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Prevention of rock bee, "Apis dorsata" colonies from nesting in vulnerable sites

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Rock bee, Apis dorsata, is one of the effective pollinators of several agricultural, horticultural crops and forest trees. Their natural nesting places are branches of larger trees, rock cliffs and high raised buildings. Usually under urban ecosystem they choose high raised buildings as their nesting places. The urban dwellers get afraid of the presence of rock bee colonies due to the incidence of rock bees attacking them. The people feel the presence of rock bees in their buildings as dangerous. Often this leads to a conflict between rock bees and urban dwellers, which results in elimination of rock bee colonies by application of insecticides. Thus several numbers of colonies are destroyed every year just by the fear of possible attack to the people in urban and semi-urban areas. One of the measures to protect the A. dorsata colonies is prevention of their nesting in vulnerable places and safely shifting them to other places. The present investigation was carried out during 2020-24 with an objective of finding out measure to prevent their colonization at undesired places and to work out the possibility of relocating them from such places.

The different measures imposed to prevent their colonisation at undesired places were scraping and painting the previously colonized places, application of glue to the nesting places, fixing some fumigants to the nesting places, fixing fluttering materials and fixing netting material to the nesting places. Among these scraping, painting and application of glue were not effective. The colonization was observed after a month and even within a month also. Fixing of fumigant was effective only temporarily and was effective immediately after removal of the comb in an attempt to relocating the colony. Fixing of fluttering material to the possible nesting sites was very effective in preventing the colonization for the entire season. Similarly, fixing of netting material also gave encouraging results in preventing the colonies throughout the season. The paper gives a detailed account of the measures and also the results of efforts made to safely relocate the colonies from vulnerable places to other safer places for their conservation.

PREVENTION OF ROCK BEE, *APIS DORSATA* COLONIES FROM NESTING IN VULNERABLE SITES

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Introduction

- Rock bees (*Apis dorsata*) are wild species, endemic to Indian subcontinent.
- Important for pollination of several crops.
- Natural nesting sites: high buildings, rock cliffs, tall tree branches.
- In urban and semi-urban areas: colonies on tall buildings.
- Highly ferocious, sometimes attack people.
- Attacks rare, but people fear colonies near premises.
- Lack of awareness → colonies often removed.
- Colony removal sometimes leads to complete destruction.
- Conservation: prevent colonization in vulnerable sites.
- Safe shifting of colonies to secure locations recommended.

Objectives

a. Finding out the ways to prevent rock bee colonization in vulnerable places

b. Find out the possibilities of shifting entire colonies to safer places

Methodology

Sl. No.	Treatment	Details	Imposed on (No. of colonies)
1.	Scraping and painting	The places where the colonies regularly constructed their nests, remnants of wax was scraped off and regularly painted	8
2	Application of glue	The regular nesting were applied with a glue – 3mm thickness	8
3.	Application of a deterrent (Napthalene)	Remnants of the old nests were removed and naphthalene balls were affixed	5
4.	Fluttering material	Cloth pieces were fixed as fluttering material in the regular nesting places	6
5.	Fixing netting material	Mosquito net was fixed in such a way that the bees do not have access to the nesting sites	8
6.	Shade net as a mechanical barrier	Shade nets were put up as mechanical barriers for bees to reach their nesting places	8

Application of glue

Application of a deterrent (Napthalene)

Fluttering material

Shade net as a mechanical barrier

Results

Sl. No.	Treatment	Results
1.	Scraping and painting	Not effective colonization was observed in 7 of the 8 treated places
2	Application of glue	Not effective colonization was observed in 6 of the total 8 sites treated
3.	Application of a deterrent (Napthalene)	Not effective in all the 5 sites colonization was observed
4.	Fluttering material	Effective – No colonization was observed in any of the treated sites
5.	Fixing netting material	Effective – No colonization was observed in any of the treated sites
6.	Shade net as a mechanical barrier	Effective – No colonization was observed in any of the treated sites

Relocation of wild bee colonies

- Total number of colonies relocated-4
- All of them absconded from the relocated place after a varying periods of 3 days, 10 days, 12 days and 20 days

Thank you