

Medusae from the Antarctic

Tohru UCHIDA*

南 極 の 水 母 類

内 田 亨*

要 旨

南極から4種の水母を報告した。1種は新種

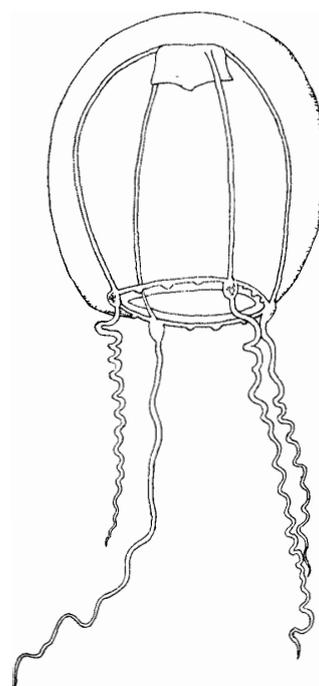
で1種は南極付近の固有種，他の2種は幼形のため種の同定はできなかった。

Abstract: The present paper describes four medusae from the Antarctic, including a new species of *Rathkea*, the genus hitherto only known in the Northern Hemisphere.

A small collection of medusae obtained by Dr. T. HOSHIAI, a member of the Japanese Antarctic Research Expedition, from the Antarctic was delivered through Prof. M. YAMADA of the Hokkaido University to the writer for investigation. It contains three hydro-medusae and one scyphomedusa. One species is new to science and another is a common antarctic species, but the rest two are still in the young stage and could not be specifically identified.

***Halitiara* sp.**

Bell pyriform, 1.2 mm high and 0.8 mm in widest part, without apical projection. Jelly rather thin. There are 4 long tentacles which are coiled in a close helix. These tentacles are hollow, with tapering basal bulbs. Between these 4 perradial tentacles there are 12 tentacle bulbs, 3 in each quadrant, the interradial ones being slightly larger than the adradial ones. No ocellus. The velum is nar-

Fig. 1. *Halitiara* sp.

* 生物学御研究所. Biological Laboratory, Imperial Household, Chiyoda-ku, Tokyo.

row. There are 4 straight, narrow radial canals and one slender ring canal. The manubrium is short and somewhat four-sided. Gonads not yet developed. A single young specimen was collected at the depth of 9 m from Oki-no-seto Strait, Syowa Station on Nov. 26, 1967.

The medusa is allied to *Halitiara formosa* which is the only species of the genus and is recorded from the West-Indies and Indo-Pacific, but is distinguished from the latter by the bell-form and the more or less four-sided manubrium, as well as by the geographical distribution. Since only one young specimen was examined, definite identification of the species must be reserved until more specimens in the well-developed stages become available.

***Calycopsis borchgrevinski* (BROWNE, 1910)**

Calycopsis borchgrevinski; KRAMP, 1961, p. 119.

Sibogita borchgrevinski; BROWNE, 1910, p. 17.

The medusa is recorded by several investigators from the Antarctic regions as was listed by KRAMP (1961). The specimen in this collection has the subumbrella considerably contracted on account of well-developed subumbrellar muscles. Body 17 mm in diameter and 9 mm in subumbrellar diameter. Jelly very thick and rigid. Marginal tentacles have the distinct terminal knob. These tentacles are partly damaged and some are shed off from the base. They seem to be 16 in number. Radial canals 4. A ring canal with 4 centripetal canals which rise from the side-branches of radial canals near the bell-summit and consequently connected with the radial canals. Manubrium well-developed and four-sided. Gonads reddish, slightly developed. A single specimen was collected at the depth of 9 m at Kita-no-seto Strait, Syowa Station in the Antarctic on May 19th, 1967. It was identified with this common species by Prof. M. YAMADA and I agree with him.

***Rathkea antarctica* n. sp.**

Bell short-pyriform, 1.7 mm high and 2.0 mm wide. This specimen is laterally compressed. In the side view, the apical surface is rather flat, shouldered at a little lower level and then rounded in general. In the interradial area of the shouldered part there are remarkable ridges elevated from the exumbrellar surface. Tentacles are 2.5 mm long and grouped in 8 clusters, 4 in the perradii and 4 in the interradii. The perradial tentacles are always 3 in number, while interradial tentacles one or two. They are solid, filamentous and grouped in the cpauletts of which the endoderm cells are blackly pigmented. The ring canal is narrow and

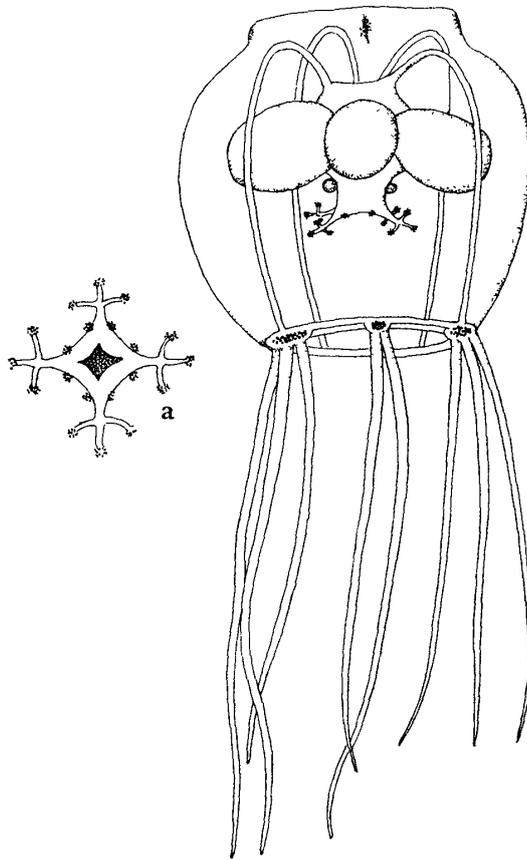


Fig. 2. *Rathkea antarctica* n. sp.; a. Oral view of manubrium, showing arrangement of oral tentacles.

the velum is well-developed. The radial canals are narrow and 4 in number, each connected with the ring canal. The manubrium suspended from the subumbrella by the well-developed peduncle in the bell cavity, is four-sided and terminates in oral tentacles. These oral tentacles seem to branch in a way quite different from those of *Rathkea octopunctata* which is widely distributed in the circumpolar seas of the Northern Hemisphere. Unlike the branching of the perradial oral tentacles in *Rathkea octopunctata*, the perradial oral tentacles of this new species do not bifurcate but give rise to a pair of side branches starting from the part a little terminal from midway of the length (Fig. 2, a). On the interradian portions of the stomach are found medusa-buds arranged after CHUN's law. The medusa-buds are arranged in two series; the first series comprises 4 buds which are larger and located at the upper level, while the second series has 2 smaller ones situated just below those of the first series. A single specimen was obtained at the depth 92 m in the Ongul Strait on Nov. 29, 1967.

Remarks: This medusa is the second species of the genus *Rathkea* and is markedly different from the Arctic species *R. octopunctata* in the presence of exumbrellar ridges, form of bell and branching mode of oral tentacles.

***Cyanea* juv.**

The specimen is in the stage of metephyra belonging to the genus *Cyanea*. It is 18 mm in diameter and oral arms 5 mm long, with a base of 3 mm. Oral arm four-sided having the tendency of characteristic curtain-like form of the genus. Gastral filaments 5 in number in each interradius. Radial canals 16 in number, 4 perradial and 4 interradial ones being broader than the 8 adradial ones. Eight sensory organs, one each in perradial and interradial parts, between the ephyral lappets. Eight subumbrellar tentacles arising from a little inside of the bell margin of adradii. Curtain-like oral arms and subumbrellar tentacles indicate the generic features of *Cyanea*. A single specimen was collected from surface water (near Syowa Station) on Dec. 7, 1967. A few species of *Cyanea* have been reported from the Southern Hemisphere but none from the Antarctic. Specific identification is impossible, since the specimen is in a very young stage.

In general consideration, it is very interesting that there can be seen a distinct bipolarity; in the Arctic seas *Calycopsis nematophora* BIGELOW and *Rathkea octopunctata* (M. Sars) are common and widely distributed, while in the Antarctic seas *Calycopsis borchgrevinski* (BROWNE) is common and found in many localities and now a new second species of *Rathkea* has been recorded.

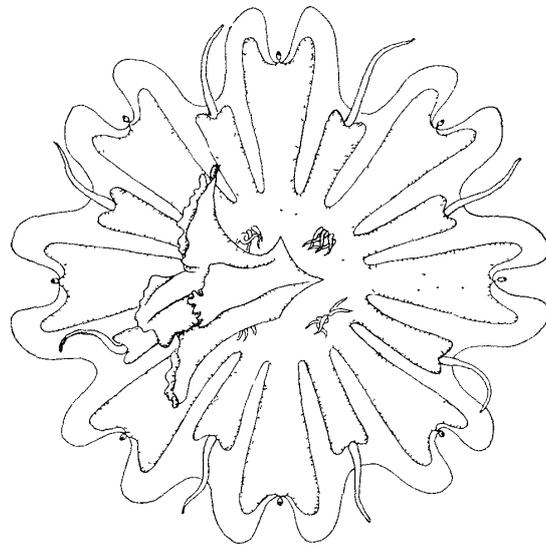


Fig. 3. Metephyra of *Cyanea* sp.

References

- EDWARDS, C. (1967): A calyropsid medusa from the Firth of Clyde. *J. mar. Biol. Ass. U. K.*, **47**, 367–372.
- KRAMP, P. L. (1961): Synopsis of the medusae of the world. *J. mar. Biol. Ass. U. K.*, **40**, 1–469.
- MAYER, A. G. (1910): *Medusae of the world*. Vol. 1, 1–230.
- VANHOEFFEN, E. (1912): Die craspedoten Medusen der Deutschen Südpolar-Expedition 1901–1903. *Dtsch. Südpol. Exped.*, Bd. 13, (Zool. V), pp. 351–95.

(Received August 12, 1970)