

内蒙古上渐新统中 *Yindirtemys* (啮齿目, 梳趾鼠科) 的发现

王伴月

(中国科学院古脊椎动物与古人类研究所)

关键词 内蒙古 晚渐新世 梳趾鼠科

内 容 提 要

在内蒙古上渐新统伊克布拉格组中发现的 *Yindirtemys* 的新材料证明, *Yindirtemys woodi* 是 *Tataromys grangeri* 的晚出的同物异名, 但 *Tataromys grangeri* 的特点与典型的 *Tataromys* 的区别很大, 而 *Yindirtemys* 属仍是有效的。因此, 这个种应从 *Tataromys* 属中排除, 而归入 *Yindirtemys* 属。

Yindirtemys 是一种较进步的梳趾鼠类, 是 Bohlin 于 1946 年建立的。当时只包括一个种, *Y. woodi*, 所根据的材料只是一枚从甘肃党河地区采集的左上 M^3 。在同一篇文章中, 根据从同一地点和层位采集的其他材料, Bohlin 还描述了一种小型的 *Tataromys: Tataromys grangeri*。所据材料包括一些上下颊齿, 偏偏没有上 M^3 。由于这两个种没有可以直接对比的牙齿, 40 多年来它们一直被认为是代表独立的属种, 而且再也没有见到关于 *Yindirtemys* 的新材料的报道。因此, 关于 *Yindirtemys* 的真正性质, 以及它和其他梳趾鼠的关系一直不清楚。最近, 笔者在研究从内蒙古发现的 ctenodactylids 的化石时, 发现有一些属于 *Yindirtemys* 属的标本。有意思的是, 其中有一块标本为具 M^{2-3} 的左上颌骨。它的 M^3 的特点与 *Yindirtemys woodi* 的很相似, 而 M^2 则与 *Tataromys grangeri* 的特点一致。证明 *Yindirtemys woodi* 实际上是 *Tataromys grangeri* 的同物异名。但是, *Tataromys grangeri* 这个种与真正的 *Tataromys* 不同, 应从 *Tataromys* 属中排除, 而归入 *Yindirtemys*。下面我们将对有关的材料进行描述和讨论。有关问题曾与李传夔、邱占祥、吴文裕、邱铸鼎进行过讨论, 胡惠清制图, 在此一并感谢。

Rodentia Bowdich, 1821

Ctenodactylidae Zittel, 1893

Yindirtemys grangeri (Bohlin, 1946)

(图 1, 2)

1946 *Tataromys grangeri* sp. nov.; B. Bohlin, The Fossil Mammals..., pp. 91—94, Figs. 16g—i, k; 19:31; 21b, c, c'; 29b; Pl. II, Fig. 15, 19, 28; Pl. III, Fig. 3.

1946 *Yindirtemys woodi* gen. et sp. nov.; B. Bohlin, The Fossil Mammals ..., pp. 108—109, Figs. 29a, a', a''; Pl. Fig. 16.

1977 *Yindirtemys woodi*; A.E. Wood, The Evolution of the rodent..., p. 126, Fig. 2p.

1981 *Tataromys cf. grangeri*; B. Wang *et al.*, Stratigraphy of the Upper ..., pp. 27, 29, 31.

1988 *Tataromys grangeri*; Z. Qiu *et* Z. Gu, A New Locality..., pp. 206, 211; Pl. II. Figs. 8—9.

标本 一段左上颌骨具 M^{2-3} (古脊椎动物与古人类研究所化石编号 V7963), 右上 P^1-M^1 (V7964), 左 P^1 , 右 M^1 和 M^2 各一枚 (V7965—V7967), 左下颌骨具 M_{1-3} (V7968) 和左 M^2 一枚 (V7969)。

地点及层位 内蒙古伊克昭盟鄂托克旗, 阿尔巴斯公社, 伊克布拉格, 古脊椎动物与古人类研究所 79012 (V7963—V7967) 和 78016 (V7968 和 V7969) 地点; 上渐新统上部, 伊克布拉格组。

特征(修正) 小型的梳趾鼠类, 上颊齿单面高冠, 主尖明显; 上臼齿前尖、后尖和前边尖均明显; M^{1-2} 原尖处釉质层下展, 后尖具后刺, 后脊与原尖相连, 中凹横向, 次尖与后脊的连接脊弱; M^3 前齿带孤立, 具内脊, 后尖向前内方延伸, 有分别向前和向后伸的脊, 其向后伸的脊与后边脊相连, 使后凹舌部呈封闭的坑, 下臼齿齿冠高度适中, 无前齿带, 下后脊 II 完整, 下三角座封闭, 下内尖、下次尖和下次小尖均呈弱的新月形。

描述 上颊齿单面高冠, 特别是原尖处由于釉质层向下展布, 显得齿冠很高。 P^1 后尖和原尖明显, 原脊和后脊均完整。前齿带弱而低, 仅在唇侧存在。后齿带较发达, 有时与后脊相连, 被分成长的舌部和短的颊部。

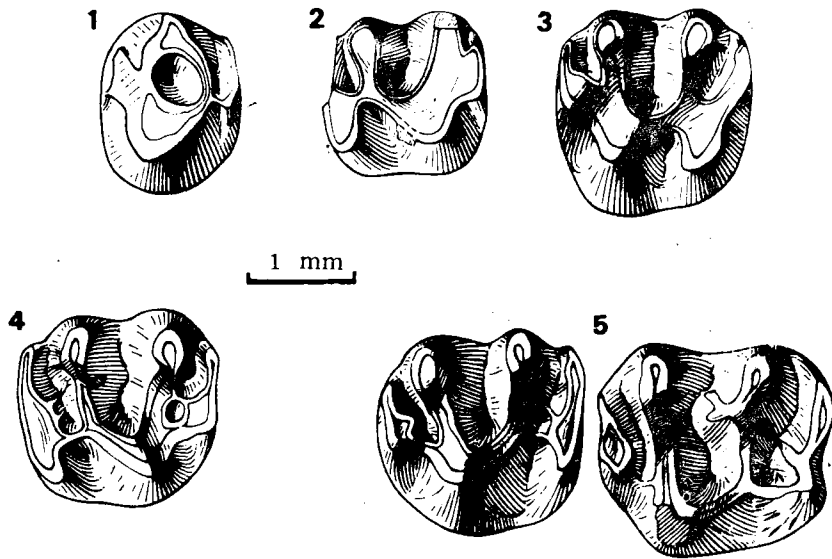
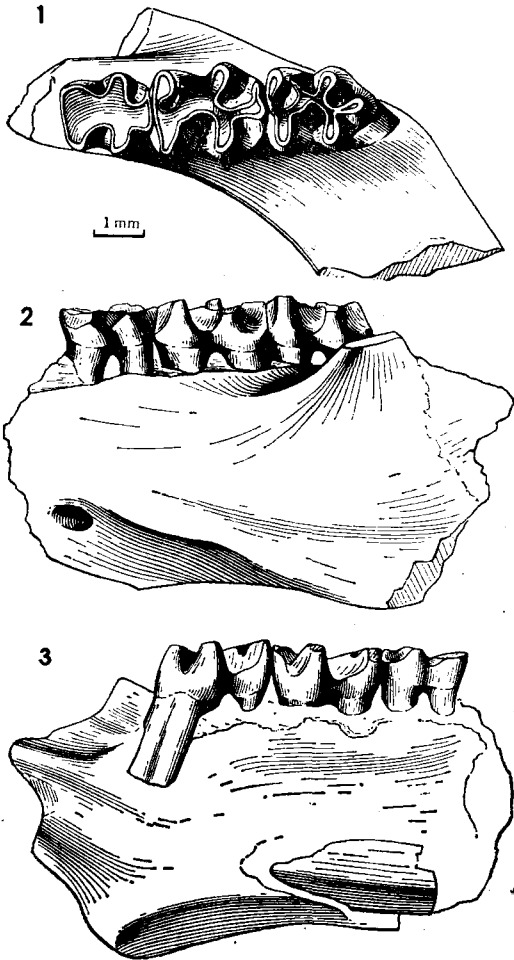


图1 *Yindirtemys grangeri* 上颊齿(upper cheek teeth)

1. LP^1 (V7965); 2. RM^1 (V7966); 3. LM^2 (V7969); 4. RM^2 (V7967); 5. LM^{2-3} (V7963); 冠面 (occlusal view)

M^{1-2} 近方形。前尖和后尖均明显。后尖有或多或少向后伸的后刺(棱)。V7967 (右 M^2) 后尖还向前伸出一短脊。原尖大, 约呈“V”形。在原尖处珐琅质明显下展。原脊与后脊均与原尖相连。中凹横向, 或稍向后弯。前齿带发育, 其舌端与原脊相连。前边尖很发达, 在较少磨蚀的标本 (V7963 和 V7967) 上有一弱棱伸达原脊, 将前凹舌端封闭

成小坑。但 V7969 未见此棱。次尖比原尖小, 与后边脊连接形成一条连续的脊。后边脊与后脊有两条低的小脊相连。其舌侧脊较稳定, 而颊侧的较弱, 不稳定, 方向也有所变化, 存在时将后凹分成两部分, 内凹较深。



2 *Yindirtemys grangeri* 右下颌骨具 M_{1-3}
(right lower jaw with M_{1-3})(V 7968)
1. 冠面 (occlusia view); 2. 颊面 (buccal
view); 3. 舌面 (lingual view)

M^3 近方形, 前部与 M^2 的相似, 只是原尖处的齿冠不明显下延。前齿带孤立, 其舌端只与原脊基部相连, 而前边尖无刺伸达原脊。后尖向前内方伸长, 其长轴的延长线正好与原尖顶端相交。从后尖向前伸出的脊分叉, 但不伸达前尖。次尖较原尖小, 与原尖间有发达的内脊相连。后边脊较发育, 伸达后尖的后外端。从后尖有一脊向后舌方斜伸达后边脊, 将后凹舌部隔成封闭的盆。内凹较浅。

下颌骨颞孔位于 P_4 下方。咬肌窝明显分成前、后两部。前部前端达 M_1 的下方, 颞孔位置稍高。下门齿仅后部保存, 其后端经过 M_3 的后外侧, 伸达下颌骨的垂直支。

下臼齿无前齿带。 M_1 磨蚀较深, 详细结构不清。

M_2 大于 M_1 。下后尖与下原尖明显。下后脊 I 完整, 呈向前凸的弧形。下后脊 II 完整。其颊部从下原尖舌端伸出, 膨大呈半月形。其舌部发育, 与下后尖后壁相连, 封闭下三角座盆。下外脊短, 约位于齿的中部。下次尖和下内尖稍呈新月形。下内尖在下次尖前与下外脊相连。下次小尖比下次尖大, 嚼面呈三角形, 舌侧脊明显。

M_3 与 M_2 相似, 只是跟座略退化, 比三角座稍窄。下内尖, 下次尖和下次小尖较小。下次小尖较少呈新月形。

比较与讨论 内蒙古的标本在尺寸大小和下颌骨颞孔和咬肌脊的位置上都与 *Tataromys grangeri* 的相近。两者在颊齿的形态和结构上也很相似, 如上颊齿为单面高冠, 特别是在 M^{1-2} 原尖处尤其显著。前尖和后尖明显, 后脊与原尖相连, 中凹横向, 前齿带舌端与原脊相连, 前边尖发育, 后尖具向后伸的脊, 以及下颊齿的后脊 II 完整, 其颊部膨大, 呈新月形, 其舌部发育, 与下后尖相连封闭下三角座盆, 下外脊短, 位于齿的中部, 下次尖、下内尖和下次小尖呈弱的新月形等。然而, 它的 M^3 的形态却与 *Yindirtemys woo-*

di 的很相似, 如前齿带孤立, 前边尖发育, 前尖和后尖均明显, 后尖的长轴的延线通过原尖顶, 具内脊, 后尖具前纵脊, 并有一斜脊向后舌侧伸达后边脊等。所不同的是内蒙古的 M^3 尺寸稍大, 从后尖向前伸的脊分叉, 而且不伸达前尖, 以及后边脊较发育等。但是, 这些区别很可能代表个体变异, 最多也只能作为种间差异来考虑, 而不可能代表不同属的特征。Bohlin (1946, p. 108—109) 认为不能将 *Yindirtemys* 归入 *Tataromys grangeri* 的理由是: 与 *Tataromys* 比较, *Yindirtemys* 为低冠齿, 前齿带孤立, 前尖和后尖间有珐琅质脊连接。后凹较深, 内凹较浅, 原尖较明显, 后尖唇端后斜等。从前面的描述和比较可以看出, Bohlin 所强调的区别实际上都是 *Tataromys grangeri* 种内 M^3 与前面的臼齿 (M^1 和 M^2) 间的区别。甚至齿冠高度的区别也是如此。如 V7963 的 M^3 的齿冠就没有 M^2 的高, 而且也没有 M^2 所有的齿冠在原尖处下展的特点。此外, 不但如 Bohlin 的图解 (1946, Fig. 22) 所表示的, *Yindirtemys woodi* 与 *Tataromys grangeri* 在上颊齿的尺寸上相近, 而且它们在结构上也彼此相适应。再加上 Bohlin 所描述的 *Tataromys grangeri* 和 *Yindirtemys woodi* 均产自同一地点和同一层位, 因此, 两者应该属于同一种, 即 *Yindirtemys woodi* 应是 *Tataromys grangeri* 的晚出同物异名。

表 1 *Yindirtemys grangeri* 颊齿测量(单位: 毫米)

上颊齿	P^4-M^1		M^2-M^3		P^4		M^1		M^2		M^3	
	L		L		L	W	L	W	L	W	L	W
V7963 (LM ¹⁻³)			4.08						1.92	1.84	2.08	2.00
V7964 (RP ⁴ -M ¹)	2.32				0.96	1.20	1.36	1.20				
V7965 (LP ⁴)					1.36	1.60						
V7966 (RM ¹)							1.60	1.46				
V7967 (RM ²)									1.92	1.84		
V7969 (LM ²)									1.76	1.84		
下颊齿	M_1-M_2		M_2-M_3		M_1		M_2		M_3			
	L		L		L	W	L	W	L	W		
V7968 (LM ₁₋₃)	5.84		3.88		4.24		1.76	1.52	2.32	1.84	2.08	1.60

Tataromys 是 Matthew 和 Granger 于 1923 年建立的, 属型种是 *Tataromys plicidens*。而 *Yindirtemys* 是 Bohlin 于 1946 年描述的。*Tataromys* 先于 *Yindirtemys*。现在已经证明, 所谓的 *Leptotataromys* 型的下颊齿实际上就是典型的 *Tataromys* 的下颊齿(关于这一点我们将另文讨论, 见王, 待刊)。*Tataromys grangeri* 的正型标本 (T.b. 586a) 为一具下颊齿的下颌骨。它的下颊齿的特点与典型的 *Tataromys* 的很不同。而它的上颊齿也在具单面高冠, M^{1-2} 后尖具后刺, M^3 结构较复杂等特点上与典型的 *Tataromys* 的不同。因此, *T. grangeri* 不应归入 *Tataromys* 属。那么, 它应归入何属呢? 按照国际动物命名法规第 67 条荐则 67 A 的 (e) 款, 我们不得不继续使用 *Yindirtemys* 这一属名, 而以 *Yindirtemys grangeri* 为其属型种。

根据其基本特点, 邱占祥等 (1988) 描述的采自甘肃兰州的 *Tataromys grangeri* 也应归入 *Yindirtemys grangeri*。但 Kowalski (1974, p. 164) 的 *Tataromys cf. grangeri* 应仍保留在 *Tataromys* 属中。此外, *Tataromys* 属的有些种, 如 *T. deflexus*, *T.*

gobiensis, *T. suni*, *T. cf. plicidens*, *T. cf. sigmodon* 都有可能是 *Yindirtemys* 属的成员。关于这一点,我们也将另文讨论(见王,待刊),这里不再赘述。

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DISCOVERY OF *YINDIRTEMYS* (CTENODACTYLIDAE, RODENTIA, MAMMALIA) FROM LATE OLIGOCENE OF NEI MONGOL, CHINA

Wang Banyue

(*Institute of Vertebrate Paleontology and Paleoanthropology, Academia Sinica*)

Key words Nei Mongol; Late Oligocene; Ctenodactylidae

Summary

Yindirtemys is a more advanced ctenodactylid. The only species known, *Y. woodi*, was described by Bohlin (1946) on the basis of a M3/(T. b. 577) from Taben Buluk, Gansu (=Kansu) Province, China. At the same time, based on some other specimens (without M3/) from the same level of the same locality, Bohlin described a new, small-sized species of *Tataromys*: *Tataromys grangeri*. Unfortunately, however, the two species did not share any specimen which could be directly compared with each other. Since then no more material of *Yindirtemys* has been reported. The nature of *Yindirtemys* and its relationships with other ctenodactylids have been obscure. Recently, studying on the ctenodactylids from Nei Mongol, the author found some specimens belonging to *Yindirtemys*. It is more interesting that there is a left fragment of maxilla with M2/—3/ which is similar to *Tataromys grangeri* in the features of M2/, but to *Yindirtemys woodi* in M3/. It reveals that *Yindirtemys woodi* is a junior synonym of *Tataromys grangeri*. However, because it differs from the typical *Tataromys*, *Tataromys grangeri* is to be relocated from *Tataromys* to *Yindirtemys*.

Rodentia Bowdich, 1821**Ctenodactylidae Zittel, 1893*****Yindirtemys grangeri* (Bohlin 1946)**

(Figs. 1-2)

Materials a fragment of left maxilla with M2/-3/(IVPP V7963), right P4/-M1/(IVPP V7964), left P4/(IVPP V7965), right M1/(V7966), right M2/(IVPP V7967), left M2/(IVPP V7969) and a left lower jaw with broken I and M1-3(IVPP V7968).

Locality and horizon IVPP Loc. 79012 (V7963-V7967) and Loc. 78016 (V7968, V7969), Yikebulage, Otog Qi, Yih Ju Meng, Nei Mongol; Late Oligocene, Yikebulage Formation.

Revised diagnosis A small ctenodactylid; upper cheek teeth being unilaterally hypsodont; M1-3/having developed anterocone, paracone and metacone; M1/-2/ having transverse metacone with posterior crista, metaloph joining protocone, transverse mesosinus, weak ridge connecting posteroloph with metaloph; M3/having isolated anterior cingulum; developed entoloph, anterolingually extending metacone with an anterior ridge and a posterior ridge reaching to posteroloph; lower cheek teeth having moderate high crown; lower molars without anterior cingulum, but having complete metalophid II with swelling buccal part, closed trigonid basin, less lunar-formed entoconid, hypoconid and hypoconulid.

Comparison and discussion The specimens from Nei Mongol are similar to those of *Tataromys grangeri* in size, position of the mental foramen and masseteric ridge, and the following cheek tooth features: cheek teeth being moderately high crowned, P4/-M2/ having unilateral hypsodonty, M1/-2/ having distinct paracone and metacone with a posterior crista, metaloph joining with protocone, transverse mesosinus, developed anterocone; lower molars having complete metalophid II with lunar-formed buccal part, closed trigonid basin and less lunar-formed entoconid, hypoconid and hypoconulid. On the other hand, M3/ of V 7963 from Nei Mongol is similar to that of *Yindirtemys woodi* in the structure, such as isolated anterior cingulum, developed anterocone, distinct paracone, oblique metacone with the prolongation of the long axis passing through the tip of the protocone and with an anterior ridge and a posterior one reaching to posteroloph, and developed entoloph. It differs from the latter in slightly larger size, having forked but not reaching paracone anterior ridge of metacone, and more developed posteroloph. These differences may be interpreted as intraspecific or, at most, interspecific variation. However, there is nothing which justifies a generic separation from *Yindirtemys*.

According to Bohlin (1946), *Yindirtemys woodi* differed from *Tataromys grangeri* in being more brachyodont, with isolated anterior cingulum, a longitudinal ridge connecting paracone and metacone, distinct protocone, bucco-posteriorly oblique metacone, deeper posterosinus, shallower sinus. However, the differences mentioned by Bohlin (1946), in fact, are those between M3/ and anterior molars (M1/and M2/)

of the same individual or species, *Tataromys grangeri*. As shown by V 7963, unlike M2/, M3/ has no more extending enamel below the protocone than below the hypocone. M3/ of *Yindirtemys woodi* is not only comparable with M2/ of *Tataromys grangeri* in size, as mentioned in a diagram given by Bohlin (1946, Fig. 22), but also in the tooth morphology. Moreover, all the specimens described by Bohlin (1946) as *Yindirtemys woodi* and *Tataromys grangeri* were collected from the same level of the same locality, Yindirte locality (Taben Buluk), Gansu Province. They seem to belong to the same species. It means that *Yindirtemys woodi* is the junior synonym of *Tataromys grangeri*.

Tataromys Matthew et Granger 1923 was described earlier than *Yindirtemys woodi* Bohlin 1946. Recently, it is proved that the *Leptotataromys*-type lower cheek teeth are in fact the typical ones of *Tataromys*. *Leptotataromys* is the junior synonym of *Tataromys* (see Wang, in press). It is obvious that the cheek teeth of *Tataromys grangeri* are quite different from those of the typical *Tataromys*. Besides, *Tataromys grangeri* also differs from the typical *Tataromys* in its upper cheek teeth, such as unilateral hypsodonty, the presence of a posterior crista of metacone on M1/-2/ and the complex structure of M3/. It seems that *Tataromys grangeri* may represent a distinct genus from *Tataromys*. Since the features mentioned above are just the characteristics of *Yindirtemys*, *Yindirtemys* is to be considered a valid genus. Therefore, *Tataromys grangeri* (= *Yindirtemys woodi*) is to be referred to *Yindirtemys* as its type species: *Yindirtemys grangeri*.

The material of *Tataromys grangeri* described by Qiu *et al.* (1988) from Lanzhou, Gansu, is also to be placed in *Yindirtemys grangeri*. Some species of *Tataromys*, including *T. deflexus*, *T. gobiensis*, *T. suni*, *T. cf. plicidens* and *T. cf. sigmodon* could all be members of *yindirtemys*. However, *T. cf. grangeri* of Kowalski (1974) is to be kept in *Tataromys* as a small species of *Tataromys* (see Wang, in press).