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## Wood-boring beetles promote ant nest cavities: extended effects of a twig-girdler ecosystem engineer

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### Abstract

*Oncideres albomarginata chamela* (Cerambycidae: Lamiinae) is a stem-boring beetle that girdles branches of *Spondias purpurea* (Anacardiaceae) for oviposition. Many beetles opportunistically oviposit in these branches and larvae create cavities that are abandoned when the adults emerge. Our objective was to evaluate the role of wood-boring beetles in promoting ant nest cavities mediated by a twig-girdler engineer. We collected 120 abandoned branches that had been detached by *O. albomarginata chamela*, in a tropical dry forest, in Jalisco, Mexico. Sixty abandoned branches were placed in trees from February to April, and another sixty from August to October 2016. In order to test the effects of nest characteristics on ant species, we measured the diameter of each branch and the diameter of the ant nest entrance as explanatory variables, whereas the size of ant species was used as response variable. We found 49 nests of arboreal ants from 14 species. The body size of the ants nesting in the abandoned branches was positively correlated with the diameter of the nest entrance. Ants

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