First report of Hispanodorcas from the Late Miocene of China (Postprint)

Authors: WU Yong, WANG Shi-Qi, LIANG Zhi-Yong, GUO Ding-Ge, SUN Bo-Yang, LIU Long, Kai Duan, CHEN Guo-Zhong

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Abstract

Hispanodorcas represents a group of small to medium-sized bovids previously known only from the pan-Mediterranean region and South Asia. The taxonomy of Hispanodorcas has long been disputed, with suggested affinities to the tribes Antilopini, Reduncini, or Oiocerini. We report the first discovery of a new species, Hispanodorcas longdongica sp. nov., from the Daidian fossil locality in Zhengning, Qingyang, China, dating to the early Baodeian (approximately 8–7 million years ago). The new material comprises five skulls in various states of preservation, providing the most comprehensive skeletal information on Hispanodorcas to date. The horn cores are long and slender, posteriorly curved, and exhibit a weak homonymous twist; they also possess external-dorsal and internal-ventral grooves, which are typical characteristics of Hispanodorcas. The Hispanodorcas from the Daidian locality is the smallest among known species, with weak flexion between the facial and neurocranial regions, and both anterior and posterior basal tubercles are weakly developed. These primitive features indicate that H. longdongica may represent an early evolutionary stage of this genus. Furthermore, similarities between the skull of this species and Gazella suggest that Hispanodorcas may have evolved directly from gazelle ancestors, and its homonymously twisted horn cores, consistent with those of Oiocerini, may be the result of parallel evolution between the two lineages.

Full Text

First Report of Hispanodorcas from the Late Miocene of China

Wu Yong[1], Wang Shi-Qi[2]*, Liang Zhi-Yong[1], Guo Ding-Ge[2,3], Sun Bo-Yang[2], Liu Long[1], Duan Kai[1], Chen Guo-Zhong[1]

[1]The Third Geological and Mineral Exploration Institute of Gansu Bureau of Geology and Mineral Resources, Lanzhou 730050, China
[2]Key Laboratory of Vertebrate Evolution and Human Origins of Chinese Academy of Sciences, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences, Beijing 100044, China
[3]University of Chinese Academy of Sciences, Beijing 100049, China

Abstract

Hispanodorcas is a small to medium-sized bovid that has previously only been found in the pan-Mediterranean region and South Asia. Its taxonomic classification has been controversial, with suggestions of affinities to Antilopini, Reduncini, or Oiocerini. Here we report the first discovery of Hispanodorcas in East Asia: *Hispanodorcas longdongica* sp. nov. from the Daidian locality in Qingyang, Gansu Province, China, dating to the early Baodean age (~8–7 Ma). The new material comprises five skulls in varying states of preservation, providing the most complete osteological information on Hispanodorcas to date. It features long, slender, posteriorly curved horncores with a weak homonymous twist and both laterodorsal and medioventral grooves, which are characteristic of Hispanodorcas. The Hispanodorcas from Daidian is the smallest among all known species of the genus, with a weakly flexed braincase from the facial region and poorly developed anterior and posterior basilar tuberosities. These primitive features suggest that *H. longdongica* may represent an early evolutionary stage of this genus. Furthermore, similarities between the skull of this species and that of *Gazella* suggest that Hispanodorcas may have evolved directly from the Gazella stock; the homonymous twist of the horncores, which aligns with Oiocerini, may be a case of homoplasy.

Key words: Qingyang, East Asia, Baodean, Antilopini, Hipparion fauna, Hispanodorcas

Note: Figure translations are in progress. See original paper for figures.