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INSECTICIDAL ACTIVITY OF SEVEN INVASIVE ALIEN PLANTS AGAINST APHIDS (*MYZUS PERSICAE*)

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Aphids, *Myzus persicae* (Sulzer) (Homoptera: Aphididae), infest vegetables and ornamental plants leading to reduction in yields of crops. Further, aphids vector plant viruses and assist fungal growth. Control of aphids by synthetic pesticides causes problems on the environment and public health. Plant-based pesticides are biodegradable and considered to have minimal impact on public health and beneficial insects. Production of pesticides based on invasive alien plants (IAPs) provides a strategic solution to manage the uncontrolled distribution of IAPs. In this study, 57 extracts prepared from plant parts of seven common IAPs—*Mimosa pigra, Ageritina riparia, Dillenia suffructicosa, Ulex europaeus, Aristea ecklonii, Miconia calvescens* and *Cestrum aurantiacum*—were screened for aphidicidal activity. Each dried ground plant material was extracted sequentially into n-hexane, dichloromethane and methanol using an ultrasonicator. Aphidicidal activity was determined in triplicate using Potter's spray tower method. One-day-old aphids (10) were placed on a cabbage leaf and sprayed with an emulsion (4 g dm^{-3}) of the extract and mortality was observed at 24 and 48 h after introduction (HAI); the positive control was a commercial synthetic insecticide which had 50% w/w sulfoxaflor as the active ingredient. At 24 HAI, methanol extracts of *A. riparia* (leaf), *A. ecklonii* (leaf), *M. pigra* (root-bark) and *U. europaeus* (aerial-part) and the dichloromethane extract of *U. europaeus* (aerial-part) displayed moderate aphidicidal activity (37-50% mortality); the positive control (4 g dm^{-3}) caused 97% mortality. At 48 HAI, 22 extracts showed considerable insecticidal activity (50-93% mortality); significant aphidicidal activity (93% mortality) was observed for hexane extract of *A. riparia* (leaf), methanol extract of *M. calvescens* (stem-bark) and dichloromethane extract of *U. europeaus* (aerial-part). The extracts prepared from *A. riparia* leaf, *A. ecklonii* leaf, *M. calvescens* stem-bark and *U. europeaus* aerial-part appear to contain potent aphidicidal phytochemicals from which eco-friendly plant-based aphidicidal formulations may be developed.

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