

STEALTHY BEHAVIOUR OF BEES FOR ENTERING THE FLOWER BUDS OF *STROBILANTHES IXIOCEPHALA*

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Plant–pollinator interactions are mostly mutually beneficial when flowers attract bees, flies and birds for pollination and in return provide nectar or pollen rewards. Sometimes when the flowers are tubular and visitors cannot reach the nectar rewards, they exploit the flowers by piercing a hole at the bottom of the flower tube to access the rewards. At such times, they may or may not provide pollination services. There are two types of such floral cheaters. Robbers are cheaters that pierce a hole to gain rewards while thieves sneakily consume nectar or pollen without damaging the flower. This collectively is termed floral larceny.

Floral larceny has been commonly observed in many flowering plants. In our studies on *Strobilanthes ixiocephala* flowers, we observed bees exploiting the buds by piercing through the apex of the buds. This study suggests that different visitors may visit the different stages of buds for robbing.

Four species of bees were observed on *Strobilanthes* during the day in an Indian forest. The initial visitors were *Apis dorsata* and *Apis cerana* followed by solitary bees such as *Megachile lanata* and *Seladonia* sp. *Apis dorsata* fed on the highest number of flowers and was the first to arrive. They pierced or prised open the tightly enclosed buds. *Apis cerana* was a legitimate visitor while *Megachile lanata* and *Seladonia* sp entered the half-opened buds, were late comers and were involved solely in larceny. *Seladonia* could cling onto and cause damage to the stigma of the flower.

Pollinators are mostly attracted to the flowers through various advertising signals

such as colour, fragrance, and shape but how they are attracted towards buds is not well known. Why bees enter from the top of the bud when open flowers are present is a puzzle to be solved. One reason could be to gain first access to fresh pollen and nectar rewards and avoid competition from other bees.



The Indian rock bee *Apis dorsata* exploiting the bud of *Strobilanthes ixiocephala*

Photograph by Nikhil More

Our findings should be considered with caution as the data size was small. But it would be interesting to follow up on this study as the damage caused to the buds could be costly since it may hinder visits by legitimate pollinators and affect fruit and seed set. Whether the robbed buds open successfully is also not known. Whether certain bees are specialist thieves can also be studied.