PRESS RELEASE

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Old World plants induce African sunbirds to hover

From the time of Charles Darwin research on plants adapted to bird pollination proceed. Up to the present day no plant in the Old World adapted to hovering fly of bird pollinators was found contrary to situation in New World, where hummingbirds hover to pollinate many plant species.

Czech scientists from Institute of Botany AV ČR in cooperation with students from Faculty of Science, University of South Bohemia, studied pollination ecology of *Impatiens sakeriana* in tropical mountain forests in Cameroon. Although this species was not studied in detail so far, it becomes the subject of scientific theories on existence of hummingbird ancestors in the Old World. These theories were based mainly on the fact that *I. sakeriana* have flower traits typical for hummingbird pollinated plant: long peduncles and pedicels, which persuade a bird to hover when foraging for nectar. Due to lack of hummingbirds in recent old world, scientists expected that the plant species have to rely on selfing or insect pollination.

Czech scientists during detailed study, using both experimental and observation approaches, found that this plant is not capable of self-pollination and is not visited by insect. On the contrary it is pollinated only by two sunbird species (*Cyanomitra oritis* and *Cinnyris reichenowi*). Mainly *Cyanomitra oritis,* which frequently hover during feeding, is more efective pollinator. *C. reichenowi* often thieves nectar by piercing the flower spur without pollination while perch on different plant parts. The long peduncle probably helps *I. sakeriana* to exclude such behavior. This finding represents the first proof of co-evolution between plants and hovering bird pollinators in the Old World. The studied system is analogous of these known from the New World which, however, coevolved in unrelated plant and bird species.

The study was published in journal Oikos and highlighted by editors of one of the most prestigious scientific journal Science.

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