A Big Earth Data Platform for Three Poles

**The early evolution of cranial appendages in Bovoidea revealed by new species of Amphimoschus (Mammalia: Ruminantia) from China**

1、Description

The cranial appendage (headgear) is an iconic structure of modern ruminants, and four of the five extant pecoran families display morphological and physiological specialties. They probably share one origin from the same genetic basis, whereas the evolution of the cranial appendages is still debatable, especially in consideration of fossil taxa lacking headgear. Amphimoschus is an enigmatic pecoran that comprises no more than two species, mainly known from the late early/early middle Miocene of Western and Central Europe and considered not to possess any cranial appendages. Here, we present Amphimoschus xishuiensis sp. nov., discovered in the Tabenbuluk area, Gansu Province, China. The new species reveals the first evidence of cranial ornamentations in the genus, including a supraorbital bump, an antorbital protuberance and frontal thickening. In our phylogenetic analysis the genus was inferred as a basal member of the Bovoidea, and thus the cranial ornamentations of A. xishuiensis might provide insight into the early evolution of cranial appendages in Bovoidea. They could be interpreted as weapons to defend territories in intense intraspecific or interspecific competition during the late early Miocene.

2、Keywords

Theme：Others,Macrofossils,Paleoclimate Reconstruction
Discipline：Others,Palaeoenvironment
Places：Linxia Basin
Time：Miocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：45.0 | - |
| west：90.0 | - | east：180.0 |
| - | south：-90.0 | - |

5、Time frame:2020-11-30 16:00:00+00:00--2021-12-27 16:00:00+00:00

6、Reference method

References to data:

DENG Tao . The early evolution of cranial appendages in Bovoidea revealed by new species of Amphimoschus (Mammalia: Ruminantia) from China. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2721012021

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: DENG Tao
unit: Institute Of Vertebrate Paleontology And Paleoanthropology, Chinese Academy Of Sciences
email: dengtao@ivpp.ac.cn