

(Roth) Kütz was killed when placed in cultures of tap water and distilled water containing NH_4NO_3 , even when a trace of this salt was added to a nutrient culture of five months' standing. His experiments seem to show clearly that in many cases at least the absence of ammonium salts is not enough to bring about conjugation. These results show considerable similarity to those which were given by my cultures, both in the deleterious effect of NH_4NO_3 on *S. setiformis* (Roth) Kütz, and the failure of all artificial methods to induce conjugation.

Copeland's work consisted in a study of *Spirogyra* both under natural and artificial environment. In the laboratory, he found that very satisfactory cultures could be made with tap-water, and even a .04 per cent. Knop's solution gave favourable results. But no particular advantage was observed from the use of nutrient solutions. It was noticed that it was a decided advantage to shade the aquaria with dark paper when first started. The good effect was especially noticeable in the south-east windows, where the light was strongest. The proximity of *Ædogonium* and *Chara* proved beneficial to *Spirogyra*, *Ædogonium* being invariably present and often the predominating form in the aquaria where *Spirogyra* lived for several months or a year. Oak leaves and charcoal also appeared to be beneficial factors.

In field work he collected thirteen species of *Spirogyra*, of which twelve fruited abundantly. Ten of these passed their period of maximum abundance in May, one in August and one in October. One reliable example of a second fruiting was *S. dubia*, which fruited in May and again in July. The period of maximum abundance was proved in every case to correspond with the period of maximum conjugation. After conjugation, the fruiting filaments and the vegetative forms disappeared at the same time. One species was observed during several years, but never