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GET THERE EARLY TO PHOTOGRAPH BATS POLLINATING FLOWERS IN THE FIELD

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Study Description

We present, for the first time, the spectral reflectance curves of bat-pollinated flowers using as model *Ceiba glaziovii* (Malvaceae), an impressive tree whose crown turns completely white during the reproductive season, and 13 other chiropterophilous species from Caatinga dry forest, Northeastern Brazil. Flowers from most species reflect light in the blue, green, and red ranges (white to humans). Contrary to what has been widely disseminated, there was little reflection in the ultraviolet range. From these data, we hypothesized how nectarivorous bats, which often begin foraging before sunset, would use color as a clue in their search for flowers freshly opened.

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Photo 1. Many bat-pollinated flowers begin their anthesis in the late afternoon, even before sunset, as illustrate by freshly opened *Ceiba glaziovii* (Malvaceae) flowers against the twilight sky (left panel). Due to a large amount of light in the environment at this moment, some of these flowers may generate some visual appeal, it seems the case of *C. glaziovii*, whose tree turn completely crowned in white because of such flowers (right panel). Photo credits: Arthur Domingos-Melo (left panel) and Joel Queiroz (right panel).



Photo 2. In order to record bats pollinating flowers in the field, it is important to arrive early in the afternoon and be particularly careful just before dusk, when bats begin their flight activity (as shown in the left panel by Isabel Cristina Machado). One must choose an opening floral bud with a good framing against the open sky (as illustrated by the bud of *Ceiba glaziovii* in the upper right image), mount the tripod, and wait quietly with the camera focused, ready to shoot as soon as a bat approaches (as illustrated by the phyllostomid bat visit in the bottom right panel). If one's presence is noticed, the chosen flower may no longer be visited during the night. This step-by-step protocol has been taught since decades ago by the Brazilian naturalist biologists Marlies Sazima and Ivan Sazima, to whom the associated *Ecology* paper is dedicated. In those days, cameras were still analog, which made much waiting necessary until results could be seen. Today, as technology has advanced, digital cameras have made this task much easier, but researchers are still required to arrive early. Photo credits: Arthur Domingos-Melo (left panel) and Isabel C. Machado (right two panels).

These photographs illustrate the article "Shining bright in the dusk: How do bat-pollinated flowers reflect light?" by Arthur Domingos-Melo, Vinícius Lourenço Garcia de Brito, Alicia Sérsic, Andrea A. Cocucci, Klaus Lunau, and Isabel Cristina Machado published in *Ecology*. https://doi.org/10.1002/ecy.3416.