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### VISUAL AND CHEMICAL ADVERTISEMENTS IN A BEE-POLLINATED NEOTROPICAL LIANA

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#### ABSTRACT

Animal-pollinated plant species depend on pollinator attraction to ensure sexual reproduction. The Bignoniaceae tribe is a charismatic clade of Neotropical lianas, with conspicuous flowers that attract diverse pollinators such as bats, hummingbirds, butterflies, hawkmoths, and mainly medium- and large-sized bees. Among the bee-pollinated species is *Amphilophium mansoanum* (DC.) L.G.Lohmann (Bignoniaceae), a liana that shows large conspicuous white flowers with internally yellow throat. The sweet-scented flowers are visited and pollinated by medium and large-sized bees that search for floral nectar, accumulated at the bottom of the floral tube. The aim of this study was to characterize visual and chemical floral traits and to associate them with the information available about bee sensorial abilities.

Although these flowers are visually conspicuous to humans, the two colours of the corolla are indistinguishable in bumblebee vision. Moreover, the flowers are indistinguishable from the background. Floral scent is dominated by terpenoids together with few aromatic and aliphatic compounds. Compounds such as  $\beta$ -pinene, (*E*)- $\beta$ -ocimene, linalool,  $\beta$ -myrcene, 2-phenylethanol and eugenol are associated with bee pollination.

Thus, in this pollination system floral scent seems to have a crucial role in pollinator attraction, especially considering that bees present a highly sensitive olfactory system. However, our interpretation of flower color perception by bees was based on the sensory capability of *Bombus terrestris*. The shortage of information regarding the sensorial capabilities of tropical pollinators limits our interpretation, as it is possible that the *Centris* and *Epicharis* bees that pollinate this Neotropical liana have a lower threshold of visual sensibility.

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