

记陕西镇安早更新世的两种爪兽化石¹⁾

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2001年8月,本文作者在地处秦岭腹地的陕西镇安黄家湾一河流相沉积层中采集到大量的哺乳类化石。化石埋藏集中,种类丰富,均为大型哺乳类,不见啮齿类等小型哺乳动物及其他脊椎动物。从埋藏情况看,应属原生层位化石。本文记述了动物群中的2种爪兽类化石。

爪兽是奇蹄目中一个较为特殊的类群,我国以前发现的爪兽绝大多数都是在第三纪早期或中期的地层中找到的(胡长康,1959;周明镇,1962;张玉萍,1976;邱占祥等,1998),这次在镇安黄家湾发现的2种爪兽对了解我国爪兽化石的地理及时代分布有一定的价值。

1 爪兽化石所属动物群的性质和时代

动物群经鉴定,计有哺乳动物4目、11科、23种,它们是: *Canis variabilis*、*Hyaenidae*、*Homotherium* sp.、*Megantereon* sp.、*Lynx* cf. *L. shansius*、*Panthera pardus*、*Elephantidae*、*Equus qingyangensis*、*Hesperotherium sinense*、*Ancylotherium* sp.、*Megatapirus augustus*、*Dicerorhinus lantianensis*、*Dicerorhinus* sp.、*Sus* sp.、*Moschus moschiferus*、*Cervus unicolor*、*Cervus* sp.、*Hydropotes* sp.、*Capreolus* sp.、*Gazella* sp.、*Leptobos* sp.、*Bubalus* sp. 和 *Budorcas taxicolor* 等。

从动物群的组成看,黄家湾动物群是一个具有明显古老性质的第四纪动物群,以早更新世属种为主,绝灭种占很大的比例。动物群的另外一个特点是带有明显的南方动物区系色彩,如巨獭就是我国南方及亚洲南部更新世动物群中的代表类型。

黄家湾动物群与公王岭动物群(胡长康、齐陶,1978)最为接近,两者都含有较多的南方动物区系成分,二者的共有种包括变异狼、中华黄昏兽、巨獭和蓝田犀等。与盐井沟动物群(Matthew and Granger, 1923; Young, 1935)比较,相同属种有中华黄昏兽、巨獭、水鹿和麝等。因此,黄家湾动物群的时代应与公王岭动物群和盐井沟动物群的时代相当,属于早更新世晚期(计宏祥,1987;童永生等,1995)。

2 系统记述

奇蹄目 *Perissodactyla* Owen, 1848

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爪兽科 Chalicotheriidae Gill, 1872

爪兽亚科 Chalicotheriinae Gill, 1872

黄昏兽 *Hesperotherium* Qiu, 2002中华黄昏兽 *Hesperotherium sinense* (Owen, 1870)

(图 1)

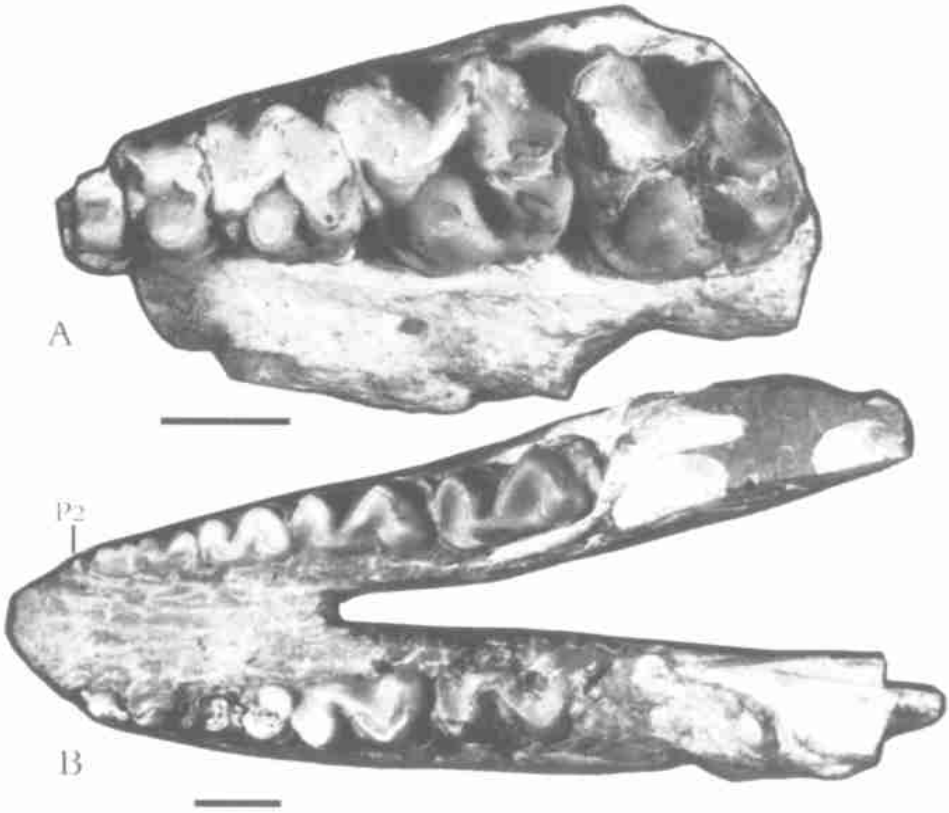


图 1 中华黄昏兽的上、下颌骨,比例尺 = 3cm

Fig. 1 The maxilla and mandible of *Hesperotherium sinense*, scale bar = 3 cm

A. SNU014.1,左侧上颌前段腹面观 anterior part of left maxilla in ventral view;

B. SNU014.2,下颌冠面观 lower jaw in crown view

材料 SNU(陕西师范大学标本编号)014.1,一对上颌骨各带有 P4~M3,左侧尚带有 P3 及 P2 的部分齿根;SNU014.2,一对下颌骨各带有 p3~m3,右侧下颌骨保留有 p2。

描述 上颌:左侧带有 P2 的残破齿根。上颌短而粗厚。上臼齿宽大于长。P2 仅保留齿根的后半部分。P3 只保留了原尖,其基部直径 11.6mm,前侧和舌侧齿带发育。P4 短而宽,未臼齿化,前侧、舌侧和后内侧齿带很发育;前、后附尖比中附尖显著,原尖和外脊之间有宽的纵沟相隔。M1 原脊消失,舌侧齿带和次尖十分发育。M2 后附尖退化,原尖独立,圆锥形;前内侧有发达的齿带。M3 似 M2,前侧齿带十分发育。

下颌水平支粗厚,在 m2 处高 48.6mm,下颌联合部长 53.3mm,左右下颌夹角 30°。下

门齿、下犬齿及 $dp1$ 退失。 $p2 \sim p4$ 之长短于 $m3$ 。下臼齿后齿带发达。

$p2$ 仅在右侧保留,左侧尚余齿根,圆锥形,单根单尖,齿根断面近圆形。 $p3$ 主尖发育,前、后主尖之间以脊相连。 $p4$ 顶面观呈 M 形,前、后叶基本等长。 $m1$ 唇侧齿带显著。 $m2$ 似 $m1$,但较大。 $m3$ 似 $m2$,下后附尖不甚发育,下次小尖存在,跟座比三角座长许多;唇侧和后侧齿带十分发育。

牙齿测量见表 1。

表 1 Hesperotherium sinense 的牙齿测量*

	Table 1 The measurement of teeth of Hesperotherium sinense (mm)									
	P4	M1	M2	M3	p2	p3	p4	m1	m2	m3
最大长度(L)	18.6	31.3	49.3	49.3	7.7	16.2	19.3	30.2	44.0	53.4
最大宽度(W)	29.6	36.7	52.6	55.8	7.7	13.3	15.6	20.4	27.1	27.6
最大高度(H)	18.0	12.8	24.6	34.9	9.6	18.8	18.7	12.4	24.0	23.9

*量为度为左右两侧牙齿的平均值($p2$ 仅测量右侧者)(The measurements are means of the teeth on both sides)。

讨论 邱占祥(2002)根据采自山西天镇的爪兽标本建立了新属 *Hesperotherium*,并将 Owen(1870)描述的 *Nestoritherium sinense* 归入这个新属,即 *H. sinense*。镇安的上述爪兽标本显示出吻部短粗,门齿、犬齿和第一前臼齿退失,上臼齿宽大于长,原尖孤立, $p2 \sim p4$ 之长短于 $m3$,以及下臼齿后齿带发育等特征。从这些特征看,镇安的上述 2 件标本无疑属于 *Hesperotherium sinense*。

裂爪兽亚科 Schizotheriinae Holland et Peterson, 1914

钩爪兽属 Ancylotherium Gaudry, 1863

钩爪兽未定种 Ancylotherium sp.

(图 2)

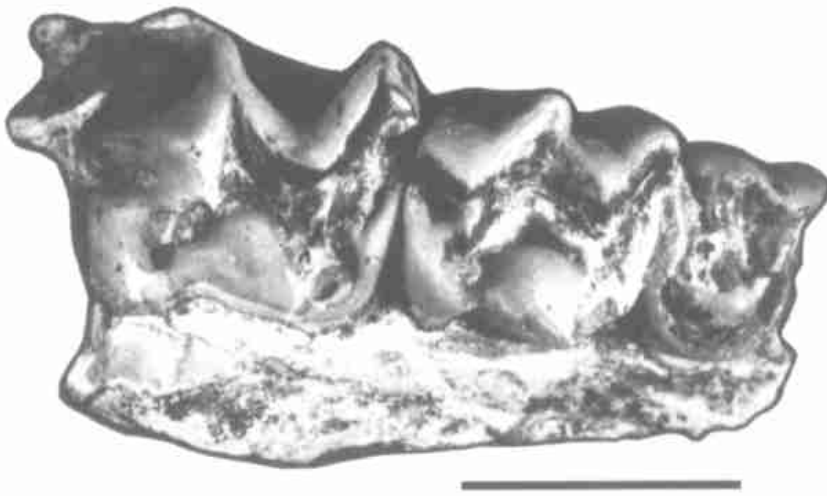


图 2 钩爪兽未定种的一段右上颌, SNU013, 比例尺 = 3cm

Fig. 2 Middle part of right maxilla of *Ancylotherium* sp., SNU013, scale bar = 3cm

材料 SNU013, 一块破损的右侧上颌骨, 带有 $P4 \sim M2$ 。

描述 一种小型爪兽。P4 原尖强大,内侧齿带发育,中附尖和前附尖显著,后附尖明显,前尖和原尖之间以原脊相连。最大长度 19.3mm,最大宽度 22.5mm,齿冠最大高度 20.6mm。

M1 前、后叶基本等长;原尖强大,圆锥状,比较靠后,其后缘超过中附尖,前内侧和后内侧有弱的齿带;中附尖和前附尖充分发育,后附尖弱;次尖强大,内外横长,中部与后脊相连;后齿带发达。最大长度 29.4mm,最大宽度 25.8mm,后尖处齿冠高 25.3mm,原尖高 8.0mm。

M2 前叶远长于后叶;前附尖粗壮,中附尖比较薄锐;外脊后叶引长。前尖是几个主尖中最高大者;原尖低矮,顶端呈棱脊状,成前内—后外走向,其后内侧齿带发育;次尖显著,与后脊相连;后谷深而宽阔,不封闭,向后方开放;前齿带发达。最大长度 35.6mm,最大宽度 28.5mm,前尖处唇侧齿冠高 25.5mm,原尖高 9.0mm。

讨论 从上颊齿的形态看,上述镇安标本无疑应属于 Schizotheriinae 亚科。它的颊齿性状与 *Gansuodon pingliangense* (吴文裕、陈冠芳,1976) 和 *Huanghothereium anlungense* (童永生等,1975) 相似,但也有一些区别,主要是个体和白齿指数较小。由于标本太少,这些区别是属于个体差异还是种间差异不能准确判定。另一方面,McKenna and Bell (1997) 已将上述两个属种归入 *Ancylotherium* 中,因此我们将镇安的这件标本也置于 *Ancylotherium* 属内,暂时不予定种。

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EARLY PLEISTOCENE CHALICOTHERE FOSSILS FROM HUANGJIAWAN, ZHEN'AN, SHAANXI, CHINA

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Key words Zhen'an, Shaanxi, Early Pleistocene, chalicothere

Summary

A lot of large mammal fossils were collected from a fluvial deposit in Huangjiawan, Zhen'an, Shaanxi, China. Two species of chalicotheres from this fauna are described in this paper.

Hesperotherium sinense (Owen, 1870)

(Fig. 1)

Described specimens SNU014.1, a pair of maxillae with P4 ~ M3 on both sides. SNU014.2, a pair of almost complete jaws.

Brief description The maxillae are very short and thick. The lower jaws are strong, with straight and flat lower edge of the horizontal ramus. The height of horizontal ramus at m2 is 48.6mm. The symphysis is 53.3 mm in length with an angle of 30° between the two horizontal rami.

All incisors, canines and first premolars are lost. The upper molars are wider than long. The posterior cingulum is strong on lower molars.

Ancylotherium sp.

(Fig. 2)

Described specimen SNU013, a broken right maxilla with P4 ~ M2.

Brief description Small chalicothere. P4 is considerably widened, with well-developed lingual cingulum and parastyle, and its protocone is connected with the paracone by the protoloph. M1 is longer than wide, with well-developed parastyle and mesostyle, and its protocone is very strong. The hypocone of M1 is strong, not isolated, and connected with the metaloph. The anterior lobe is longer and higher than the posterior one on M2. The posterior lobe of the ectoloph of M2 is relatively long. The protocone of M2 is cristalike, with strong cingulum on its posterior-medial side. The hypocone of M2 is connected with the metaloph.

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