

Greenland Hydroids

DR. P. L. KRAMP in two recent papers * discusses the hydroids of Greenland. The area investigated in the first is extensive, comprising the entire west coast of Greenland from Cape Farewell to Etah in the narrowest part of Smith Sound, and several series of stations laid from the Greenland coast across the Davis Strait and Baffin Bay as far west as possible; in several places the investigations being carried through to the coasts of Labrador.

The second paper deals with the hydroid fauna of representative fjords belonging to two groups, the so-called 'Atlantic' and 'Arctic' types. The difference between these two types is that in one the entrance is deep enough to allow the comparatively warm water of Atlantic origin in the deeper parts of the Davis Strait to come into the fjord, in which the bottom water, therefore, has a fairly high temperature. In the other, a threshold at the entrance prevents (or prevents for most of the year) the Atlantic water from entering the fjord, in which the bottom water is therefore very cold. North Strömfjord, investigated by Dr. V. Nordmann in 1911, was selected as the representative of the arctic type; and in the summer of 1912, Dr. K. Stephensen investigated Kvanefjord near Frederikshaab, Bredefjord, north of Julianehaab, and Skovfjord, six miles farther south, as representative of the Atlantic type.

It is an interesting fact that each zoogeographical group of species of hydroids has in all essentials the same bathymetrical distribution in both types of fjord, which agrees with the ascidian fauna as found by Hartmeyer. Stephensen found, however, that the crustaceans, pycnogonids, and echinoderms in North Strömfjord consist entirely of arctic and arctic-boreal species, whereas several boreal and Atlantic forms occur in the southern fjords. The only exception in the hydroids is that the abyssal Atlantic species are wanting in the North Strömfjord; otherwise in both types there are arctic, arctic-boreal, boreal, and cosmopolitan species in almost the same proportions at similar depths.

Species of all the zoogeographical groups, even

* Kramp, P. L. The Godthaab Expedition 1928. Hydroids. *Medd. om Grønland. Komm. for Vidensk. Undersøg. i Grønland.* Bd. 79, Nr. 1, 1932. Hydroids collected in West Greenland Fjords in 1911 and 1912, *ibid.*, Bd. 91, Nr. 3, 1932. (København: C.A. Reitzels Forlag.)

boreal forms, were found at considerable depths and at low temperatures in North Strömfjord, but Dr. Kramp is of the opinion that the late summer and autumn temperatures in deep water rise to fairly high values. Stephensen and Hartmeyer emphasise the constantly negative temperature of the water at all depths from about 60 m. downwards, but Dr. Kramp observes that some hydroids are able to live for a long time under very unfavourable conditions of temperature if there is a short period when conditions are favourable. If the temperature rose sometimes to one or two degrees above zero, the presence of these boreal species would be quite explicable. On July 31, 1911, the bottom temperature at one of the stations near the entrance to the fjord at a depth of 170-200 m. was 1°-2°, and later in the year, according to Dr. Kramp, it will probably be higher, and this comparatively warm water will enter the fjord and mix with the other water layers, causing a rise in temperature for a time. As he suggests, the positive temperatures sometimes noted from these depths in Dr. Nordmann's journal, and considered erroneous, may not be altogether wrong, and there is no doubt that the violent currents cause a fair amount of mixing of the water layers. Thus the author explains the presence of some boreal species of both hydroids and ascidians which are able to propagate and grow at intermediate depths in North Strömfjord as due to the combined action of the influx of Atlantic water from the outside and of the vertical movements which bring down the surface water, heated during the summer, resulting in an increase of temperature in the deeper strata at certain periods of the year.

Dr. Kramp has also recently published "A Revision of the Medusæ belonging to the Family *Mitrocomidae*". † As medusæ are of considerable use as indicators of sea-currents, it is important to be certain of the species with which we are dealing, and the memoir is very helpful in enabling us to distinguish the members of this family, at the first glance so similar to one another.

† Reprinted from *Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening*, vol. 92. Pp. 303-387. (København: Bianco Lunds Bogtrykkeri A.S., 1932.)

Megalithic Monuments of Brittany

IT was to be expected that megalithic monuments, and in particular circles, stone or other, would occupy much of the attention of the International Congress of Prehistoric and Protohistoric Sciences, recently held in London, especially as arrangements had been made to give many of the overseas members their first opportunity to view the site of the wooden circles at Woodhenge and 'The Sanctuary'. In fact, two whole sessions of Section III.A of the Congress were devoted to the subject. Among the communications then presented, special interest is attached to that of the veteran field archaeologist, M. Z. Le Rouzic, whose prolonged and practical acquaintance with the problem of the megalith in Brittany gives him unquestioned authority on the subject chosen for his communication: "Morphologie et chronologie des monuments sépultureux de Morbihan".

M. Le Rouzic classifies the megalithic monuments into ten groups as follows:

(1) Dolmens with rather irregular chambers and corbelling and an entrance passage roofed with small blocks; the whole is buried in a tumulus with a limiting circle of upright stones. Associated are

polished axes, some small and votive, fine flint arrow-heads with barbs and stem, flint scrapers, borers, etc. The pottery is both fine and coarse; with these are pot spindle whorls and stone beads. An example is Parc Guren (Crac'h).

(2) Dolmens with long entrance passage and side chambers, built of large blocks. Also '*allées couvertes*' with port-holed supports. Corbelling is usually above large block-uprights. The monument is embedded in a cairn and often surmounted by a menhir. Uprights are often engraved. Associated are bell-beakers, 'bowls-with-support', beads of callais, etc., ornaments of hammered gold, as well as objects of Group 1. There are a few foreign types of fine flint work and copper or bronze daggers. Both burials and cremations are found—Kercado, Mané Lud, are good examples; also some '*allées couvertes*' of elbowed form (Le Pocher, Plougoumelen). Kerlescant '*allée couverte*' formerly had a port-hole. Île Longue is the finest corbelled tomb in Brittany.

(3) Tumulus with quadrangular cist, or cists of blocks or dry walling with hearths inside them. Purely neolithic associations. The second tumulus of