

bay of open water runs for an unknown distance towards the north.

The vertical distribution of the cold water in the Norwegian Sea along a line from Greenland past Jan Mayen to Vesteraalen is shown in Fig. 310, p. 436, which indicates that the great body of water in the Norwegian Sea has a temperature below 2° C., and that warm water is found only in the eastern part of the sea towards Norway to a depth of 500 or 600 metres.

The investigations of the "Michael Sars" have been limited mainly to the area covered by this warm water, but a thorough investigation of the arctic Greenland Sea has been made by the Duke of Orleans in his expeditions on board the "Belgica," in which Koefoed took part, and had the opportunity of making collections with the same appliances as were employed on board the "Michael Sars." The "Belgica" and "Michael Sars" material has been dealt with jointly by Koefoed and Damas, upon whose treatise<sup>1</sup> I have drawn for information about some of the most important arctic forms.

Damas and Koefoed divide the Copepoda of the Greenland Sea into several biological groups: (1) forms which live mainly in the surface waters, such as *Calanus finmarchicus* and *C. hyperboreus*, *Pseudocalanus elongatus* and *P. gracilis*, *Oncaea conifera* and *O. notopus*, *Oithona similis*; (2) forms living mostly in mid-water, but occasionally appearing at the surface, a typical form being *Euchaeta norvegica*; (3) mid-water forms which never occur at the surface, especially *Euchaeta glacialis*; and (4) deep-sea forms, like *Euchaeta barbata*, *Chiridiella macrodactyla*, and others.

At the surface the commonest form is *Calanus hyperboreus*, one of the largest of copepods, attaining a length of 9 mm. At the ice it is found 5 to 10 metres below the surface in enormous numbers. Thus in July a few hauls with closing nets in lat. 75° 55' N. long. 9° W., depth 1275 metres, gave:—

In a haul from 10 to 0 metres, 1000 specimens.

"	"	100 to 20	"	2	"
"	"	400 to 210	"	4	"

It is mainly an arctic form, and occurs in the Polar basin, in the Greenland Sea, and in the colder parts of the Norwegian Sea. Its propagation takes place principally in the shallow parts of the Greenland Sea, on the coast banks and not where the water is deep, whence the young are carried out into deeper water by currents. The wealth of animal life in the Arctic is

<sup>1</sup> Damas and Koefoed, *loc. cit.*