

The interpretation of the phenomena has, however, been the object of rather extensive studies, published in 1908. I take the liberty of merely mentioning the principal points in the investigations, and for the rest refer the reader to my main work.

The seasonal variations do not occur, as hitherto believed, *gradually* through even transitional stages; wherever the researches have been made at the right time or where samples have been taken at sufficiently short intervals, it has been proved that the seasonal variations are mainly completed in the *course of a very short time*, about *two to three weeks*. It has been noticed, for example, that there

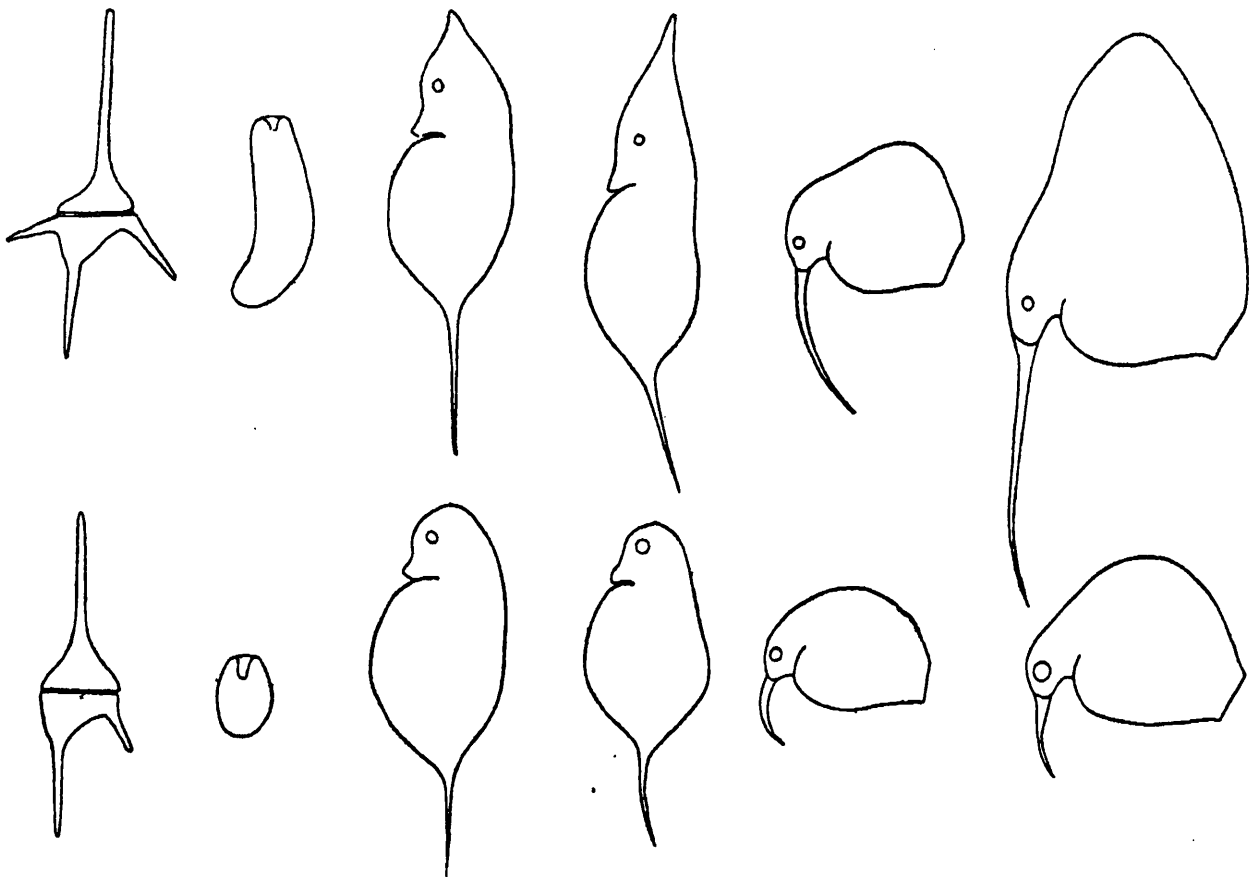


FIG. 55.—*Ceratium hirundinella*, *Asplanchna priodonta*, *Daphnia hyalina*, *Hyalodaphnia cucullata*, *Bosmina coregoni* (Furesö and Julsö). Upper row: summer forms with increased floating power, June. Lower row: the same species as winter forms with less floating power, May.

are species, *e.g.*, *Asplanchna priodonta*, which in the course of about three weeks increase their longitudinal axis about five times; that the distance from the eye to the point of the crest in *Hyalodaphnia* increases from about 100μ to 600μ in the course of three to four weeks (Julsö); and that the flagellum in *Bosmina coregoni* grows from 360μ to 800μ (Julsö) in the same time. This means that whilst the joint stock of individuals in the species first had the measurements 100μ (*Hyalodaphnia*) and 360μ (*Bosmina coregoni*) (lower row, fig. 55), the great majority of the individuals have got the new sizes about three weeks later (upper row, fig. 55).

The time when the variations are completed is *the same for all*