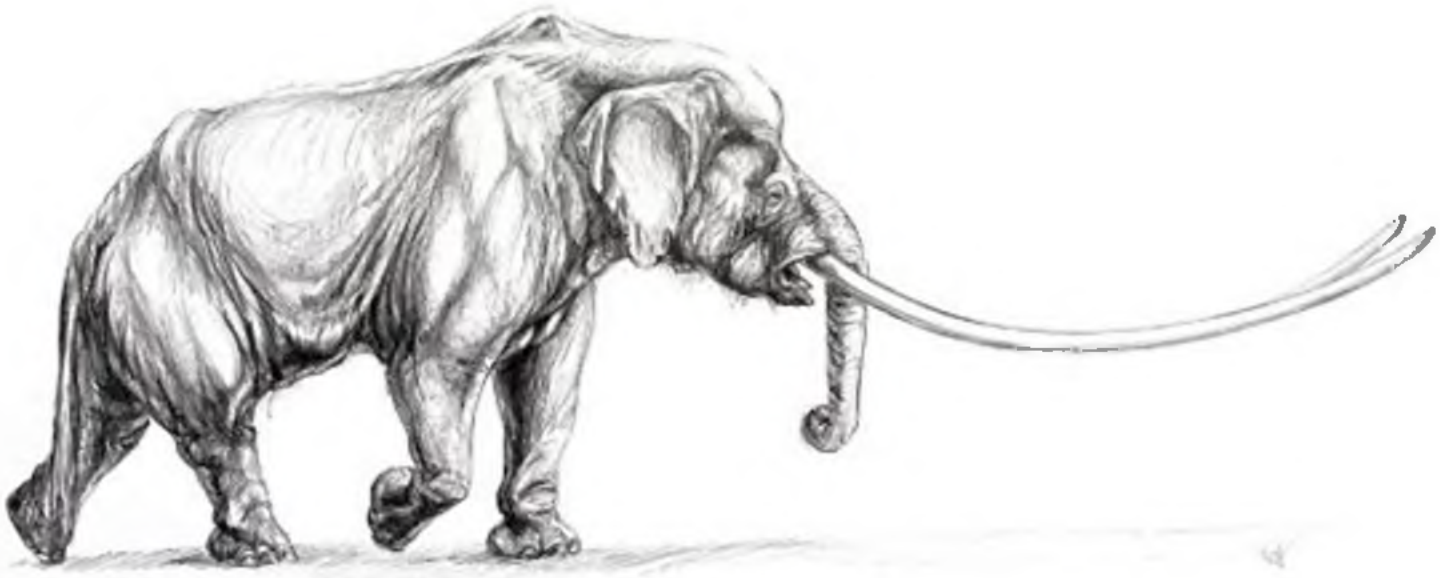
SCIENTIFIC ANNALS of the School of Geology,
Aristotle University of Thessaloniki

SPECIAL VOLUME 102



VI[th] International Conference on Mammoths and their Relatives

GREVENA SIATISTA GREECE 2014

ABSTRACT BOOK

Editors:
Dimitris S. KOSTOPOULOS, Evangelos VLACHOS, and Evangelia TSOUKALA

THESSALONIKI, MAY 2014

ARISTOTLE UNIVERSITY OF THESSALONIKI
FACULTY OF SCIENCES

ΑΡΙΣΤΟΤΕΛΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΣΧΟΛΗ ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ

SCIENTIFIC ANNALS OF THE SCHOOL OF GEOLOGY
SPECIAL VOLUME **102**

ΕΠΙΣΤΗΜΟΝΙΚΗ ΕΠΕΤΗΡΙΔΑ ΤΟΥ ΤΜΗΜΑΤΟΣ ΓΕΩΛΟΓΙΑΣ
ΕΙΔΙΚΟΣ ΤΟΜΟΣ **102**

ABSTRACT BOOK

OF THE VITH INTERNATIONAL CONFERENCE
ON MAMMOTHS AND THEIR RELATIVES

5-12 MAY 2014, GREVENA - SIATISTA

ΤΟΜΟΣ ΤΩΝ ΠΕΡΙΛΗΨΕΩΝ

ΤΟΥ 6^{ΟΥ} ΔΙΕΘΝΟΥΣ ΣΥΝΕΔΡΙΟΥ
ΓΙΑ ΤΑ ΜΑΜΟΥΘ ΚΑΙ ΤΟΥΣ ΣΥΓΓΕΝΕΙΣ ΤΟΥΣ

5-12 ΜΑΪΟΥ 2014, ΓΡΕΒΕΝΑ - ΣΙΑΤΙΣΤΑ

THESSALONIKI
ΘΕΣΣΑΑΟΝΙΚΗ
2014

Tomographic study and 3D-reconstruction of mummified Pleistocene dog from North-Eastern Siberia

Sergei FEDOROV ✉, Darima GARMAEVA, Nikolai LUGINOV, Semyon GRIGORIEV, Grigoriy SAVVINOV, Sergei VASILEV, Konstantin KIRIKOV, Morten ALLENTOFT, and Alexei TIKHONOV

The mummified carcass of a young specimen of medium-size predator (Fig. 1) was found in the north of Yakutia by local residents of Tumat settlement (Ust'-Yanskiy district) on the high bank of the old bed of the River Syalakh in 2011. The find was frozen in the permafrost together with mammoth bones next to the broken skull of a mammoth and deposited in a peat lens which was around 16 m^2 by size. Definition of the geological age was done in the University of Groningen in 2012 with the result 12460±50 years BP (GrA-52435).A preliminary visual external examination of the carcass by some zoologists have made the assumption that it can be a young specimen of the domestic dog (*Canis familiaris*). The carcass of the animal is kept in a freezer at the Mammoth Museum at the temperature -18°C. The study of the wool in Centre for GeoGenetics (Copenhagen, Denmark) gave the preliminary results which can presented as "more dog than wolf". The additional studies will be done quite soon.

Tomographic studies are planned in advanced medical imaging and high spatial resolution (computed tomography (CT) and magnetic resonance imaging (MRI) without breaking the anatomic integrity of the animal. Based on the CT study 3D-reconstruction of the skeleton was received. Additionally, an attempt was done for topographic and anatomical assessment of the mummified internal organs and soft tissues, including the brain, by MRI studies.

For the first time the computed tomography and laser scanning according to carcasses of fossil animal is 3D-reconstruction of the animal body with wool, and recreated the appearance of the Pleistocene dogs of North-Eastern Siberia (Ovodov et al, 2011), that will make substantial contributions to the study of ancient domestic animals and the development of advanced technology in the form of 3D museum exhibits.

Reference

Ovodov N. D., Crockford S. J., Kuzmin Y. V. et al. 2011. A 33,000-Year-Old Incipient Dog from the Altai Mountains of Siberia: Evidence of the Earliest Domestication Disrupted by the Last Glacial Maximum. PLoS ONE 6(7): e22821.

sergei.fedorov@mail.ru

Citation:
Fedorov, S., Garmaeva, D., Luginov, N., Grigoriev, S., Savvinov, G., Vasilev, S., Kirikov, K., Allentoft, M., Tikhonov, A., 2014. Tomographic study and 3D-reconstruction of mummified Pleistocene dog from North-Eastern Siberia. Abstract Book of the VIth International Conference on Mammoths and their Relatives. S.A.S.G., Special Volume 102: 53.

Fig. 1. General view of an ancient dog.