



**Institute for the Material Culture History RAS
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Siberian Branch of the RAS
Department of Historical and Cultural
Heritage Protection, Restoration,
and Exploitation, Krasnodar Region**



EARLY PALEOLITHIC OF EURASIA: NEW DISCOVERIES

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CARNIVORE ASSEMBLAGES OF THE TAMAN FAUNA AND RELATED EARLY PLEISTOCENE MAMMALIAN COMMUNITIES IN THE CONTEXT OF BIOCHRONOLOGICAL DEFINITION OF THE EARLY PALEOLITHIC SITES

M. V. Sotnikova

Geological Institute Russian Academy of Sciences, Moscow

The Taman faunal Complex was established by V.I. Gromov (1948) and placed between the Psekups and Tiraspol faunal complexes in the stratigraphic scale of continental deposits of southern Russia. The type assemblage of large mammals of this unit is the fossil fauna of the Taman Peninsula, which was found in the sites Kuchugury, Fontalovskaya, Tsymbal, and in the type locality Sinyaya Balka (Vereshchagin, 1957). The most characteristic elements of this complex are *Archidiskodon meridionalis tamanensis* and *Elasmotherium caucasicum*. The Taman fauna is assigned to the biozone of *Archidiskodon meridionalis tamanensis* and characterizes the post-Villafranchian part of the European Early Pleistocene (Vangengeim et al., 1991). According to the geological, paleontological and paleomagnetic records, the time span of the Taman faunal Complex was defined as 1.2-0.9 Ma (Pevzner & Vangengeim, 2001; Dodonov et al., 2006). In 2000, the bone-bearing stratum of the Sinyaya Balka locality with *Elasmotherium* and Taman elephant yielded stone material interpreted as Lower Paleolithic artifacts. Since that time this paleontological locality is known as the Early Paleolithic site Bogatyri (=Sinyaya Balka) (Shchelinsky & Koulakov, 2007).

The carnivore fauna of Taman faunal complex is derived from Sinyaya Balka, Tsymbal, and Akhtanizovskaya in the Taman Peninsula. The additional material was received from the sites of adjacent territory in southern bank of the Taganrog Gulf of the Sea of Azov – Margaritovo, Semibalki, and Chumbur Kosa.

Fragment of the lower jaw of relatively small canid – *Canis tamanensis* was found in the type locality Sinyaya Balka in association with *Archidiskodon meridionalis tamanensis*, *Equus* aff. *sussenbornensis*, *Elasmotherium caucasicum*, *Bison* sp. (Vereshchagin, 1957; Vangengeim et al., 1991).

There is a long list of small and large mammals including the index forms, *A. m. tamanensis* and *E. caucasicum* in the Tsymbal locality. Vereshchagin (1957) referred the Carnivora material from this site to *C. tamanensis* (upper P3) and to *Panthera* sp. (right ulna).

The right horizontal ramus of *Pachycrocuta brevirostris* was recently collected at the Akhtanizovskaya site. According to Tesakov (2004), the rodent fauna of the locality contains *Allophaiomys* cf. *plioaenicus*, *Prolagurus* (*Lagurodon*) *arankae*, *Prolagurus* (*Prolagurus*) *pannonicus*, *Mimomys pusillus*, *Mimomys intermedius* and other forms. This assemblage is characteristic for the middle stage of the Taman faunal Complex, and can be correlated with Early Bicharium of the West Europe (Tesakov, 2004).

In the Taganrog Gulf of the Sea of Azov, findings of Taman mammals originate from the lagoon deposits exposed at the very base of outcrops. According to paleomagnetic data, the bone bed in Port-Katon and Margaritovo belong to a reverse magnetized interval assigned to the upper part of the Matuyama Chron (Tesakov et al., 2007). In Margaritovo site, a fragment of a right mandibular ramus of the large canid *Canis* (*Xenocyon*) *lycaonoides* is found together with remains of *A. meridionalis tamanensis*, whereas in Chumbur Kosa a jaw of *Lutra simplicidens* associates with remains of *Archidiskodon* sp.

The Semibalki locality yielded numerous remains of *A. meridionalis tamanensis*. The lower jaw of saber-toothed cat *Homotherium* was found together with *Trogontherium cuvieri*, *Pachycrocuta* cf. *brevirostris*, *Equus major*, *Eucladoceros* aff. *orientalis*, and *Bison tamanensis* (Bajgusheva et al., 2001).

Among the rodent fauna, remains of *Allophaiomys plioaenicus* were also identified by Rekovets (1994).

The revised list of Taman Carnivora is: *Canis tamanensis*, *Canis* (*Xenocyon*) *lycaonoides*, *Lutra simplicidens* ssp., *Pachycrocuta brevirostris*, *Homotherium latidens* and *Panthera* sp. (Sotnikova & Titov, in press). The Taman Complex contains the same elements as post-Villafranchian Carnivora complex of Western Europe. Some new taxa, which were unknown in the Villafranchian time, appeared here. Among them are *Canis* (*Xenocyon*) *lycaonoides*, *Lutra simplicidens*, and *Homotherium latidens*.

During the late Early to Middle Pleistocene two sympatric canids of different body size were occurred in Eurasia. In the Taman Complex they are represented by *Canis tamanensis* and *C.* (*Xenocyon*) *lycaonoides*. As was shown by morphological analysis, *C. tamanensis* resembles post-Villafranchian *C. mosbachensis*, rather than Villafranchian forms of the similar size, *C. arnensis* and *C. etruscus* (Sotnikova & Titov, in press).

Table 1

The Carnivora assemblages from Early Paleolithic and paleontological sites of Europe and the adjacent territory of Georgia. The age of localities and lists of Carnivore fauna are from: Arzarello, Marcolini, Pavia, Pavia, Petronio, Petrucci, Rook & Sardella, 2006; Garcia Garcia & Cuenca-Bescos, 2007; Kahlke, 2001, 2005; Martines-Navarro, 2005; Moulle & Echassoux, 2005; Vekua, 1995

| Tamanian Faunal Unit 0.8-1.2 Ma Human remains (HR) – absent Lithic artifacts (LA) – present | Dmanisi ca. 1.8 Ma HR – present LA – present | Pirro Nord 1.3-1.7 Ma HR – absent LA – present | Atapuerca TELRU 1.2-1.5 Ma HR – absent LA – present |
|---|--|--|---|
| <i>Canis tamanensis</i> | <i>C. etruscus</i> | <i>C. mosbachensis</i> | <i>C. cf. arnensis / mosbachensis</i> |
| <i>Canis (Xenocyon) lycaonoides</i> | – | – | – |
| <i>Lutra simplicidens</i> ssp. | <i>Martes</i> sp. | – | <i>Pannonictis</i> cf. <i>nestii</i> |
| <i>Pachycrocuta brevirostris</i> | <i>Pliocrocuta perrieri</i> | <i>P. brevirostris</i> | – |
| <i>Panthera</i> sp. | <i>P. gombaszoegensis</i> | – | <i>P. gombaszoegensis</i> |
| <i>Homotherium latidens</i> | <i>H. crenatidens</i> | <i>H. latidens</i> | – |

| Venta Micena 1.2-1.4 Ma HR – absent LA – absent | Fuente Nueva-3 1.2-1.5 Ma HR – absent LA – present | Barranco Leon-5 1.2-1.5 Ma HR – absent LA – present | Le Vallonnet 0.99-1.05 Ma HR – absent LA – present | Untermassfeld 0.99-1.05 Ma HR – absent LA – absent |
|---|--|---|--|--|
| <i>Canis mosbachensis</i> | <i>C. mosbachensis</i> | <i>C. mosbachensis</i> | <i>C. mosbachensis</i> | <i>C. mosbachensis</i> |
| <i>Canis (Xenocyon) lycaonoides</i> | – | – | <i>C. (X.) lycaonoides</i> | <i>C. (X.) lycaonoides</i> |
| <i>Meles</i> sp. | <i>Meles</i> sp. | <i>Meles</i> sp. | <i>M. meles</i> | <i>Meles hollitzeri</i> |
| <i>Pachycrocuta brevirostris</i> | <i>P. brevirostris</i> | <i>P. revirostris</i> | <i>P. brevirostris</i> | <i>P. brevirostris</i> |
| <i>Panthera gombaszoegensis</i> | – | – | <i>P. gombaszoegensis</i> | <i>P. gombaszoegensis</i> |
| <i>Homotherium latidens</i> | – | – | <i>H. latidens / crenatidens</i> | <i>H. latidens</i> |

Lutra simplicidens is the member of the Middle Pleistocene Carnivora assemblage of Europe. It was identified in the Tamanian complex as well. The morphological characters of a new subspecies *L. simplicidens* demonstrate clearly more primitive stage of development of *Lutra simplicidens* lineage, apparently indicating the late Early Pleistocene age of the studied fauna.

The Taman *Pachycrocuta brevirostris* does not add any biochronologic information due to its poor preservation. Rarely known in the middle Villafranchian, this taxon was widespread in Eurasia since the late Villafranchian time to the end of the Middle Pleistocene.

Homotherium latidens from Semibalki-3 shows characters, which are also observed in the Untermassfeld form dated at about 1.0 Ma according to Kahlke (2000). Both specimens are considerably different from the older forms of middle and late Villafranchian.

Thus, the presence of *Homotherium latidens* and *Lutra simplicidens* defines consequently the lower and upper stratigraphic limits of the Taman Carnivora community and allows to correlate it with the post-Villafranchian part of the Lower Pleistocene. This conclusion is in good agreement with the age estimates of the Tamanian complex.

The Carnivora assemblages from Early Paleolithic and paleontological sites of Europe and the adjacent territory of Georgia, broadly synchronous to the Taman fauna, are represented in the Table 1. They demonstrate a strong overall similarity in carnivore taxa. The only notable difference of the assemblage of the oldest site Dmanisi (≤ 1.8 Ma) is the presence of typical Villafranchian elements, *Canis etruscus*, *Pliocrocuta perrieri*, and *Homotherium crenatidens*.

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