

托氏戈壁兔上颊齿之发现

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关键词 戈壁兔 晚始新世 内蒙古

内 容 提 要

本文记述了在内蒙古首次发现的晚始新世托氏戈壁兔 (*Gobiolagus tolmachovi*) 上颊齿之形态。

托氏戈壁兔长期以来为古兔亚科9个属中唯一不知其上颊齿形态的一种动物。本文记述的标本使人们首次了解到该动物上颊齿的形态。标本是原中苏古生物考察队1960年在内蒙古沙拉木伦地区的乌拉乌苏采到的。时代为晚始新世。经比较鉴定, 认其为托氏戈壁兔之上颊齿。

标 本 记 述

兔形目 *Lagomorpha* Brandt, 1885

兔科 *Leporidae* Dice, 1929

古兔亚科 *Palaeolaginae* Dice, 1929

托氏戈壁兔 *Gobiolagus tolmachovi* Burke, 1941

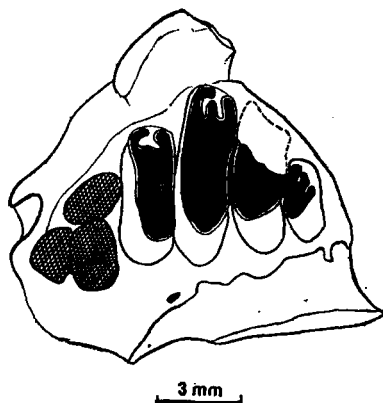


图1 *Gobiolagus tolmachovi*, (V8430) 上颊齿, 冠视

Fig. 1 *Gobiolagus tolmachovi*, (V8430) upper cheek teeth, in crown view

材料 一残破上颌骨,具 P^4 - M^3 (古脊椎所: V8430; 野外号: SS3254)。

上颊齿主要特征 1) 低冠; 2) P^4 臼齿化, 但宽度较小; 3) 无侧沟; 4) 拐沟 (reëntant) 微弱; 5) M^3 的后侧齿壁上至少有两条浅谷, 在齿冠表面形成向前凸起的小沟。

上颌骨

外侧视可见其与颧骨 (malar) 的残留部分之间的缝合线。在上颌骨的颧突 (zygomatic process of maxilla) 之前的下方有一宽大的浅窝。眶下孔硕大, 呈卵圆形。腭视、背视可见腭骨与上颌骨之间的缝合线。在此缝合线上, 在 P^4 和 M^1 的舌面一侧处, 有一小的前臼齿孔 (premolar foramen)。

上颊齿

P^2 : 仅留单一的齿槽, 其宽度稍小于 M^3 的宽度。

P^3 : 留有两个齿槽, 舌面齿槽大得多。

P^4 : 磨蚀程度较 M^1 低, 牙齿臼齿化。外侧两齿尖发育; 唇面谷 (buccal valley) 长且宽; 无侧沟; 拐沟 (reëntrant) 处齿缘稍向舌面弯曲。在前脊的前缘上, 磨蚀面 (facet 1) 出现在靠舌面的一侧, M^1 和 M^2 亦然。原尖处齿缘不收缩略呈方形。

M^1 : 宽度较 P^4 的大; 由于磨蚀严重, 故唇面谷已被磨蚀, 唇面谷的外边缘中部略向舌面一侧弯曲, 实为拐沟之雏型; 原尖处齿缘收缩, 略呈椭圆形。

M^2 : 前尖、后尖及唇面谷均破损, 但露出微弱的拐沟。

M^3 : 牙齿冠面前缘比较平直; 后缘呈半环状; 后齿壁有两个浅谷, 在齿冠上表现为两个向前凸的沟, 其中一个位于后齿缘的中部 (这条沟可达牙齿基部), 另一个则靠近唇面。

讨 论

Gobiolagus 最早 (Burke, 1941) 被置于兔科 (Leporidae) 的 *Mytonolaginae* 亚科之中。后被归入古兔亚科 (*Palaeolaginae*) 之中 (Dawson, 1958)。

Dawson 将兔科划分为三个亚科, 除古兔亚科之外, 尚有 *Archaeolaginae* 和 *Leporinae* 两个亚科。后两个亚科由于均为高冠齿及其它进步特征如侧沟的加深、加宽; 唇面谷的加深, 以及拐沟的加深而使上颊齿逐渐分成双叶状等而有别于古兔亚科。因而本文记述的 V 8430 号标本归入古兔亚科应是不成问题的。

古兔亚科目前有 9 个属: *Lushilagus*, *Gobiolagus*, *Strenulagus*, *Shamolagus* (亚洲特有), *Mytonolagus*, *Megalagus*, *Palaeolagus*, *Litolagus* (北美特有) 以及 *Desmatolagus* (亚洲、北美共有)。

过去, 除 *Gobiolagus* 外, 其它 8 个属均有上颊齿的发现及报道。

在这 8 个属中, *Palaeolagus* 与 V 8430 号标本的区别是: 前者齿冠较高; 前者的上颊齿具侧沟, 而后者则无侧沟。 *Megalagus*, *Litolagus* 以及 *Desmatolagus* 也都由于上颊齿具明显的侧沟而有别于 V 8430 号标本。而 *Mytonolagus petersoni* 的 P^4 和 M^1 在形态上虽与 V 8430 号标本相近, 但仍有两点差别, 即: 1) *Mytonolagus* 的上颊齿具侧沟; 2) *Mytonolagus* 的 M^3 呈椭圆形, 而且没有后齿壁上的纵沟。而 *Strenulagus shipigouensis* 的 P^3 和 M^2 不能与之直接对比。

河南(李传夔, 1965)发现的晚始新世早期的卢氏兔 (*Lushilagus*) 由于 P⁴ 完全没有臼齿化(仍为三叶式)而与 V8430 号标本有别。但卢氏兔的上颊齿也是低冠的, 而且也无侧沟, 这些特征与 V8430 号标本是相同的。

最后, 中间沙漠兔 (*Shamolagus medius*), 尽管与 V8430 号标本在形态上具某些共同之处, 但 V8430 号标本上颊齿的宽度几近中间沙漠兔相应的上颊齿宽度的两倍, 因而 V8430 号标本不可能是中间沙漠兔。

中间沙漠兔下颊齿的宽度与长度是接近的, 甚至于宽度较长度要小一些, 而托氏戈壁兔下颊齿的宽度都比长度大。另一方面, V8430 号标本上臼齿列的长度与托氏戈壁兔的下臼齿列的长度很接近。有鉴于此, 将 V8430 号标本暂视为托氏戈壁兔是适宜的。

李传夔(1965)曾报道过一标本(V3011), 他暂将此标本归入戈壁兔内(?*Gobiolagus*)。但这枚上臼齿 M¹ 和 M² 的宽度远不及 V8430 号标本相应牙齿的宽度。而且 V3011 号标本的 M¹ 和 M² 都具侧沟, 这一特征不但有别于戈壁兔, 而且也有别于卢氏兔和沙漠兔。V3011 号标本与 M¹ 和 M² 也具侧沟的北美的 *Mytonolagus petersoni* 在形态上是接近的, 而且大小也近似。因而 V3011 号标本更可能属于 *Mytonolagus* 一属。

表 1 测量 Measurements (in mm)

	<i>Gobiolagus tolmachovi</i> (V 8430) (本文)	<i>Shamolagus medius</i> (V3010) (李传夔, 1965)
P ² (长/宽) (L./W.)	1.4/2.0	0.9/1.2
P ³	1.9/4.1	1.3/2.1
P ⁴	1.4/5.2	1.5/3.1
M ¹	2.0/6.9	1.7/3.5
M ²	2.2/6.7	1.5/3.0
M ³	1.7/2.6	0.9/1.4
P ² -M ³	11.0	9.0
P ²⁻⁴	5.7	3.7
M ¹⁻³	5.2	4.1

小 结

1) 戈壁兔上颊齿的发现, 表明早期兔类动物的上颊齿有一种增加横向磨动的趋势: 戈壁兔上颊齿宽度大说明了这一点;

2) 晚始新世沙拉木伦组可能有 *Mytonolagus* 存在。

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DISCOVERY OF THE UPPER CHEEK TEETH OF *Gobiolagus tolmachovi* (LAGOMORPHA, MAMMALIA)

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Key words *Gobiolagus*; Late Eocene; Nei Mongol

Abstract

The upper cheek teeth of a Late Eocene leporid, *Gobiolagus tolmachovi*, are described here for the first time.

Of 9 genera of Palaeolaginae of Leporidae, it is only the genus *Gobiolagus*, whose upper cheek teeth have never been reported before.

The specimen was collected by the Sino-Soviet Palaeontological Expedition team in Shara Murun area, Nei Mongol in 1960. Its geological age is considered to be of Late Eocene (Shara Murun Formation).

Description

Lagomorpha Brandt, 1885

Leporidae Dice, 1929

Palaeolaginae Dice, 1929

***Gobiolagus tolmachovi* Burke, 1941**

Material A broken maxilla with P⁴—M³ (IVPP: V8430; field No. SS3254).

Diagnosis 1) brachyodont; 2) P⁴ molariform with shorter width; 3) no hypostriae; 4) weak reentrant, and 5) two shallow valleys on the posterior wall of M³, forming two

convex valleys on the surface of the crown.

Maxilla The suture between malar and maxilla can be seen. A big shallow fossa under the zygomatic process of maxilla; a big oval infraorbital foramen. A clear suture between palatine and maxilla. A small posterior palatine foramen on this suture on the palatine and dorsal views.

Upper cheek teeth

P²: only one alveola left; width shorter than that of M³.

P³: two alveolae, one in the lingual side much bigger than the other.

P⁴: (worn slightly more than in M¹) molariform. Paracone and metacone developed; buccal valley long and wide; no hypostria; the outer edge on the reentrant bends to the lingual side. The facet presents on the lingual side (the same on M¹ and M²); the tooth edge on protocone not constrictive, but square somewhat.

M¹: (worn badly) buccal valley worn slightly; width bigger than that of P⁴; outer edge of the buccal valley curves towards the lingual side forming the embryonic reentrant; oval protocone constrictive. Like M² and M³, no hypostria.

M²: (paracone and metacone broken) reentrant not clear.

M³: anterior edge of the crown straight; the posterior edge hemi-circle. two shallow valleys on the posterior wall of the tooth body forming two small valleys on the surface of the crown, and one of them through the base of the tooth.

Discussion

Originally *Gobiolagus* was referred to the Mytonolaginae by Burke (1942). Dawson (1958) referred this genus to one of three subfamilies of Leporidae, Palaeolaginae. The other two subfamilies, Archaeolaginae and Leporinae, differ the palaeolagine from having hypsodonts and other advanced characters such as deeper hypostriae on the upper teeth, and more clear reentrant, etc. Unquestionably V8430 should be referred to Palaeolaginae.

At present, Palaeolaginae includes 9 genera: *Lushilagus*, *Gobiolagus*, *Strenulagus*, *Shamolagus* (only in Asia), *Mytonolagus*, *Megalagus*, *Litolagus*, *Palaeolagus* (only in North America) and *Desmatolagus* (both in Asia and America). In addition to *Gobiolagus*, the upper cheek teeth of other eight genera have been reported in the past.

Palaeolagus differs V8430 from having hypsodont and hypostriae on the upper cheek teeth. While the hypostriae on the upper cheek teeth enables us to distinguish between *Megalagus*, *Litolagus*, *Desmatolagus* and V8430.

Morphologically, the P⁴ and M¹ of *Mytonolagus* bear some resemblances with V8430, but two differences: 1) *Mytonolagus* having hypostriae on the upper cheek teeth; 2) M³ of *Gobiolagus* (V8430) with two small valleys on the posterior wall, but nothing on M³ of *Mytonolagus*.

Lushilagus differs much from *Gobiolagus* because its P⁴ is not completely molariform.

Although the upper cheek teeth of *Shamolagus* look like those teeth of *Gobiolagus*, its widths of the upper cheek teeth are too narrow and only half as long as those of *Gobiolagus*. Therefore, it's impossible to refer V8430 to the genus *Shamolagus*.

By the way, the specimen (with M¹ and M²) (V3011) known as ?*Gobiolagus* sp. (Li, 1965) apparently differs *Gobiolagus* sp. from having hypostriae on M¹ and M². These characters are more like those of *Mytonolagus*.

Conclusion

- 1) The big widths of the upper cheek teeth of *Gobiolagus* at least represent a trend of increasing transverse grinding of the upper cheek teeth in the early palaeolaginae;
- 2) Maybe, there was the genus *Mytonolagus* in Asia.