第9卷 第3期 古脊椎动物与古人类 Vol. 9, No. 3
1965年8月 VERTEBRATA PALASIATICA August, 1965

河南始新世中兽科化石*

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这篇短文中记述了肉齿类（Creodontia）中兽科（Mesonychidae）的三个新种。

中兽科是全北区早第三纪（中古新世到早渐新世）的原始食肉类，齿列很特殊，没有裂齿，据推想主要是杂食性动物。已知的化石共代表11个属，过去在北美发现的材料较多，在欧洲和亚洲则不甚重要，只在我国内蒙二连地区的伊尔丁曼纳层（上始新统）中有少量发现。近几年来，在亚洲有许多新的发现，包括蒙古人民共和国的下始新统（或上古新统）（Gromova, 1952），巴基斯坦的中始新统（Dehm and Oettingen-Spielberg, 1958）和我国广东南雄（古新统）、山东新泰（中始新统）和这里记述的河南渑池和卢氏上始新统的材料。从最近的资料看来，这一科在亚洲的分布很广，种类也很多，在始新世时，可能比在北美还要繁盛。

新种記述

Suborder Creodontia

Family Mesonychidae Cope

Genus *Honanodon* gen. nov.

属型种 *H. hebetis* sp. nov.

***Honanodon hebetis* sp. nov.**

正型标本 一个完整的上臼齿，大概是第二臼齿，和一个下臼齿（可能为第三下臼齿）；发现时二者紧靠在一起，磨损程度相同，上、下齿的大小和结构一致，可能属于同一个体。古脊椎动物与古人类研究所编号 V. 3110。插图1。

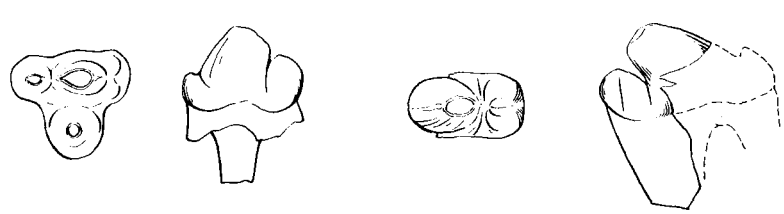

插图1 *Honanodon hebetis* sp. nov.
左，上臼齿（?M^2），冠面及外侧视（×1）。
右，下臼齿（?M_3），同上。

* 1965年5月18日收到。

地点与层位　河南渑池县任村(黄河右岸)(54 104 地点)；垣曲组(下部化石层)，上始新统上部。

种的特征　一种很小的中兽类，上臼齿长度大于宽度，三尖式，主尖顶部成平圆的锥形，后尖退化，原尖情况与前尖相似，大小亦相近，但位置低的多；下臼齿较宽而短，下原尖向后强烈倾斜，而跟座的后端则向上、往前抬升，前方与下原尖靠近，有一窄的缝将两尖分开。第二上臼齿长 16.5 毫米，宽 14.5 毫米。

描述与比较　上臼齿大概为一第二臼齿，因为后侧方面上有一接触痕，且原尖不向前方倾斜，而是处于与外侧齿列线垂直的线上。下臼齿则是一个与上臼齿相对应的第三臼齿。

前附尖为一相当发育的、低矮的小尖。

齿带在上下臼齿都完全缺失。牙齿的釉质层与其他中兽类相比，较为坚厚和发育，包裹着整个齿冠的四周，并延伸到基部下方，不象在多数中兽类中那样，釉质层很薄，在靠近齿冠基部处部分退化，或完全消失。齿质层也显得比较坚硬，故齿尖的顶成钝圆，而不是削平或下凹的。

下臼齿的跟座显得特宽短，顶脊部平圆，不作切削状，可能主要起压碎食物的功用。

这个种的上臼齿，虽然大小与后面描述的一个体很大的种相差极远，但形状和结构上，二者异常相似。牙尖特别圆钝，齿冠较高，原尖成规则的圆丘状。这些特征不但表示这两个种十分相象，而且和其他各属有很大差别。在所有其他中兽类中，原尖虽然也成锥形，但都是扁平的，或成新月形，内侧(舌面)的壁较陡直，唇面则形成一平坦的斜坡面，并与外侧的尖相离较远，故尖端靠近舌面的边缘。而在河南的两个种的臼齿上，原尖较高，与前尖紧靠，中间只有一条窄的沟，原尖形状成完整的圆丘形。从整个臼齿的形态说，我们的标本，都和 *Mesonyx* 属的比较接近，但在这一属中，没有第三上臼齿，而我们的标本，虽待进一步证实，但看来是有第三上臼齿的。*Synoplotherium* 的臼齿横宽，与我们的不同。因此，从现有少数材料，很难把它们合理地归入其他任何一个属内，而做为一个新属处理较为适当。

Honanodon macrodontus sp. nov.

正型标本　一个右上臼齿，极可能为第二上臼齿。编号 V. 3111。插图 2。

地点及层位　河南卢氏孟家坡(57202 地点)；上始新统下部，卢氏组。

种的特征　一种很大的中兽类，上臼齿主齿尖高突，圆锥状；后尖退化。上第二臼齿长 39 毫米，宽 41 毫米。

附记　这个上臼齿因后缘有一接触面，看来是第二臼齿。其原尖近乎垂直于外侧齿尖的连结线。

从大小上说，这个种是除了内蒙始新世的安氏兽（*Andrewsarchus*）以外最大的中兽类，甚至也是仅次于后者的最大的食肉哺乳类，远超过另一种较大的中兽类（*Pachyaena gigantea* Osborn）。

上臼齿的基本结构和形态与前面记述的一种极相似，除大小外，主要差别是卢氏的标本齿冠较高，前附尖较复杂，分成两个小尖。原尖与前尖紧靠，中间有一深沟分开；原尖由

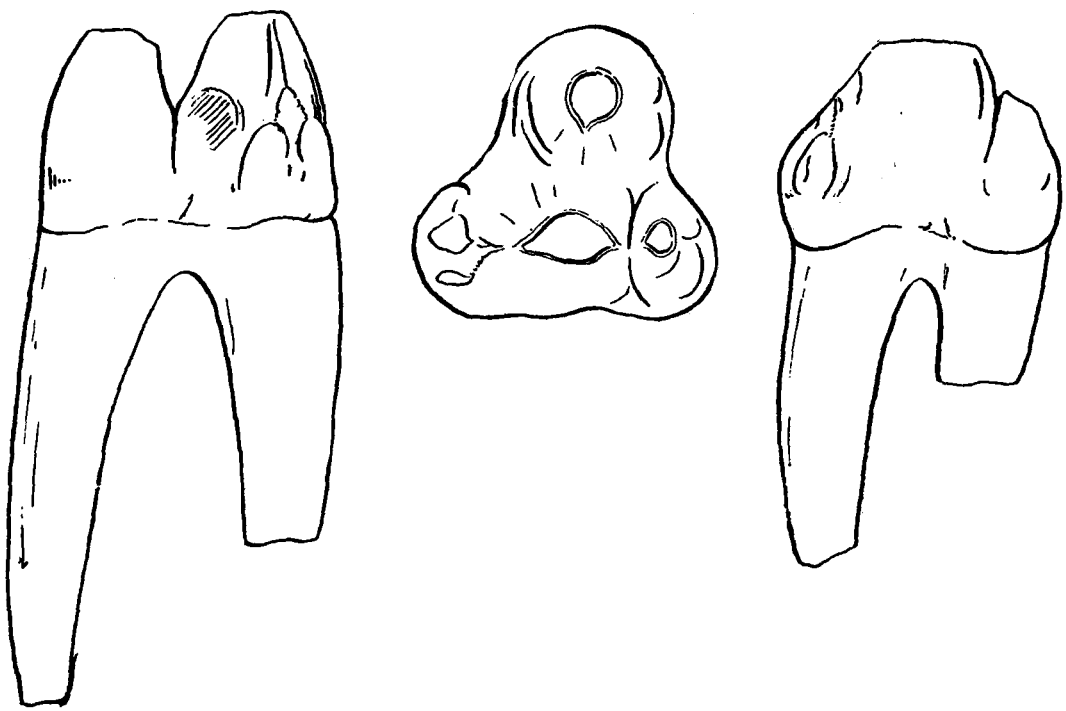

插图2 *Honanodon macrodontus* sp. nov.
右上臼齿 (?M^2)，前视，冠面及外侧视 (×1)。

一异常粗壮和长(62毫米)的齿根所支持。前尖亦成圆丘状，但稍扁平，切面近椭圆形。

齿带完全缺失，与在垣曲标本中相同。

这个种显然比前面记述的新种 (*Honanodon hebetis*) 进步，但产出层位则较低。新属内的这两个种与北美发现的各种中兽类差异较大，似代表着一个亚洲特有的类型。

Hapalodectes lushiensis sp. nov.

正型标本 一个下臼齿，可能为第三臼齿。编号 V. 3112。插图3。

插图3 *Hapalodectes lushiensis* sp. nov.
下臼齿 (?M_3)，冠面及内、外侧视 (×1)。

地点及层位 同上。

种的特征 一种很小的中兽类，臼齿齿冠高和侧扁，与 *Hapalodectes* 的情况相似。下原尖顶部向后倾斜；前附尖显著，无后齿尖；跟座低，与 *H. serus* Matthew et Granger 的相似，与原尖后侧之间有一裂口分开，而不是象在其他各种内那样互相连接在一起。下臼齿

长 15 毫米，宽 6.2 毫米，比内蒙伊尔丁曼纳层的 *H. serus* 大得多，后者（由一个臼齿或后面的前臼齿代表）的长 5.6 毫米。

牙齿齿根很长大，釉质层很薄，仅覆盖在齿冠的上部，靠近底部处缺失。

这个牙齿，与前面记述的一个新种 *Honanodon hebetis* 比较，虽然大小相近，但后者的下臼齿宽而短，齿尖和跟座粗大钝圆。因此，可以确认卢氏的标本是和 *Hapalodectes* 属相近。

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MESONYCHIDS FROM THE EOCENE OF HONAN

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Three new species of mesonychids creodonts, represented by a few isolated teeth from the Upper Eocene of Honan in northern China are described in this notes. The discovery of several forms of mesonychids in the recent years in Pakistan, Mongolia and China seems to indicate that the group were quite abundant and varied during the Eocene in Asia, and were already represented in the Paleocene by a few undescribed specimens of a small species referable to *Dissacus* in the redbeds of Nanshung in northern Kwantung, South China (Young and Chow, 1963).

Honanodon gen. nov.

Generic species: *H. hebetis* sp. nov.

Honanodon hebetis sp. nov.

Types——An upper (most probably second) and an incomplete lower (probably third) molars found in close association (V.3110). (Fig. 1).

Locality and Horizon——Jentsen at the southern bank of the Huangho in Mienchi, Honan; Yuanchü Formation (lower fossil zone), Upper part of Upper Eocene.

Diagnosis——A small mesonychid; upper molar longer than wide, with round blunt-topped connate cusps, metacone reduced, protocone similar in shape and nearly as large as but much lower in position than paracone; lower molar broad and short with protoconid inclined strongly backwards, and heel tilting forwards and close to but separated from the protoconid by a narrow cleft; metaconid absent. The second upper molar is 16.5 mm long and 14.5 mm wide.

Remarks——The upper tooth under consideration is considered to be most probably the second one of the molar series for the presence of a facet at its posterior surface and that the protocone is set perpendicular to the line connecting the external cusps.

There is a well developed parastyle cusp. Cingulum is entirely absent. The enamel is comparatively thick for a mesonychid and encircles all around to the under side of the swollen base of the crown in both the upper and lower teeth. The heel of the lower molar is short and blunt, without a trenchant crest.

The upper tooth of this species, though much small in size, is quite similar to that of the very large species described below. These two species are evidently very close to each other.

The generic reference of this and the following species is rather difficult for the scantiness of the material available at present. It is in general closer to the genus *Mesonyx* in molar structure, but in that genus the last upper molar is absent, it is most probably present in our species. Besides, the protocone in our species is a perfectly rounded cusp, nearly symmetrical on all sides, while in *Mesonyx* and the other genera, in which the

structure of the upper molar is known, the protocone is more or less flattened, or crescentic, and more lingually placed, with rather steep lingual side and flat slope on labial side and more widely separated from the external cusps. In *Synoplotherium* the molars are transversely much wider.

Honanodon macrodontus sp. nov.

Type——A second upper molar of the right side (V.3111). (fig. 2)

Locality and Horizon——Menchiapu (Loc. 57202), Lushi, Honan; Lushi Formation, Lower Upper Eocene.

Diagnosis——A mesonychid of very large size, upper molars with high and connate main cusps and reduced metacone. Measurements of M^2: 39 mm long, 41 mm wide and 26 mm high (protocone).

Remarks——The tooth is considered to be the second one of the molar series based on the presence of a facet of contact at the posterior, the position of protocone in relation to the external cusps and the degree of development of the metacone.

In size the species is among the largest of the mesonychids, only smaller than its contemporary *Andrewsauchus mongoliensis* Osborn, which is about 30% larger, and much larger than *Pachyaena gigantea* Osborn. The form of the molar is essentially same as that of *H. hebetis* described above, but is more hypsodont and with more complicated anterior accessary cusps. The crown of tooth is rather hypsodont. There are two accessary cusps (parastyles) at the anterior edge. The protocone is high, perfectly rounded, and separated labially from the external cones by a deep narrow cleft and supported by a very long (62 mm) and stout fang. Cingulum absent. The reduction of metacone is similar to that in *Pachyaena gigantea.*

Hapalodectes lushiensis sp. nov.

Type——A lower molar, probably the last one (V.3112). (fig. 3)

Locality and Horizon——as the above-described species.

Specific characters——A small mesonychid with high and compressed lower molars similar to those in *Hapalodectes*; protoconid with apex pointing slightly backwards, metaconid absent; heel low and large, and of typical mesonychid style as in *H. serus* Matthew and Granger, but differs from the latter in being separated from the posterior of protoconid by a large gap instead of being pressed together as in the other known species and more similar to that in *Honanodon hebetis* described above.

It is 15 mm long and 6.2 mm wide, much larger than that of *H. serus* from Irdin Manha, as well as *H. compressus* of the Bridger Basin.

The supporting fangs are more widely divergent from each other and in line with the axes of the main cusps. The surface of the crown is only partially covered with a thin layer of enamel.

This tooth, though closer in size, differs decidedly from the above-described tooth from Yuanchü Eocene in being elongated and having compressed cusps. It is evidently much closer to that of the present genus.