

Seaweed biogeography workshop of the international working group on seaweed biogeography

FOREWORD

During the past few decades, the field of seaweed biogeography has been relatively neglected, in phycology as well as in phytogeography. Two years ago, researchers from various institutions and with different scientific backgrounds started international cooperation in this field. This cooperation consists, on the one hand, of workshops during which the results of the different scientific approaches of seaweed biogeography are confronted with one another, and, on the other hand, of common research projects.

The first workshop was convened in November 1982 by Dr. K. Lüning in the Biologische Anstalt Helgoland, Zentrale Hamburg. It was then decided that I should convene the second one in April 1984 at Groningen. The editors of the journal "Helgoländer Meeresuntersuchungen" offered to publish contributed papers of the 'Seaweed Biogeography Workshop of the International Working Group on Seaweed Biogeography' (April 3-7, 1984). I gratefully acknowledge this support. Some contributions functioned as stimuli for the discussions, but were too preliminary for publication. The papers represent four different approaches of seaweed biogeography, namely (1) the 'pattern approach', describing and explaining the biogeographic characteristics of whole seaweed floras; (2) the 'ecological approach', explaining the present distribution of species or species groups by their ecological capacities in boundary situations; (3) the 'genetic approach', which investigates the genetic divergence between more or less distant conspecific populations and between related species, using such methods as isozyme analysis and DNA-DNA hybridization; (4) the 'historical approach' which tries to explain present distribution by distribution in the geological past.

The 'pattern approach' is represented by the papers of van den Hoek and Searles. F. Cinelli (University of Pisa) contributed, in addition, a thought-provoking discussion on Mediterranean endemic seaweeds.

The 'ecological approach' is quite new and apparently fruitful as its hypotheses are experimentally testable. Under this heading can be ranged papers by the following authors: Yarish, Breeman & van den Hoek; Lüning; McLachlan & Bird; Guiry; Cambridge, Breeman, van Oosterwijk & van den Hoek; Breeman, Bos, van Essen & van Mulekom; and Rietema & van den Hoek.

The 'genetic approach' is represented by Innes's paper. W.T. Stam presented a paper entitled "DNA-DNA reannealing as an instrument in marine algal biogeography" which critically explored the possibilities of this technique for seaweed biogeography.

The 'historical approach' was realized by a paper read by G.J. Boekschoten & M.B. Best entitled "Late cenozoic distribution patterns of Atlantic corals: a possible guide to past algal distributions".

Possibilities for further joint research were explored, and important research topics identified, for instance seaweed dispersal, which is virtually a terra incognita.

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