

Baltic lakes (G. West, 1905, p. 968). Here the *Characeæ* go down to 20–25 feet, and *Fontinalis antipyretica* even to 40 feet (G. West, 1905, pp. 982–983).

The conditions offered to organisms by the real lakes and by the small ponds and pools differ greatly; in the latter especially, the variations in temperature are very great, principally in spring. There is therefore a very considerable difference between the fauna and flora of the pools and of the large lakes, especially in the southern parts of the zone. There is, however, but little information on these matters as yet.

#### THE BALTIC FRESH-WATER LAKES

A great many researches enable us to judge of the conditions of life in the Baltic lakes; the most important will be mentioned in the sequel.

Many countries bordering upon the Baltic are very rich in lakes, especially Finland, Pomerania, and Prussia, to a somewhat less degree South Sweden, and Denmark least of all. The great majority of all these lakes are in some way indebted to the Glacial Age for their origin. Their number was formerly much greater, and the area of the present lakes also much larger. From a series of valuable papers we can judge of the origin of the North German lakes, their topography and geography (see especially Geinitz, 1886, p. 1; Wahnschaffe, 1891, p. 1; Bludau, 1894, p. 1; Steusloff, 1907, p. 427; Halbfass, 1901, p. 1, 1903a, pp. 592 and 706; Braun, 1903, p. 1, 1907, p. 8; Seligo, 1900, p. 1, 1905a, p. 1, 1907, p. 1; Ule, 1894, p. 1, 1898, p. 25; Penck, 1894, vol. ii. p. 266; Keilhack, 1887, p. 161).

From Sweden we have principally Trybom's investigations of the lakes in Jönköping and Malmöhuslän (1893, 1895, 1896, 1899, 1901). The Swedish explorations give us information regarding the glacial lakes of former times and the kind of soil left by them. It has been shown how lakes have been dammed up by the masses of ice of the Glacial Age, and how, on the retreat of the ice, the water has hollowed out enormous valleys by erosion and left a drained lake-bottom consisting of clay and sand. In the case of several lakes it appears that the ice has kept the height of the water far above that of the present time, so that a number of the present small separate lakes were formerly only one large lake. On all this see especially Gavelin (1907, p. 1), Munthe (1907, p. 1), Westergård (1906, p. 408), Bobeck (1906, p. 481).

For Danish lakes we have no corresponding literature; here only Madsen (1903, p. 1) can be cited.

It is common to the lakes recorded here that they hardly deserve this name. All come under Forel's definition of pond-lakes, and