

## Traditional Beekeeping with *Apis cerana* in Kullu Valley of Himachal Pradesh

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Indigenous methods of keeping bee colonies in log and wall hives are still common in Kullu valley despite the fact that modern beekeeping started here in 1934. Traditional beekeeping requires little investment in terms of cost of hives and bees. Hives are prepared from available local materials and bees generally settle in such hives during swarming. A survey conducted in 32 villages revealed that most farmers still keep bees in self-made log and wall hives. In total, 507 hives were found occupied by *A. cerana* of which 250 were wall hives, 197 log hives and only 60 modern hives (Langstroth and ISI hives). Every village had several farmer-cum-beekeepers each with two to many colonies.

Bees are kept in traditional hives made from wood of *Pinus wallichiana* (kail) and *Picea smithiana* (rai). The hives are either log hives, box hives or wall hives. Log hives (dhindhori) are made by hollowing out the trunk of a tree. They have an entrance at the front and are closed at the back by a wooden plank sealed with a paste of cow dung (Fig. 1). They are kept vertical in a verandah or on the roof of a house. Ordinary box hives (marham) without frames are prepared from wooden planks. They are kept either horizontal or vertical (Fig. 2) in a verandah or in



Fig. 1: Log hive (wooden plank removed to show the colony)



Fig. 2: Box hives (without frames)

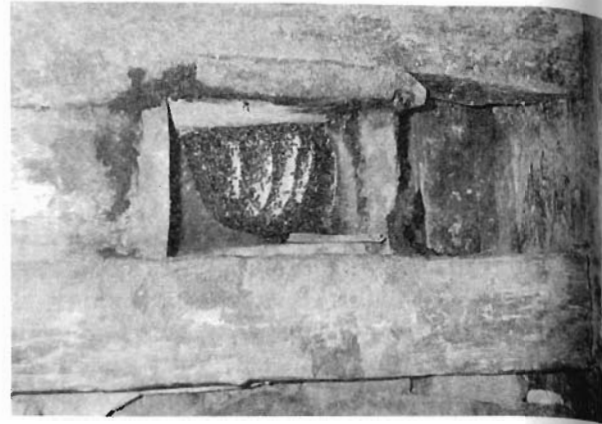


Fig. 4: Inner view of wall hive



Fig. 3: Three log hives and, on the right, a wall hive constructed between layers of stone and wood. (Swarm-catching basket and big spoon for collecting bees can be seen on top of the log hive on the extreme left)



Fig. 5: Log hives placed on hilly gradient for catching swarms

the open. Wall hives are built at the time of construction in recesses in the walls of a house between the layers of stone and wood (Fig. 3). The entrance is a triangular opening on the outside. On the inside, a wooden plank is used to close the hive and allows for handling of the bees for honey extraction (Fig. 4).

To catch swarms, beekeepers throw dust or water on flying swarms and, after they have settled, transfer them to swarm-catching baskets with a big spoon. In remote areas such as Jana empty log hives are placed in a protected place

on steep hilly gradients for catching natural swarms (Fig. 5). Once occupied by bees, these hives are then taken back to the village by the owner.

Sealed honey is harvested (Fig. 6) twice a year during summer (June) and winter (November). For this, bees are driven out by smoke produced by burning cow-dung cake on a plate or big spoon. Honeycombs are harvested along with brood. Generally old combs are harvested and 2-4 new combs are left for the bees depending upon the season. Colonies generally yield 2-5 kg



Fig. 6: Harvesting of honey from log hive

of honey per year, however, 10 kg of honey/log hive was harvested at Baragaon during winter. Honey is squeezed through cloth. The beeswax is discarded as a waste product.

Colonies in log and box hives are rented to orchardists for pollination but many combs are damaged during transportation. It has also been observed that bees in these hives have less tendency to abscond, which is otherwise a major problem with *A. cerana*.

Kullu valley has great potential for beekeeping with *A. cerana*. In this area there is a scarcity of bee colonies required for pollination of fruit crops such as apple. There is an urgent need to develop a programme to encourage traditional beekeeping for income generation and for increasing the number of *A. cerana* colonies available for pollination.