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# Behavioral Responses of Coccinella septempunctata and Diaeretiella rapae toward Semiochemicals and Plant Extract

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**Abstract :** The chemical ecology of natural enemies can play a pivotal role in any Integrated Pest Management (IPM) program. Different chemical cues help to correspond in the diversity of associations between prey and host plant species. Coccinellaseptempunctata and Diaeretiellarapae have the abilities to explore several chemical cues released by plants under herbivore attack that may enhance their efficiency of foraging. In this study, the behavioral responses of Coccinellaseptempunctata and Diaeretiellarapae were examined under the application of two semiochemicals and a plant extract and their combinations using four-arm olfactometer. The bioassay was consists of a pairwise treatment comparison. Data pertaining to the preference of C. septempunctata and D. rapae after treatment application were recorded and analyzed statistically. The mean number of entries and time spent of Coccinellaseptempunctata and D. rapaewere greater in arms treated with E-β-Farnesene. However, the efficacy of E-β-Farnesene was enhanced when combined with β-pinene. Thus, the mean number of entries and time spent of C. septempunctata and D. rapaewere highest in arms treated with the combination of E-β-Farnesene x β-pinene as compared with other treatments. The current work has demonstrated that the insect-derived semiochemicals may enhance the efficacy of natural enemies when applied in combination.

**Keywords :** olfectometer, parasitoid, predator, preference
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