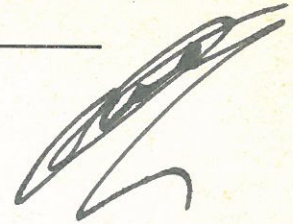


193  
With the compliments of  
the author

THE NORWEGIAN NORTH POLAR EXPEDITION WITH THE "MAUD"  
1918-1925, SCIENTIFIC RESULTS, VOL. V, No. 19

---

16929

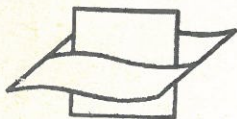


# CIRRIPEDIA

(WITH 2 FIGURES IN TEXT)

BY

HJALMAR BROCH



Vlaams Instituut voor de Zee  
Flanders Marine Institute

---

PRINTED AT THE EXPENSE OF  
STATENS FORSKNINGSFOND AV 1919 AND  
NORSK VAREKRIGSFORSIKRINGS FOND

---

PUBLISHED BY

GEOFYSISK INSTITUTT, BERGEN, IN CO-OPERATION  
WITH OTHER INSTITUTIONS

Instituut voor Zeewetenschappelijk onderzoek  
Institute for Marine Scientific Research  
Prinses Elisabethlaan 69  
8401 Bredene - Belgium - Tel. 059 / 80 37 15

BERGÈN  
A. S. JOHN GRIEGS BOKTRYKKERI  
1936

## CIRRIPEDIA.

BY

HJALMAR BROCH.

Only one sample of Cirripedia is at hand from the "Maud"-Expedition consisting of some few specimens of

*Balanus balanus* (LINNÉ) DA COSTA.

Lat. 77° 53' N, Long. 105° 40' E, depth 30 m.

The specimens are interesting, as, to a certain degree they approach an intermediate position between the patelliform and longitudinally strongly folded or keeled forma *typica* Broch with its straightly lined profile, and the more barrel-shaped, all but smooth forma *arctica* Broch. The present specimens (fig. 1) are only feebly patelliform, and have wide apertures on account of the broadly developed radii; in two of the specimens the upper edges of the radii are parallel with the basis of the shell, in the third one the upper edges of the radii are very oblique, and, therefore, the rim of the aperture is obviously toothed. The compartments exhibit only very feeble traces of longitudinal foldings; in two fragments of a fourth specimen, however, the compartments are strongly folded. In side view the compartments of all specimens are more or less conspicuously arched. When taken together, the characters show that the specimens must be referred to the forma *arctica*, even though they may be said to hold a rather intermediate position between it and the forma *typica*.

TARASOV (1) maintains in his report of the Cirripeds of the "Sedov" Expeditions 1929 and 1930 that neither of these specimens of *Balanus balanus* from the waters around Nova Zemlya, the Kara Sea, and the Barents Sea corresponds with the forma *arctica* "notwithstanding that this material has been obtained from the northernmost arctic regions". This is indeed curious, although the forma *typica* of course is by no means rare either in other parts of high-arctic waters. — The new find seems to strengthen the view held by BROCH (2), that the forma *arctica* will ultimately turn out to be circumpolar in its distribution.

I seize this opportunity also to record a new, high-arctic locality of another *Balanus* widely distributed throughout the arctic region, viz.

*Balanus crenatus* BRUGUIÉRES.

Reindeer Point, Foulke Fjord (Northwest-Greenland), 2-10 fathoms. (Second Norwegian North Polar Expedition in the "Fram").

Some of the specimens are very interesting (fig. 2). Three intact specimens are of the common type generally met with in Norwegian waters; one of them is seated on the apical part of the extremely high and slender "calyx" of a dead specimen, another on the uppermost part of a compartment of another specimen which has been of a



Fig. 1. *Balanus balanus* forma arctica from the "Maud" locality. Natural size.



Fig. 2. *Balanus crenatus* from Foulke Fjord (Northwest Greenland); natural size.—To the left the calyx of an extremely slender specimen with another specimen of common shape sitting near its apex. To the right above a common specimen seated on the uppermost part of the compartment of an individual which has been of the same slender (or even a more slender) type as the calyx to the left; the lower half or somewhat more of the compartment broken off, but present in the sample.

similar, exceedingly slender build, — It must be regretted, that no details are found as to the special, physical conditions of the locality, whether the place is an especially sheltered one, as one might presume in accordance with the extremely slender specimens growing in this place.

*Balanus crenatus* is very common in arctic waters and must possibly be assumed to have its centre of origin here. *Balanus balanoides* (LINNE) on the other hand is a boreal species, and the scanty information at hand does not evince its occurrence otherwise than quite sporadically in boreoarctic and arctic border waters. It was, therefore, astonishing to learn from the papers of GURJANOVA (3) and BROTZKY and ZENKEWITSCH (4), that *Balanus balanoides* has been found in large numbers in Cheshskaya Bay near

the entrance to the Kara Sea, and that it moreover here lives in the central parts of the bay below the tidal zone, whereas the occurrence of *Balanus balanoides* in Norwegian waters is certain evidence that we are within the tidal zone; the species has never here been found below the tidal zone.

Through the kindness of Professor Dr. L. ZENKEWICH (Moskva) I had opportunity of examining a large sample of specimens from Cheshskaya Bay, mostly seated on *Mytilus*. The examination of the specimens, however, revealed that owing to their calcareous bases, their canaliculated compartments with empty "pores", and the shape and structure of the opercular plates together with their inter-apical area (comp. BROCH, 1. c.) they belong to *Balanus crenatus*, a species which should just be expected under the given, arctic conditions. *Balanus balanoides* on the other hand, probably has its eastern-most border against the Arctic somewhere along the Murman coast, whereas *Balanus crenatus* according to previous records seems to be a common species also in the waters around Nova Zemlya; the latter species has evidently, like *Balanus balanus*, a circumpolar arctic distribution. *Balanus crenatus* belongs entirely to the northern hemisphere, whereas *Balanus balanus* is an undoubtedly bipolar species lacking in all tropical and subtropical seas.

---

#### LITERATURE.

- (1) К фауне Cirripedia Thoracica себерного ледобитого моря — Transactions of the Artic Institute, vol. II. Leningrad 1932.
  - (2) Cirripedia thoracica von Norwegen und dem norwegischen Nordmeere. — Videnskapsselskapets Skrifter I. Mat.-naturv. Kl. 1924. Kristiania 1924.
  - (3) Contribution to the Question of the Distribution of Benthos in the Cheshskaya Bay. — Transactions of the Institute for Scient. Exploration of the North. No. 43. 1929.
  - (4) Materials for the quantitative evaluation of the bottom fauna of the Barents, White and Kara seas. No. 6. A quantitative evaluation of the bottom fauna of the Cheshskaya bay. — Transactions of the State Oceanographical Institute of U. S. S. R., II 1932.
-