

Klunzinger, 1901, p. 321, and 1902, p. 338; also Zacharias, 1902, p. 700, 1903, p. 296). As these plankton organisms are different in the different lakes and vary during the seasons in each lake, the colour of the lake undergoes much greater variation than in other zones. We may say that as a rule the brownish-yellow Diatom-colour characterises our lakes in spring and autumn, the blue-green Cyanophyceæ-colour in summer; in cold and deep lakes the brownish-yellow colour is also preserved in summer, but this is due to *Ceratium hirundinella*. Sometimes other tinges of colour break in and replace the former quite suddenly and for a short time. Thus the Oscillatoria gave Furesö a whitish tint in May 1903, and the *Lyngbya* a cherry-red tint in September and October 1902. *Botryococcus Braunii* sometimes gives a reddish colour to several of our lakes. In mild winters the lakes keep the Diatom-colour. It is in early spring that the plankton has least influence on the colour, but even then the true colour of the lake is not apparent, as just at that time the huge masses of detritus give it a brownish or greyish tint. The true colour of the lake-water is most apparent in May, when the Diatom maxima are almost over and the large Cyanophyceæ maxima have not yet begun and the detritus has gone to the bottom (see Wesenberg-Lund, *Prometheus*, 1906, p. 785). An impression of the enormously large quantities of plankton which are developed, especially during the Cyanophyceæ maxima, is obtained by filtering the water, which then shows a faint milky colour, most probably caused by the Phycocyan set free in the processes of putrefaction. How far these observations from the Danish lakes also apply to the lakes in the remaining part of the zone is at present unknown. In North Germany, Ule and Halbfass have remarked upon the great importance of the plankton in determining the natural colour of the lake. Compared with the alpine lakes we may say that the Baltic lakes almost always have in reality "water-bloom."

The organic life, especially the enormous quantities of plankton, reduces also the *transparency*. The great yearly variations in transparency may always with certainty be traced back to corresponding variations in the amount of plankton. Whereas in the high-alpine lakes the quantities of detritus reduce the transparency, this is only to a slight extent the case at least in the greater part of the Danish lakes, except immediately after the ice breaks up and the drifting ice has scratched up the bottom. The quantity of plankton (water-bloom) may be so great that it acts as a wave-subduer. More than once I have seen a gale blowing the greater part of the water-bloom down into a corner of a lake, and in the centre raising high waves with spray; nevertheless on the windward side the surface was almost smooth, with but a long swell through the thick water filled with water-bloom.