

The Centre for Scientific Studies ([CECs](#)) and the Chilean National Museum of Natural History ([MNHN](#)), are showing the exhibition “Gomphotheres: from myth to science” for the first time in the southern Chilean Región de los Ríos.



This exhibition is based on a significant finding, made in February 2011, during construction work to enlarge a wastewater treatment plant in the Padre Hurtado neighbourhood of the capital, Santiago. The on-site discovery was of the most complete gomphothere skull found to date in Chile. All of the required diagnostic elements were present, making it possible to identify the cranium as belonging to the genus *Stegomastodon*.

From myth to science

The exhibition invites you to journey through knowledge, from fanciful stories and mythical tales to the views supported by scientific evidence. Although there are many examples of this in Nature, this particular journey focuses on the history of elephants that once walked on Chilean ground.

The “mythological world” is full of fascinating beings: uni-cor-ns, Pe-ga-sus, centaurs, griffins and such like. These creatures were born mainly from travellers’ and explorers’ tales, returning home to give us their own versions of the diversity of Nature. In these descriptions, prior to exploration of the world by the first naturalists, imagination, rather than fact, predominated over critical observation.

For example, in Greek mythology, the cyclopes were giant creatures with just one round eye in the middle of their forehead. This leads us to wonder how exactly the ancient Greeks came to imagine such a massive one-eyed monster. The answer has to do with a very real animal that seems just as fantastic as the selfsame cyclops: the elephant. The elephant skull has a very clear, large aperture precisely in the frontal region of the head. This hole, the nasal cavity, is the site of attachment of the elephant’s trunk. Elephants existed in the Me-di-te-ranean islands up until just a few thousand years ago. Although the Greeks never lived alongside elephants, it is possible that they had seen the fossilised skulls of these animals.

A local “monster”

One of the most curious Chilean mythological beings is the monster of Tagua Tagua lagoon. This horrible creature, described as a winged, two-tailed monster, covered in scales and with a

human face, was portrayed in 1784 and a drawing of the creature was rediscovered two centuries later in a Spanish library. One of the descriptions of the monster tells that "it did great damage, eating all manner of animals and drinking from the lagoon, until 100 men stealthily ambushed it with firearms and caught it alive".

Curiously, when the Tagua Tagua lagoon was drained in the 1930's, it was discovered to be one of the richest deposits of gomphothere remains in South America. Different sized individual gomphotheres have been found at this site, which suggests the presence of a herd of animals consisting of females and young males (a common association within elephant herds). In the same way that the cyclops myth was propagated, perhaps the presence of large gomphothere bones, found near this lagoon, had contributed to generating and/or feeding the myth of this unlikely Chilean monster.

What are gomphotheres?

Although gomphotheres are similar in appearance to living elephants, they make up a different group of proboscideans. In fact, the well-known woolly mammoth is more closely related to the modern-day elephant than either the elephant or mammoth are related to the gomphothere. The first gomphotheres had four elongated tusks, two upper and two lower, but the animals that colonised South America had only the upper tusks elongated, that is, they looked very much like the elephants we know today.

The first human visitors to the American continent found a world full of enormous mammals. Interaction between man and these animals has been documented at several sites throughout America. One of the most well-known is the Clovis archaeological site, in New Mexico, USA, where bone spear points have been found alongside animal bones implying that the hunting of large mammals, including the mammoth, was part of the culture of the Clovis Paleoindian people. This site is dated at 10,600 to 11,250 years old.

Fossils of large mammals have been discovered throughout Chile. One of the most important aspects of these findings is that at least two of the sites reveal a direct interaction between the giant animals, or megafauna, and prehistoric man, reinforcing the theory of overhunting as a key factor in the extinction of these animals. These two sites are Quereo, in the Coquimbo Region, and San Vicente de Tagua Tagua (lagoon), in the O'Higgins Region, just south of Chile's central valley.

Overhunting by man is certainly one feasible hypothesis to explain the massive extinction of American megafauna. Not only indiscriminate hunting, but also cropping activities on burnt fields, or fields burnt with the sole objective of hunting animals, would have profoundly altered the flora of an ecozone. In fact, there is a sizeable observed decrease in wildlife during the same geologic period over which humans spread through these habitats.

There are just two modern elephant species: the Asian and the African elephant. We are left with no more than a fraction of the extensive variety of proboscideans that have existed on the planet, which includes the deinotheres, mammoths, mastodonts and the gomphotheres. The proboscideans are the largest land mammals known to have lived and like other mammals, such as the cetaceans (whales, dolphins and porpoises) and the chimpanzee, they developed complex social behaviours.

Just as extinctions were caused by man's arrival in America, so perhaps the inevitable overpopulation and relentless expansion of the human race has brought with it the extinction of the giant elephants. Only their huge skeletons and skins remain, in museums, as evidence that they once walked on this earth.



MN Museo Nacional de Historia Natural Chile

PRESENTA EXPOSICIÓN TEMPORAL

GONFOTERIOS

DEL IMAGINARIO A LA CIENCIA

ITINERANCIA

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