

DET NORSKE VIDENSKAPS-AKADEMI I OSLO

SCIENTIFIC RESULTS OF THE NORWEGIAN ANTARCTIC EXPEDITIONS
1927—1928 ET SQQ., INSTITUTED AND FINANCED
BY CONSUL LARS CHRISTENSEN. — No. 30.

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MEDUSAE
AND
SIPHONOPHORA

WITH 3 MAPS IN THE TEXT

OSLO

I KOMMISSJON HOS JACOB DYBWAD

1949

The *Medusae* and *Siphonophora* collected by the "Norvegia" expedition to the Antarctic Seas in 1927—1928 have been sent to me for identification from the Zoological Museum, Oslo. It is only a small collection comprising four species of *Medusae* and two species of *Siphonophora*, but some of them were taken in areas from which they were not recorded before, and I wish to thank Professor Hj. Broch for placing this interesting collection at my disposal.

ANTHOMEDUSAE

Zanclonia weldoni (Browne).

Catablema weldoni Browne 1910 p. 13, Pl. I figs. 1—5.

— — Vanhöffen 1912 p. 362, Pl. 24 fig. 3.

Zanclonia — Hartlaub 1913 pp. 313, 348, textfigs. 261, 262.

Stat. 19, 55° 33' S., 26° 26' W. 19. Jan. 1928. 100—50 m, temp. $\pm 0^{\circ} 48$ — $+ 0^{\circ} 84$. — One specimen.

Distribution (see the map, fig. 1): McMurdo Sound and Cape Adare, Victoria Land (Browne); off the coast of Kaiser Wilhelm II. Land (Vanhöffen). — The new locality where this species was taken by the "Norvegia" is very far from these other localities and indicates that this medusa has a circumpolar distribution in the Antarctic. *Zanclonia weldoni* must be considered a neritic medusa, and its occurrence at stat. 19, where the depth of the bottom was more than 800 m, is presumably due to transportation by the currents from the neighbouring South Sandwich Islands.

Calycopsis borchgrevinki (Browne).

Sibogita borchgrevinki Browne 1910 p. 17, Pl. II figs. 1—5.

Calycopsis — Vanhöffen 1911 p. 215, Pl. 22 fig. 7, textfig. 10 a, b.

— — — 1912 p. 364.

Stat. III b, 56° 30' S., 1° 30' E. 20. Nov. 1928. Horizontal haul. — One specimen.

Stat. V b, 57° 05' S., 2° 25' E. 27. Nov. 1928. Horizontal haul, 360 m wire out. — One specimen.

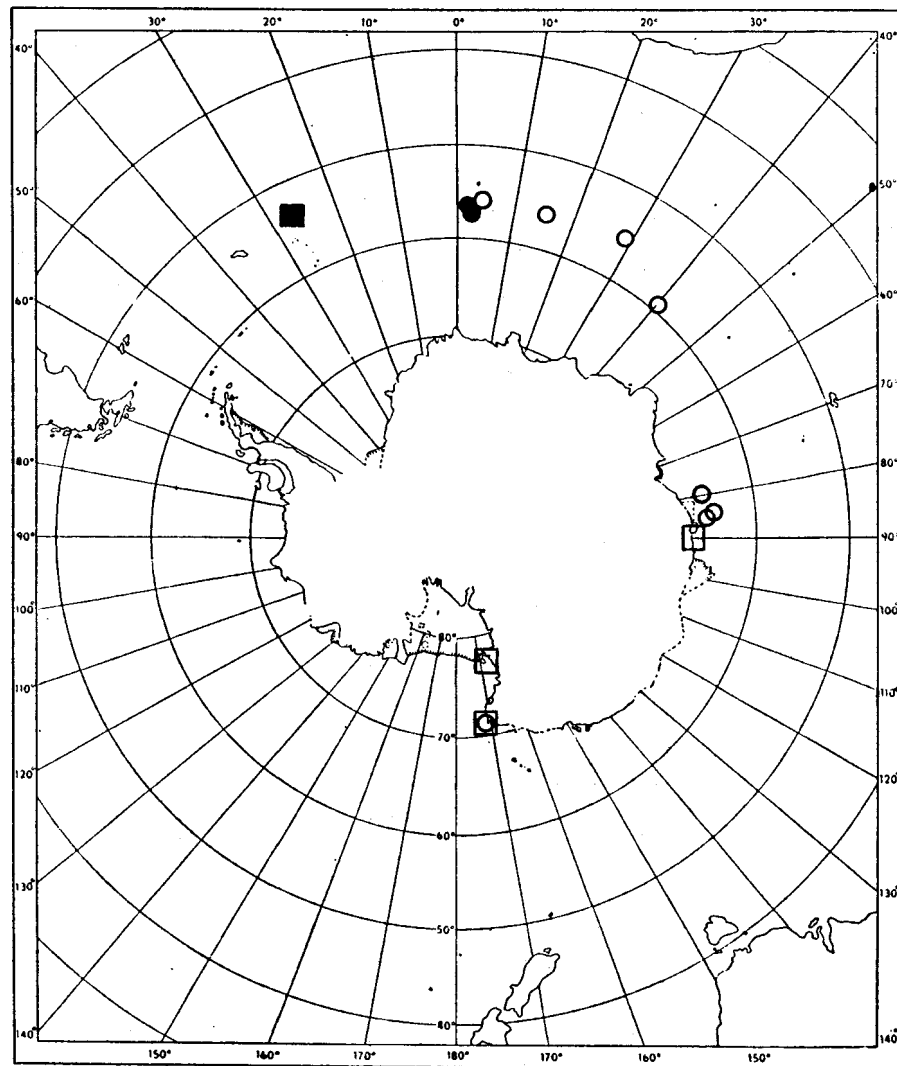


Fig. 1. Distribution of *Zaclonia weldoni* (square signatures) and *Calycopsis borchgrevinki* (circles).

Filled signatures: new records

Open — previous records

Distribution (see the map, fig. 1): The two localities mentioned above are somewhat south of Bouvet Island in an area where this species has previously been taken by the "Valdivia" expedition (Vanhöffen 1911); also recorded from three localities off Kaiser Wilhelm II. Land (Vanhöffen 1912) and from Cape Adare, Victoria Land (Browne 1910). In the last mentioned locality it was taken near the surface of the water; the specimens from the German expeditions

were all taken in vertical hauls from rather considerable depths to the surface, giving no information on the depths of the captures. It is presumably a meroplanktonic, neritic medusa with a longevity sufficient to allow it to be carried rather far away from its place of origin. It is a pronounced antarctic species.

LEPTOMEDUSAE

Cosmetirella davisí (Browne).

Tiaropsis davisí Browne 1902 p. 281.

Cosmetirella simplex Browne 1910 p. 34, Pl. I figs. 6—8.

Phialella falklandica Vanhöffen 1911 p. 223, Pl. 22 fig. 10.

Cosmetirella kerguelensis Vanhöffen 1912 p. 368.

— *simplex* Vanhöffen 1912 p. 368, Pl. 24 fig. 6.

— *davisí* Kramp 1932 p. 359, textfigs. 4, 34, 46.

— — Thiel 1938 p. 327.

— — Browne & Kramp 1939 p. 293, Pl. 17. fig. 1.

Stat. 32, 33, and 34 a, East Cumberland Bay, South Georgia, 21. Febr. 1928, 20—0 and 21—0 m. — 5 specimens.

Stat. 37. West Cumberland Bay, South Georgia, 22. Febr. 1928, 100—50 m. — 1 specimen.

Distribution (see the map, fig. 2): This species has previously been taken near South Georgia (Kramp 1932, Thiel 1938), and has also been recorded from several other localities in the antarctic and subantarctic regions, where it seems to have a circumpolar distribution: Falkland Islands (Browne 1902, Browne & Kramp 1939); McMurdo Sound and Cape Adare, Victoria Land, and somewhat further north, 66° 52' S., 178° 15' E. (Browne 1910); Kaiser Wilhelm II. Land (Vanhöffen 1912); Kerguelen Island (Vanhöffen 1911 and 1912); three localities between Enderby Land and Bouvet Island (Vanhöffen 1911). It is a neritic medusa belonging to the upper strata, and its occurrence at the Falkland Islands, South Georgia, and Kerguelen Island shows that it is not entirely restricted to the high-antarctic region but also penetrates somewhat into the subantarctic.

Remarks on the specimens: I have measured the specimens, and in three of them I was also able to count the tentacles, with the following results:

Diameter of umbrella, mm:	11	14	14	17	17
Number of tentacles, about:	60	80	80	?	?

This confirms my previous statement (Kramp 1932 pp. 359—360) that specimens taken in subantarctic regions generally attain a larger number of tentacles than specimens of corresponding sizes from true antarctic areas.

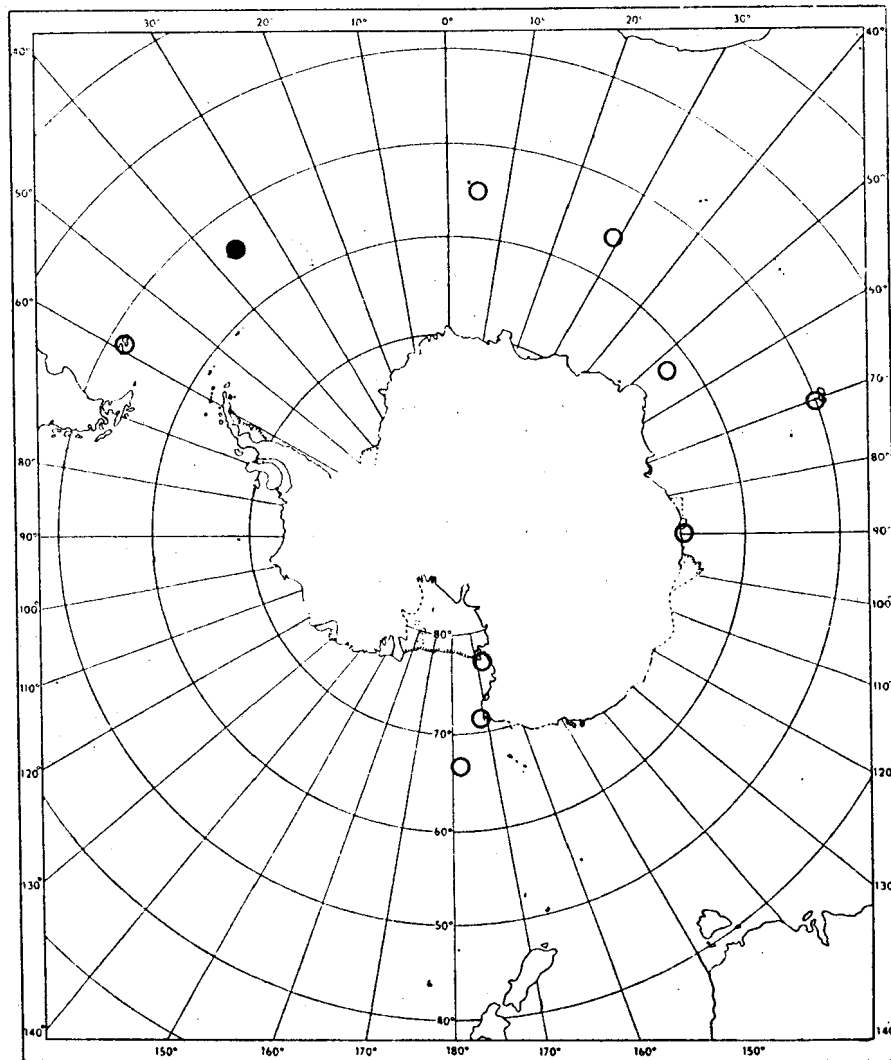


Fig. 2. Distribution of *Cosmetirella davisi* (Browne).

Filled signatures: new records.

Open — previous records.

TRACHYMEDUSAE

Haliscera conica Vanhöffen.

Haliscera conica Vanhöffen 1902 p. 72, Pl. 9 fig. 6, Pl. 11 fig. 33.

— — — 1912 p. 381.

i. p. *Halicreas alba* Thiel 1936 p. 37.

Haliscera conica Ranson 1936 p. 171.

— — — Kramp 1947 p. 6.

Stat. III b, 56° 30' S., 1° 39' E. 20. Nov. 1928. Horizontal haul. —
One specimen.

Distribution: This is an oceanic, bathypelagic medusa widely distributed in the central and southern parts of the Atlantic Ocean and in antarctic seas; it also occurs in the Mediterranean. Its northern limit of distribution in the Atlantic seems to be between the Azores and the Canary Islands. The antarctic records are from about $55\frac{1}{2}^{\circ}$ S., 29° E, and from some localities off Kaiser Wilhelm II. Land.¹

SIPHONOPHORA

Diphyes antarctica Moser.

Diphyes antarctica Moser 1925 p. 220, Pl. 9, 10, textfig. 37.

— — — — — Leloup 1938 p. 4.

Peter Island, $68^{\circ} 49'$ S., $90^{\circ} 25'$ W. Tofte 1927 (without further details). — 2 superior nectophores.

Stat. 4. $2\frac{1}{2}$ naut. miles about S 70° W off Dahlrymple Head, Bouvet Island. 10. Dec. 1927. 200—95 m, temp. at the surface $\div 0^{\circ} 18$. 2 superior nectophores and one eudoxid.

Stat. 9. $56^{\circ} 53'$ S., $3^{\circ} 14'$ E. 3. Jan. 1928. 50—0 m, temp. $\div 0^{\circ} 40$ — $+ 0^{\circ} 04$. — One inferior nectophore.

Stat. 10. $57^{\circ} 49'$ S., $3^{\circ} 30'$ E. 4. Jan. 1938. 200—100 m, temp. $\div 0^{\circ} 98$ — $\div 1^{\circ} 32$. — 2 superior and 1 inferior nectophore.

Stat. 12. $59^{\circ} 40'$ S., $5^{\circ} 00'$ E. 6. Jan. 1928. 200—100 m, temp. $+ 0^{\circ} 32$ — $\div 1^{\circ} 77$. — 1 superior and 1 inferior nectophore. — 400—150 m, temp. $+ 0^{\circ} 36$ — $\div 0^{\circ} 30$. — 1 superior and 1 inferior nectophore.

Stat. 14. $60^{\circ} 01'$ S., $2^{\circ} 30'$ E. 8. Jan. 1928. 200—100 m, temp. $+ 0^{\circ} 37$ — $\div 1^{\circ} 82$. — 1 superior and 1 inferior nectophore. — 400—200 m, temp. $+ 0^{\circ} 36$ — $+ 0^{\circ} 37$. — 1 superior and 1 inferior nectophore.

Stat. 16. $60^{\circ} 18'$ S., $4^{\circ} 44'$ E. 10. Jan. 1928. 200—100 m, temp. $+ 0^{\circ} 38$ — $\div 1^{\circ} 78$. — 2 superior and 1 inferior nectophore.

Stat. 17. $59^{\circ} 53'$ S., $8^{\circ} 40'$ E. 11. Jan. 1928. 200—100 m, temp. $+ 0^{\circ} 45$ — $\div 1^{\circ} 79$. — 1 superior nectophore.

Stat. III a. $56^{\circ} 30'$ S., $1^{\circ} 30'$ E. 20. Nov. 1928. 200—100 m. — 1 superior and 1 inferior nectophore.

Stat. V b. $57^{\circ} 05'$ S., $2^{\circ} 25'$ E. 27. Nov. 1928. Horizontal haul, 300 m wire out, 30 min. — 88 superior and 30 inferior nectophores, 6 gonophores, and one loose bract.

Distribution (see the map, fig. 3): This large and elegant siphonophore is a well-pronounced antarctic species, presumably with a circumpolar distribution. It was taken in several localities near the coast of Kaiser Wilhelm II. Land and in one locality somewhat farther

¹ Recently recorded from $49^{\circ} 56'$ S., $49^{\circ} 56'$ W., N. W. of South Georgia, and from $63^{\circ} 22'$ S., $45^{\circ} 35'$ W., south of the South Orkney Islands (Kramp 1948 p. 6).

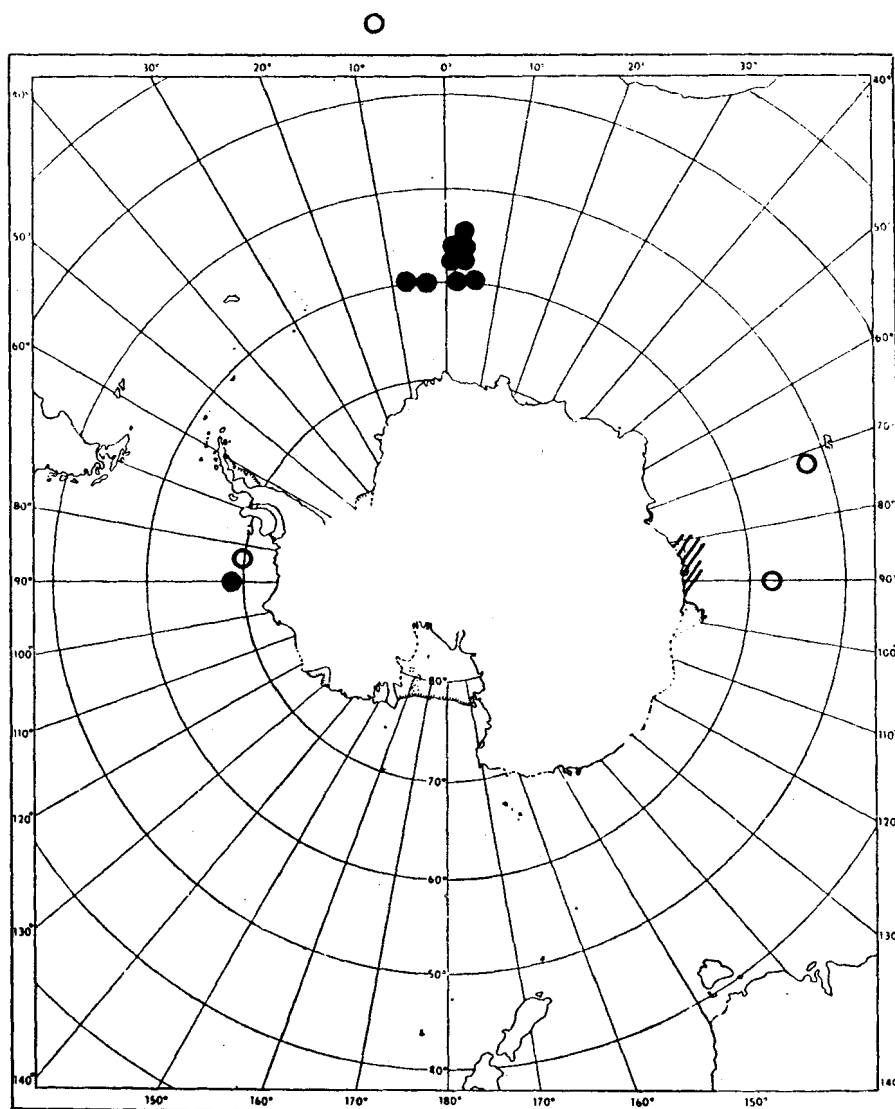


Fig. 3. Distribution of *Diphyes antarctica* Moser.

Filled signatures: new records.

Open signatures and hatching: previous records.

north, about 58° S., 90° E. by the "Gauss" expedition; a single eudoxid was also taken between Kerguelen and Heard Island (Moser 1925). The second record in the literature is from the opposite side of the antarctic continent, not far from Peter Island (Leloup 1938), where it was also taken by the Norwegian expedition in 1927. The "Norvegia" has collected it in several localities within a restricted area south of Bouvet Island between 5° E. and 8° 40' W. In the vertical hauls only some few specimens were captured, but in the horizontal haul at stat.V b it was taken in considerable numbers. According to the statements

above it seems to have its principal occurrence at depths of more than 100 m below the surface, though it may also be taken in the upper strata (stat. 9). Very peculiar is the record (by Moser) of a single eudoxid in an isolated locality north of Tristan da Cunha, about 32° S. 8° W.; all other records are south of the antarctic convergence.

Dimophyes arctica (Chun).

Diphyes arctica Chun 1897 p. 19, Pl. I figs. 1—10.

Dimophyes arctica Moser 1925 p. 389, Pl. 26.

— Leloup 1938 p. 3.

Stat. 4. 2 1/2 naut. miles about S 70° W off Dahlrymple Head, Bouvet Island. 10. Dec. 1927. 200—95 m. — 2 specimens.

Stat. 12. 59° 40' S. 5° 00' E. 6. Jan. 1928. 200—100 m. — 1 specimen. — 400—150 m. — 1 specimen.

Stat. 16. 60° 18' S. 4° 44' W. 10. Jan. 1928. 200—100 m. — 2 specimens.

Stat. 17. 59° 53' S. 8° 40' W. 11. Jan. 1928. 200—100 m. — 1 specimen. — 400—200 m. — 2 specimens.

Stat. V b. 57° 05' S. 2° 25' E. 27. Nov. 1928. Horizontal haul, 300 m wire out, 30 min. — 8 specimens.

Distribution: This species has an almost cosmopolitan distribution. It seems, however, to be lacking in the Mediterranean and along the east coast of America. It is abundant in the arctic seas, and its southward distribution extends into the coastal areas of the antarctic continent. It was taken by "Jauss" expedition in numerous localities between Kerguelen Island and the coast of Kaiser Wilhelm II. Land (Moser 1925), and by the "Belgica" in several localities about 70° S. 82—90° W. (Leloup 1938). The localities, where it was taken by the "Norvegia", are situated in the area south of Bouvet Island.

General Remarks

Three of the six species mentioned above are meroplanktonic, neritic medusae; none of them are known outside the antarctic or subantarctic regions. Their unknown hydroids presumably live on the coasts of the antarctic continent and the antarctic or subantarctic islands, whence the free-living medusae may be carried away some distance by the currents encircling the continent. Apparently all of them have a circumpolar distribution. *Zanclonia weldoni* and *Cosmetirella davis* each represents a monotypic genus, whereas the genus *Calycopsis* comprises several species scattered over widely separated geographical areas.

Among the three holoplanktonic species *Haliscera conica* and *Dimophyes arctica* have an extensive oceanic distribution ranging from the equatorial regions more or less towards the north, and towards the south they both penetrate into the antarctic seas. *Diphyes antarctica* is endemic in the antarctic area and has never been found elsewhere.

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