

The fauna of the Neolithic site of Kadero (Central Sudan)

The extensive faunal collection excavated at Kadero in the Central Sudan adds substantially to our knowledge of the fauna associated with prehistoric man in the Sudan, which until now was rather limited (A. Gautier, this volume). Kadero site (6 km E of the Nile, 18 km N of Khartoum), situated on mound (erosional remnant?) in an ancient alluvial plain, has yielded evidence for two settlement areas and two contemporaneous burial grounds. One of the settlement areas has been dated to ca. 5,030-5,280 B.P. and the cultural contents of the various excavated *loci* of the site fit well in the so-called Central Sudanese Neolithic. More on the site can be found in the paper by the excavator (L. Krzyżaniak, this volume).

A preliminary report on most of the fauna of the first four excavation seasons (1972-1975) was published by Sobociński (1977). Since then new material has been collected and a revision of part of the report on the domesticated animals as well as the detailed study of the various wild animals is now being made by the present author. In the following, preliminary results based on the material studied by Sobociński and the samples collected during the 4th, 6th and 7th field seasons, are listed. Quantities (number of fragments) are indicated by R (rare=less than 30 fragments), F (frequent=more than 100) etc.; estimates or exact members are sometimes added between brackets. Most of the fish remains were identified by G. Howes (British Museum, Natural History):

Marine shells:	<i>Engina mendicaria</i> (beads, burial)	R
	<i>Cypraea</i> sp. (bead; intrusive?)	R(1)
Landsnails:	<i>Zooteucus insularis</i> (intrusive)	R
	<i>Limicolaria cailliaudi</i> (food?)	FFF
Freshwater gastropods:	<i>Cleopatra bulimoides</i> (intrusive)	R(4)
	ampullarids (mainly <i>Pila ovata</i> ; food?)	FFF
Freshwater bivalves:	<i>Aspatharia rubens</i>	F
	<i>Corbicula consobrina</i> (intrusive)	R(2)
	<i>Etheria elliptica</i>	F

Domesticates:	dog? (<i>Canis lupus</i> f. <i>familiaris</i>)	R
	cattle (<i>Bos primigenius</i> f. <i>taurus</i>)	FFF(1000)
	sheep (<i>Ovis ammon</i> f. <i>aries</i>)	} FF(300)
	goat (<i>Capra aegagrus</i> f. <i>hircus</i>)	
Wild vertebrates:	Nile perch (<i>Lates niloticus</i>)	R
	lung fish (<i>Protopterus aethiopicus</i>)	R
	catfish (Clariidae)	R
	monitor lizard (<i>Varanus niloticus</i>)	R
	birds (small species)	R(14)
	hare (<i>Lepus capensis</i>)	R(6)
	porcupine (<i>Hystrix</i> sp.)	R(3)
	squirrel (<i>Euxerus erythropus</i>)	R(1)
	other rodents (<i>Tatera</i> sp.; <i>Jaculus</i> sp. intrusive)	R
	wild cat (<i>Felis libyca</i>)	R
	serval (<i>Felis serval</i>)	R
	honey badger (<i>Mellivora capensis</i>)	R
	warthog (<i>Phacochoerus aethiopicus</i>)	R(4)
	hippopotamus (<i>Hippopotamus amphibius</i>)	R(8)
	bovids (buffalo, <i>Syncerus caffer</i> , and 4 other, smaller species)	F(±150)

The marine shells were brought from the Red Sea and point to connections with that region. Ampullarids and the landsnail *Limicolaria cailliaudi* form the bulk of the molluscan assemblage and are generally accepted to represent food refuse; this, probably, also applies to *Aspatharia rubens* and the Nile oyster (*Etheria elliptica*).

Livestock makes up at least 80% of the mammalian assemblage with cattle 3 to 4, times more frequent than smaller livestock, among which sheep predominate (2 : 1). The status of the canid remains is not well established, but the size of the specimens and the presence of presumed carnivore coprolites suggests the presence of dog rather than that of jackal. The claim that domestic cat may be present at the site (Sobociński, 1977: 59) should be withdrawn, as the material on which it is based can be assigned more reasonably to wild cat. A comparison of some of the measurements on cattle given by Sobociński (*ibid.*) with those for the cattle from the Celtic oppidum at Manching (Bavaria) (Boessneck *et al.*, 1971) suggests that the cattle of Kadero was rather large, standing between approximately 110 and 130 cm at the withers. The goats and sheep do not appear to be exceptionally small or large, but the data are limited.

The wild fauna contains animals that were collected or hunted for various reasons (food, skin, quills, protection of livestock, etc.) and some penecontemporaneous or later intrusives. Among these animals no wild equid (possibly wild donkey, *Equus africanus*) occurs as was previously stated (Sobociński, *ibid.*: 3,7); the identification was based on a rather poorly preserved second phalanx, which can be ascribed to hippopotamus.

As a whole the fauna is suggestive of a pastoralist economy (cattle and small livestock) supplemented by shell collecting, fishing and hunting in open savanna

country with marshy areas (ampullarids, lungfish) and denser vegetation along the river (marsh mongoose?). To this spectrum of animal resources the exploitation of various domestic plants (sorghum, millets) should be added at Kadero (cf. Klichowska, this volume).

A detailed study of the remains described here as well as that of the most recently excavated material from the northern midden at Kadero, containing evidence for some other wild animals than the ones listed above but basically comparable in quantitative composition, is under preparation. It is hoped that it will provide a more detailed picture of how the Kadero people exploited their animal environment. Comparison with other sites in the same time range and general area (for example, El Zakiab, cf. A. Tigani el Mahi, this volume) may clarify the function of the Kadero site, but it appears already now that it probably was a permanently occupied settlement.

References

- Boessneck, J., A. von den Driesch, U. Mayer-Lemppenau and E. Wechsler von Ohlen. 1971. *Die Tierknochenfunde aus dem Oppidum von Manching*. Wiesbaden.
- Sobociński, M. 1977. Szczątki zwierzęce z osady neolitycznej w Kadero (Sudan) (Animal remains from the Neolithic settlement at Kadero, Sudan). *Roczniki Akademii Rolniczej w Poznaniu, Archeozoologia* 93 : 49 - 61.