



Eva Crane Trust

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TYPESCRIPT: Hives and hive parts excavated since 1970

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HIVES AND HIVE PARTS EXCAVATED SINCE 1970

Discussions at this Meeting ~~have been~~^{are} concerned with ~~actions that~~
~~can be taken now, to preserve~~ some of the past ^{evidences of} beekeeping
materials ^{that} still ~~available~~^{exist and how to preserve them} for the benefit of future generations.

We have received a bonus in the past few decades, in the
excavation of ^{ancient} pottery vessels which have been identified as bee
hives, thanks to co-operation between beekeepers and
archaeologists. It is possible that ^{pottery} hives were excavated in
earlier years, but not recognized as hives: an archaeologist
once said to me: "If you are looking for gold ornaments, you are
not very interested in coarse pottery vessels."

Horizontal hives

In some of the drier parts of the Mediterranean region, the
earliest hives were made of fired clay, and if buried, these could
survive intact for a thousand years or more. We know that these
hives were used horizontally, because similar hives are still in
use today.

The break-through came in southern Greece in the early
1970s, when certain pottery vessels excavated at Vari on Mount
Hymettus were thought to be possible hives (Figure 1).
Scrapings from the interior surface were examined for beeswax by
gas chromatography, and its presence was established. Also, one
of the Greek assistants at Vari had an uncle on the island of
Antiparos in the Aegean, and he kept bees in very similar hives,
placed horizontally. In 1979 I searched the catalogue of the
Agora Museum in Athens for any similar vessels, and found some -

F1

but they had been stood upright, and catalogued as umbrella stands.

Horizontal cylindrical hives had ^{already} been in use in the eastern Mediterranean region for two thousand years before these excavated Greek hives. In Egypt, pictures of them still survive that were made between 2400 BC and 660 BC (Figure 2). No vessels excavated in Egypt have so far been identified as hives. But traditional hives are now made of mud dried in the sun, not fired, and if such hives had been buried they would crumble away. F2

Details of the Ancient Greek hives in Vari were published in 1973, and a number of similar hives have since been excavated in different parts of southern Greece and in Aegean islands (Table 1). Also, Thomassis Bikos and others have searched for, and found, very similar hives still in use in several of the islands. With some of the excavated Greek hives, extension rings were also found, which would have been used to enlarge the hive for the honey flow, and in some Aegean islands these extensions are still used with hives similar to those excavated. Active steps are being taken in Greece to preserve examples of such hives. T1

The excavation of hives in Greece led to searches and finds in other islands and countries. Hives and hive extensions found at Gortyn in Crete were dated to between AD 1 and 700 (Figure 3). Hives (but no extensions) dated to AD 600 - 700 were found in Cyprus. F3

In eastern Spain, 122 fired clay cylindrical hives (Figures 4, 5) were excavated inland from Valencia; they were dated to between 250 BC and AD 250 (Bonet & Mata, 1995). These hives had F4
F5

a similar shape to hives described by Roman writers, although they were shorter and wider, and the Roman hives were made of plant materials. I am now correcting the proofs of a large book I have written The world history of beekeeping and honey hunting, and in it I have discussed ^{the idea, which} seems likely to me, that early hive beekeeping developed somewhat differently in the eastern and western parts of the Mediterranean, although everywhere hives excavated were made of earth materials, and used horizontally.

In Greece and Crete in the eastern Mediterranean, the horizontal hives were placed against a retaining wall on hill side terraces, ^{In the Cyclades they were placed} ~~in~~ in recesses inside the wall, where they occupied no land that could be cultivated. ^(Figure 6) So they could be opened only at the front. An extension serving as a honey chamber was added in the summer, necessarily at the front.

F6

On the other hand in the western Mediterranean, along the coast of North Africa and into Spain and Sicily, traditional hives were, and are, horizontal cylinders which could be opened at both ends, like those in Egypt. This is the type described by Roman writers, which makes me believe that although Rome obtained its knowledge about bees from Greece, Roman beekeeping was probably based on that in Spain - where similar hives had been used in pre-Roman times.

Excavations have identified one further type of ancient horizontal hive, surprisingly in the Americas, although honey bees did not arrive there until the AD 1600s. Stingless bees (Meliponinae) are nowadays kept in hives by the Maya people in the Yucatan peninsula, in what is now Mexico. They use a small horizontal log hive, each end being closed by a disc of stone or

clay (Figure ⁷6). In Cozumel, an island off the Yucatan peninsula, and also on the mainland, several hundred stone discs were excavated, at sites ranging in date from the late Preclassic Period (around 300 BC to AD 300) up to the 1500s when the Maya were conquered by the Spanish (Figure ⁸7). These discs are similar in size and workmanship to those used today to close the two ends of the horizontal logs that Maya use as hives. The diameter of the stone discs has to vary according to the diameter of the log used for a hive. At one site in Cozumel, the discs excavated were in pairs of the same diameter, the two of each pair being separated by a distance similar to the length of a hive today (Figure ⁹8). These finds have been described by D.A. Friedel (1976), R.V. Sidrys (1976) and others, and summarized by Crane and Graham (1985) and Crane (1999).

F7

F8

F9

Upright hives

These were used in the deciduous forests of northern Europe and Asia, the first hives being a section of a tree trunk containing a bees' nest, cut off the tree and placed upright on the ground. Wood is normally biodegradable, but if it is in an acid environment such as a peat bog, it may be preserved.

Two ancient log hives have been found in peat bogs in Lower Saxony, Germany. One at Gristede, which was dated to the AD 100s, was a section of tree trunk which contained a cavity, and an upright doorway leading to it. The other, dated to the AD 400s, was found (in three parts) in a peat bog at Vehne-Moor; it was a hollowed-out log hive with holes for the bees' flight entrance (Figure ¹⁰9). It was described by Diekmann in 1963.

F10

West of the North European forests, skeps were used as hives throughout historical times. At first they were made of wicker (woven), and later of coiled straw. Part of a wicker skep was found, also in a peat bog in Lower Saxony (Figure 10); it was dated to some time during the two centuries before AD 200. No early straw skep has yet been found.

F11

Conclusion

Hives used two thousand years ago or more have been found in several parts of Europe and one part of the Americas.

In addition, two types of apiary survive from past centuries, on their original sites. One type, found in France, ^{Britain} ~~England~~ and some Aegean islands, consists of a stone wall which has recesses for individual hives. The other type, known in one mountainous region in France and a similar region in Spain, consists of a high wall built round an enclosure inside which hives are placed, to protect them from bears. Both types are known from the 1500s onwards, and some of the walls with hive recesses are earlier still. In addition, a few early stone buildings used as bee houses have been found in Britain and Ireland, including some where hives of bees were kept ^{in wall recesses} through the winter, in the dark and therefore not flying.

Excavated hives, once they are identified as such, are likely to be preserved in a museum or other archaeological collection, and therefore safe. On the other hand early apiaries in the open may be at constant risk of destruction (even after they have been correctly identified) - to make way for new buildings or other new land use, or through ignorance or neglect.

The present meeting on the conservation of beekeeping materials is thus most important, and I hope that this initiative taken in France will encourage beekeepers in other countries to take actions similar to those recommended here.

Table 1. Hives and hive parts excavated since 1960

<u>Region and period</u>	<u>Material and number</u>	<u>Reference and (Section no. (Crane, 1999))</u>
<u>Used horizontally</u>		
Southern Greece -500 to +600 (also hive extensions)	fired clay 18	Graham (1975) Crane & Graham (1985) 23.21
Crete +1 to +700	fired clay 3	Di Vita (1993) 22.22
Cyprus +650 to +700	fired clay 2	Catling (1972) 22.12
Eastern Spain -250 to +250	fired clay 122	Bonet & Mata (1995) 21.7
Yucatan, Mexico (end closures to log hives) -300 to +1500	stone 430	Friedel (1976) Sidrys (1976) Crane & Graham (1983) 30.21
<u>Used upright (all in Lower Saxony)</u>		
Gristede +100 to +200	log hive 1	Zoller (1972) 26.21
Vehne-Moor +400 to +500	hollowed log 1	Diekmann (1963) 26.21
Federsen-Wierde +4 to +200	part of wicker skep 1	Ruttner (1977) 27.14

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