

# Basenji Origin and Migration: At Africa's Doorstep

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## Introduction

The Basenjis' ancestor in the Levant was the earliest domestic animal to appear in the region. Although evidence indicates that the dog was in the area 12,000 years ago (Davis et al., 1978), it was not until 7000 years later that they migrated into Africa (Brewer et al., 2001). One possible circumstance delayed the entry of the dog into Africa. Before the dog entered Africa it developed substantial variations in size and type in the Southern Levant.

## The Basenjis ancestor in the Levant

Identifying domestic dogs in the Levant is complicated by the fact that jackals and wolves living in the region have morphology overlapping with that of dogs. Comparing certain morphological features, e.g. shortening of the facial region and crowded teeth, can provide some evidence of domestication. However, cultural evidence, such as statues and burial with humans, have been the best proof of domestic dogs in the region.

Dayan (1994) compared canid remains found in Israel with those of the Indian wolf [*Canis lupus pallipes*] now living in Israel. Earliest remains dated from 45,000 BP [before present] and the latest between 5300 to 5000 BP. The earliest specimen to differ significantly from the wolf date between 24-14,000 BP during the Kebaran period. It is possible that the appearance of domestic dogs in the area predate the Natufian period [c. 15,000 BP]. A reduction of the ramus, an indicator of domestication, apparent in this earlier specimen also continues in specimens from later periods.

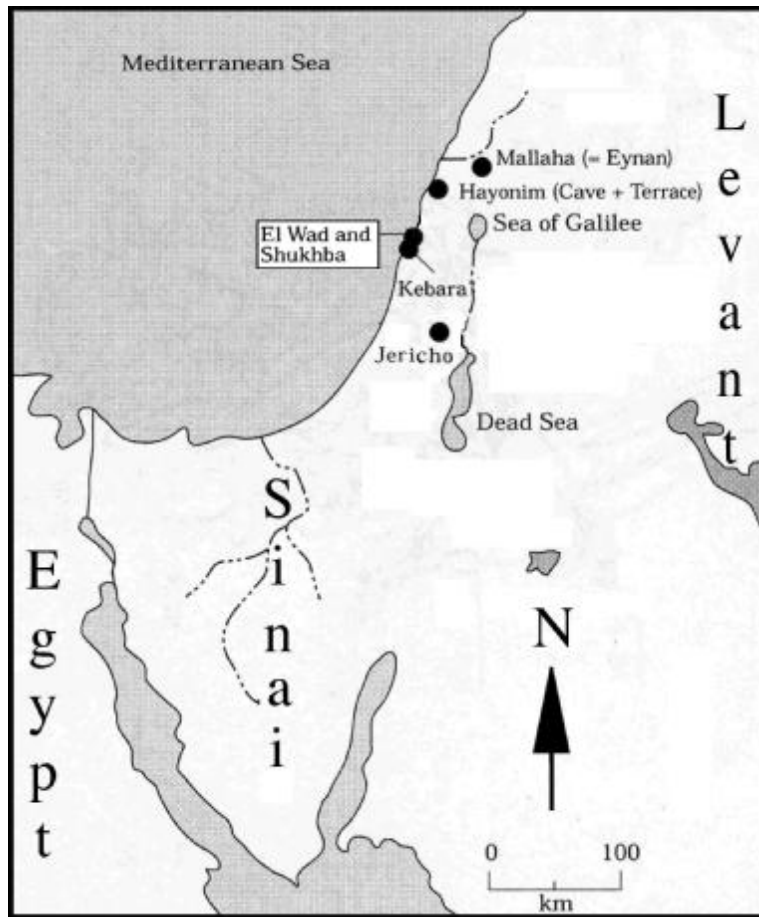
The earliest definitive evidence for the presence of domestic dogs is from a tomb found at Ein Mallaha [see figure 1] containing an adult human skeleton buried with a puppy. Radiocarbon dating has given a date of between 11,000 and 12,000 BP during the early Natufian period (Davis, et al., 1978). A human-dog burial was also found in Hayonim Terrace in northern Israel. Two fairly complete dogs along with three human skeletons were found and dated to the first half of the 11<sup>th</sup> millenium [BP] during the Late Natufian period (Tchernov, 1997).

Dog remains (mandible and teeth) found in the Tell of Jericho during the pre-pottery and pottery Neolithic (10,000 to 8,000 BP) suggested that the dog already varied in size from just smaller than a wolf to hardly larger than a fox-terrier (Zeuner, 1958). Clutton-Brock (1969 & 1979) re-measured Zeuner's sample and found no such variation, instead finding elements suggesting that many animals were the size of present day pariah dogs. Tchernov (1997) compared present day wolves living in Israel with Natufian dog specimens found at Hayonim Terrace, Eynan, el-Wad, Kebara, and Shukhba. He found a shortening of the muzzle, another good indicator of domestication. The dogs at Hayonim Terrace were also found to have a reduction in the humerus supporting the same interpretation. The Saluki dog is within the estimated weight of 11 to 16.7 kg. for the Natufian Dogs found at Hayonim Terrace but no disproportional enlargement of the scapula or of the olecranon region like that found in the Saluki was seen in the sample. Tchernov (1997) thought the lengthening of the muzzle and legs seen in the Saluki was a later development. The Basenji's weight [9.5 to 11 kg.] falls within the lower end of the weight range of the Natufian dog.

## Hunting to guard dog

The early Natufian culture, which started 13,000 to 12,800 BP in the Levant, were hunters and foragers. Long term occupation of sites with round pit-houses was the norm. During Paleolithic animals were killed with stone axes. But during the Natufian there was a change in hunting strategy to use of bow and arrow with tiny stone blades. Clutton-Brock (1995) believed that this change came about because of a new association with dogs. It was possible to wound an animal from a distance, which then could be tracked by dogs. Natufians hunted deer, cattle, and wild boar in the coastal range, while in the steppe belt equids and ibex were typical prey (Bar-Yosef, 1998). But gradually in the Southern Levant the focus shifted to a single species, the gazelle (Tchernov, 1994). Hunting of gazelle was accomplished by means of drives and surrounds (Henry, 1975). Ethnographic information suggests that large numbers of people are required for effective drives. It is possible that dogs assisted in these drives, thus reducing the number of people necessary.

In Jericho evidence of the domesticated goat was radiocarbon dated to 6-7000 B.C. (Zeuner, 1963). Other domesticated animals such the sheep and cattle soon followed. The amount of gazelle bones began to fall as goat and sheep bones became more prevalent (Bar-Yosef, 1998). It is possible with the decrease in hunting that the dog began to be used to guard the increasing herds of goat, sheep, and cattle. Although some Canaan dogs, a dog native to Israel, have herding instincts, most are used to guard the flocks against hyenas and feral dog packs by the Bedouin (Shibolet, 2001).



**FIGURE 1** – Southern Levant sites where dog remains were found (modified from Tchernov, 1997, Figure 1).

### What took so long to enter Africa?

Although the dog apparently lived in the Levant for some time, it did not appear in Africa until much later. The earliest evidence is on the western edge of the Nile delta at Merimde Beni-Salama. Dog burials have been dated to 4800 BC (Brewer et al., 2001), but it is most probable that the dog was introduced into Egypt earlier. Other domesticated animals from the Levant, such as goats and sheep, were likely introduced between 6000BC and 5000BC, possibly earlier, but not before 7000BC in Egypt (Wetterstrom, 1993).

The Eastern Mediterranean was dry prior to 10,000 BP followed by a wetter period lasting until 8500 BP when it became dry again from 8500 BP to 7000 BP. This was followed by a wetter period until 5,000 BP (Smith, 1989). The Natufian did not penetrate into southern Sinai during the early epipaleolithic because it was too dry (Moore, 1983). The moister periods would have produced good pasture advantageous to both wild and domestic animals in the Sinai. Domestic cattle and ovicaprids [sheep or goats] were found in the Sinai at Qatif. The site was dated to the 5<sup>th</sup> millennium B.C. (Smith, 1989).

### Conclusion

The archaeological record shows that the Basenji's ancestor had a long relation with humans in the Levant. They were originally used for hunting, and later, because the Basenji shows no aptitude toward herding, for guarding domestic herds. The long delay by the Basenji's ancestor in entering Africa probably occurred because Sinai was too dry for settlement by the Natufian. Not until the domestication of cattle and ovicaprids and a wetter period in the Sinai did the Natufian people cross into Egypt bringing the dog with them.

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### References

- Bar-Yosef, O. (1998). The Natufian Culture in the Levant, Threshold to the Origins of Agriculture. *Evolutionary Anthropology*. 6: 159-77.
- Brewer, D., Clark, T., & Phillips, A. (2001). *Dogs in Antiquity: Anubis to Cerberus. The Origins of the Domestic Dog*. Warminster, England: Aris & Phillips. vi + 113 pp.
- Clark, J. G. D. (1965). Radiocarbon dating and the expansion of farming culture from the Near East over Europe. *Proceedings of the Prehistoric Society*. 31: 58-73.

- Clutton-Brock, J. (1961). Near Eastern Canids and the Affinities of the Natufian Dogs. *Zeitschrift für Tierzucht und Zuchtungsbiologie*. 76: 326-33.
- Clutton-Brock, J. (1969). Carnivore remains from the excavations of the Jericho Tell. pp. 337-45. In: Ucko, P. (ed.). *The domestication and exploitation of plants and animals*. Chicago: Aldine Publishing. xxvi + 581 pp.
- Clutton-Brock, J. (1979). The Mammalian Remains from the Jericho Tell. *Proceedings of the Prehistoric Society*. 45: 135-157.
- Clutton-Brock, J. (1995). Early Origins of the Saluqi. In: Goodman, G. (ed.). *The Saluqi: Coursing of the East*. Apache Junction, AZ: Midbar. 872 pp.
- Davis, S. J. M. & Valla, F. R. (1978). Evidence for domestication of the dog 12,000 years ago in the Natufian of Israel. *Nature*. 276: 608-10.
- Dayan, T. (1994). Early Domesticated Dogs of the Near East. *Journal of Archaeological Science*, 21: 633-640.
- Fogle, B. (1995). *The Encyclopedia of the Dog*. N.Y.: DK publishing. 312 pp.
- Henry, D. (1975). The Fauna in Near Eastern Archaeological Deposits. pp. 379-85. In: Wendorf, F. & Marks, A. (eds.). *Problems in Prehistory: North Africa and the Levant*. Dallas: SMU. 462 pp.
- Moore, A. M. T. (1983). The First Farmers in the Levant. pp. 91-103. In: Young, T., Smith, P., Mortensen, P. (eds.). *The Hilly Flanks and Beyond*. Chicago: University of Chicago. xiii + 374 pp.
- Reed, C. A. (1959). Animal Domestication in the Prehistoric Near East. *Science*, 130: 1629-39.
- Reed, C. A. (1960). A review of the Archeological evidence on Animal Domestication in the Prehistoric Near East. pp. 119-45. In: Braidwood, R. & Howe, B. *Prehistoric investigations in Iraqi Kurdistan*. Chicago: University of Chicago. xxviii + 184 pp.
- Reed, C. A. (1961). Osteological evidences for prehistoric domestication in southwestern Asia. *Zeitschrift für Tierzucht und Zuchtungsbiologie*. 76(1): 31-38.
- Shiboleth, M. (1994). *The Israel Canaan Dog*. Loveland, CO: Alpine. viii + 110 pp.
- Smith, A. (1989). The Near Eastern Connection. pp. 69-77. In: Krzyzaniak, L. & Kobusiewicz, M. *Late Prehistory of the Nile Basin and the Sahara*. Poland: Poznan Archaeological Museum. 547 pp.
- Tchernov, E. (1994). *An Early Neolithic Village in the Jordan Valley. PART II: The Fauna of Netiv Hagdud*. Cambridge, MA: Harvard University. viii + 105 pp.
- Tchernov, E., Valla, F. (1997). Two New Dogs, and Other Natufian Dogs, from the Southern Levant. *Journal of Archaeological Science*. 24: 65-95.
- Wetterstrom, W. (1993). Foraging and farming in Egypt: the transition from hunting and gathering to horticulture in the Nile valley. pp. 165-226. In: Thurstan Shaw, et al., editors. *The Archaeology of Africa: Food, metals and towns*. N.Y.: Routledge. xxxvii + 896 pp.
- Zeuner, F. (1958). Dog and Cat in the Neolithic of Jericho. *Palestine Exploration Quarterly*. 90: 52-55.
- Zeuner, F. (1963). *A History of Domesticated Animals*. N.Y.: Harper & Row. 560 pp.