MAMMALS FROM THE BLUE ASH LOCAL FAUNA  
(LATE OLIGOCENE), SOUTH DAKOTA.  
RODENTIA, PART 2: FAMILIES FLORENTIAMYIDAE AND GEOMYIDAE

William W. Korth
Rochester Institute of Vertebrate Paleontology, 265 Carling Road
Rochester, New York 14610

ABSTRACT
Three species of florentiamyid, Florentiamys sp. cf. F. kingi Wahlert, Kirkomys parvus (Troxell), and Hitonkala martintau n. sp., and an undetermined species of geomyid are recognized from the Blue Ash fauna. This increases the total number of rodents described from this fauna to 14. Florentiamys sp. cf. F. kingi is similar in morphology to the Arikareean F. kingi, but is slightly smaller. This is the first record of Kirkomys parvus other than the holotype, which is known from an uncertain horizon. Hitonkala martintau is distinct from the previously known Arikareean species of the genus by its more primitive cheek tooth morphology (smaller stylar cusps on upper molars; less molariform premolars). Specimens of the undetermined geomyid cannot be assigned to any currently known species of geomyid from either the Arikareean or earlier. The smaller size of Florentiamys sp. cf. F. kingi and more primitive dental morphology of Hitonkala martintau compared to similar Arikareean species suggest that the fauna is of very earliest Arikareean age or perhaps latest Whitneyan.

INTRODUCTION
Previously, ten species of rodents have been described in detail from the latest Whitneyan or earliest Arikareean Blue Ash local fauna (Emry and Korth, 2007; Korth, 2007a, 2007b). The only geomyoids previously described were the eomyids and heliscomyids (Korth, 2007b). The remainder of the geomyoids belong to the Florentiamyidae and Geomyidae. Based on previous identifications of rodents from the Blue Ash fauna, it was not possible to determine with certainty whether the fauna was Whitneyan or Arikareean in age. Both florentiamyids and geomyids are extremely diverse in the Arikareean (notably the Entoptychinae, which are limited to the Arikareean) and rare or absent in the Whitneyan and earlier horizons. This disparity in the fossil record of geomyoids may allow for a better assessment of the provincial age of the Blue Ash local fauna.

Dental nomenclature used below follows that of Korth (1997:fig. 1) and Korth and Branciforte (2007:fig. 1). Upper cheek teeth are represented by capital letters and lowers as lower case letters. Abbreviations for institutions: CM, Carnegie Museum of Natural History; MCZ, Museum of Comparative Zoology, Harvard; YPM, Yale-Peabody Museum.

SYSTEMATIC PALEONTOLOGY
Order Rodentia Bowdich, 1821
Family Florentiamyidae Wood, 1936
Florentiamys Wood, 1936
Florentiamys sp. cf. F. kingi Wahlert, 1983
(Figure 1, Table 1)

Referred Specimens—CM 76454, right p4; CM 76455, right dp4; CM 76456, left ml or m2; CM 76457, right m3; CM 76458 and 76459, left dp4s; CM 76462, 76466, 76467, 76600, M1s; CM 76461, left M2; CM 76463, 76464, 76465, M3s.

Description—The lower premolar, CM 76454, is slightly longer than wide (Table 1) and narrower anteriorly than posteriorly (Figure 1A). A deep transverse valley separates the metalophid from the hypolophid. The metaconid is the largest cusp on the tooth and is round in occlusal outline. A narrow valley separates it from the protostylid. The protostylid consists of two distinct cusps aligned posteriorly along the buccal side of the tooth. The posterior cuspule is the largest. The cuspules are fused, their apices only separated by a minute valley. The cusps of the hypolophid are joined along the center-line of the tooth and teardrop shaped. The bases of the cusps are fused. There is no indication of a hypostylid or hypoconulid.