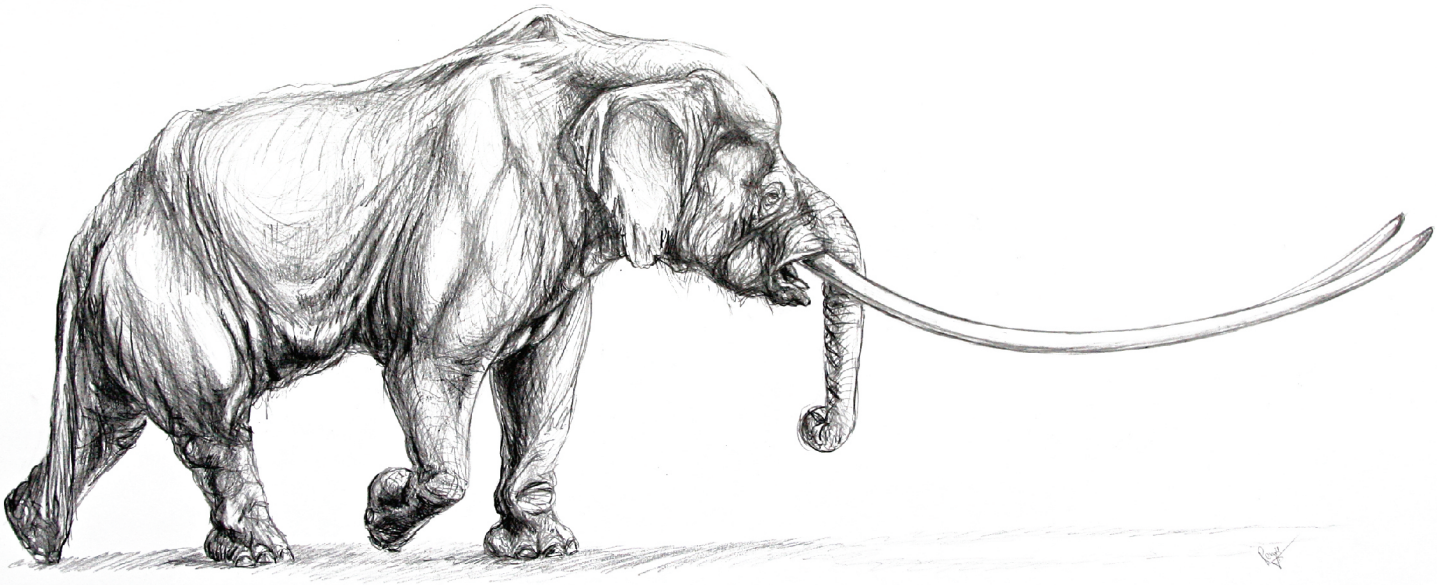
SCIENTIFIC ANNALS of the School of Geology,
Aristotle University of Thessaloniki

SPECIAL VOLUME 102



VIth International Conference on Mammoths and their Relatives

GREVENA
SIATISTA
GREECE 2014

ABSTRACT BOOK

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THESSALONIKI, MAY 2014

The "Mammoth Portal" database as a new global accounting system for the mammoth fauna

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Integration of informational resources into a single, widely shared and free informational database is one of prioritized tasks in biological science in general and paleontology in particular. Unlike general databases developed world-wide in the last three decades that includes the whole content of accumulated collections by single institution (i.e. institutions linked by "Paleontological Portal"), or aimed at single taxa (i.e. Mammal Species of the World (MSW3)), the "Mammoth Portal" offers centralization and unification of the relevant data, and invites institutions and organizations possessing collections of the mammoth fauna, to join the project.

In order to facilitate studies and perform accurate analyses of the Pleistocene mammoth fauna discovered on the territory of Yakutia (Sakha) Republic with further extension to the other countries, the Yakutian Academy of Sciences (Yakutsk, Russia) sponsored development and long-range term maintenance of the multi-level digital database the "Mammoth Portal" (http://mammothportal.com), for registration and inventory of the paleontological objects from the Pliocene and Pleistocene epochs. In its initial design, the "Mammoth Portal" database includes information on sites location and species composition, supplemented with geographical positions and ArcGIS maps, to be gradually expanded into more categories of entry. Sites yielded continental and insular mammoth species alone or together with other faunal elements (including invertebrates) in public domain and/ or associated (accessioned and catalogued) with the public, not-for-profit or state museum or organization, will be of primary interest. The fields of entry are planned to be expanded with available information on geology, stratigraphy and pedology of the sites, isotope data, 2D and 3D images, containing both published and un-published material, contact information of the organizations/ operators and references of relevant publications.

One of the database objectives is to provide free access to and organize the data into standard fields and friendly designed interfaces. Incorporating the HTML, CSS, JavaScript and NodeJS scripts, the system allows implementation of the noSQL and MongoDB programs, and the data optimizations in MapReduce. The architecture application provides functionality that can be extended by writing new modules.

The development of the "Mammoth Portal" database is specifically aiming at unification of mammoth fauna collections data coming from different countries, allowing easy administrative and operator's accesses for entry and updates by participating institutions. The system will have three major users, administrator, operator and guest. Administrator (centered in Yakutsk, Russia) is identified as a user controlling the entry order, storage, data processing and maintenance of the Portal. Operators (participating institutions) are users allowed to edit their accounts, perform data entry and updates, and decision making on the entry fields. Guests are public users with free access and information downloads, but without rights to modify the database entries.

The Mammoth Portal is designed as a not-for-profit and free for participating institutions/organizations project, with appropriate reference to the "Mammoth Portal" in publications. Through free exchange of the information it will create more opportunities for scientists and significantly facilitate collaborative studies of the mammoth fauna and its environment.

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Citation:
Protopopov, A., Plotnikov, V., Kolodeznikov, I., Zalialov, M., Mashchenko, E., Boeskorov, G., Tikhonov, A., Agenbroad, L., Potapova, O., 2014. The "Mammoth Portal" database as a new global accounting system for the mammoth fauna. Abstract Book of the VIth International Conference on Mammoths and their Relatives. S.A.S.G., Special Volume 102: 163.