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ABSTRACT BOOK

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"Bear Caves" in Ukraine

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Investigations of so called "bear's caves" in Ukraine started as far as the middle of 19th century (NORDMAN, 1858), but till now *Ursus spelaeus* and other troglofilic bear's cave sites in Ukraine are unfamiliar for most of European scientists.

There are four main karst caves regions and, accordingly, the same number of cave bear areas in Ukraine. Two regions are of mountain karts (Ukrainian Carpathians and Crimean Mountains), and two areas represent the plain karst (Podillja-Bukovyna area of gypsum karst and Northern Black Sea area of carbonate karst).

"Bear's caves" are widely spread in karst areas of neighbouring countries of Carpathian basin like Poland, Slovakia, and Romania. But Ukrainian part of Carpathian Range is built mainly with flysch rock masses and karst rocks are spread very limited there. They are represented with marbled limestone of Jurassic klippens at the Ugol'ka River basin. Among two dozens of known caves, mainly small (the largest is only 60 m deep and near 1 km long), five of them contains cave bear (*U. spelaeus* Ros.) remains: Perlyna, Bilykh Stin, Vedmezhe Iklo (Bear's Task), Molochnyi Kamin'. The most reach for bone remains are the Perlyna Cave and the Bilykh Stin Cave. The Perlyna Cave contains also *Ursus arctos* remains. The palaeozoological investigation in the Bilykh Stin Cave was started only three years ago and brought, besides two individuals of *U. spelaeus*, remains of large size cave lion (*Panthera spelaea*).

Crimean Mountains, despite the large amount of caves (more than one thousand) and geomorphologic conditions close to the Western European "cave bear areas", contains only few cave sites with *U. spelaeus* remains. There are Kizil-Koba, Emine-Bair-Khosar, Binbash-Koba and Palaeolithic sits: Chokurcha Grotto (3 km near Simferopol), Mamut-Koba, Adzhy-Koba, grottos Prolom-1 and Prolom-2.

At the Podillja-Bukovinian area the most ancient sites of the region were found out in caves of non-karst origin. There are two karst-suffusion grottoes in strata of Miocene sand under a cover (abri) of limestone and calcareous sandstone. Both cavities were uncovered with quarries. One of them is situated in **Horishnja Vygnanka** near Chortkiv. The remains of 30 species of Mammals and others Vertebrates were revealed there, including *Ursus* cf. *wenzensis* Stach. Due to the faunistic complex the site was dated as Eopleistocene (TATARINOV & BACHINSKIJ, 1968).

The other site **Synjakove-1** is also situated near Chortkiv. The remains of 48 species were found there. Among them there were *Spelaearctos spelaeus* Ros. (small form), *Dicerorhinus* aff. *merki* Jaeger, *Crocuta* cf. *spelaea* Gold., *Cuon* sp., *Canis* sp., *Felis spelaea* Gold., *Capreolus* sp., *Magaceros* sp., *Cervus* cf. *elaphus* L., *Bos* sp., *Equus* cf. *caballus* L. and others. Due to the faunistic complex, the site was dated as Early Pleistocene (TATARINOV & BACHINSKIJ, 1968), but it looks closer to Middle Pleistocene. The researchers believed that predators lived in these cavities and the bone accumulation was formed from the remains of them and of their preys.

By the way till now it was the only Middle Pleistocene cave site in Ukraine. But in 2009 local cavers from Ternopil' found remains of *Ursus* cf. *deningeri* in the Ozerna Cave. The site is situated quite far from the modern entrance and surely was connected with one of

ancient entrances. The detailed investigation of this site is difficult due to the long-term water table oscillations.

The other cave bear site near Synjakove village (**Synjakove Cave**) is dated by Late Pleistocene (TATARINOV, 1962). It is also concerned with suffusion cavity.

The other Late Pleistocene site was revealed in 1962 a quarry on the **Pustelna Mount** near Mala Ilovitsa village. A buried cave filled with sand, oozy deposits and sandstone fragments was uncovered there. The Pustelna Mount is a part of the Kremenetski Mountains (Hills) that divides the Dnister and the Prypjat river basins. The cave was developed in Neogene limestone. It was 1,5 m high. The animal bone fragments and flint tools were found in the cave filling. The bone-bearing lens was 0.8 thick and near 5-6 m long. The fauna was represented by: *Spelaearctos spelaeus* Ros. – 14 individuals, *Rangifer tarandus* L. – 4 individual, *Ursus arctos* L. – 2 individuals, *Lemmus* cf. *lemmus* L. – 2 individuals, *Canis lupus* L., *Alopex lagopus* L., *Felis spelaea* Goldfuss, *Equus caballus* L. - one individual everyone. The archaeological rests of the site (named Lypa-9 – according Lypa village) belong to the local Late Palaeolithic culture named Lypska. This culture is dated by the end of the Mologa-Sheksna interglacial and the beginning of Ostashkov glacial (30-20 ky ago). Due to the fauna this site was formed in Ostashkov time (Wurmian II). Probably there was a shelter of the cave bear hunters (OSTROVSKY & GRIGORJEV, 1966; TATARINOV & BACHINSKY, 1968). Unfortunately this site was completely destroyed and its detailed description is absent. Few other caves situated in Kremenetski Mountains also contain Late Pleistocene fauna but they are very poorly investigated.

The other bear cave with *U. spelaeus* remains, containing also Mousterian and Late Palaeolithic tools – the Pryima Cave was found near Lviv (MATZKEVYI**,** 1993). It is a small grotto of karst-suffusion genesis developed in residual hill built with Neogene sandstone.

Before 1990th any cave bear or other Pleistocene finds weren't made in gypsum caves of Western Ukraine. It was opinion at that time, that gypsum caves are too young and unstable for such kind of accumulation. Now, besides the Ozerna Cave, we found cave bears remains from the Bukovynka Cave (Middle Prut area) and Crystal (Kryvchanska) Cave. Bear paw track (probably of *U. arctos*) was found in Balamutivska Cave, which contains Mesolithic paintings.

Caves at the Northern Black Sea area – the "Old Nordmann Territory", by the abundance of fossil fauna, especially of cave bears, looks like "bear caves" of Alps. The first rich finds were made by Nordman in Odessa and its suburbs. The other cave was found in 1938 near Illinka Village. Most of bones belonged to 374 individuals of *U. spelaeus*. Not far few caverns more containing Late Pleistocene bones were revealed (PIDOPLICHKO, 1956). Long time any progress since that time wasn't observed. But in 2003 one more destroyed and buried cave with *U. spelaeus* remains was found near Nerubaiskoe Village (NAGEL et al. 2003).

In 2009 new site containing cave bear remains we investigated in Usatovo Village (the other Odessa suburb) (RIDUSH & PRONIN, 2009). The site looks like buried cavity filled with Pleistocene loam including faunistic remains.

The main problem of Pleistocene cave sites investigations in Ukraine is lack of radioisotope dating. The other problem is that the most of collections of past years excavations were lost or were not preserved.