

that they can no longer be met. The research shows that in *Hyalodaphnia* brood- and growth-stages often occur of an extremely high and weak structure, but these are not found again in mature animals: they occur only when the temperature of the water is at its highest,

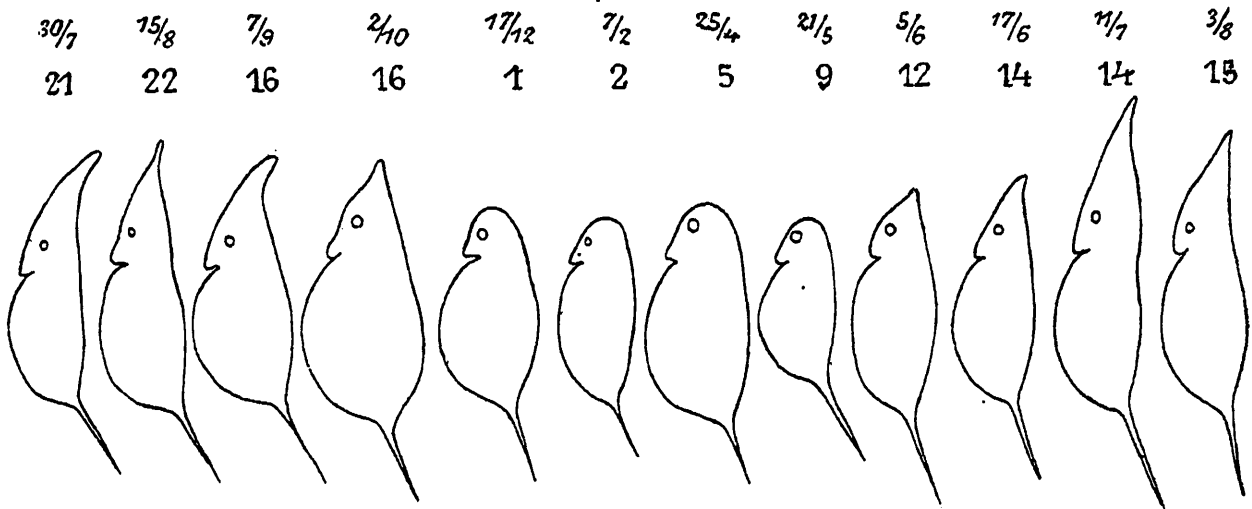


FIG. 58.—*Hyalodaphnia cucullata*. Seasonal variation in the growth-stages (Furesö). During growth the crest in the summer half-year increases so much that it is almost as long as the valves; in the winter half-year the crest does not grow at all.

and their lifetime seems always very short. The view which I have taken of the phenomenon is that the claims of the outer conditions laid at this time on the species are so great that each individual may well meet them but has been forced so near the limits of the variability of the species that the individual pays for its extreme by sterility. *The most extreme variations produced by outer conditions can thus not be inherited.* (Fig. 59.)

In the beginning of autumn, the great increase in the parts of the body which have to counteract the rate of sinking ceases during growth. Somewhat later, generations are produced in which, on hatching, the crest is shorter and does not increase during growth. Towards the winter the species has again the exterior which we are accustomed to regard as normal.

In what manner does the individual transform itself? We must restrict ourselves to the following remark. There is reason for believing that the outer conditions which produce the seasonal variations principally assert themselves, or at any rate make their influence felt, just at the *period succeeding the new moult*. If this holds good, then the seasonal variations, *i.e.* the faculty of the

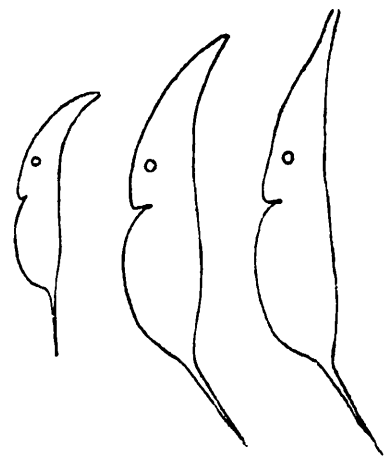


FIG. 59.—*Hyalodaphnia cucullata*. Individuals which the demands for increased floating power have forced beyond the limits of elasticity of the species. They do not attain to the mature stage, and in any case do not produce eggs.