Interaction between host *Chondrus ocellatus* and two endophytes.

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Lab 1, Level C, Meeting Room C016

To examine the effects of two endophytic algae, *Mikrosyphar zosterae* (brown alga) and *Ulvella ramosa* (green alga), on the host *Chondrus ocellatus* (red alga), culture experiments were conducted. Four treatments were made: endophyte-free (*Chondrus* only), endophyte-*M* (*Chondrus* + *Mikrosyphar*), endophyte-*U* (*Chondrus* + *Ulvella*), and endophytes-*M·U* (*Chondrus* + *Mikrosyphar* + *Ulvella*). After 3 weeks, the relative growth rates (RGRs) of frond lengths and the number of newly formed bladelets were examined. *M. zosterae* formed wart-like dots on *C. ocellatus* fronds, whereas *U. ramosa* made dark spots. The RGRs of frond lengths of *C. ocellatus* were significantly greater in the endophyte-free and endophyte-*M* treatment groups than in the endophyte-*U* and endophytes-*M·U* treatment groups, indicating that the growth of host *C. ocellatus* was inhibited more by the green endophyte *U. ramosa* than the brown endophyte *M. zosterae*. The number of newly produced bladelets was greater in the endophyte-*U* and endophytes-*M·U* groups than in the endophyte-free and endophyte-*M* treatment groups. These results indicate that the two endophytes inhibit growth of the host *C. ocellatus*. The negative effects of *U. ramosa* on *C. ocellatus* growth were more severe than those caused by *M. zosterae*. Furthermore, *U. ramosa* destroyed the apical meristems of *C. ocellatus*, whereas *M. zosterae* did not. On the other hand, *C. ocellatus* showed compensatory growth in the form of lateral branch production as *U. ramosa* attacked its apical meristems.

All Welcome

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