

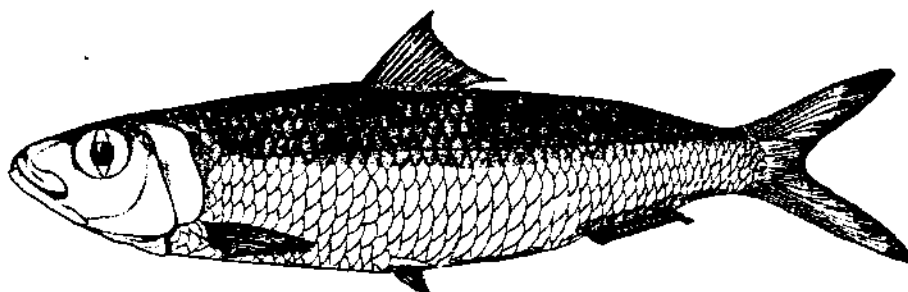
REFERENCES

- BIGELOW, H. B. AND W. C. SCHRODER. 1953. *Mem. Sears Found. Mar. Res.*, I, Pt. II.
- GILL, T. N. 1896. *Proc. U.S. Nat. Mus.*, 18 : 195-98.
- GUDGER, E. W. 1933. *Amer. Mus. Novit.*, No. 600.
- LUTHER, G. 1961. *J. Mar. biol. Ass. India*, 3 : 198-203.
- MENON, M. D. 1957. *J. Zool. Soc. India.*, 9(2) : 200-207.
- SETNA, S. B. AND P. N. SARANGDHAR. 1949. *Rec. Indian Mus.*, 47, Pt. I : 107-24.

ON *SARDINELLA CLUPEOIDES* (BLEEKER) FROM THE COASTS OF INDIA

During November and December 1959 several specimens of *Sardinella clupeioides* were encountered from the Rameswaram Road fish landing centre on the Gulf of Mannar. Subsequently on the west coast of India several specimens were collected from Vizhingam during May, November and December 1960 ; January, February, March and December 1961. The fish were caught by shore seines operating within one mile from shore and by bottom-set gill nets.

Misra (1947) summarises the distribution of *Sardinella clupeioides* as Ceylon, Malaya, Malay Archipelago, Philippines and Japan. This species was not reported so far from India proper, but Deraniyagala (1933) recorded it from the Ceylon coast and later (1952) mentions that 'It appears in Colombo markets from November till March ; is caught in seine nets. Specimens examined on 27-2-'27 had $\frac{3}{4}$ ripe ova.' To the author's knowledge this is the first report of the occurrence of *Sardinella clupeioides* in Indian waters and that the occurrence of it in the southern parts of the east and west coasts of India extends the known distributional range of the species.



Sardinella clupeioides (Bleeker), outline figure, 17.7 cm. S.L.

The various meristic counts are given in the Table. There appear to be some variations between the counts for the present specimens and the observations made by Deraniyagala (1952) and Weber and Beaufort (1913). The difference is particularly apparent in the range for gill rakers in the lower limb of the outer arch, ventral scutes and scales in the longitudinal series (Deraniyagala—D.17-19, A. 16-17, P. 15-17, Gr. 27-29, P. V. Scutes 16, Po. V. Scutes 12-14, L. lr. 40-43 ; Weber & Beaufort D. 17-19, A. 17-18, P. 16-17, Gr. 28, P.V. scutes 15-16, Po. V. scutes 12, L. lr. 40-43).

TABLE 1

Sardinella clupeioides, meristic counts

Locality	D			A			P1			gill rakers lower arch				gill rakers upper arch				P.V. scutes		Po.V. scutes		L. lr.			L.tr.	
	17	18	19	16	17	18	16	17	27	28	29	30	13	14	15	16	16	17	13	14	42	43	44			
<i>East Coast</i> Rameswaram Road	..	3	14	15	12	17	3	7	25	2	18	10	2	7	19	6	..	14	18	31	1	3	8	21	32	
<i>West Coast</i> Vizhingam	7	91	2	66	30	30	68	15	59	2	2	21	58	16	3	96	2	45	53	7	32	59	98

NOTES

Munro (1955) gives the meristic counts as lateral scales 40-45, ventral scutes 16+ (12-14), Gr. (17-22)+(32-33).

The following food items were seen in the gut contents of *Sardinella clupeioides* : Mysis, *Alima* larva, phyllosoma larva, juvenile *Porcellana* spp., *Thenus* early stage, *Accetes*, copepods and semidigested fish tissue. All the specimens observed were immature. *Sardinella clupeioides* is of some importance at Vizhingam as a food fish. At times it occurs along with *S. sirm* and *S. melanura* constituting the main fishery. There appears to be a particular increase in the number of these fish during December. All the three species are locally called by the single name 'Keerimeen.' *S. clupeioides* is easily distinguished from *S. sirm* by its robust body (3.8 to 4.2 versus 4.5 to 5), large eyes (3.2 to 3.6 versus 3.6 to 4.3) and by the absence of intensely blue spots along the body. It can be separated readily from *S. melanura* by the lesser number of gill rakers, i.e. 27 to 30 as against 38 to 44, on the lower limb of the anterior arch.

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REFERENCES

- DERANIYAGALA, P. E. P. 1933. *Ceylon Jour. Sci.*, (c) 5 :
 ———. 1952. *A coloured atlas of some vertebrates from Ceylon. Vol. I, Fishes.* Colombo.
 MISRA, K. S. 1947. *Rec. Indian Mus.* 45 :
 MUNRO, IAN S. R. 1955. *The marine and fresh water fishes of Ceylon.* Dept. External Affairs, Canberra.
 WEBER, M. & BEAUFORT, L. F. DE. 1913. *The fishes of the Indo-Australian Archipelago*, II, Leiden.