

Another very peculiar fact connected with the above-mentioned is that the almost inconceivable richness of forms which characterises all communities, both terrestrial and marine, in the tropics, has no parallel in the tropical plankton. It seems as if the greatest development of the fresh-water plankton is much more to be sought for in the temperate zone.

EXPLANATION OF THE COSMOPOLITANISM

As is well known, many scientists explain the cosmopolitanism of the fresh-water plankton as having resulted from passive migration. As distributing agencies birds, wind, and the currents of the ocean are principally mentioned. These means of migration may of course be of some moment, yet I wish to call attention to a fact which has hardly been taken into due consideration, viz., that they can only be of any importance when acting over immense periods of time. With regard to plankton it must especially be remembered that its resting organs, the organs supposed to be transmitted by the above agencies, are wanting over large areas, which further diminishes the probability of passive migration with regard to lake plankton throughout great parts of the world. All in all, the supposition set forth by many authors, that the migration by means of wind, waves, and birds is taking place with great intensity, must, according to my view, be considered as untenable. The quantity of live germs which are transported by the above-mentioned agencies to new localities and there germinate and acquire new areas for the species is probably only slight. With regard to birds it must be kept in mind that they migrate on an empty stomach, and that migratory birds are almost always clean when they journey (Andersen in Ostenfeld, 1901, p. 116). Too much stress has been laid upon the few instances in which fresh-water organisms have been found attached to the feathers and feet of birds. In contradiction to the signification attributed to water as a distributing factor, speaks the well-known fact that lakes lying on a line and fed by the same river often exhibit quite different plankton communities. This especially holds good with regard to the zooplankton. In my opinion, none of the means of distribution at the disposal of this plankton which we know of at present can explain its enormous distribution. Only one factor, viz. *time*, can perhaps give us a suggestion as to the correct interpretation of the phenomenon.

Until the facts give some other explanation, I have formed the picture that this same fresh-water plankton, which in a horizontal direction has at present a more uniform appearance than any other community, has also vertically presented the same appearance during all times. *The fresh-water plankton is amongst the oldest communities of the earth.* The researches of recent times have shown us what an