

FLOATING SEAWEED AS A HABITAT FOR MACROFAUNA ALONG THE BELGIAN NORTH SEA COAST

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Floating seaweeds form the most important natural component of all floating material found on the surface of oceans and seas. Although the associated fauna of the permanently floating *Sargassum* from the Atlantic is already intensively studied, there are few data on the macrofauna associated with short-lived clumps formed by seaweeds detached from rocky shores. To investigate its fauna, floating clumps of seaweed were collected along the Belgian coast in the period between 23 August 2000 and 13 March 2001. In total 55 species of macrofauna were identified; average density and biomass were respectively 5122 individuals/dm³ and 220 mg ADW/dm³. Multivariate analyses revealed different species associations, largely differing from the surrounding water, in which the species composition was primarily determined by the seaweed species (*Fucus vesiculosus* or *Himanthalia elongata*) and secondly by the spatial distribution (near-shore, off-shore or harbour). A positive correlation between the number of species and the volume of the clumps was found. According to their origin, several faunal groups were distinguished: rocky shore fauna, beach fauna, subtidal epibenthic fauna, planktonic-neustonic fauna and accidental fauna. These organisms colonize the seaweed for various reasons: shelter, substrate for attachment, and availability of food resources. Furthermore, floating seaweed seems to function as a nursery: high densities of larval and juvenile stages of many species were found associated with the seaweed.

Future research will include (1) the study of floating seaweed dynamics (lifespan and origin of seaweed clumps, drifting speed, floating-induced dispersal of macrofauna) and (2) the assessment of the ecological value of floating seaweed along the Belgian coast (trophic importance for birds and fish, temporal and spatial variation in density, biomass and diversity of macrofauna, nursery function of floating seaweed, seaweed species-specific structuring variables).