

**ON A SPECIMEN OF *BRANCHIOSTOMA MORETONENSE*
KELLY, 1966 FROM THE ARAFURA SEA¹⁾**

TERUAKI NISHIKAWA

Biological Laboratory, College of General Education, Nagoya University

With Table 1

Recently, the author had a chance to examine a lancelet specimen, 33.2 mm long, included in the Dr. Tokioka's collection. This specimen, deposited at the Seto Marine Biological Laboratory, SMBL Rare-295, was collected off Boucaut Bay in the Arafura Sea, 134°33.5'E and 11°54'S, on November, 1940, by Mr. Renzi Wada and was preserved in formalin.

As seen clearly in its meristic characters shown in Table 1, the present specimen can be regarded as quite similar to *B. moretonense* Kelly, 1966 from Moreton Bay on the northeastern coast of Australia, among the branchiostomid lancelets recorded from the Arafura Sea and its adjacent waters. In the total number of myotomes, the present specimen is close to *B. haeckelii* Franz, 1922 from Ceylon and *B. lanceolatum* (Pallas, 1774) from European and Indian waters, too, but it may be distinguishable from the latter two by the number of preanal fin-ray chambers and the arrangement of myotomes. The other morphological features in the present specimen are as follows: post-rostral notch discernible, caudal fin small but distinguishable from dorsal and ventral fins, buccal cirri (partly missing) more than 41, mid-gut coecum very long with its anterior end attaining approximately to the level of the 20th myotome, ovigerous gonads (partly destroyed) 14 on right and 15 on left, and anus located slightly anterior to the middle of the lower lobe of caudal fin.

However, in checking closely respective features of the present specimen, the author cannot help feeling uncertain about the validity of *B. moretonense* that might be reduced to a synonym of *B. lanceolatum* inclusive of *B. haeckelii*; the identity of *B. haeckelii* with *B. lanceolatum* is already suggested by Azariah (1965, p. 353) and Gibbs and Wickstead (1969, p. 140). Further, *B. minucauda* Whitley, 1932 from Northeast Australia might be added to the synonymy of *B. lanceolatum*.

The single specimen from the Solomon Islands, which is described but very poorly under the name of "*Branchiostoma lanceolatum* (Pallas) or *B. haeckeli* Franz" by Gibbs and Wickstead (1969, p. 140), might possibly be assignable to *B. moretonense*, too, if this species can be accepted as valid.

1) Contributions from the Seto Marine Biological Laboratory, No. 670.

Table 1. The meristic characters of *Branchiostoma moretonense* inclusive of the present specimen and other allied species. The characters 1-9 are: 1, number of dorsal fin-ray chambers; 2, number of preanal fin-ray chambers; 3, ratio of height to its breadth in dorsal fin-ray chambers; 4, relative height of total body to dorsal fin; 5, relative length of postatrioporal region to preatrial region; 6, number of myotomes from anterior end to atriopore; 7, number of myotomes from atriopore to anus; 8, number of myotomes posterior to anus; 9, total number of myotomes. * These measurements were made by Kelly on the type specimen.

Species (Authority) Locality	1	2	3	4	5	6	7	8	9
<i>B. moretonense</i> (present specimen)	254	84	2.5	11.0	0.54	32	19	9	60
<i>B. moretonense</i> (Kelly, 1966) Moreton Bay	207-262 234.56±11.32	62-92 79.32±7.21	1.43-3.2 2.08±0.33	9.73-11.85 10.51±0.51	0.39-0.56 0.5±0.04	32-33 32.24±0.43	17-19 17.9±0.64	7-10 8.1±0.57	57-60 58.24±0.76
<i>B. minucauda</i> (Kelly, 1966)* N.-E. Australia	238	55	—	—	—	37	14	12	63
<i>B. haeckelii</i> (Franz, 1922) Ceylon	245	48	—	—	—	35-37	11-14	11-13	59-61
<i>B. lanceolatum</i> (Azariah, 1965) Madras	221-288 251.74±15.58	30-62 48.1±5.1	1.5-4.5 2.54±0.59	8-16 10.41±0.215	0.4-0.68 0.47±0.08	33-37 35.44±0.79	11-14 12.57±0.61	11-14 12.56±0.74	59-64 60.58±1.26
<i>B. lanceolatum</i> (Webb, 1957) Arabia	264	47	1.6	12	0.52	37	13	14	64
<i>B. lanceolatum</i> (do.) Madagascar	220-280	35	—	—	—	35	15	12	62
<i>B. lanceolatum</i> (do.) Mozambique	270, 280	32, 34	2.5	11, 12	0.40, 0.42	34, 35	13	10	57-58
<i>B. lanceolatum</i> (Webb, 1956) Europe	200-270 227.6	29-48 36.7	1.4-2.7 1.91	8-16 10.95	0.41-0.51 0.457	33-38 35.5	13-16 14.3	10-14 11.9	58-65 61.62

Acknowledgements: The author expresses his hearty thanks to Dr. Takasi Tokioka for the material and for his kindness in reading the manuscript, and also to Professor Dr. Eiji Harada, Seto Marine Biological Laboratory, for his kind advice as to the manuscript.

LITERATURE

- Azariah, J. 1965. Studies on the cephalochordates of Madras coast. Taxonomic study. Jour. Mar. Biol. Ass., India, 7: 348-363, 1 tab., 40 figs., 2 histograms.
- Franz, V. 1922. Systematische Revision der Akranier. Yena. Zeit. Nat. Wiss., 58: 369-452, 33 figs.
- Gibbs, P.E. and Wickstead, J.H. 1969. On a collection of Acrania (Phylum Chordata) from the Solomon Islands. Jour. Zool., 158: 133-141, 1 pl., 5 tabs., 2 figs.
- Kelly, O.E.S. 1966. *Branchiostoma moretonensis*, sp. nov. (Cephalochordata). Univ. Queensland Pap., Zool., 2 (13): 259-265, 2 tabs., 2 figs.
- Webb, J.E. 1956. On the populations of *Branchiostoma lanceolatum* and their relations with the West African lancelets. Proc. Zool. Soc. Lond., 127: 125-140, 4 figs.
- 1957. On the lancelets of South and East Africa. Ann. South Afr. Mus., 43: 249-270, 3 figs.
- Whitley, G.P. 1932. The lancelets and lampreys of Australia. Aust. Zool., 7: 256-264, 1 pl., 1 fig.