

Whitening, thallus decay and fragmentation in *Gracilaria chilensis* associated with an endophytic amoeba

Juan A. Correa & Verónica Flores

Abstract

Whitening of *Gracilaria chilensis*, accompanied by tissue softening and thallus fragmentation, was found to be associated with the presence of an endophytic amoeba. Although the symptoms developed originally in green mutant thalli, subsequent infections in the laboratory also affected normal, wild-type *G. chilensis*. Ultrastructural evidence indicates that the amoebae perforate the host cell walls of both cortical and medullary cells and digest their protoplasm. Feeding by the amoeba appears to involve both phagocytosis and enzymatic digestion of the host tissue. Destruction of the host tissue resulted in large cavities first, followed by thallus fragmentation. No other organism was found during the early stages of thallus invasion by the amoeba, although bacteria may appear once the amoeba reaches the inner tissues of the host.