

# AUSTRALIAN MUSEUM SCIENTIFIC PUBLICATIONS

Tubb, J. A., 1946. On the occurrence of *Alephas pacifica* Pilsbry in Tasmania.  
*Records of the Australian Museum* 21(7): 383–385. [24 June 1946].

doi:10.3853/j.0067-1975.21.1946.554

ISSN 0067-1975

Published by the Australian Museum, Sydney

nature culture **discover**

Australian Museum science is freely accessible online at  
<http://publications.australianmuseum.net.au>  
6 College Street, Sydney NSW 2010, Australia



# ON THE OCCURRENCE OF *ALEPAS PACIFICA* PILSBRY IN TASMANIA.

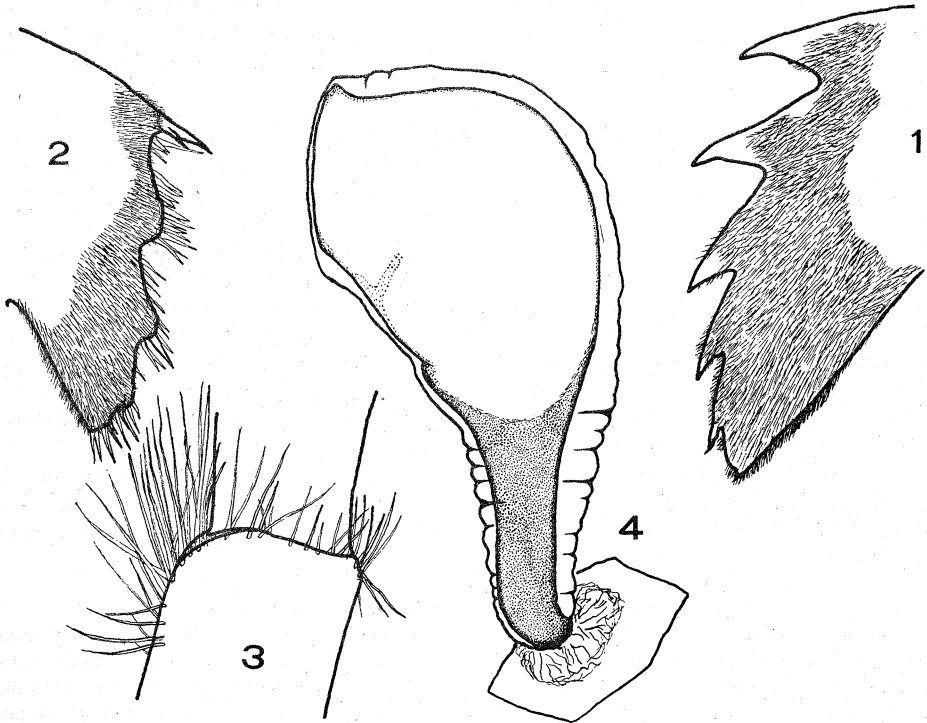
By J. ALAN TUBB.

During the course of biological investigations for C.S.I.R. Fisheries Division, an officer of the Division collected several medusae in Marion Bay, on the east coast of Tasmania. These medusae (*Cyanea capillata* var. *annaskala* von Lendenfeld) were found to carry on the fringe and upper surface of the umbrella, a number of nude pedunculate barnacles, which correspond anatomically with Pilsbry's description (1907) of *Alepas pacifica*. The distribution of the species and its host relationship are discussed.

## Description.

Dissection of the largest specimen revealed a close similarity with the description and figures given by Pilsbry, except that the mandible and maxilla were finely pubescent all over (Figs. 1 and 2), in this agreeing with the figures given by Nilsson-Cantell (1921, tf. 42).

The penis differs from Pilsbry's figure (1907, Pl. V, fig. 6), being long and slender, subequal to the sixth cirrus in length and apparently lacking the fine annulation.



Figs. 1-4. *Alepas pacifica*.

1, Mandible. 2, Maxilla. 3, Setation of 6th cirrus. 4, External appearance.

J.A.T. del.

The setation of the cirri differs in some degree from Pilsbry's figure (1907, *tf.* 34 C), there being no gap between the posterior and anterior clumps on each segment (Fig. 3). The gap is bridged by a single row of setae. Hiro (1937) demonstrates the presence of six filamentary appendages in Japanese specimens. The Tasmanian specimens also show these filamentary appendages, the first being apparently longer than in Hiro's example.

In life the barnacles were translucent white, the visceral mass appearing through the integument as a dull purple-grey. Large egg-masses are present in three specimens, forming loose sheaths partly enveloping the body mass within the integument of the capitulum. These egg-masses are pale yellow and opaque. The eggs, after preservation for eight months in formalin, are oval and measure approximately 0.19 mm.  $\times$  0.11 mm. The eggs are enveloped in pockets in an extremely delicate membrane which binds the mass together.

Seven specimens referable to *Alepas pacifica* were collected in Marion Bay in January, 1945 (Nos. P.11651-2, Aust. Museum).

Dimensions.	I.	II.	III.	IV.	V.	VI.	VII.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Capitulum, length .. ..	23.0	20.5	18.0	17.0	15.5	12.0	9.0
„ width .. ..	17.0	16.0	12.0	12.0	10.0	8.0	6.0
Peduncle, length .. ..	14.0	14.0	11.5	8.0	11.0	6.5	5.5
„ width .. ..	7.5	6.0	5.0	5.0	4.0	3.5	3.0

Specimens I (P.11651, dissected and figured), III and IV carried egg-masses.

The barnacles were firmly attached, at the base of the peduncle, to the fringe and upper surfaces of the umbrella of medusae referable to *Cyanea capillata* var. *annaskala* von Lendenfeld. The site of attachment was wrinkled and slightly depressed.

#### Distribution.

Originally described from the north of San Francisco, California, by Pilsbry (1907), *Alepas pacifica* was later recorded from Pacific Grove, California, by Nilsson-Cantell (1925), and by the same author from 6° 19' S. Lat., 110° 50' E. Long., in the Java Sea, between Java and Borneo. Hiro (1937) records the species from southern Honshu.

Annandale's species, *A. investigatorius* (1914), placed by Nilsson-Cantell in the synonymy of *Alepas pacifica*, was obtained in Morrison Bay, Mergui Archipelago. The sole record of this species outside the Indo-Pacific and Pacific areas is given by Nilsson-Cantell (1921, p. 445) as "southern Atlantic Ocean".

From the evidence available it appears that the seas of the Malay Archipelago northwards to Japan may be the stronghold of the species, and it is regrettable that Pilsbry's diagnoses (1912) of *A. navigator* and *A. spectrum* from Nogas Pt. in the Philippine Islands are insufficiently detailed to allow adequate comparison.

The discovery of the species in Tasmanian waters amply justifies Pilsbry's remark (1907, p. 106) that "the essential pelagic habit of the genus leads us to anticipate wide dispersion of the species, limited only by the distribution of the medusae which serve as their hosts".

#### Host Medusae.

The literature generally lacks specific mention of the medusae to which this interesting barnacle adheres, until Hiro (1937) listed *Pelagia panopyra* Peron and Lesueur, *Cyanea nozakii* Kishinouye, *Cephea cephea* (Forsk.) Annandale (1914), stated that his specimen came from a rhizostomous medusa. Nilsson-Cantell (1934), p. 39, supplemented his record of *Alepas pacifica* from the Java Sea with the note "the notice on the label that the specimens are taken from spines of cidarids seems to me to be erroneous".

The association of the Tasmanian specimen of *Alepa pacifica* with *Cyanea capillata* var. *annaskala* demonstrates the possibility of an interesting chain of distribution and association. *C. capillata* var. *annaskala* recorded from the coastal waters of New South Wales, Victoria, South Australia, Tasmania (Blackburn, MS.), and possibly (Mayer, 1910, p. 602) from South Africa (*Desmonema annasethe*, Haeckel, 1880), is the southern representative of the *Cyanea capillata* group of which *C. nozakii* is, according to Mayer (1910, p. 601), a colour variety from Japanese waters. *C. capillata* var. *ferruginea*, and *C. capillata* var. *postelsii* appear to be the eastern Pacific representatives. *Pelagia panopyra*, Peron and Lesueur, is widely distributed through the tropical Pacific, and *Cephea cephea* (Forsk.) also is widely distributed through typical Indo-Pacific waters.

Admittedly the evidence so far adduced is far from complete, but it appears probable that a definite host chain exists from the coastal *C. capillata* in the North Pacific, through the pelagic *Pelagia panopyra* and *Cephea cephea* of tropical Pacific and Indo-Pacific seas, to the coastal *C. capillata* var. *annaskala* of southern Australia.

I am indebted to Mr. W. Fairbridge for the specimens discussed herein, and to Mr. M. Blackburn for the identification of the medusae.

#### References.

- Annandale, 1914.—New and Interesting Pedunculate Cirripedes from Indian Seas. *Rec. Ind. Mus. Calcutta*, X, v, pp. 276-278, Pls. XXXIII, f. 2, XXXIV, ff. 2, 2a, 2b.
- Hiro, Fujio, 1937.—Studies on the Cirripedian Fauna of Japan, II. Cirripeds found in the vicinity of the Seto Marine Biological Laboratory. *Mem. Coll. Sci., Kyoto*, B, XII, 3, pp. 404-405, tf. 7.
- Mayer, A. G., 1910.—The Medusae of the World, Vol. III, Scyphomedusae. *Publ. Carnegie Inst., Washington*, No. 109.
- Nilsson-Cantell, C. A., 1921.—Cirripedia-Studien. Zur Kenntniss der Biologie Anatomie und Systematik dieser Gruppe. *Zool. Bidr. Uppsala*, Bd. VII, pp. 243-245, tf. 42.
- , 1925.—Neue und wenig bekannte Cirripeden aus den Museen zu Stockholm und zu Uppsala. *Ark. Zool. Stockholm*, Bd. 18A, 3, pp. 14-16, tf. 4.
- , 1934.—Cirripeds from the Malay Archipelago in the Zoological Museum of Amsterdam. *Zool. Meded. Leiden*, XVII, vi, p. 39.
- Pilsbry, A., 1907.—The Barnacles (Cirripedia) contained in the collections of the U.S. National Museum. *U.S. Nat. Mus. Bull.*, 60, pp. 105-106, tf. 34, Pl. V, ff. 1, 2, 4, 5, 6.
- , 1912.—Diagnoses of New Barnacles from the Philippine Archipelago and China Seas. *Proc. U.S. Nat. Mus.*, 42, p. 291.