THE CONSTRUCTION, DIMENSIONS AND SITING OF LOG HIVES NEAR NAIROBI, KENYA

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Beekeeping in Africa is an ancient art. Honey was an important part of early man's diet and even today provides him with a base for an alcoholic beverage. Brood was often eaten and provided a good source of protein. Trade along the east African coast predates present history: beeswax was an important commodity in early trade as it is today.

Methods of keeping bees are now changing rapidly in Kenya. Movable frame hives and movable-comb frameless hives are now widely used, and their success suggests that ancient methods of keeping bees will soon pass. We have observed that beekeepers in both rural and urban areas are substituting discarded metal and cardboard drums and shipping boxes for the traditional log hives, and these makeshift hives are attractive to swarms. Because a major change in beekeeping methods and equipment is taking place, we thought it important to record some facts about them.

We visited 8 apiaries in which traditional beekeeping was undertaken, and one maker of traditional hives. Records were made where possible of hive type, volume, height above ground, wood type, treatment of hive interior, and entrance size and position. The proportion of hives that were occupied by bees varied according to the care given in the apiary, and only general notes on this were made,

Apiary Sites

The 8 apiaries had from 3 to 49 hives, 145 hives were seen altogether. In no apiary did we observe only a single hive. in 2 apiaries the hives were on stands, not suspended from trees.

One beekeeper kept 17 traditional hives (6 occupied) on stands about 1 m above the ground. Trees for suspending hives were available, but this beekeeper did not think it was necessary; he also said it was inconvenient. This same beekeeper had several of the new Kenya top-bar hives, which he considered superior, and he planned to use these exclusively in the future.

A second beekeeper had 49 hives on stands, all but 3 at 1 m. The area was heavily farmed and overgrazed, and no large trees from which hives might be suspended were in the vicinity. The 3 hives at more than 1 m were in small trees at heights up to about 3 m.

In the remaining 6 apiaries the hives were suspended by wire

Fig. 1

Fig. 2

or with the traditional forked stick about 1 m long. Two of the sites were on hillsides so measurement of the height of the hives above ground was not useful. Of 48 hives in 4 apiaries not on hillsides, the height above ground varied from 1.2 to 12 m, measured at the hive's lowest point: the average was 4.7 m. However, beekeepers expressed no preference for a particular height (see below).

Hive exposures is important. Fig 1 is a mango tree (Mangifera indica) with heavy foliage in which suspended hives would be obscured. Fig 2 is a tree with thin foliage, in which hives suspended at any level would be visible. The height of the hives is therefore limited by the trees available and the density of their foliage.

Beekeepers we questioned did not think that the height of hives was important. Hives were placed high in trees to protect them from ants, honey badgers and fire, and to deter robbing by men. Ants can be prevented from entering hives close to the ground by greasing the wires with which they are suspended; apparently ants will not crawl very high into trees to rob hives. Badgers also will not climb trees to rob hives; we notice two modern apiaries of Langstroth hives protected by high woven-wire fences to keep out honey badgers.

Hives and Their Size

The typical traditional hive in the vicinity of Nairobi is made by hollowing out a section of tree trunk with a home made chisel about 2 m long - (Fig 3). Mweria (meru), Pygeum africanum, is preferred for the hive; we were told that the work takes 1 to 3 days. The man shown in Fig. 4 and Fig. 5 said he had made several thousand hives; hive making was his full-time occupation. In one apiary we saw hollowed sisal and palm tree trunks used as hives.

In several apiaries, especially near Nairobi, beekeepers were using wooden boxes and metal and cardboard drums for hives, which varied greatly in volume, but only a few were slightly larger than the largest log hive measured.

Log hives in three locations could be measured with reasonable accuracy: 3 under construction, all 6 in the apiary where the hives were about 1 m above the ground, and the 10 hives nearest the road in the apiary of 49 hives. Only a few of the hives were perfectly round. The maximum and minimum interior diameters were measured for each hive, and the values averaged. The internal measurements of the smallest hive were: diameter 23 cm, length 61 cm, volume 25 litres. For the largest hive: diameter 41 cm, length 107 cm, volume, 138 litres. The average volume for 19 log hives was 73 litres: the largest had a volume 5.5 times as great as the smallest.

The hives with smaller diameters were also shorter (Fig 6). We presume that this is so because of the physical difficulties of hollowing a small-diameter log with hand tools, but it suggests that volume is not a major concern in the minds of beekeepers in the area. Nevertheless, owners of the apiaries studied may well believe that larger hives produce larger crops of honey.

FIG. 3

A hivemaker using his sharp chisel to make a hive.

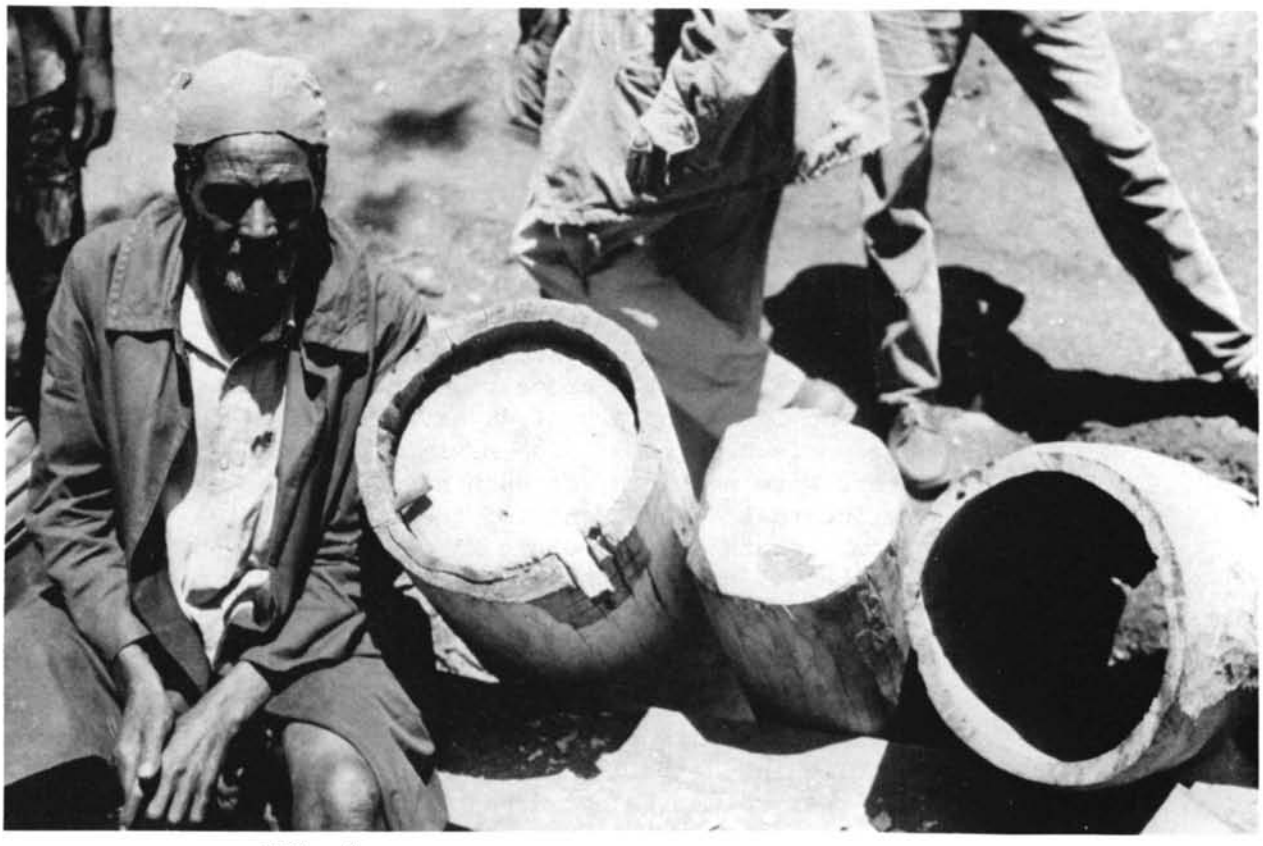

FIG. 4

The hivemaker with two finished hives and one unfinished (centre) Each end of the hive is closed with a wooden plug (left).

The exterior bark had been removed from the hives, and their outer shell was remarkably uniform in thickness (2.2 to 2.8 cm). The inner surface was quite smooth, not unlike wood planed with a hand plane. The single cutting tool we studied was kept sharp.

Many variations were seen in closures over the ends of the hives, and in the number of entrances (this was also true of the hives made from boxes and drums). We were told that different tribes often used different types of hive entrance. However, all hives were closed at the ends, and beekeeper indicated that this was important.

A very small number of log hives were marked with a special brand, burned into the surface, which identified the owner, his clan, and his tribe; the practice appears to be less common now than many years ago.

Beekeepers agreed that used hives were more attractive to swarms than new hives, and that the interior of new hives should be coated with hot beeswax/propolis to make it more attractive. No one mentioned that inserting comb might serve the same purpose, but black hive interiors were preferred.

FIG. 5

Suspension of the hive, using a forked stick attached with two wires

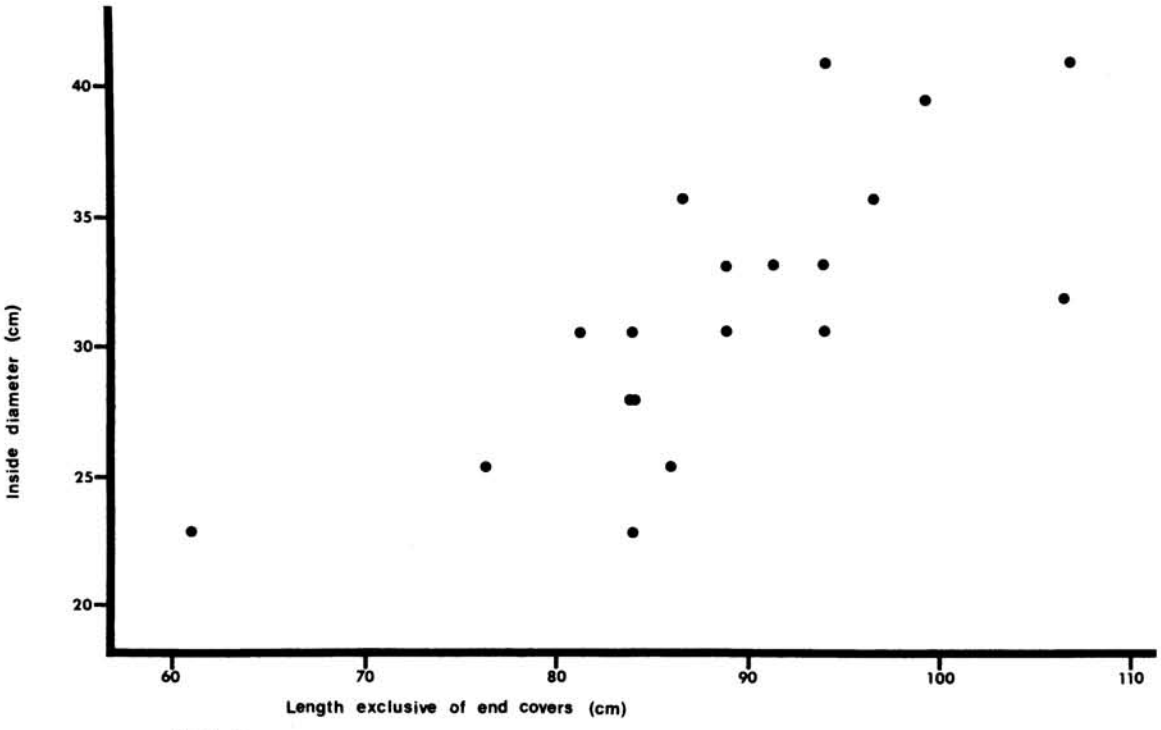

FIG.6

Inside diameter of 19 log hives plotted against their length. The results show that logs of small diameter are made into shorter hives and larger logs into longer hives