

Non-destructive method of honey hunting

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Honey hunting is the general term given to the collection of honey from wild honey bee colonies. Traditional honey hunting is an important element in the life of a number of groups including the Rajis in Nepal, and Kurumbas in south India.^{4,6} In the Hindu Kush Himalayan region more than 50% of total honey yield is collected mainly by honey hunters from wild honey bees. In Nepal, honey hunting is practised not only for economic gains but it also has spiritual, cultural and social significance. Nowadays, the spiritual, cultural and social values however are declining.



FIG. 1. Structure of the *Apis dorsata* comb.

Existing method of honey hunting

The existing method of honey hunting is the same across Asia. A fire is lit under the bee tree or cliff to keep the bees away and get honey from the colonies of wild honey bees (e.g. *Apis dorsata*).^{1,2,3,4,5} In traditional honey hunting system, smoking is considered crucial to disorientate the bees and save the honey hunters from being stung. After smoking off

the bees from the comb, most honey hunters cut down the whole combs destroying all the brood and food stores. A large number of young bees, some hundreds of adult bees and sometimes a queen and drones are also killed while hunting honey. Our experience from the Kaski district of Nepal suggests that the existing method of honey hunting is one of the reasons for the decline in wild honey bee populations. Efforts are therefore needed to



FIG. 2. Sugar is being sprayed over the bees.



FIG. 3. Honey portion is being cut from the comb.

develop a non-destructive method of honey hunting for conservation of wild honey bee populations. Besides this, raising awareness among local communities, government and non-government institutions about the role and importance of wild honey bees is equally vital for conserving these species.

Non-destructive method of honey hunting

This article presents a non-destructive method developed and perfected for harvesting portions from the honey combs of wild honey bees. The following is a description of the method employed by the authors to cut the honey portions from *Apis dorsata* nests in Nepal.

Steps for non-destructive method of honey hunting

In our experience, honey hunting is best not done during daytime. We found that the best time to hunt honey is in the evening, before sunset. When we used the method described above during dusk hours, the bees did not react aggressively or sting; instead they became calm and started working on repairing the combs during the following day. But we observed that if the sugar syrup is cold or too hot, and the colony is disturbed before spraying the sugar syrup, then bees react by stinging.

Hence, it is necessary to check that the temperature of the sugar syrup is between 25 °C and 32 °C. Using this method, up to 75% of the total amount of honey can be harvested from the comb without killing the bees or destroying the brood portion of the comb.

Step 1

Assess the honey stores in the comb by observing the colony during the morning hours. During the morning, the bees form a thicker layer over brood comb than over the honey comb. If the comb is big enough and seems worth harvesting then proceed for honey hunting. Honey is generally stored in the upper part of the comb (fig. 1).

Step 2

Make sugar syrup (1:1 sugar and boiled water v/v) and maintain its temperature at about 25-30 °C. Wear a protective bee veil and then climb up to the nest without making any noise or disturbances. After reaching nearer the nest, spray sugar syrup gently over the surface of the honey bee comb (fig. 2).

Step 3

After spraying sugar syrup wait for 2-3 minutes. When the worker bees become calm and busy in sucking up the syrup, slowly move the bees towards one end of the comb. Use bee brush to move the bees away.

Step 4

Cut the honey comb portion from one end of the comb using a sharp knife (fig. 3). Again spray the sugar syrup over the comb surface and wait for 3-5 minutes. Then move the bees towards the side of the comb from where a honey portion was cut. When the bees have been moved cut the honey comb portion from the other end of the comb.

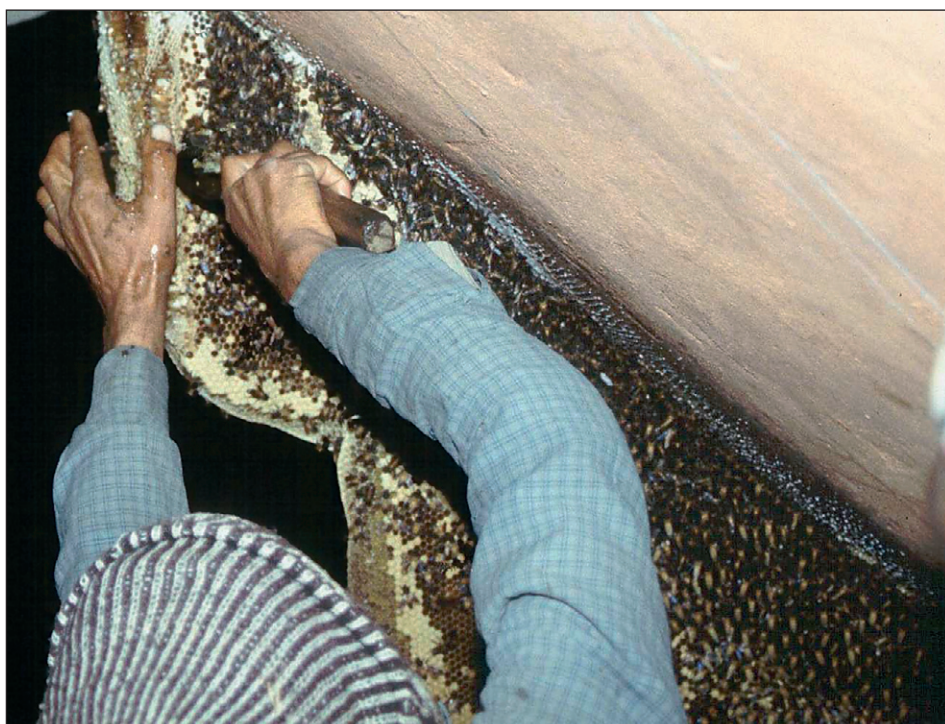


FIG. 4. A local honey hunter cutting the honey portion from the comb.

As pointed out by Strickland,⁵ we realized that the use of smoke is more a precaution than a necessity. Hence, instead of smoke sugar syrup can be used as a precautionary measure. Obviously, sugar syrup is a bit more costly but safer for the bees and honey hunters than that of smoke.

Hence, we recommend this method for harvesting honey from wild honey bee species, especially from *Apis dorsata* and *Apis florea*. This method may also be used for harvesting honey from *Apis laboriosa* if its nests are built in accessible cliff sites. But, this bee species generally builds its nests under the overhang on inaccessible rock faces, making it impossible to get near enough to the nests and spray sugar syrup over the surface of the combs.

We observed that the aggressiveness of *Apis dorsata* varies from place to place depending upon the conditions of the colony. Local honey hunters informed us that sometimes this bee species was ferocious, and at other times notably unaggressive. When we used our method we did not experience any mass attacks of bees. Though on one occasion, when we were just about to spray sugar syrup over the surface of the *Apis dorsata* comb we got six to seven stings.

Some honey hunters have already started to use sugar syrup instead of smoke (fig. 4), but it is still too early to make any conclusions about the adaptability of this technique.

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