ABSTRACT FORM
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Abstract box:

INDUCIBLE RESPONSE IN TWO BROWN MACROALGAE FROM THE NORTHERN-CENTRAL COAST OF CHILE

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Macroalgae have various defense mechanisms against herbivory. Some species produce anti-herbivore secondary metabolites, but production of these substances can be costly. Therefore algae may produce defense metabolites only in response to herbivory (inducible defense) or defend particular parts of the plant differentially (within-plant variation). In the present study we examined whether two species of brown algae show evidence of inducible or differential defense, measured as palatability changes in feedings assays (with fresh algae and reconstituted food), using amphipod grazers. While the alga *Glossophora kunthii* adjusted its defense, reducing its palatability in the absence of grazers within 12 days and increasing its defense level when grazers were present, no inducible defense was found for *Macrocystis integrifolia*. The reaction of *G. kunthii* was triggered even by the mere presence of grazers, which suggests that this alga can respond to water-borne cues by reducing palatability. Grazers preferred central parts of *G. kunthii* over other parts, indicating differential allocation of defenses. In *M. integrifolia* the amphipods avoided basal stipes but only in fresh algae, indicating structural defense in these parts, which provide structural support for the remaining plant. Our study showed inducible and within-plant variation of defense, indicating that different algae respond in different ways to herbivory.