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**DENTITION OF THE EARLY EOCENE PRIMATES *NIPTOMOMYS*
AND *ABSAROKIUS***

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ABSTRACT

The mandibular dentition of *Niptomomys doreenae* was previously known only from an edentulous mandible preserving alveolae for all teeth, and jaw fragments preserving P_4 and M_{1-3} . A new mandible of *Niptomomys* is described here which preserves an enlarged, lanceolate lower incisor and a small, blunt, single-rooted P_3 . The incisor morphology confirms placement of *Niptomomys* in the Family Microsyopidae. The presence of a single-rooted P_3 invalidates the previous interpretation of the lower dental formula. Comparison with the related early primates *Navajovius*, *Palaechthon*, *Plesiolestes* and *Uintasorex* shows the lower dental formula of *Niptomomys* to be 1.1.3.3.

The total number of teeth in the mandible of *Absarokius* was previously determined to be eight (except for a single specimen of *Absarokius* "near *A. abbotti*" which Gazin, 1962, suggested might possibly have nine). Two mandibles of *A. abbotti* described here clearly had nine teeth and a lower dental formula of 2.1.3.3. The upper canine and P^2 of this species are also described here for the first time. Comparison of the new specimens of *A. abbotti* with the later *A. noctivagus noceri* demonstrates that the tooth previously interpreted in the latter taxon as P_2 is in fact the canine, thus the lower dental formula of *A.n. noceri* is 2.1.2.3, not 1.1.3.3. *Absarokius abbotti*, with a dental formula of $I^{\frac{2}{1}}$, $C^{\frac{1}{1}}$, $P^{\frac{3}{3}}$, $M^{\frac{3}{3}}$ seems clearly to be derived from a species of *Tetonius*.

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INTRODUCTION

Recent Yale paleontological expeditions to the Bighorn Basin in northwestern Wyoming, under the direction of E. L. Simons, have recovered several specimens that reveal for the first time important elements of the anterior dentition of two species of small Early Eocene primates. The morphology of the anterior dentition is important to systematic studies and to the interpretation of feeding behavior and diet; however, for many genera and species of early Tertiary primates, the anterior dentition is unknown.

Lemur-like primates of the Family Adapidae and tarsier-like primates of the Family Anaptomorphidae are first known in the Early Eocene. The remaining Early Eocene primates are members of lineages originating in the Paleocene and are represented by three extinct families, Paromyidae, Plesiadapidae and Microsyopidae. The new specimens described below reveal new elements of the anterior mandibular dentition of the microsyopid *Niptomomys* and the anterior mandibular and maxillary dentition of the anaptomorphid *Absarokius*.

Tooth nomenclature used in this paper is taken from Simons (1972, p. 63). The following abbreviations are used: AMNH, American Museum of Natural History; MCZ, Museum of Comparative Zoology, Harvard University; PU, Department of Geology, Princeton University; UCM, University of Colorado Museum; UCMP, University of California Museum of Paleontology, Berkeley; YPM, Peabody Museum of Natural History, Yale University.

Niptomomys Doreenae McKenna 1960

McKenna (1960) described four jaw fragments from the Early Wasatchian Four Mile fauna of northwestern Colorado as a new taxon, *Niptomomys doreenae*. Since that time 35 additional specimens of *N. doreenae* have been collected or recognized in previous collections (two from 1913). Szalay (1969b) reviewed the specimens known in 1969 and placed *Niptomomys* with *Uintasorex* in the Subfamily Uintasoricinae of the Family Microsyopidae.

HYPODIGM. *Niptomomys* is presently known from the Early Eocene Hiawatha Member of the Wasatch Formation, northwestern Colorado (Four Mile fauna) and from the Willwood Formation, Bighorn Basin, Wyoming (Graybullian and "Lysitian"). The complete hypodigm as now known is: Four Mile fauna—East Alheit Quarry: AMNH 59612, 59621, 59655, 80079, 80080, 80088, 80955, 80957, 80959, 80960, 80961, 80962, 80963; Despair Quarry: UCMP 44038, UCM 29681, AMNH 59692, 59693, 59694, 80055; Timberlake Quarry: UCMP 46978, AMNH 80958; Kent Quarry: UCMP 44080, 44081 (type), 44082, 47106. Willwood Formation—Gray-

bullian: AMNH 16828, 16829, PU 17412, 17833, 17880, 17885, 17897, 19550, MCZ 19005, YPM 23600, 26462, 30341; "Lysitian": YPM 18711, 27577.

We recently studied the entire hypodigm and concluded, as did Szalay (1969b), that it represents only one species. Specimens from the East Alheit Quarry sample differ from most of the remaining specimens in their smaller size and more prominent metaconid development on P_4 ; however, individual size and the condition of the metaconid appear to be correlated and variable. A species distinction for this sample thus seems unwarranted.

NEW MATERIAL. In 1971 a mandible of *Niptomomys doreenae* (YPM 27577, Fig. 1) preserving the incisor, a single-rooted P_3 , P_4 and M_1 was collected by the Yale party at YPM Locality 175, in the NE¼ Section 1, T48N, R97W, Washakie County, Wyoming. This locality has yielded 171 identifiable specimens, including *Pelycodus jarrovii* and *Heptodon calciculus* on which the "Lysitian" age determination is based. The *Niptomomys* specimen is slightly distorted; however, by comparison with previously known material, this distortion can be corrected. The incisor has been rotated, with its dorsal edge moved medially. The dorsal surface of the mandible between the enlarged incisor and P_3 is damaged. P_3 is displaced slightly forward and its crown has been rotated.

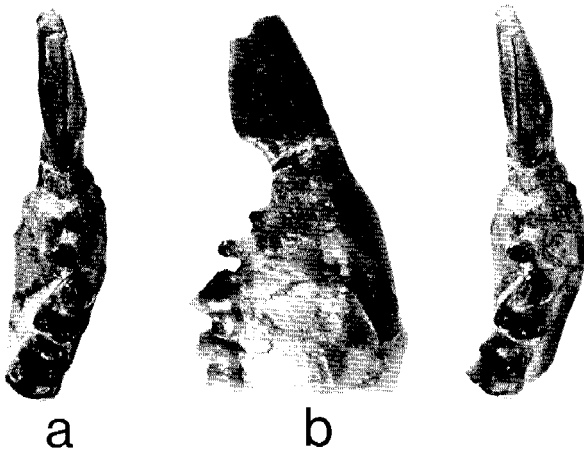


FIG. 1. Anterior portion of a right mandible of *Niptomomys doreenae* (YPM 27577) showing the enlarged I_1 , P_{3-4} , and M_1 . a. Stereophotograph of occlusal view; b. lateral view. Both $\times 6$.

DESCRIPTION. YPM 27577 is the only mandible of *Niptomomys* known that preserves the large, procumbent first incisor. This incisor is lanceolate in lateral profile. Its root extends posteriorly below M_1 . The crown has a

