

Antifeedant effects of marine halogenated monoterpenes

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In this work the antifeedant effects of the halogenated monoterpenes 1-13 were tested against several divergent insect species. These compounds have been isolated from *Plocamium cartilagineum* (6 was isolated as an acetyl derivative), except for 4, which was isolated from *Pantoneura plocamioides*. We have also included the semisynthetic derivatives 1a, 2a, and 7. Compounds 1, 1a, 2, 4, 5, 7, 8-10, and 13 were antifeedants against *Leptinotarsa decemlineata* with varying potencies. The aphids *Myzus persicae* and *Ropalosiphum padi* were strongly deterred in the presence of compounds 2, 12, and 13. This effect was correlated with the electronic recording of their probing behavior. Compounds 2 and 12 were toxic to *L. decemlineata* and had selective cytotoxicity to insect-derived Sf9 cells. None of the tested compounds showed phytotoxic effects. The antifeedant and cytotoxic effects of these compounds were compared with those of the polyhalogenated insecticide γ -hexachlorocyclohexane (lindane).