

PHYLOGEOGRAPHY AND POPULATION STRUCTURE OF THE BROWN SEAWEED *DICTYOTA DICHOTOMA* (DICTYOTALES, PHAEOPHYCEAE) ALONG EUROPEAN COASTLINES

Steen Frédérique and Olivier De Clerck

Phycology Research Group, Ghent University, Krijgslaan 281, S8, 9000 Gent, Belgium

E-mail: Frederique.Steen@ugent.be

The population structure of the common brown seaweed species *Dictyota dichotoma* along European shores was explored employing one newly developed mitochondrial marker. *D. dichotoma* belongs to a warm-temperate phytogeographic group with north-eastern extension. Its geographical distribution covers the northeast Atlantic, the Mediterranean and the Macaronesian archipelago with exclusion of Cape Verde. Analysis of a total of 281 individuals from 19 sampling locations revealed a reasonable level of polymorphism. A first exploration of the phylogeography of *D. dichotoma* is presented. Diversity was highest for the southern distribution area, but unexpectedly several private alleles were found in the northeast Atlantic. Analysis of molecular variance reveals that Atlanto-Mediterranean populations are comparable but clearly distinct from Canary Islands populations. Mismatch distribution analysis on the Atlanto-Mediterranean samples did not reject the hypothesis of sudden expansion. Our data suggest a postglacial recolonization of the northeast Atlantic from a potential southern glacial refugium located near the Iberian Peninsula. Future research aims to analyze a multilocus dataset (including mitochondrial, chloroplast and nuclear markers) by model-based phylogeography based on coalescent theory.