

FOOD AND HABITAT CHOICE IN FLOATING SEAWEED CLUMPS: THE OBLIGATE OPPORTUNISTIC NATURE OF THE ASSOCIATED MACROFAUNA

Vandendriessche Sofie, Gina De Keersmaecker, Magda Vincx and Steven Degraer

Sectie Mariene Biologie, Vakgroep Biologie, Universiteit Gent
Krijgslaan 281 / S8, B-9000 Gent, Belgium
E-mail: Sofie.Vandendriessche@UGent.be

The species composition of macrofauna associated with floating seaweed rafts is highly variable and influenced by many factors like spatial and temporal variation, period since detachment and probably also the seaweed species. The presence of seaweed preferences was assessed by a combination of in situ seaweed samplings and multiple-choice aquarium experiments in a controlled environment, using the seaweed-associated grazing organisms *Idotea baltica* and *Gammarus crinicornis*. Results from sampling data confirm that the seaweed composition has an effect on macrofaunal species composition and abundance: samples dominated by *Sargassum muticum* displayed higher densities but lower diversities compared to samples dominated by *Ascophyllum nodosum* and *Fucus vesiculosus*. Seaweed preference was also apparent from the multiple choice experiments, but did not exactly match the results of the community analysis: (1) *I. baltica* had high densities in seaweed samples dominated by *F. vesiculosus* and *A. nodosum*, while in the experiments this isopod was most frequently associated with *Enteromorpha* sp. and *F. vesiculosus*, and fed mostly on *S. muticum*, *A. nodosum* and *Enteromorpha* sp.; (2) *G. crinicornis* had high densities in seaweed samples dominated by *F. vesiculosus*, while in the experiments this amphipod was most frequently associated with *S. muticum*, but fed most on *A. nodosum* and *F. vesiculosus*. It is clear from the laboratory experiments that preference for habitat (shelter) and food can differ among seaweed species. However, food and habitat preferences are hard to assess because grazer preference may change if choices are increased or decreased, if different sizes of grazers are used, or if predators or other grazers are added to the experiments. Effects of seaweed composition may also be blurred due to the obligate opportunistic nature of a lot of the associated macrofaunal species.