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简报

关于塔塔尔蹶鼠属(*Tatalsminthus*)的新认识[1)]

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笔者最近在编写“中国古脊椎动物志”的跳鼠科的过程中,发现建立塔塔尔蹶鼠属(*Tatalsminthus*)的依据不够充分。现就该属及其属型种(可汗塔塔尔蹶鼠 *Tatalsminthus khandae*)的有效性予以探讨。

文中术语依 Wang (1985);缩写:NHMW 系奥地利维也纳自然历史博物馆。

塔塔尔蹶鼠属(*Tatalsminthus*)是 Daxner-Höck (2001)根据蒙古大湖区早渐新世三达河组中的标本建立的。她将 *Tatalsminthus* 与当时亚洲已知的古近纪－中新世的属(包括 *Prisminthus*, *Banyuesminthus*[2)], *Allosminthus*, *Heosminthus*, *Sinosminthus*, *Shamosminthus*, *Parasminthus*, *Heterosminthus* 和 *Litodonomys* 等9个属)都作了比较,认为 *Tatalsminthus* 与这些属都有区别,故建立了该属(见 Daxner-Höck, 2001:261)。

笔者发现 *Tatalsminthus* 与上述9属中的7个属(*Prisminthus*, *Heosminthus*, *Sinosminthus*, *Shamosminthus*, *Parasminthus*, *Heterosminthus* 和 *Litodonomys*)确有明显的区别(正如 Daxner-Höck 已指出的),但与王伴月(2008)合并后的 *Allosminthus* 并无明显区别。Daxner-Höck (2001)认为 *Tatalsminthus* 与 *Allosminthus* 的区别在于,在前者中 M1 的原脊 II 和 m2 的下后脊 I 都是完全的,而在 *Allosminthus* 中无。事实上,Wang (1985:356, 359)在描述 *Allosminthus* 时就指出,m2 的下后脊 I 是变异的,由缺失到完全的情况均有,而且将其作为 *Allosminthus* 属的特征之一(见 Wang, 1985:356)。后来,王伴月(2008)在讨论 *Banyuesminthus* 是 *Allosminthus* 的后出同物异名时,进一步证明 M1 的原脊 II 在 *Allosminthus* 属中也是变异的,由缺失到完全的情况同样存在。因此,Daxner-Höck (2001)所指出的该2属的区别并不存在,*Tatalsminthus* 应是 *Allosminthus* 的后出同物异名。

在确定 *Tatalsminthus* 是 *Allosminthus* 的后出同物异名后,另一问题是,原 *Tatalsminthus* 的属型种,可汗塔塔尔蹶鼠(*Tatalsminthus khandae*),是否仍是 *Allosminthus* 属的一个有效

1)科技基础性工作专项(编号:2006FY120400),中国科学院知识创新工程重要方向项目(编号:KZCX2-YW-120)和国家自然科学基金重点项目(编号:40730210)资助。

2) *Banyuesminthus* 已被王伴月(2008)证明是 *Allosminthus* 的后出同物异名。

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种? 笔者将该种与 *Allosminthus* 属目前已知各种(*A. ernos*, *A. majusculus*, *A. diconjugatus*, *A. uniconjugatus*)作了比较,发现该种与已知各种都有区别。首先,*Allosminthus khandae* 与上述 4 种共同的区别是 m2-3 缺下后脊 II。其次,*A. khandae* 与 *A. ernos*, *A. diconjugatus*, *A. uniconjugatus* 3 种的区别在于 M1-2 的中脊相对较发达,通常与前尖后外脊连;与 *A. ernos* 和 *A. uniconjugatus* 的区别还在于其 M1 具完全的原脊 II;与 *A. ernos* 的区别在于其 M1-2 具中附尖和 M1 后脊与次尖连;它与 *A. majusculus*, *A. diconjugatus* 和 *A. uniconjugatus* 的区别在于其颊齿尺寸较小;与 *A. diconjugatus* 和 *A. uniconjugatus* 的区别在于其m2-3的下后脊 I 完全等。显然 *Allosminthus khandae* 仍为有效的种,这样,*Allosminthus* 属就包括 5 个种:*A. ernos*, *A. majusculus*, *A. diconjugatus*, *A. uniconjugatus* 和 *A. khandae*。

从上面的比较可以看出,*A. khandae* 除了个体较小和 m2 无下后脊 II 外,其他的形态特征都显得较其余 4 种进步,*A. khandae* 有可能代表 *Allosminthus* 属中较进步的种。

综上所述,对异蹶鼠和可汗种可作如下修订:

跳鼠科 Dipodidae Fischer de Waldheim, 1817

异蹶鼠 *Allosminthus* Wang, 1985

Allosminthus Wang, 1985, p. 356-361, figs. 18-25
Banyuesminthus Tong, 1997, p. 135-138, 236-237, figs. 63-64, pl. XI 15-23
Tatalsminthus Daxner-Höck, 2001, p. 360-363, pl. I
Allosminthus Wang, 2008, p. 21-24, figs. 1-3

属型种 蕾异蹶鼠 *Allosminthus ernos* Wang, 1985。

归入种 大异蹶鼠 *A. majusculus* Wang, 1985; 双连异蹶鼠 *A. diconjugatus* (Tong, 1997); 单连异蹶鼠 *A. uniconjugatus* (Tong, 1997)和可汗异蹶鼠 *A. khandae* (Daxner-Höck, 2001)。

修订特征 较原始的跳鼠。门齿孔向后伸达 M1 前缘;下颌骨的咬肌窝向前伸达 m1 的下方,上、下咬肌嵴在前端呈锐角相交,颏孔位于该交角下方。齿式:1/1, 0/0, 1/0, 3/3。颊齿齿冠低,主齿尖粗壮,齿脊细弱。M1 和 M2 大小相近。上臼齿中脊短到中等长,后脊完全,内脊完全或不完全,具 3 齿根。M1 原尖前臂与前尖连接,形成完全的原脊 I;原脊 II 由无到有。M2 和 M3 的后脊伸达次尖前臂。下臼齿具下外脊,下中脊短或无,具 2 齿根。m1 和 m2 下次脊完全。m2 和 m3 下后脊 I 和下后脊 II 由完全到无。m1 下三角座短而窄,下前边尖很小。m2 下前边尖位于牙齿纵轴附近。m3 下次脊细弱或无。

地理和时代分布 亚洲,中始新世晚期 - 早渐新世。

可汗异蹶鼠 *Allosminthus khandae* (Daxner-Höck, 2001)

Heosminthus sp. 2 Höck et al., 1999, p. 115-116, fig. 20/2
Tatalsminthus khandae Daxner-Höck, 2001, p. 360-363, pl. I

正型标本 右下颌骨具 m1-3(NHMW 2001z0032/0001/8)。

副型标本 左下颌骨具 m1-3, 左上颌骨具 M1-3, 左 M1-2, 左 M1, 3 M2, 2 M3, 5 m1, 4 m2 和 2 m3(NHMW 2001z0032/0001/1-23)。

正型标本产地和层位　蒙古中部大湖区塔塔尔沟[Tatal Gol (TAT-D/1)],早渐新世三达河组玄武岩 I 之下生物带 A。

归入标本及其产地和层位　见 Daxner-Höck(2001,table 2)。

修订特征　大小与 *Allosminthus ernos* 相近。M1 具完全的原脊 II,后脊与次尖连;M1-2 具中附尖,中脊相对较发达,通常与前尖后外脊连;m2-3 的下后脊 I 完全,但缺下后脊 II。

致谢　本文得益于与中科院古脊椎所李传夔和邱占祥研究员的讨论,诚致谢意。

ON *TATALSMINTHUS* (DIPODIDAE, RODENTIA)

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Key words　Asia, Paleogene, Dipodidae

Summary

Tatalsminthus was established by Daxner-Höck (2001) based on the specimens collected from Early Oligocene Hsanda Gol Formation of Valley of Lakes in Mongolia. Having compared the specimens of *Tatalsminthus* with those of the other dipodid genera in Asia (*Prisminthus*, *Banyuesminthus*, *Allosminthus*, *Heosminthus*, *Sinosminthus*, *Shamosminthus*, *Parasminthus*, *Heterosminthus* and *Litodonomys*), the author found that *Tatalsminthus* was generically different from the 7 genera (*Prisminthus*, *Heosminthus*, *Sinosminthus*, *Shamosminthus*, *Parasminthus*, *Heterosminthus* and *Litodonomys*) in tooth features indeed, as mentioned by Daxner-Höck, however, not so clearly from *Allosminthus* as Daxner-Höck thought. Daxner-Höck (2001:361) stated: "It (= *Tatalsminthus*) differs in the protoloph II (M1) and metalophid I (m2) from *Allosminthus*." In her description both the protoloph II of M1 and metalophid I of m2 of *Tatalsminthus* are complete. Wang pointed out as early as in 1985 (pp. 356,359) that the metalophid I of m2 of *Allosminthus* varied from absent to complete. While synonymizing *Banyuesminthus* with *Allosminthus*, Wang (2008:22) indicated further that the protoloph II of M1 in *Allosminthus* also varied from absent to complete. This blurs the distinction between *Allosminthus* and *Tatalsminthus*. *Tatalsminthus* thus to be considered as a junior synonym of *Allosminthus*.

Nevertheless, Daxner-Höck's *A. khandae* should be a valid species of *Allosminthus*, since it differs from all the other four known species of *Allosminthus* in some features. It differs from *A. ernos*, *A. majusculus*, *A. diconjugatus*, *A. uniconjugatus* in lacking metalophid II on m2-3; from *A. ernos*, *A. diconjugatus*, *A. uniconjugatus* in having more developed mesoloph, often joining with postero-external crest of paracone on M1-2; from *A. ernos* and *A. uniconjugatus* in having complete protoloph II on M1; from *A. ernos* in having mesostyle on M1-2 and metaloph joining with hypocone on M1; from *A. majusculus*, *A. diconjugatus* and *A. uniconjugatus* in being smaller in size; from *A. diconjugatus* and *A. uniconjugatus* in having complete metalophid I on m2-3. Now, *Allosminthus* is composed of 5 species.

Among the distinguished features of *A. khandae* from other four species, excepting for the smaller size and no metalophid II on m2, most of features are advanced ones. It seems that *A. khandae* may represent an advanced species in *Allosminthus*.

Dipodidae Fischer de Waldheim, 1817
Allosminthus Wang, 1985

Allosminthus Wang, 1985, p. 356-361, figs. 18-25

Banyuesminthus Tong, 1997, p. 135–138, 236–237, figs. 63–64, pl. XI 15–23
Tatalsminthus Daxner-Höck, 2001, p. 360–363, pl. I
Allosminthus Wang, 2008, p. 21–24, figs. 1–3

Type species *Allosminthus ernos* Wang, 1985.

Referred species *A. majusculus* Wang, 1985; *A. diconjugatus* (Tong, 1997); *A. uniconjugatus* (Tong, 1997) and *A. khandae* (Daxner-Höck, 2001).

Emended diagnosis More primitive dipodid. Posterior end of incisive foramen extends to anterior side of M1. Masseteric fossa extends to below m1, upper and lower masseteric crests intersect into an acute angle anteriorly, mental foramen below the intersection. Dental formula: 1/1, 0/0, 1/0, 3/3. Crown brachyodont, with obtuse main cusps and low and weak crests. M1 and M2 subequal in size. Upper molars 3-rooted, mesolophs short or medium-long, metalophs complete, entolophs varied in length. On M1 anterior arm of protocone joins with paracone, forming protoloph I; protoloph II varies from absent to present. On M2 and M3 metaloph meets anterior arm of hypocone. Lower molars 2-rooted, ectolophids present, mesolophids short or absent. On m1 and m2 hypolophid complete. On m2 and m3 metalophid I and metalophid II vary from complete to absent. On m1 trigonid short and narrow, anteroconid very small. On m2 anteroconid near midline. On m3 hypolophid weak or absent.

Geographic distribution and geological range Asia, late Middle Eocene – Early Oligocene.

Allosminthus khandae (Daxner-Höck, 2001)

Heosminthus sp. 2 Höck et al., 1999, p. 115–116, fig. 20/2
Tatalsminthus khandae Daxner-Höck, 2001, p. 360–363, pl. I

Holotype Right lower jaw with m1–3 (NHMW 2001z0032/0001/8).

Paratype Left lower jaw with m1–3, left maxilla with M1–3, left M1–2, left M1, 3 M2, 2 M3, 5 m1, 4 m2 and 2 m3 (NHMW 2001z0032/0001/1–23).

Type localities and horizon Tatal Gol (TAT-D/1), Valley of Lakes, Central Mongolia; Early Oligocene Hsanda Gol Formation, below basalt I, biozone A.

Referred specimens See Daxner-Höck (2001, table 2).

Other localities and horizons See Daxner-Höck (2001, table 2).

Emended diagnosis Close to *Allosminthus ernos* in size. On M1 protoloph II complete and metaloph joins with hypocone; on M1–2 mesostyle present and relatively developed mesoloph mostly meets posterobuccal crest of paracone; on m2–3 metalophid I complete, but metalophid II absent.

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