CHARACTERISTICS OF MODERN FORAGING CAMPS AND THEIR FAUNAS FROM LAKE TURKANA, KENYA

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Summary

Little is known about the physical characteristics or taxonomic composition of aquatic foraging camps. In a 1994 paper we presented data on 19 aquatic foraging camps located on the shores of Lake Turkana, Kenya. Procurement, processing and preparation activities at the camps were observed, and, based on these, four categories of site were identified: day camps, short and long-term base camps, fish processing camps and fish waste discard sites. Analysis of the fish bone assemblages from the camps indicated that these different categories were reflected in differences in the assemblages. In this paper we present data on the mammal, bird and reptile remains recovered from these camps. This data indicates that, similar to the fish bone, these remains also vary in large part according to their category of camp. The data presented in this paper and our previous paper aids in the recognition and interpretation of the remains of such camps in fossil contexts.

Résumé

Caractéristiques de campements de chasseurs-collecteurs modernes et de leurs faunes au lac Turkana, Kenya.

On sait peu de choses sur les caractéristiques physiques ou la composition taxonomique des campements de chasseurs-collecteurs aquatiques. Dans un article de 1994, nous avions présenté des données relatives à 19 campements aquatiques localisés sur les bords du Lac Turkana, Kenya. Les activités d'acquisition, de transformation et de préparation avaient été observées dans ces camps, et avaient permis de définir quatre catégories de sites : des campements journaliers, des camps de base de courte durée et de longue durée, des camps de préparation du poisson et des sites de rejet des déchets de poissons. L'analyse des assemblages de poissons des campements indiquait que ces différentes catégories correspondaient à des différences dans les assemblages. Dans cet article, nous présentons des données sur les restes de mammifères, d'oiseaux et de reptiles retrouvés dans ces campements. Cette étude indique que, comme pour les restes de poissons, ces restes varient aussi largement selon les catégories de camps. Les données présentées ici et dans notre précédent article permettent de reconnaître et d'interpréter les restes de tels campements dans des contextes archéologiques.

Zusammenfassung

Zur Charakterisierung moderner Jäger-und-Sammler-Lager am Turkana-See (Kenia) und ihre Fauna.

Über die physikalischen Eigenarten oder taxonomischen Zusammensetzungen von Jagdlagern im Uferbereich ist nur wenig bekannt. In einem 1994 veröffentlichten Beitrag stellten wir die Auswertung von 19 entsprechenden Lagern vom Ufer des Turkanasees in Kenia vor. In den Camps wurden die Spuren verschiedenster Aktivitäten aufgenommen. Auf der Basis dieser Beobachtungen konnten vier Arten von Lagern unterschieden werden. Tageslager, kurz- und langfristige Basislager, Lager zur Fischverarbeitung und Fischabfallplätze. Die Untersuchung der Fischknochen dieser Fundstellen hat gezeigt, daß sich die Unterschiede auch in diesen Überresten darstellen. In diesem Beitrag werden die Ergebnisse zu den Säugetier-, Vogel- und Reptilienresten dieser Lagerplätze vorgestellt. Die Auswertung zeigt, daß auch diese Knochen - wie die Fischreste - je nach Art des Lagers Unterschiede aufweisen. Die vorgelegten Ergebnisse sollen bei der Interpretation ähnlicher Fundstellen aus fossilem Kontext behilflich sein.

Key Words

Zooarchaeology, Reptile exploitation, Foraging, Aquatic foraging.

Mots clés

Archéozoologie, Exploitation des reptiles, Chasseurs-collecteurs, Collecte aquatique.

Schlüsselworte

Zooarchäologie, Nutzung von Reptilien, Nahrungsbeschaffung, "Aquatische" Nahrungsbeschaffung.

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The past 20 years have seen a large increase in the number of archaeological sites in Africa whose subsistence base largely or completely consists of freshwater vertebrate remains, predominantly fish and reptile (e.g. Barthelme, 1985; Gautier and van Neer, 1989; Stewart, 1989). Unfortunately, interpretation of these aquatic remains is difficult, due to lack of knowledge of human procurement and processing of freshwater vertebrates, and the modifications these activities leave on bones. Further, little is known of the physical characteristics of aquatic foraging camps, in order to better identify them in the archaeological record.

As part of a growing data base on the composition and modifications seen in modern aquatic assemblages, we reported in a previous paper on 19 modern foraging camps located on the shores of Lake Turkana, a large rift lake located in northern Kenya (Stewart and Gifford-Gonzalez, 1994; see also Gifford, 1977). The camps on the eastern shores of the lake were created by Dassanetch foraging groups (Eastern Cushitic speakers), while the camp on the western shore was created by Turkana fishers (Nilotic speakers). Procurement, processing and preparation activities at the camps were observed, and, based on these, four categories of site were identified: day camps, short and long-term base camps, fish processing camps and fish waste discard sites. Analysis of the fish bone assemblages from the camps indicated that these different categories were reflected in differences in the assemblages. In the 1994 paper, we focussed on the fishing activities and fish remains at the camps; in this paper we discuss the reptile and mammal remains.

In terms of physical characteristics, the camps surveyed in the 1970's showed considerable uniformity in location, usually located within 100 m of the shoreline, and often near areas which were preferred habitats for certain groups of fish, as well as for crocodiles and turtles. Known lengths of occupation of the camps varied, from less than a day (day camps), to one week (short term base camps) to over six weeks (long term base camps). Of camps with known occupations, about 10.5% were day camps, 31.6% were short term base camps, and 10.5% were long term base camps. Approximately 37% were classified as indeterminate base camps, without knowing if they were long or short term base camps. However superficial inventories of these remains suggests that most were short term camps. A further 10.5% were classified as processing camps, used chiefly for processing fish. Waste discard camps were not quantified, but all waste sites observed contained only fish.

About 50% of all camps were repeatedly occupied, often successively by different groups. The occupation area of the camps varied widely, from about 6 m^2 to about 8400 m^2, with about half being 500 m^2 or less.

A notable feature of the camps is their lack of material remains, and therefore lack of archaeological visibility. Implements used included gourd containers, tin cans, spears and wooden headrests, and these were not generally discarded, but carried from campsite to campsite. In this hot and arid climate, house structures were not constructed and at many single-occupation and short-term occupied sites the inhabitants took advantage of natural vegetation for sleeping shelter. Only those camps with repeated occupations had low semi-circular stone windbreaks for shelter. However, hearths of two or three large fire-cracked rocks were observed at the long and short term base camps.

The camps contained remains of fish, birds, reptiles and mammals in varying proportions; three of the camps contained only reptiles and fish. Fish were by far the dominant group present, comprising about 52% of the total numbers of individuals at the camps, with reptiles next most common at 38%, and mammals and birds least common at 9.5% and 5% respectively.

The proportions of animals varied between camps, seemingly consistent with the categories of camps outlined above (tab. 1). Day camps contained only fish, which is predictable given the short period of occupation. Fish processing camps also contained almost exclusively fish, which is again predictable given their function. However, short-term base camps and long-term base camps contained a mix of faunas whose proportions varied apparently according to length of occupation. Short-term base camps contained a greater proportion of reptiles than the other categories of camps, although fish was also a major component. Mammal and bird remains were present but not common. While not common, the mammals were diversified, including chiefly small and medium sized bovids, zebras and not infrequently hippopotomi. While most of the reptiles at the short-term base camps were turtles (*Pelusios* and *Trionyx*), about a quarter of the individuals were crocodiles (*Crocodylus niloticus*).

The two long-term base camps varied somewhat in their proportions, but both contained a high proportion of fish, surprisingly few reptiles, and a higher component of mammals than at the short term camps. The mammals were again diversified; one camp (105) also contained a large number of domestic mammals. We had predicted that the indeterminate base camps would be mainly short term camps, and certainly the proportions of fauna are very similar to those of the short-term camps. Most contain a high percentage of reptiles, with fewer fish and much fewer mammals. However, Camp 8 was most likely a long-term base camp, given that it was a single occupation camp with

Table 1: Minimum Numbers of Individuals (MNI) of each class by Number and % for each category of camp. Each camp is designated by a number (left column).

	Birds		Fish		Reptiles		Mammals	
	N	%	N	%	N	%	N	%
Day camps								
11			1	100.0			2*	
FC2			22	100.0				
Short-term base camps:								
2	1	20.0	2	40.0	1	20.0	1	20.0
3			2	50.0	2	50.0		
9			1	25.0	2	50.0	1	25.0
10			16	61.5	8	30.8	2	7.7
20	1	1.6	19	30.6	41	66.2	1	1.6
22			1	25.0	1	25.0	2	50.0
Long-term base camps:								
6			55	78.6	7	10.0	8	11.4
105			20	37.0	13	24.1	21	38.9
Base camps indeterminate:								
1			2	2.9	58	84.1	9	13.0
4			24	61.5	11	28.2	4	10.3
5			32	34.8	54	58.7	6	6.5
7			8	25.0	24	75.0		
8			1	25.0	1	25.0	2	50.0
15			4	40.0	6	60.0		
18			1	9.1	8	72.7	2	18.2
Processing camp:								
AS1	1	3.6	25	89.3	2	7.1		
Processing/base camp:								
FC1			22	100.0				

* These mammals were not consumed as food.

a large quantity of bone, and percentages of fauna similar to the other long term base camps.

The proportions of fish skeletal elements were shown to differ consistent with the category of the camps (Stewart and Gifford-Gonzalez, 1994). Proportions of reptile and mammal skeletal elements at the camps also seemed to differ between short-term and long-term base camps (tab. 2) (where elements were quantified), although there is some variation even between similar categories of camps.

Among the reptile remains, there is a greater proportion overall of cranial and epaxial elements in the long-term camps, although there is a high proportion of crocodile epaxial bones in Camp 20. Axial elements are generally more common in the short-term camps. Possibly limb bones were taken with the foragers when they left the short term camps. Among mammal remains, cranial and axial elements are more common at the short-term camps, while postcranial are more common in the long-term camps. Again limb bones may have been transported away from the short term camps.

Finally, bone modifications were also shown to vary among fish bone assemblages at the camps. These are being systematically analysed among the non-fish remains, and will be discussed in a future paper.

In summary, the physical characteristics and processing and procurement activities at 19 foraging camps were discussed in a previous paper. Based on these activities the camps and their fishbone assemblages were classified into four categories - day camps, short and long term base camps, processing camps and waste discard localities. In this paper a more detailed analysis of the mammal, bird and reptile remains is presented and indicates that, similar to the fish bones, these remains also vary in large part according to their category of camp. Day camps and processing camps contained almost exclusively fish remains. Short and long term base camps contained a mix of vertebrates,

Table 2: Minimum Numbers of Elements (MNE) and proportions (%) by skeletal element category. Stbc: Short-term base camp; Ltbc: Long-term base camp. * : Numbers not available.

	Cranial		Axial		Epaxial	
	N	%	N	%	N	%
Turtle:						
Stbc 2	0	0	0	0	0	0
Stbc 20	*	0.4	*	93.3	*	06.3
Ltbc 6	5	25.0	3	15.0	12	60.0
Ltbc 105	3	2.7	1	0.9	106	96.4
Crocodile:						
Stbc 2	2	7.2	17	60.7	9	32.1
Stbc 20	*	3.5	*	29.0	*	67.5
Ltbc 6	2	33.3	2	33.3	2	33.3
Ltbc 105	5	22.7	0	0	17	77.3
Mammal:						
Stbc 2	4	8.0	39	78.0	7	14.0
Stbc 20	0	0	1	50.0	1	50.0
Ltbc 6	10	13.2	33	43.4	33	43.4
Ltbc 105	5	9.1	17	30.9	33	60.0

with short-term camps containing overall a greater proportion of reptiles, and long-term camps having greater proportions of fish and mammals. In terms of skeletal elements, short term camps tended to have fewer postcranial remains than the long-term camps, possibly because these choicer pieces of meat were dried and tranported to more permanent camps.

Little is known about the physical characteristics or taxonomic composition of aquatic foraging camps. The data presented in this paper and in our previous paper (Stewart and Gifford-Gonzalez, 1994) aids in the recognition and interpretation of the remains of such camps in fossil contexts.

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