

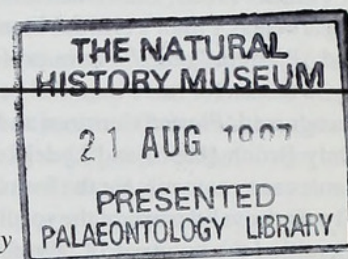
The status of '*Plesictis*' *croizeti*, '*Plesictis*' *gracilis* and '*Lutra*' *minor*: synonyms of the early Miocene viverrid *Herpestides antiquus* (Mammalia, Carnivora)

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SYNOPSIS. The reputed musteloid carnivorans '*Plesictis*' *croizeti* Pomel, 1847, '*Plesictis*' *gracilis* Pomel, 1853, and '*Lutra*' *minor* Lydekker, 1885 are recognized as junior subjective synonyms of the European early Miocene (Agenian) viverrid carnivoran *Herpestides antiquus* (de Blainville, 1842). The name '*Plesictis*' *gracilis* is a junior objective synonym of '*Plesictis*' *croizeti*, whose type locality is identified as Langy, of Agenian age, central France. The type locality of '*Lutra*' *minor* is Mainz-Mombach, of Agenian age, western Germany. The taxonomic histories of '*Plesictis*' *croizeti*, '*Plesictis*' *gracilis*, and '*Lutra*' *minor* are reviewed, synonymies are provided, and the holotypes described and figured.

INTRODUCTION

The name-bearing types of the reputed musteloid carnivorans '*Plesictis*' *croizeti* Pomel, 1847, '*Plesictis*' *gracilis* Pomel, 1853, and '*Lutra*' *minor* Lydekker, 1885 constitute a part of the unique collections of The Natural History Museum, London. The specimens have not previously been adequately described, and only the holotype of '*Plesictis*' *croizeti* Pomel, 1847 has been figured. The taxonomic histories of the specific names given to them are highly confused.

The present paper provides comprehensive descriptions of the holotypes of '*Plesictis*' *croizeti*, '*Plesictis*' *gracilis*, and '*Lutra*' *minor*, and also reports the complicated taxonomic histories of these names, with evidence that they are all junior synonyms of the European early Miocene viverrid carnivoran *Herpestides antiquus* (de Blainville, 1842).

The following abbreviations are used in this paper: BMNH and NHM, Department of Palaeontology, The Natural History Museum (formerly British Museum (Natural History), London; ICZN, *International Code of Zoological Nomenclature* (The International Commission on Zoological Nomenclature 1985); NMB, Natural History Museum, Basle; SMF, Department of Palaeozoology, The Senckenberg Research Institute and Museum, Frankfurt am Main.

PLESICTIS' *CROIZETI* AND '*PLESICTIS*' *GRACILIS*

TAXONOMIC HISTORY. Pomel (1847) introduced the specific name '*Plesictis* *Croizeti*' to designate the partial mandible illustrated in fig. 5 of his pl. 4. Although neither description nor definition accompanied that name, it has nevertheless been made available by indication in accordance with Article 12 (b, 7) of the ICZN. Pomel's fig. 4 of pl. 4, as well as its reproductions published in Bronn & Roemer (1856: pl. 60, fig. 14b), Pictet (1857: pl. 4, fig. 8), and Viret (1929: text-fig. 3), represent the reversed mirror image of the original that is stored

in the NHM under register number 26702. As noted in the old vertebrate register at the NHM, this name-bearing type of '*Plesictis*' *croizeti* was purchased by the British Museum (Natural History) in June 1851 from 'M. Pomel' (M.J. Pomel according to Lydekker 1885: xiii).

In 1853 (reprinted in 1854) Pomel proposed the new name *Plesictis gracilis* for the partial mandible figured by him in 1847 under the name *Plesictis Croizeti*, and he incorrectly applied the latter name to a skull of a mustelid carnivoran. Because both specific names were based on the same type specimen, they are objective synonyms according to Article 61 (c, iv) of the ICZN. The senior synonym, '*Plesictis*' *croizeti* Pomel, 1847, is the valid name of the taxon in accordance with the Principle of Priority (Article 23 of the ICZN).

The taxonomic status of '*Plesictis*' *croizeti* (= '*Plesictis*' *gracilis*) was further complicated by Filhol (1879a–b) who considered '*Plesictis*' *croizeti* and '*Plesictis*' *gracilis* to be distinct varieties of *Plesictis robusta* Pomel, 1853, which is indeed a synonym of the musteloid carnivoran *Amphictis antiqua* Pomel, 1853. Although the type specimen of both '*Plesictis*' *croizeti* and '*Plesictis*' *gracilis* had already been figured or briefly described in Pomel (1847, 1853, 1854), Gervais (1852b, 1859), Bronn (1856), Bronn & Roemer (1856) and Pictet (1857), and the British Museum had been explicitly indicated by Gervais (1852b, 1859) as the institution where the holotype had been kept, Filhol (1879a–b) was, nevertheless, apparently unaware of its existence. At any rate, he made no mention of this specimen. Instead, he assigned a mustelid skull to '*Plesictis*' *croizeti* and two musteloid partial mandibles to '*Plesictis*' *gracilis*, believing that the characters of one of those mandibles, illustrated in fig. 5 of his pl. 22, corresponded to those of the holotype of '*Plesictis*' *gracilis* (his p. 128: 'J'ai trouvé dans la collection du musée de Lyon un maxillaire inférieur possédant des caractères correspondants à ceux que M. Pomel avait fait connaître comme devant servir à faire distinguer spécifiquement le *Plesictis gracilis*'). In addition, in his quotations of Pomel's (1853, 1854) descriptions of '*Plesictis* *croizeti*' and '*Plesictis*' *lemanensis* Pomel, 1853, Filhol (1879a–b) mistakenly reversed the two descriptions, giving Pomel's

The mandibular foramen lies a little below the level of the alveolar border of the body, about 4.5 mm above the ventral border of the ramus and about 13 mm behind the alveolus for M_2 . The foramen faces posteriad and somewhat laterodorsad.

P_3 and P_4 are double-rooted, with the posterior root being larger than the anterior one. The base of the crown bears cingula anterobuccally and posteriorly on both teeth. The cingula are stronger on P_4 ; much of the posterior cingulum of P_3 has been broken away. The posterior cingulum of P_4 is much better developed than the anterior one, which was also true for P_3 judging from the preserved base of its crown. The posterior cingular region of the base of the P_4 crown is little deflected lingual.

The crown base of both P_3 and P_4 bears three projections arranged one behind the other anteroposteriorly to form a blade compressed buccolingually. The blade slightly curves lingual on the most anterior of the projections, the anterior accessory cusp, in both the premolars and on the most posterior projection, the posterior accessory cusp, in P_4 . The middle cusp, the protoconid, culminates slightly anterior to the half of the tooth length and is distinctly largest, whereas the anterior accessory cusp is smallest. The anterior and posterior accessory cusps are stronger and larger relative to the protoconid on P_4 than they are on P_3 . The cusps are divided by prominent V-shaped notches on P_4 . In both teeth, the tips of the anterior and posterior accessory cusps are noticeably worn away exposing the dentine. Wear has also broken through the enamel at the tip of the protoconid on P_4 , but over a very small area only.

The crown of M_1 is supported by two strong roots. There is no cingulum on the talonid, but there are two cingula running along the buccal base of the trigonid from the anterior end of the paraconid to the most anterior portion of the protoconid buccally and to that of the metaconid lingually. The buccal cingulum is very strong, whereas the lingual one is poorly developed.

The trigonid is notably arched buccad, making its lingual contour concave when viewed occlusally. The carnassial blade comprises the buccal ridge of the paraconid and the anterior ridge of the protoconid, which are divided by a deep, slit-shaped carnassial notch. The carnassial blade is rather deeply worn exposing dentine. The shearing surface on the buccal side of the paraconid and protoconid is considerably worn. Viewed from the occlusal surface, the carnassial edge of the paraconid abruptly turns anteriorly into a long, trenchant lingual ridge descending towards the metaconid from which it is set off by a valley. The carnassial edge of the protoconid curves posteriorly at an obtuse angle to continue into a sharp, partly damaged ridge that descends obliquely until it meets the metaconid. The anterior and lingual ridges of the protoconid delimit the lingual wall of this cusp, which flanks posterobuccally a deep, spacious valley that sets the protoconid off from the paraconid and metaconid. In addition to the anterior and lingual ridges, the protoconid exhibits a very short ridge, which is mostly worn away, on the base of its posterior wall. This short ridge ascends occlusolingual from the anterior end of the anterior edge of the hypoconid. There is an extensive wear facet on the posterior surface of the protoconid.

The metaconid is stout, well detached from the protoconid, and proportionally short anteroposteriorly. In lingual view, it resembles an isosceles triangle with its anterior and posterior profiles being slightly convex. In posterior view, the lingual contour of the metaconid is also slightly convex. A small part of the metaconid projects posteriorly beyond the protoconid so that its posterior edge is visible in buccal view. The slopes of the metaconid are angulated anteriorly, buccally, and posteriorly into ridges of which the buccal ridge is most trenchant or sharpened and the posterior one is most rounded or blunt. The anterior ridge descends towards the lingual ridge of the paraconid, from which it is separated by a valley. The buccal ridge is

united with the lingual ridge of the protoconid at a prominent, V-shaped notch. The posterior ridge meets the lingual wall of the talonid. The occlusal part of the posterior surface of the metaconid is worn.

Viewed occlusally, the posterior wall of the trigonid is almost straight, while the buccal and lingual contours of the crown are concave at the area where the trigonid meets the talonid. The buccal concavity is much better marked than the lingual one.

The talonid is deeply basined. Its buccal wall consists of an anteroposteriorly elongate hypoconid, which is the largest cusp on the talonid. The hypoconid is buccolingually wider and has its outer surface more inclined than is the case for the lingual wall of the talonid, making the talonid basin appear to be shifted lingual in occlusal view. Although wear has breached the enamel along the hypoconid, it is evident that the tip of this cusp was originally situated within the posterior half of the cusp length. The hypoconid is detached from the posterior wall of the talonid by a distinct V-shaped notch that is continued into an occlusobasal groove on the outer surface of the talonid.

The posterior wall of the talonid is lower than the buccal and lingual walls. It is somewhat worn occlusally and produced into three low, poorly differentiated elevations.

The lingual wall of the talonid forms two projections separated from each other by a notch. The anterior of these projections, the entoconid, is small, whereas the posterior one, the entoconid, is much larger, being the second largest cusp on the talonid. The tips of both the cusps are worn, exposing dentine facets.

TYPE LOCALITY. Although Pomel (1847) did not indicate the place of collection of the name-bearing type of '*Plesictis*' *croizeti* explicitly, it is obvious from the contents of his article that the specimen had been excavated from Tertiary deposits in the region of Vaumas and Saint-Gérard-le-Puy (Allier, France). Several years later, Pomel (1853: 97, 1854: 61) expressly attributed that fossil to the Tertiary sediments of Langy ('Terrain tertiaire à Langy'), which is a village situated about 3 km west of Saint-Gérard-le-Puy and some 25 km southwest of Vaumas. Most subsequent authors listed the locality as 'Saint-Gérard-le-Puy'. It deserves to be noted, however, that the name Saint-Gérard-le-Puy has generally been applied in the literature to encompass various fossil sites discovered in several quarries in the region of the village Saint-Gérard-le-Puy, including the locality Langy as well (Cheneval, 1983).

The only published statements about the type locality of '*Plesictis*' *croizeti* that were significantly different were those of Gervais (1859) and Dawkins (1880a-b). According to the former author, the holotype of '*Plesictis*' *croizeti* was found in calcareous marls of Miocene age in the environs of Issoire in the department of Puy-de-Dôme (his p. 250: 'Fossile dans les marnes calcaires de l'étage miocène aux environs d'Issoire (Puy-de-Dôme)'). Dawkins in his statements (1880a: 386, 'Issoire, Volvic (Puy-de-Dôme)'; 1880b: 505, 'Issoire, Volvic, Puy-de-dome [*sic*]') simply quoted Gervais (1859). However, neither Gervais nor Dawkins presented any supporting evidence for their assertions.

Gervais's (1859) referral of the holotype of '*Plesictis*' *croizeti* to the locality Issoire is rather intriguing since that author was apparently familiar with Pomel's (1847, 1854) papers as indicated by their citations in his work, and since he studied that fossil during his visit to the British Museum (Natural History) shortly after it had been acquired by that institution, which is evident from footnote 2 on p. 11 in Gervais (1852b). In addition, one of the two labels on the type specimen of '*Plesictis*' *croizeti*, which lies in its box and refers it to '*Herpestes croizeti*' (the only other label on the fossil is its registered number), identifies the holotype as coming from the 'Upper

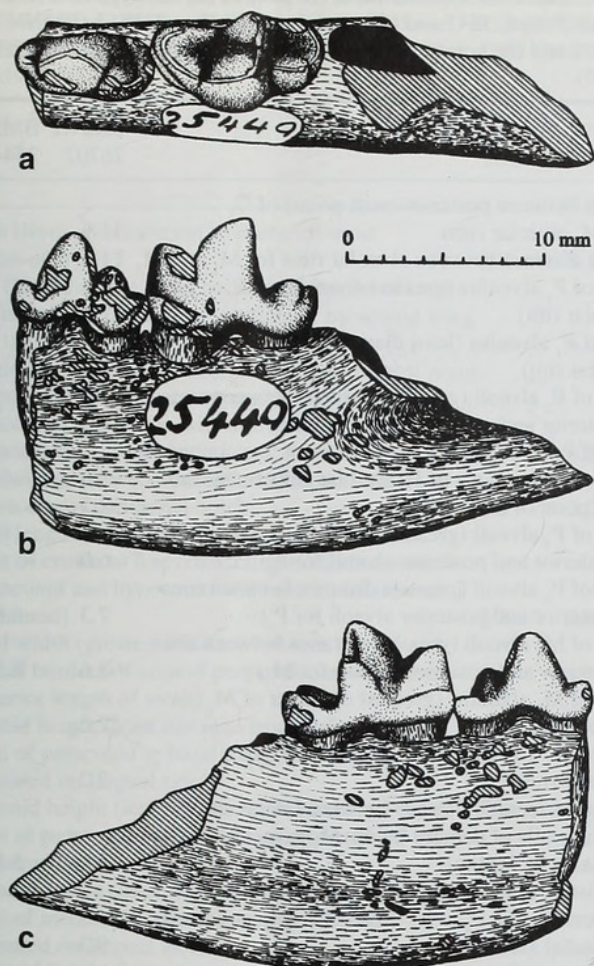


Fig. 2 The holotype of '*Lutra*' *minor* Lydekker, 1885 (BMNH 25449), a partial left dentary with P_4 and M_1 ; a, dorsal view; b, lateral view; c, medial view.

Oligocene' of 'Issoire, Puy-de-Dôme [*sic*], France'. It is thus essentially consistent with Gervais's (1859) statement. There is no evidence, however, to support claim that just this label accompanied the holotype when it was examined by Gervais, or that the data included in it corresponded to those of any original but now lost label known to that worker. On the contrary, it seems to be more probable that the person who wrote the present label simply followed Gervais (1859), especially as both the old vertebrate register at NHM (which recorded Allier' as the locality of the holotype) and Lydekker (1885: 185) (who described it as 'the Lower Miocene of St. Gérand-le-Puy (Allier)') support Pomel's (1853, 1854) statement that Langy was the place where the type specimen of '*Plesictis*' *croizeti* was collected.

In conclusion, the correct name of the type locality of '*Plesictis*' *croizeti* Pomel, 1847 is Langy in the department of Allier, central France. The accurate placement of this fossil site is vague. Its age corresponds to the Agenian, early Early Miocene, as indicated by the exclusively Agenian occurrence of many taxa (e.g. *Herpestides antiquus*) attributed by Pomel (1853, 1854) to Langy.

LUTRA' MINOR

TAXONOMIC HISTORY. Lydekker (1885: 195) applied the specific name *Lutra minor* to a '[f]ragment of the right ramus of the mandible, containing the last premolar and the carnassial; from the Lower Miocene of Mombach, near Mayence', purchased in '1850' by the British Museum (Natural History). He referred that specimen to

register number 25440. However, as seen from the vertebrate registers at NHM, the number 25440 has never been allocated. Instead, the old vertebrate register records under number 2544g, a '[f]ragment of lower jaw of *S[tephanodon]. minor*' with '2 molars *in situ*' from 'Mayence', purchased in 'Aug[ust]. 1850' from 'M. Becker'. The specimen BMNH 25449 is accompanied by two labels. One of them, which is glued to the fossil, displays its register number in which the '9' is of blurred appearance (see Fig. 2a–b), which may have been the reason for Lydekker's mistake. The other label, lying in the specimen's box, reads as follows: 'Fragmentary mandibular ramus[;] *Potamotherium minor*, Meyer sp.[;] Formⁿ Lower Miocene[;] Loc^y Mombach, near Mayence[;] Purch^d 1850[;] Cat. 1, p. 149[;] Brit. Mus. Geol. Dept. 25449.' The reference to p. 149 in the first part of Lydekker's catalogue (1885) is an error, of course, because this page is actually devoid of any mention of this fossil; instead, the name of the ursoid carnivore *Cephalogale minor* Filhol, 1879a is quoted there. Another inconsistency between Lydekker's (1885) account of '*Lutra*' *minor* and the data available on BMNH 25449 is that the latter represents the left branch of the mandible, and not the right one as indicated by that author. Otherwise, BMNH 25449 fits Lydekker's description exactly. Moreover, there is no other fossil in the collections of The Natural History Museum in London, which could represent Lydekker's specimen. Accordingly, we conclude that BMNH 25449 must be the specimen referred by Lydekker (1885) to *Lutra minor*.

Lydekker (1885) treated the name *Lutra minor* as a new combination for *Stephanodon minor*, deemed by him to be erected by Hermann von Meyer. However, Lydekker (1885: 195, footnote 1) 'ha[d] been unable to find a reference to this species'. The old vertebrate register at NHM refers the specific name *Stephanodon minor* to specimen 25449, but without any relation to von Meyer's name. Instead, this German palaeontologist is cited in the register in connection with number 25448 ('*Stephanodon monbachensis* [*sic*] V. Meyer') attributed to the holotype of *Stephanodon monbachensis* von Meyer, 1847, which is indeed a junior synonym of the arctoid carnivore *Potamotherium valletoni* (Geoffroy Saint-Hilaire, 1833). According to the register, that fossil and three others catalogued under numbers 25450–25452 were purchased in August 1850 from M. Becker as coming from 'Mayence', exactly as specimen 25449. In all likelihood, all these fossils had been studied by von Meyer before they were conveyed to the British Museum. It is thus just possible that H. von Meyer gave the name *Stephanodon minor* to specimen 25449. At any rate, it is very probable that a label stating this name accompanied the specimen originally and was known to Lydekker. Its existence was explicitly stated by Pohle (1920: 17; 'Das Stück war von v. Meyer mit dem Namen etikettiert worden'), who, however, provided no evidence to support his statement. Regardless of this, even if von Meyer was really responsible for the name *Stephanodon minor*, as declared by Lydekker (1885) and followed by Trouessart (1885, 1897, 1904), Schlosser (1888), Pohle (1920), and Haupt (1935), he has not satisfied the criteria of availability of that name and therefore cannot be considered its author according to Article 50 (a) of the ICZN. Instead, Lydekker (1885), who satisfied these criteria through both publishing the name of this taxon and stating in footnote 1 on his p. 195 that 'this species [...] may be only a smaller form of [*Lutra valetoni*]', is the author of the name whose correct original spelling is *Lutra minor*.

The name-bearing type of '*Lutra*' *minor* has never been figured or adequately described in the literature. The only published information relating to its size and morphological characteristics is that of Lydekker (1885: 195, footnote 1) that '*Lutra*' *minor* 'may be only a smaller form of' *Potamotherium valletoni*. The subsequent authors confined themselves to following this assumption. Trouessart (1885,

1897, 1904) held '*Lutra*' *minor* to be a subspecies of *Potamotherium valletoni* while Pohle (1920), Haupt (1935), and Savage (1957) simply placed it in the synonymy of that species. Schlosser (1888: 123) expressly denied the specific status of '*Lutra*' *minor* ('Ebenso ist auch *Stephanodon minor* H. v. Meyer auf keinen Fall als besondere Art zu betrachten'), including it in *Potamotherium valletoni*, but later (1890) he quoted it as a separate species of *Potamotherium*.

The synonymy list of '*Lutra*' *minor* Lydekker, 1885 includes the following names:

- 1885 *Lutra minor* [or] [*Lutra*] *minor* Lydekker: xxi, 195, 266.
 1885 *Stephanodon minor*; Lydekker: 195, 267.
 1885 [*Lutra valetoni*] *minor*; Trouessart: 47.
 1888 *Stephanodon minor*; Schlosser: 123.
 1890 [*Potamotherium*] *minor*; Schlosser: 82.
 1897 [*Potamotherium Valetoni*] *minor*; Trouessart: 281.
 1904 [*Potamotherium valetoni*] *minor*; Trouessart: 212.
 1920 *Stephanodon minor* [or] [*Stephanodon*] *minor*; Pohle: 16–17, 223.
 1935 *Stephanodon minor*; Haupt: 38.
 1957 *Potamotherium minor*; Savage: 155.

DESCRIPTION OF THE HOLOTYPE. The holotype, by monotypy, of '*Lutra*' *minor* Lydekker, 1885 is BMNH 25449, a fragment of a left dentary with partially eroded P_4 and M_1 (Fig. 2, Tables 1–3). The side-walls of the preserved fragment of body in the holotype dentary are convex in cross-section, excepting the ventral part of the medial wall where the surface of the dentary bone is somewhat depressed along the ventral border. The alveoli for P_4 – M_2 are arranged one behind the other and closely spaced. P_4 and M_1 slightly overlap each other and have pairs of alveoli. Only the anterior part of the M_2 alveolus is preserved; judging from this preservation, the alveolus was single and anteroposteriorly elongated. The masseteric fossa extends anteriorly to the level of the alveolus for M_2 .

The morphological patterns of P_4 and M_1 are congruent with those of the corresponding teeth in the type specimen of '*Plesictis*' *croizeti*, with the exception of the following differences concerning M_1 : in the holotype of '*Lutra*' *minor* the lingual ridge of the paraconid is shorter; the lingual contour of the metaconid is slightly concave; the metaconid is somewhat deflected posteriad, making its posterior contour slightly concave when viewed from the lingual side; there is no crest on the anterior face of the metaconid, so that the anterior slope of this cusp is widely rounded and blunt; and, finally, no elevation could be detected on the posterior wall of the talonid. The crowns of P_4 and M_1 are generally less worn in the holotype of '*Lutra*' *minor* than those of the type specimen of '*Plesictis*' *croizeti*.

TYPE LOCALITY. The old vertebrate register at NHM reports the holotype of '*Lutra*' *minor* as having been collected in 'Mayence' (=Mainz). Lydekker (1885: 195) described it as coming 'from the Lower Miocene of Mombach, near Mayence' (now Mainz-Mombach), perhaps on the basis of an original, but now missing, specimen label. Lydekker's attribution is consistent with that on the label accompanying the holotype at present. Schlosser (1890), who knew both Lydekker's (1885) catalogue and H. von Meyer's unpublished drawings of carnivoran remains from Mainz-Weisenau (as seen from Schlosser 1887: 4, 6), referred '*Lutra*' *minor* (his *Potamotherium minor*) to 'Mainz (Weissenau)' (=Mainz-Weissenau). No evidence exists, however, to suggest that Schlosser's assignment concerned specimen(s) other than the holotype and, moreover, none of the copies of von Meyer's drawings preserved in NMB represents the type specimen of '*Lutra*' *minor*. Consequently, we conclude that Schlosser's *Potamotherium minor* pertained to the holotype of '*Lutra*' *minor*, and hence its referral to the locality Mainz-Weissenau resulted from confusion.

Table 1 Mandible measurements (in mm) of the holotype of '*Plesictis*' *croizeti* Pomel, 1847 and '*Plesictis*' *gracilis* Pomel, 1853 (BMNH 26702), and the holotype of '*Lutra*' *minor* Lydekker, 1885 (BMNH 25449).

	BMNH 26702	BMNH 25449
Distance between posterior-most points of C_1 and M_2 alveolar rims	31.9	–
Greatest distance between alveolar rims for M_1 and M_2	11.6	–
Length of P_1 alveolus (greatest diameter of P_1 alveolar rim)	2.0e	–
Width of P_1 alveolus (least diameter of P_1 alveolar rim)	1.0	–
Length of P_2 alveoli (greatest distance between rims of anterior and posterior alveoli for P_2)	4.6	–
Width of P_2 alveoli (least distance from line connecting lingual-most points of P_2 alveolar rims to buccal-most point of these rims)	2.2	–
Length of P_3 alveoli (greatest distance between rims of anterior and posterior alveoli for P_3)	6.0	–
Length of P_4 alveoli (greatest distance between rims of anterior and posterior alveoli for P_4)	7.3	6.6e
Length of M_1 alveoli (greatest distance between rims of anterior and posterior alveoli for M_1)	8.6	8.5
Length of M_2 alveolus (greatest diameter of M_2 alveolar rim)	2.6e	–
Width of M_2 alveolus (least diameter of M_2 alveolar rim)	2.2	–
Greatest horizontal distance between lateral and medial walls of dentary below M_1 perpendicular to long axis of dentary	5.6	5.8
Least distance from alveolar border of dentary between P_3 and P_4 to its ventral border, measured on medial side	9.3	–
Least distance from alveolar border of dentary between M_1 and M_2 to its ventral border, measured on medial side	10.5	11.7

'e' indicates an estimated value.

Table 2 Measurements (in mm) of premolar teeth in the holotype of '*Plesictis*' *croizeti* Pomel, 1847 and '*Plesictis*' *gracilis* Pomel, 1853 (BMNH 26702), and the holotype of '*Lutra*' *minor* Lydekker, 1885 (BMNH 25449).

	BMNH 26702	BMNH 25449
Length of P_3 (from anterior-most to posterior-most points of crown)	6.2	–
Width of P_3 (greatest distance between buccal and lingual borders of crown perpendicular to antero-posterior length of tooth)	2.8+	–
Height of P_3 (least distance from occlusal-most point of tooth to basal margin of crown, measured on buccal side)	3.8	–
Length of P_4 (from anterior-most to posterior-most points of crown)	7.2	7.1
Width of P_4 (greatest distance between buccal and lingual borders of crown perpendicular to antero-posterior length of tooth)	3.3	3.4
Height of P_4 (least distance from occlusal-most point of tooth to basal margin of crown, measured on buccal side)	4.1	4.2e

'+' indicates a minimum measurement on an incomplete structure, 'e' indicates an estimated value.

Table 3 Measurements (in mm) of *M₁* in the holotype of ‘*Plesictis*’ *croizeti* Pomel, 1847 and ‘*Plesictis*’ *gracilis* Pomel, 1853 (BMNH 26702), and the holotype of ‘*Lutra*’ *minor* Lydekker, 1885 (BMNH 25449).

	BMNH 26702	BMNH 25449
Length (from anterior-most to posterior-most points of crown)	8.7	8.8
Width (least distance from buccal-most point of crown to line joining lingual-most points of paraconid wing and talonid)	4.6	4.7
Trigonid length (least distance from anterior-most point of crown to line connecting notch between protoconid and hypoconid with notch posterior to metaconid)	5.9	6.2
Least distance between buccal and lingual borders of crown across carnassial notch	3.8	3.7
Talonid length (least distance from posterior-most point of crown to line connecting notch between protoconid and hypoconid with notch posterior to metaconid)	2.8	2.6
Talonid width (greatest distance between buccal and lingual borders of talonid perpendicular to antero-posterior length of tooth)	3.7	3.7
Paraconid height (least distance from occlusal-most point of paraconid to basal margin of crown, measured on lingual side)	3.7+	3.8+
Protoconid height (least distance from occlusal-most point of protoconid to basal margin of crown, measured on buccal side)	5.1+	5.6
Metaconid height (least distance from occlusal-most point of metaconid to basal margin of crown, measured on lingual side)	3.7	3.6+
Hypoconid height (least distance from occlusal-most point of hypoconid to basal margin of crown, measured on buccal side)	2.3+	2.5
Entoconid height (least distance from occlusal-most point of entoconid to basal margin of crown, measured on lingual side)	1.9+	2.0+

+ indicates a minimum measurement on an incomplete structure.

To summarize, the correct name of the type locality of ‘*Lutra*’ *minor* Lydekker, 1885 is Mainz-Mombach in Rhineland-Palatinate, western Germany. The exact location of this fossil site is uncertain at present. Tobien (1980) assigned the fossil fauna from Mainz-Mombach (his Mombach) to the *Hydrobia* beds of late Aagenian age, early Early Miocene.

CONSPECIFICITY WITH *HERPESTIDES ANTIQUUS*

During their taxonomic history, ‘*Plesictis*’ *croizeti*, ‘*Plesictis*’ *gracilis*, and ‘*Lutra*’ *minor* have been referred to various arctoid caniform genera, including the mustelids *Plesictis* Pomel, 1846, *Lutra* Grunich, 1771, and *Mustela* Linnaeus, 1758 (for ‘*Plesictis*’ *croizeti*; e.g. Gervais 1852b: 12), the amphictid musteloid *Amphictis* Pomel, 1853 (for ‘*Plesictis*’ *gracilis*; Viret 1929), and the arctoid *otamotherium* Geoffroy Saint-Hilaire, 1833 (= *Stephanodon* von Meyer, 1847; for ‘*Lutra*’ *minor*). However, the fact that they really belong to none of those genera needs no elaboration. Their name-bearing types differ from the characteristics of these genera in most aspects of their morphology, and more importantly, ‘*Plesictis*’ *croizeti* = ‘*Plesictis*’ *gracilis*) and ‘*Lutra*’ *minor* do not belong even to the suborder Caniformia Kretzoi, 1943, which is evidenced below.

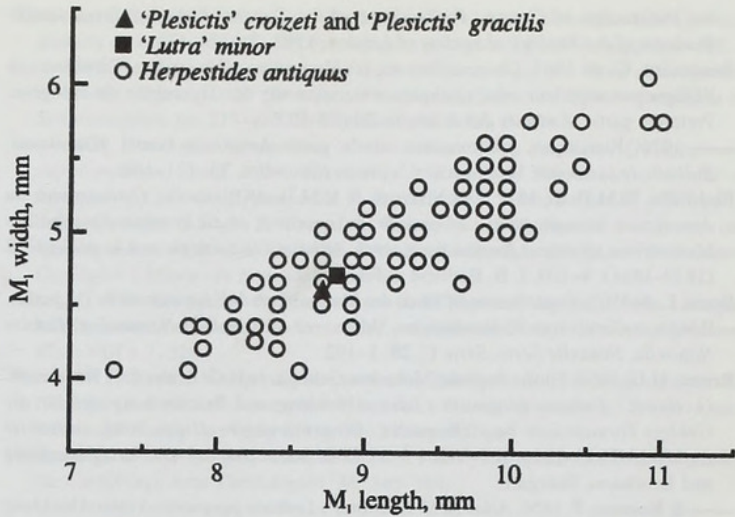


Fig. 3 A diagram of length versus width of *M₁*, showing the distribution of individuals in a sample of *Herpestides antiquus* from the Aagenian locality Montaignu-le-Blin in France (collection of NMB), compared to that of the holotypes of ‘*Plesictis*’ *croizeti*, ‘*Plesictis*’ *gracilis*, and ‘*Lutra*’ *minor*.

As seen from the descriptions, illustrations (Figs 1–2), and measurements (Tables 1–3) presented in this paper, the holotype of ‘*Plesictis*’ *croizeti* and ‘*Plesictis*’ *gracilis* and that of ‘*Lutra*’ *minor* differ only insignificantly from each other, plainly justifying the conclusion that they represent the same species. The available morphological features of that species unanimously point to its affiliation with the viverrid feliform *Herpestides* de Beaumont, 1967, known from the lower part (Aagenian) of the European Lower Miocene. According to de Beaumont (1967), that genus included the single, extensively variable species *Herpestides antiquus* (de Blainville, 1842). A comparison of the holotypes of ‘*Plesictis*’ *croizeti* (and ‘*Plesictis*’ *gracilis*) and ‘*Lutra*’ *minor* with the corresponding portions of dentary and lower dentition of *Herpestides antiquus* from the French locality Montaignu-le-Blin, stored in NMB, revealed that both the morphological traits and size of the holotypes are well within the variability range observed in *Herpestides antiquus* (Fig. 3).

To conclude, on the evidence presented above we consider the name-bearing types of ‘*Plesictis*’ *croizeti* Pomel, 1847, ‘*Plesictis*’ *gracilis* Pomel, 1853, and ‘*Lutra*’ *minor* Lydekker, 1885 to represent the species *Herpestides antiquus* (de Blainville, 1842). Accordingly, we synonymize the first three names with the last one that is the valid name of the species in conformity with the Principle of Priority.

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