

SOME DISTINCTIVE CHARACTERS IN THE FRESH-WATER PLANKTON FROM VARIOUS ISLANDS OFF THE NORTH AND WEST COASTS OF SCOTLAND

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It is now fairly well established that there is a great uniformity in the fresh-water plankton from all parts of the world; the means of dispersal of the numerous organisms constituting this assembly have been so efficient, and their adaptability to various environmental conditions, such as temperature, light, and chemical composition of the water, so great, that plankton from the Arctic and from the tropical regions have a great number of species in common. Nevertheless, there is a decided though somewhat inconspicuous differentiation according to climate, and, for example, it has been shown¹ that there is a certain association of zooplankton which belongs particularly to the Arctic and subalpine lakes; and moreover it has been known for a long time that in one family, the Diaptomidæ, the delimitation of the species is quite sharp, the English species of *Diaptomus* being unknown in the lakes of the New World; and when in addition to such considerations we take into account the relative abundance and variation of cosmopolitan forms which have predilection for certain environmental conditions, it becomes possible to roughly divide the world into several zoological regions which coincide with areas of different climatic conditions.

It has been pointed out by Mr James Murray² that Scotland occupies a more or less intermediate position between two such regions, and that northwards the plankton contains the Arctic and subalpine association, whilst in the lowlands the plankton is more closely related to that from the great European plain.

¹ Sven Ekman, "Die Phyllopoden, Cladoceren, etc, der nordschwedischen Hochgebirgen," *Zool. Jahrb. Abt. Syst. Geogr. Biol.*, Bd. xxi., 1904

² James Murray, "Distribution of the Pelagic Organisms in Scottish Lakes," *Proc. Roy. Phys. Soc. Edin.*, vol. xvi. p. 51, 1905.