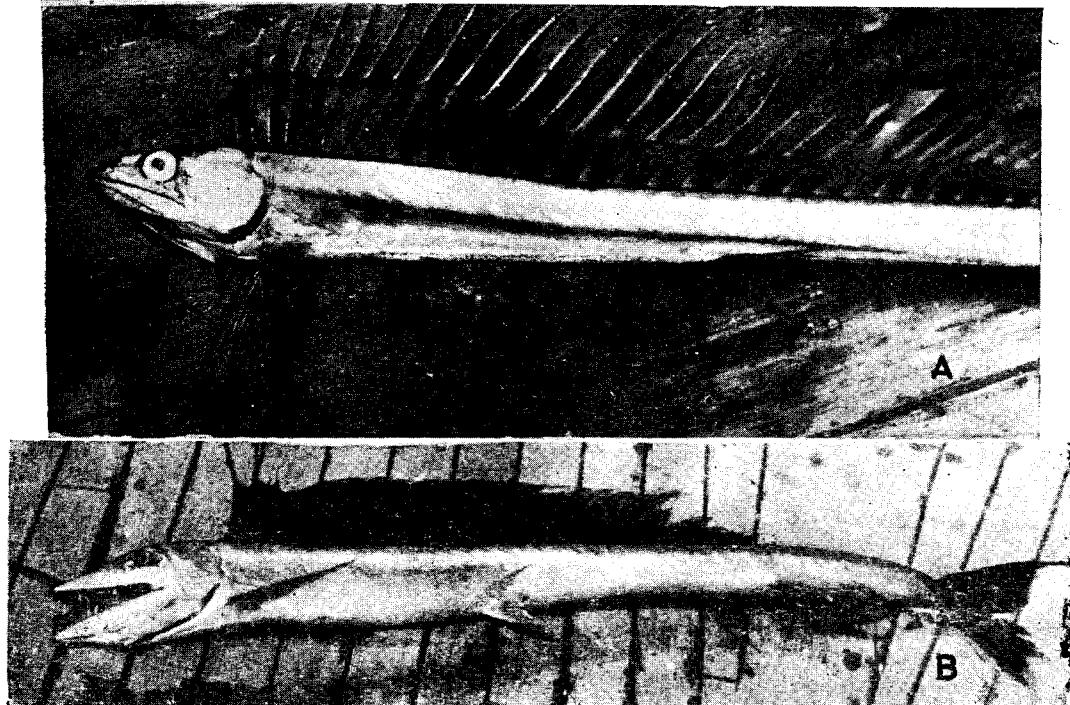


FIG. 1. Lancet fishes (Genus *Alepisaurus* Lowe) from the Indian Ocean. A. *A. brevirostris* Gibbs, 740 mm. in S.L.; B. *A. ferox* Lowe, 1211 mm. in S.L. (Photos by E. G. Silas).

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1. Barnard, K. H., *Ann. S. African Mus.*, 1925, **21**, pt. 1.
2. Bean, T. H., *Proc. U.S. Nat. Mus.*, 1883, **5**, 661-63
3. Bleeker, P., *Uitg. K. Akad. Wetensch. Amsterdam*, 1855, **2**, 1-31.
4. Fowler, H. W., *Bull. Amer. Mus. Nat. Hist.*, 1936, **70**.
5. Gibbs, R. H. Jr., *Brevioria*, 1960, **123**, 1-14.

6. Gill, T., *Proc. Acad. Nat. Sci., Philad.*, 1863, **14** (1862), 127-132.
7. Lowe, T. *Trans. Zool. Soc. London*, 1835 **a**, **1**, 123-28.
8. —, *Ibid.*, 1835 **b**, **1**, 395-400.
9. Mead, G. W., *Copeia*, 1955, No. 2, 148-49.
10. —, *Deep-Sea Res.*, 1960, **6**, 234-35.
11. Poey, F., *Memorias sobre la historia natural de la isla de Cuba, Havana*, 1861, **2**, 1-442.
12. Richardson, J., *Ichthyology of the Voyage of the H.M.S. Erebus and Terror*, London, 1844, pp. 1-139.
13. Smith, J. L. B., *Rec. Albany Mus.*, 1936, **5**, 169.
14. —, *The Sea Fishes of Southern Africa*, 1961 (4th Ed.), p. 116.
15. Valenciennes, A., *Histoire Naturelle des Poissons*, 1849, **22**, 1-532.