

Remarks on some Species of *Cladophora* in the Sense of
van den Hoek and of Söderström

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With 3 figures

General discussion

In his work "Revision of the European Species of *Cladophora*", Leiden 1963 (in the continuation abbreviated Rev.), C. VAN DEN HOEK has the opinion that I am not "aware of the extreme plasticity in relation to age and environment of most *Cladophora* species" (Rev. p. 2). Since my "Studies in *Cladophora*", Göteborg 1963 (in the continuation abbreviated Stud.), to a considerable extent deals with intraspecific variation, I am astonished to meet with this criticism. I am ready to admit that herbarium material, including type specimens, does not play such an important role in my work as they have done in VAN DEN HOEK's, and this could be the basis for a valuable discussion. I restricted my studies of herbarium specimens because I believed, and still believe, that what was needed was a study of the biotic units and discussions of the possibilities to keep such units apart as species. The nomenclature was to me a second-rate and mostly practical question. I cannot understand how the study of a few type specimens can be of use when trying to solve the question whether *Cladophora glaucescens* and *flexuosa* (which are united and called *Cl. sericea* by VAN DEN HOEK) represent forms of one species or should be kept apart. VAN DEN HOEK seems to be of another opinion since he writes (Rev. p. 2): "On the one hand entities were kept apart which actually are growth forms of one and the same species (e. g., *Cl. rectangularis* belongs to *Cl. hutchinsiae*, *Cl. hamosa* to *Cl. albida*), on the other hand species were put into synonymy which most certainly do not belong there (e. g. *Cl. lehmanna* and its synonym *Cl. macallana* were ranged under *Cl. hutchinsiae*, *Cl. utriculosa* — actually a synonym of *Cl. lehmanna* — under *Cl. laetevirens*). Such errors are partly due to the omission of investigating type material".

On p. 3, however, VAN DEN HOEK presents the lines along which he has worked and here he puts investigation of living material first. Secondly comes study of the morphology in unialgal cultures, followed by study of the reproduction, study of herbarium material, and delimitation of the species and varieties. Sixth and last comes the nomenclature. This outline I heartily agree with.

VAN DEN HOEK lays stress upon the culture experiments. It must be observed, however, that such experiments, valuable as they are, do not in themselves solve the questions concerning the delimitation of the species. If different forms produce entirely identical specimens in culture and it is possible to outrule that the similarity is due to the culture environment the result is certainly very near being a proof that the forms belong to one and the same species. But such ideal conditions are seldom at hand. In most cases the culture experiments result in only approximately similar plants and it is still left to the taxonomist's judgment where the limit ought to be drawn.