GRAZING OF *IDOTEA BALTICA BASTERI* ON *POSIDONIA OCEANICA:* PRELIMINARY OBSERVATIONS

by

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Résumé: Au cours d'expériences au laboratoire on a étudié le "grazing" de *Idotea baltica basteri* sur les feuilles vivantes de *Posidonia oceanica* et on a observé ses préférences alimentaires en utilisant aussi *Cymodocea*, *Caulerpa* et *Ulva*.

It is a widespread view that very few invertebrates feed on living seagrass material (DEN HARTOG, 1980). Although new data are being added on this subject (TRAER, 1980; NEDELEC et al., 1981; VERLAQUE,1981) it is still to be ascertained to what an extent such a view is merely the result of a lack of information. As a contribution to this problem, we investigated the feeding habits of *Idotea baltica basteri* Audoin, the commonest valviferan Isopod along the Mediterranean coasts. This species was selected because it occurs in a variety of shallow water environments, and especially in accumulation of *Posidonia oceanica* detrital leaves (WITTMANN et al., 1981; OTT, 1981). *Idotea baltica basteri* is considered an omnivorous animal as its diet is known (NAYLOR, 1955) to include both plant and animal foods.
Our specimens were obtained from floating *Ulva* collected nearshore in the vicinity of Portici, Gulf of Naples, and reared in plastic bowls at ambient temperature and illumination. Experiments were performed by offering the animals different food items cut into pieces, usually of 4 cm^2. It was preliminarly tested whether *Idotea* consumes living *Posidonia* tissue. Both adults, up to 20 mm long, and juveniles having a size of at least 5 mm were supplied with portions of green leaves. Large bite marks appeared on these fragments shortly after they were offered to the animals. Preference tests were subsequently performed by providing the animals with pieces of living and decaying *Posidonia* leaves together with *Cymodocea nodosa* green leaves portions, as well as parts of *Ulva* and *Caulerpa* thalli. The relative palatability was assessed by comparing the amount of material removed from each item. In a first set of experiments, a population of *Idotea* was used which included both juveniles and adults. Results show that *Ulva* is the best preferred food, followed

by the white meristematic portions of *Posidonia* leaves, and by the *Cymodocea* material, which were preferred over decaying and green parts of *Posidonia*. *Caulerpa* was always left untouched. From the same test performed on juveniles (over 5 mm long) again resulted that *Ulva* is the preferred food followed by living *Posidonia* leaves. When the feeding behaviour of adult females was investigated, it resulted that *Ulva* ranks first in the hierarchy of preference and living material of *Posidonia* is scarcely consumed as in the experiment performed with a mixed population. In both these latter tests, *Caulerpa* was not fed upon.
Summarizing, in all cases *Ulva* was the best preferred food, the living *Posidonia* and *Cymodocea* leaves were always consumed and *Caulerpa* never showed feeding marks. In order to further check on the above results, binary preference tests were carried out. In a first set, the animals were offered the choice between living and decaying fragments of *Posidonia* leaves. In most of the cases living tissue was preferred over the dead one.
As it can be seen from these preliminary results, whose qualitative character is worth stressing, living *Posidonia* material represents a constant part of the diet of *Idotea* also when other food items are supplied. Under our laboratory conditions, that nevertheless take into account some of the major primary producers actually occurring in *Idotea*'s habitat, living *Posidonia* tissues does constitute an energy source. This is proved by the fact that individuals whose diet consisted exclusively of green *Posidonia* were found to survive over long periods without any evident harm.
Our results seem to discount the view of OTT (1981) who considers *Idotea baltica basteri* primarily as a debris feeder. They rather support the "omnivority" of this form which seemingly selects the vegetal part of its diet according to the "tenderness" of the different items.

Reference

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