

# Scientists a step closer to cloning mammoth

Kyodo

YAKUTSK, Russia — The thighbone of a mammoth found in August in Siberia contains well-preserved marrow, increasing the chances of cloning one of the extinct beasts, Japanese and Russian scientists confirmed recently.

The teams from the Sakha Republic's mammoth museum in eastern Russia and Kinki University's graduate school in biology-oriented science and technology will launch full-fledged joint research next year to clone the giant mammal, which is believed to have become extinct about 10,000 years ago, they said.

By transplanting nuclei taken from the marrow cells into elephant egg cells whose nuclei have been removed through a cloning technique, embryos with a mammoth gene could be produced and planted into elephant wombs, as the two species are close relatives, they said.

Securing nuclei with an undamaged gene is essential for the nucleus transplantation technique, but doing so from mammoths is extremely difficult and scientists have been trying to reproduce a mammoth since the late 1990s, they said.

In the Sakha Republic, global warming has thawed its almost permanently frozen ground, leading to numerous discoveries of frozen mammoths. But cell nuclei are usually damaged or have not been kept in a frozen state even when they have been found in a good overall condition, a Russian museum official said.

This time, however, there is a high likelihood that biologically active nuclei can be extracted as the frozen marrow found when museum scientists cut open the thighbone Nov. 13 was fresh and in excellent condition, according to the official. The bone was found near Batagay in northern Sakha.

The technique for extracting nuclei, meanwhile, has improved dramatically in the past few years and some undamaged nuclei have been successfully taken from badly preserved mammoth tissue fragments, albeit at low rates, said the Kinki University team based in Osaka Prefecture.

The museum, located in the republic's capital, Yakutsk, soon notified

the Japanese side, with which it has had close ties through joint research since 1997, including professor Akira Iritani and associate professor Hiromi Kato.

Iritani confirmed that the outstanding condition of the marrow has increased the chances of cloning a mammoth, and said the Japanese team will try to obtain elephant eggs for the research project, although he added this would not be easy.

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