

山西垣曲原蹄犀(犀科,奇蹄目, 哺乳纲)化石¹⁾

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火石坡是垣曲盆地近年来新发现的化石点,产有丰富的哺乳动物化石,多数已被报道(黄学诗等,1999; Zhang et al., 2001; 刘丽萍、黄学诗,2002; 黄学诗、王景文,2002; Dawson et al., 2003; 黄学诗,2004),本文仅对其中的奇蹄目原蹄犀类化石予以简单记述,它的发现为垣曲盆地始新世动物群增加了新成员。

犀科 *Rhinocerotidae* Gray, 1821

原蹄犀属 *Prohyracodon* Koch, 1897

南方原蹄犀(相似种) *Prohyracodon* cf. *P. meridionale* Chow & Xu, 1961

(图1)

简记 标本为一左上颌断块附臼齿 M1-M3(IVPP V 13101)。牙齿磨蚀状况:M1 较重,M2 轻微,M3 几乎未经磨蚀。M1 近方形,外壁后部向内偏斜。后脊长度约为原脊之半,两脊近于平行。齿尖中以前尖最为高突。前附尖发育,略低于前尖。前尖肋和前附尖肋明显,突出在牙齿外壁,之间以沟相隔。后尖肋较弱。前、后齿带较发育,内、外齿带尤其是外齿带较弱,但内齿带与前、后齿带相接,呈低脊状围绕牙齿,并在原尖内侧不中断。反前刺不发育,仅在原脊后侧中部稍有膨大,虽与牙齿磨蚀程度有关,但垣曲的标本即使在 M1 磨蚀很深的情况下也不显著,后面未磨的牙齿更看不出来。M2 与 M1 不同在于,个体略大,是上臼齿中最大者。后脊内侧更向后偏斜,致使原脊和后脊形成顶端指向前外(前尖)的“V”形谷。外脊后叶更向后向内伸长。M3 与前两上臼齿明显不同,呈三角形,外壁尖。外脊与后脊基本上已完全愈合,无法区分。后侧有小的齿带突起,并在后外壁中部有弱的肋。其他特征与前两臼齿的同。齿冠高度指数为 $11.5/21.5 = 0.54$ (即未磨的 M3 前尖高度除以 M3 的宽度)。牙齿测量见表 1。

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表 1 原蹄犀的上臼齿测量与比较

	M1		M2		M3		M1-M3
	长(L)	宽(W)	长(L)	宽(W)	长(L)	宽(W)	长(L)
<i>P. meridionale</i> V 0046 (type)	20.58 *	18.3 *	22.0	21.0	19.1	20.0	57.0
<i>P. cf. P. meridionale</i> V 13101	19.0	19.0	21.5	22.0	19.0	21.5	57.0 *
<i>P. progressa</i> V 0045	17.3 *	18.6 *	20.0	19.7	18.2	20.0	
<i>P. major</i> V 9906.1	26.5	23.5					
V 9906.3					21.5	25.9	
<i>P. orientale</i> (right)	15.0		19.0		19.0		
(left)			18.5		19.8	19.8	55.0

Note: V 0046 and V 0045 based on Chow and Xu, 1961; V 9906.1 and V 9906.3 based on Zong et al., 1996; *P. orientale* based on Wood, 1929; * approximate value.

比较与讨论 垣曲的材料,从臼齿构造的基本性质和个体大小看,应属犀科原蹄犀属。原蹄犀是一类原始的小型犀类,化石发现在欧亚大陆的始新世地层中。这个属就目前所知,有4个种:东方原蹄犀(*Prohyracodon orientale*)、南方原蹄犀(*P. meridionale*)、进步原蹄犀(*P. progressa*)和大原蹄犀(*P. major*)。Radinsky (1967)认为前臼齿臼齿化程度的差异可以在同一个种中见到,仅根据两块标本不足以分成两个种,因而将发现在我国云南的进步原蹄犀作为南方种的同物异名而取消。周明镇等(1974)根据新材料认为进步原蹄犀仍是一个有效的种,它后面的上前臼齿臼齿化程度比南方种高,而M3的后部突起不如南方种强,显示了相当进步的特征。垣曲标本由于无上前臼齿,因而在种的归属上难以确定。它的个体(上臼齿尺寸)比东方种和进步种大,比大原蹄犀小,而与南方种较接近(表1);M3后侧具小的突起也与南方种相似;但上臼齿的反前刺不发育,故本文将其实定为南方原蹄犀(相似种)。

南方原蹄犀的正型标本发现在云南路南大可靠风碑(周明镇、徐余瑄,1961),产在中始新世伊尔丁曼哈期到沙拉木伦期的路美邑组中(郑家坚等,1978)。本文记述的南方原蹄犀材料发现在山西省垣曲县王茅镇郭家庄火石坡,属中始新世河堤组峪里段。从近年来发现的化石看,峪里段的时代有可能是伊尔丁曼哈期,而不是以往认为的沙拉木伦期(Zhang et al., 2001; 刘丽萍、黄学诗,2002; 黄学诗、王景文,2002)。南方原蹄犀(相似种)的发现不排除垣曲盆地有伊尔丁曼哈期地层存在的可能性。



图1 南方原蹄犀(相似种)的左上臼齿 (IVPP V 13101), 冠面观

Fig.1 Left upper molars (IVPP V 13101) of *Prohyracodon cf. P. meridionale*, crown view, $\times 1$

PRIMITIVE RHINOCEROTID FOSSIL FROM THE MIDDLE EOCENE OF YUANQU BASIN, SHANXI

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Key words Yuanqu, Shanxi; Middle Eocene; *Prohyracodon*

Abstract

Prohyracodon cf. *P. meridionale*, represented by a fragmentary upper jaw with M1–M3 (IVPP V 13101), is briefly described in the present paper. The fossil was found at Huoshipo near Guojia Village, Wangmao Town, Yuanqu County. The upper molars of V 13101 resemble those of *P. meridionale* in general tooth morphology and in size, but differ mainly in lacking distinct antecrochet. The age of the fossil-bearing bed may be of Middle Eocene Irindmamhan as revealed by associated fossil mammals.

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