

### **S79.03 - The use of essential oils to attract fruit-eating bats and improve forest restoration**

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Fruit bats are good seed dispersers that use odorific clues to locate and select mature fruits. We have already demonstrated that neotropical fruit-eating bats can be attracted to degraded areas solely with essential oils extracted from their preferred fruits. Nevertheless, this novel restoration tool is under constant development and now we have (1) compared the chemical com-

position of preferred and ignored fruits; (2) used chromatographic analysis combined with double-choice captive experiments to analyze the role of different volatile organic compounds (VOCs) in the attraction of bats; (3) identified genera of Old World flying foxes (Pteropodidae) that could be used, based on the diversity of their diet and fruit preference, in restoration programs. We have discovered that the essential oils of fruits consumed by phyllostomids share compounds, but the preferred ones can be identified by key compounds. In addition, these bats proved to be able to identify two different types of VOCs – monoterpenes and sesquiterpenes - each with a different function in bat-fruit communication. The frugivorous diet of flying foxes was found to be diverse, but *Ficus* is the most consumed fruit genus. *Cynopterus*, *Pteropus* and *Rousettus* were identified as potential models for the adoption of the restoration tool in tropical continents where phyllostomids are not present. So, at this stage of the research we were not only able to unveil some mechanisms behind bat-plant communication, but also to provide the basis for worldwide application of this forest restoration tool based on the active attraction of seed dispersing bats.

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