

The *Elephas recki* site of Haïdalo (Republic of Djibouti)

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SUMMARY: The Djibouti palaeontological and archaeological mission supervised by J. Chavaillon, excavated between 1985 and 1992 several Lower and Middle Palaeolithic sites. At Haïdalo the complete skeleton, still in its anatomical position, of a Lower Pleistocene elephant was excavated. From a stratigraphical and sedimentological point of view the find lies in the later deposits of the Lower to Middle Pleistocene of the Gobaad Formation. The fossilised elephant bone remains lay in the reddish brown clays apparently at the base of the deposit subsequently covered by the hardened clays and sand. From a palaeontological perspective it is the first time in this area that a complete skeleton of *Elephas recki recki* has been found in a good state of preservation and what is more in anatomical connection.

The purpose of the archaeological and palaeontological missions between 1985 and 1992 was to detect, survey and occasionally excavate Lower and Middle Palaeolithic sites in the As Eylal region. These tend to lie in the west of the country for an essential reason: it is there that the waters of the now dry riverbed of the Awash used to flow out into the swampy Gobaad lakes. The faunal evidence that remains was not buried beneath the ensuing volcanic activity during the Pleistocene or Holocene making the Gobaad a privileged site.

The number of sites from which mammal remains have been retrieved is limited. However, bearing this in mind, there is a high proportion of sites in Djibouti with a distribution of elephant bones. This contrasts with relatively fewer sites in other countries. Amongst others, distributions from Annabokoma to the west of Dikhil, and Barogali and Haïdalo to the north and west of As Eylal, respectively can be cited.

A young shepherd pointed out the Haïdalo site to us. This is not a surface bone scatter site. All that could be seen emerging from the Pleistocene flood deposits was the end of the tibia of a big mammal. It was decided to excavate using the method previously adopted at the Barogali butchery site a few kilometres to the north. Thus the complete skeleton, still in its

anatomical position, of a Lower Pleistocene elephant was excavated.

What was most interesting about the find was that rather than an unarticulated scatter of surface bone fragments, this was a complete animal lying below 1,2 m of sediment.

From a stratigraphical and sedimentological point of view the find lies in the later deposits of the Lower to Middle Pleistocene of the Gobaad Formation. The layers that were distinguishable were visible in a natural section covered by a greenish clay deposit. The stratigraphic sequence immediately above the bone scatter was as follows: at the base compacted brownish red clays; beige clayey sand; a bank of sand, very compacted and hardened due to chalky infiltration. The sequence was sealed by 1,2 m of light brown chalky clays. The section beneath the fossil is a chalky crust of crumbling ridge. A few hundred metres away, it is possible to see later swampy river deposits in the stratigraphic sequence.

The fossilised elephant bone remains were found in the reddish brown clays apparently at the base of the deposit subsequently covered by the hardened clays and sand. The pelvic bones and the upper cranium were isolated within the chalky light beige clays.

This would indicate a situation associated

with fluvial deposits. A fairly intense period of activity - the sand deposit - sandwiched between two calm events - the reddish clays below, beige clays with chalky infiltration above. During the period of river activity the body of the elephant might have been dragged by the current and then rapidly buried beneath the more clayey sandy deposits.

It is remarkable that the skeleton of a big elephant could have reached the present day in near-anatomical position.

By the end of the excavation the 16 square metres of the site had revealed what remained of a big elephant, probably lying on its side.

The pelvis is still anatomically connected to the spinal column. A dozen ribs are still attached to the 24 vertebrae though some are fairly shattered. The skull, the atlas and the epistropheus do not lie in line with the pelvis/spinal column, but have rotated some 180°. Though the limbs of the animal have become detached from the body, three of them

still have their bones in anatomical position.

A study of the teeth has enabled Cl. Guérin and M. Faure to accurately determine the subspecies of the animal. Following M. Beden (1979, 1985), the height, width, spacing and shape of the teeth are typical of *Elephas recki recki*, known in Africa between 1.2 and 0.5 Ma. The Haïdalo animal is similar to other specimens found in Olduvai Bed IV (Tanzania), at Koobi Fora, locality 103 and Olorgesailie (Kenya), and in the Upper Member L of the Shungura Formation at Omo Valley (Ethiopia).

Elephas r. recki had already been found in the Republic of Djibouti. A group of geologists had come across evidence as to its existence in 1974 to the southwest of Lake Assal and also in Gobaad. Further evidence was found in the same region by a group of geologists that included H. Thomas. A subsequent team led by L. de Bonis (de Bonis *et al.* 1988) found fragments of molars, amongst which some were ascribed to *Elephas r. recki*.

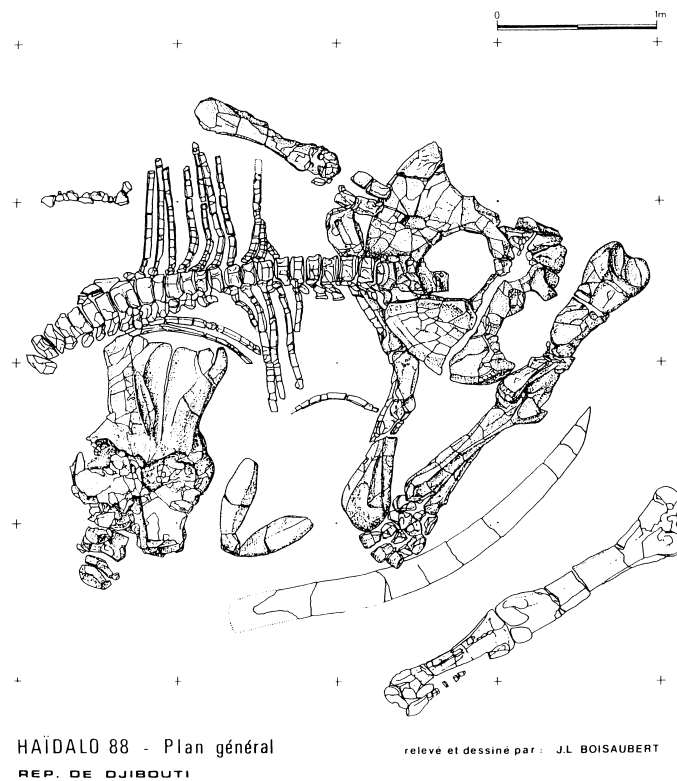


Fig. 1 - General plan of the Haïdalo excavation (Drawing by J.L. Boisaubert).



Fig. 2 - Haïdalo: the skeleton of *Elephas recki recki*.

The stratigraphic sequences pertinent to the fossilised elephants of Haïdalo (*E. recki recki*) and Barogali (*E. r. ileretensis*) are compatible: the Haïdalo elephant lies in deposits younger than the Barogali ones (Berthelet 2001).

Interest in the Haïdalo site is twofold (Chavaillon *et al.* 1990):

- from a palaeontological perspective it is the first time a complete skeleton of *Elephas r. recki* has been found in a good state of preservation and what's more in its anatomical position.

- from an ecological and taphonomical perspective, given that it does not appear to have fallen prey to other animals due to its immediate burial, the Haïdalo elephant will be an essential source for comparison not only with present day elephants but also with elephant remains from bone scatters on Palaeolithic butchery sites.

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