

## Information

### Fossil mammals (paleotheriology). IX Congress of the Russian Theriological Society “Theriofauna of Russia and adjacent areas”, Moscow, 2011

In Russia there is no special professional society devoted to studies of fossil mammals or vertebrate paleontology. This is why special sessions on paleotheriology in the structure of Russian theriological congresses are among the few nation-wide conferences devoted to fossil mammals.

The IX Russian Theriological Congress (February 1–4, 2011) was co-organized by the Theriological Society of the Russian Academy of Sciences (RAS), Severtsov Institute of Ecology and Evolution, RAS, and Biological Faculty of the Lomonosov Moscow State University. The scientific sessions were held at the Biological Faculty of the Moscow State University.

The special session on fossil mammals housed altogether fourteen oral presentations. Abstracts of another 29 studies were published in the volume of abstracts; some of them were demonstrated as posters. The participants represented Russia, Belarus, Ukraine, Tajikistan, and the Netherlands. Paleotheriological studies amounted to approximately 8% of the total number of abstracts sent to the Congress. In addition, data on fossil mammals were extensively used in contributions of the sections on systematics, phylogeny and speciation, and morphology of mammals.

The lecture “Problems and controversies of the modern systematics of mammals” by Alexander **Agajanian** & Alexey **Lopatin** and (Paleontological Institute, Russian Academy of Sciences, PIN, Moscow) was selected for the plenary session of the Congress as being of special interest to the wide audience of theriologists. This morphology-based review of the Class Mammalia focused on controversial points of classical morphological and molecular systems.

Results of another high rank analysis (“Phylogeny of Mesozoic mammals and the new system of Mammalia”), devoted to the systematics of Mesozoic mammals based on recent new discoveries in Russia, was reported by Alexander **Averianov**, Zoological Institute, ZIN, St.-Petersburg, & Alexey **Lopatin** (PIN).

Gennady **Boeskorov** (Institute of Geology of Diamonds and Noble Metals, IGDP, Yakutsk) reviewed recent finds and preliminary results of investigations of the frozen remains of the glacial age “fauna of Mammoth” in Yakutia, Eastern Siberia. The most spectacular finds include the partial corpse of the Yukagir Mammoth (found in 2002–2004, age ca. 18 ka), the nearly complete body of Oimyakon baby mammoth (2004, >41 ka), and a frozen mummy of the Kolyma woolly rhino (2007, ca. 39 ka).

Anastasia **Markova** (Institute of Geography RAS, Moscow) and her colleagues Andrey **Puzachenko**, Thijs van **Kolfschoten**, Pavel **Kosintsev**, and Nikolay **Smirnov** presented the analysis of changes in European

mammalian faunas at Pleistocene – Holocene transition (from ca. 24 to ca. 8 ka). This study is based on approximately 5800 radiocarbon dated mammalian faunas derived from the PALEOFAUNA database, which is being developed by the authors.

Pavel **Nikolskiy** (Geological Institute RAS, GIN, Moscow) presented the results of recently defended doctoral thesis “Phylogeny of Alcini (Cervidae, Mammalia)”. This work is a revision of Alcini based on the museum collections and new original materials from Eastern Siberia. Its development, traced down to earliest Pleistocene (Gelasian) in Eurasia, continued in late Early Pleistocene through Late Pleistocene in Eurasia and western Beringia as a single phyletic lineage. This line includes a sequence of morphologically well-expressed chronotaxa *Cervalces (Libralces) minor*, *Cervalces (Libralces) gallicus*, *Cervalces (Libralces) sp.*, *Cervalces (Libralces) carnutorum*, *Cervalces (Latifrons) sp.*, *Cervalces (Latifrons) alaskensis*, *Cervalces (Latifrons) latifrons*, *Cervalces (Latifrons) sp.2*, *Alces brevirostris*, *Alces americanus*. At the Early-Middle Pleistocene transition a phyletic split occurred, which eventually resulted in Late Pleistocene *Cervalces (Cervalces) scotti* in extra-Beringian North America. The final split into two modern species *Alces alces* and *Alces americanus* occurred by the beginning of Holocene.

Mikhail **Tiunov** (Biological and Soil Institute, Far Eastern Branch of RAS, BSI, Vladivostok) and his colleagues reported the first record of *Miomys* in the Russian Far East. Two isolated molars were identified in Late Pleistocene – Holocene deposits of the Medvezhiy Klyk Cave in Sikhote-Alin Mountains. Hypsodont form with abundant cementum and resembles European Late Villanyian forms. According to the authors, this could be a case of refugial survival of this form in the region. An alternative hypothesis on a possible reworking from Early Pleistocene deposits was not discussed.

Vera **Bajgusheva** (Azov Reserve Museum, Azov), Vadim **Titov** (Institute of Arid Zones, Southern Scientific Centre of RAS, Rostov-on-Don), and Galina **Timonina** (Azov Reserve Museum, Azov) presented a detailed description of the dental ontogeny of the Caucasian giant rhino or elasmothere (*Elasmotherium caucasicum*). This study is based on new rich material excavated in recent years in the type locality Sinyaya Balka on the Taman Peninsula, southern European Russia.

Pavel **Kosintsev** (Institute of Plant and Animal Ecology, Uralian Scientific Centre of RAS, Yekaterinburg) reviewed data on the formation of the modern mammalian fauna of the Northern Eurasia from ca. 45 ka to 0.3 ka. He showed important differences in development of

large and small mammals. Megamammals are characterized by extinction and irreversible changes of ranges. Small mammals mostly display irreversible range changes.

Margarita **Erbajeva** (Geological Institute, Siberian Branch of RAS, Ulan-Ude) made a review of her prolific work on composition and evolutionary development of Asian ochotonids focusing on Transbaikalian Russia and Mongolia. Picas (Ochotonidae) are known in the regional fossil record since mid Oligocene. The family is represented by Ochotoninae and Sinolagomyinae. The main trend in dentition of the group was the growing hypsodonty, which resulted in full hypselodonty in most forms by the Early Miocene. Early Miocene was the time of the extensive adaptive radiation resulted in maximal taxonomic diversity in ochotonids. In Pliocene Ochotonidae showed a marked decrease in diversity probably due to a competition with explosively radiating voles. Recent fauna of Asia includes 28 species of the single genus *Ochotona*, two more species are known in North America.

Alexey **Tesakov** (GIN, Moscow) and his colleagues Pavel **Nikolskiy**, Gennady **Boeskorov**, Alexander **Basilyan**, Innokentiy **Belolyubskiy**, Varvara **Ivanova**, and Pavel **Frolov** reported the new data on Early Neopleistocene subarctic mammalian fauna of Eastern Siberia. The mammalian assemblage of the well-known early Middle Pleistocene fauna of Tanda from the middle course of the Aldan River (Eastern Siberia) includes *Palaeoloxodon* cf. *nomadicus*, *Canis variabilis*, *Gulloschlosseri*, *Drepanosorex* cf. *savini*, *Microtus middenдорffii*, *Microtus (Stenocranius) gregaloides*, *Clethrionomys* aff. *rutilus*, *Craseomys major*, etc. The fauna of Tanda combines Siberian and typical European Cromerian or Tiraspolian elements.

Evgeniy **Mashchenko** (PIN, Moscow) and Gennady **Boeskorov** (IGDPM, Yakutsk) presented an analysis of population structure of the woolly mammoth in the famous Berelekh locality (Yakutia, East Siberia). According to authors, the sample lacks remains of adult males and newly born babies. Remains of subadult females dominate in the material. The male/female ratio is 1:4.7. The revealed age structure with predominance of sexually mature individuals is close to that in natural family groups and indicates the primary death of family group members and unselective death of males.

Sharif **Sharapov** (Institute of Zoology and Parasitology, Tajikistan Academy of Sciences, Dushanbe) made a presentation summing up the data on mammalian fauna of the Paleolithic period of Central Asia. This time span from late Early to Late Pleistocene is represented by 57 mammalian localities, some of them associated with archaeological sites.

Andrey **Shpansky** (Tomsk State University, Tomsk) delivered a lecture on morphology and ontogeny of baby woolly rhinoceroses (*Coelodonta antiquitatis*). This work is based on material from late Pleistocene Krasnyi Yar locality and other sites in the Tomsk Region, and on a large comparative material. According to this study, the newborn woolly rhino with the age of several months had a shoulder height of 72 cm. The most intensive growth occurred at the age of 3-4 years when the shoulder height reached 130 cm.

Leonid **Voyta** (ZIN, St.-Petersburg), Fedor **Golenischev** (ZIN, St.-Petersburg), and Mikhail **Tiunov** (BSI, Vladivostok) reported results of a study focusing on meadow voles (genus *Microtus*) from the Late Pleistocene-Holocene cave deposits in the south of the Russian Far East. The fossil record of the Medvezhiy Klyk Cave contains dominant remains of *Microtus fortis* and *Microtus* cf. *maximowiczii*. Much smaller part of the material resemble in morphology of first lower molar *Microtus mongolicus*, *M. oeconomus*, and *M. gregalis*.

Konstantin **Tarasenko** (PIN, Moscow) presented a study of skull and mandibular morphology and feeding modes in late Sarmatian (Late Miocene) whales from the Maikop-1 locality (Adygea, south European Russia). The shallow marine deposits of semi-isolated Eastern Paratethys are rich in remains of Cetotheriidae. The author concludes that late Sarmatian cetotheres show some distinctions from Cetotheriidae s.str. and were adapted for active hunting strategies similar to that of Balaenopteridae.

Vasily **Malygin** (Moscow State University, MGU, Moscow), Evgeniy **Lykov** (MGU, Moscow), and Nikolay **Kalandadze** (PIN, Moscow) presented an intriguing material on the aberrant dental variability in red fox (*Vulpes vulpes*). A cranial series (n=5) of red foxes raised in captivity in industrial farm shows a unique abnormal tooth-rows with multiple extranumerical molars. Compared to the normal set of 40 teeth, the studied individuals have up to 62 teeth with up to one third showing an abnormal morphology. Some of these post-canine maxillary teeth have a bizarre structure with one large central cone encircled by several smaller cones. This morphology is strikingly similar to upper jaw teeth of Late Permian cynodonts *Dvinia prima* (Therapsida). The abnormal dentitions probably represent up to five teeth generations realized due to a teratogenic (abnormal food components) disturbance of diphyodonty. The similarity of some anomalous fox teeth to that of *Dvinia* is interpreted as a probable activation of "sleeping genes" that recapitulated ancestral dental structures.

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