

POSTILLA

Published from 1950 to 2004, the short papers of the *Postilla* series reported on original research by the Yale Peabody Museum of Natural History's curators, staff, and research associates, and their colleagues, in the natural science disciplines represented by the collections of the Museum's curatorial divisions.

The *Postilla* series, which ceased publication with Number 232 (2004), was incorporated into the journal *Bulletin of the Peabody Museum of Natural History*, available from BioOne Complete at <https://bioone.org/>.

Yale Peabody Museum scholarly publications are archived through EliScholar, a digital platform for scholarly publishing provided by Yale University Library at <https://elischolar.library.yale.edu/>.



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
<https://creativecommons.org/licenses/by-nc-sa/4.0/>

Yale PEABODY MUSEUM OF NATURAL HISTORY

P.O. Box 208118 | New Haven CT 06520-8118 USA | peabody.yale.edu

Postilla

PEABODY MUSEUM OF NATURAL HISTORY
YALE UNIVERSITY
NEW HAVEN, CONNECTICUT, U.S.A.

Number 115

23 February 1968

A DIDELPHID (MARSUPIALIA) FROM THE EARLY EOCENE OF COLORADO

GEORGE GAYLORD SIMPSON

HARVARD UNIVERSITY AND THE UNIVERSITY OF ARIZONA

It is known that opossums (Marsupialia, Didelphidae) were present and abundant locally, at least, in North America from late Cretaceous to early Miocene, reappearing in the Pleistocene and then continuing to the present time. It happens, however, that early Eocene specimens are comparatively uncommon. A brief record of such a specimen is here presented. It also represents a species, although not a precisely identified one, new to the Huerfano fauna.

University of Colorado Museum No. 26541 is a fragment of a right mandibular ramus with M_2 and the talonid of M_1 found by Peter Robinson 200 feet south of fence on Fence Hill at Locality II, Huerfano formation, Huerfano Basin, Colorado. Details as to this locality and its fauna, the richest known from the Huerfano formation, are given in Robinson (1966). The level is in the upper part of the Huerfano, for which Robinson has proposed a substage Gardnerbuttian, considered intermediate in age between the Lost Cabin member of the Wind River formation and the

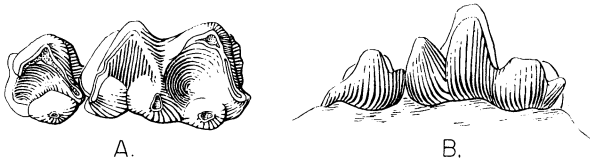


Fig. 1. *Peratherium* cf. *comstocki*. Univ. Colorado Mus. No. 26541, right M_2 and talonid of M_1 . A, occlusal view. B, lingual view. $\times 6$.

Black's Fork member of the Bridger formation. The age could be considered either latest early Eocene or earliest middle Eocene. Robinson prefers the former designation, and I agree.

M_2 has the quite stereotyped structure usual in lower molars of didelphines and especially *Peratherium*: trigonid relatively low; protoconid slightly higher than metaconid and metaconid than paraconid; a basal cingulum anteriorly but not elsewhere; paraconid, metaconid, and entoconid in a straight anteroposterior line; large talonid basin with entoconid somewhat elongate anteroposteriorly and small hypoconulid closely adjacent to it at extreme posterolingual angle of tooth. Within *Peratherium* or a *Peratherium*-like group, lower molars differ little except in dimensions, although upper molars, when available, may be more distinctive. The present specimen is unusually large for an early Tertiary North American didelphine. It is compared with the type of *Peratherium comstocki* Cope, 1884, American Museum of Natural History No. 4252 (see Simpson, 1928), in Table 1. The resemblance is not close enough for confidence that the specimens belong to the same species, but it is too close for confidence that they belong to different species. Pending further finds, the present form may best be designated as *Peratherium* cf. *comstocki*. The type of *P. comstocki* is from the "Wasatch," almost certainly Greybullian in present terms, of the Big Horn Basin, hence older than the Huerfano specimen but still within the nominal early Eocene.

Robinson (1966, p. 29) has previously reported a didelphid as *?Peratherium* sp. from the same part (locality II) of the Huerfano formation. The specimen involved, a partial left ramus with M_3 , American Museum of Natural History field no. 1952-328, is not precisely comparable with the present specimen, but comparison of its M_3 with the present M_2 indicates that the teeth of

the latter animal were at least 50% larger and hence that they are unlikely to have belonged to the same species. (The enlargement of the photograph of the previously known specimen in Robinson, 1966, plate 1, fig. 7, is about $\times 1.6$.)

I am indebted to Dr. Robinson for referring the specimen here recorded to me for identification and description.

TABLE 1. Measurements in Millimeters and Ratios of M_2 of Type of *PERATHERIUM COMSTOCKI* and of a Specimen of *P. CF. COMSTOCKI* from the Huerfano Formation.

Trigonid length is taken between vertical transverse planes one touching the paraconid tip and the other through the bottom of the metaconid-entoconid notch. Talonid length is taken between the latter plane and one tangential to the posterior and of the crown. Total length is taken between anterior and posterior planes, hence it is the sum of trigonid and talonid lengths.

	Type of <i>P.</i> <i>comstocki</i>	U. Colo. M. No.	
		26541 from Huerfano	Percentage larger, Huerfano specimen
A. Total length	3.1	3.5	+13%
B. Trigonid length	1.8	2.1	+17%
C. Talonid length	1.3	1.4	+ 8%
Ratio B/C	1.62	1.50	—

REFERENCES

- Robinson, Peter. 1966. Fossil Mammalia of the Huerfano formation, Eocene, of Colorado. Peabody Mus. Nat. Hist., Yale Univ., Bull. 21: 95 p.
- Simpson, G. G. 1928. American Eocene didelphids. Amer. Mus. Novitates, No. 307: 1-7.