MAMMALS FROM THE BLUE ASH LOCAL FAUNA (LATE OLIGOCENE), SOUTH DAKOTA.  
RODENTIA, PART 3: FAMILY SCIURIDAE

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ABSTRACT

The Sciuridae (squirrels) are the most diverse family of rodents thus far described from the late Oligocene Blue Ash fauna of South Dakota. Nine species of sciurids are recognized: two previously described probable “flying” squirrels, *Hesperopetes jamesi* and *H. blacki*; five sciurines, *Protosciurus cf. P. mengi*, *P. rachelae*, *Nototamias sp.*, *Miospermophilus sp.*, a new species *Douglassciurus sapphirus*; and two cedromurines, *Cedromus wilsoni* and a new species *Oligospermophilus emryi*. The recognition of these species increases the number of rodent species from the Blue Ash fauna to 20. As with the remainder of the described species from this fauna, the squirrels help little in establishing a precise age of the fauna, containing a combination of Orellan and earlier taxa, along with Arikareean or younger taxa.

INTRODUCTION

In a preliminary faunal list of the Blue Ash fauna, Martin (1974) identified four species of squirrels (Sciurid indet., *Protosciurus* sp., *Protospermophilus* sp., and *Miospermophilus* sp.). In a later faunal list, Simpson (1985) identified only a single squirrel species (Sciurid indet.). More recently, Emry and Korth (2007) named two species of a probable “flying” squirrel, *Hesperopetes*. A detailed study of specimens from the Blue Ash fauna has yielded a much more diverse sciurid fauna, resulting in the recognition of nine species. Thus far, this is the greatest diversity of any of the families of rodents described from the Blue Ash fauna (Korth, 2007a, 2008).

All of the fossil material described herein consists of isolated cheek teeth. As with a fauna of this nature, association of upper and lower dentitions and premolars with molars was based on comparable size and morphology of the teeth. Dental terminology follows that of Wood and Wilson (1936). Upper teeth are designated by capital letters, lower teeth by lowercase letters. Abbreviation for Carnegie Museum of Natural History: CM.

SYSTEMATIC PALEONTOLOGY

Family Sciuridae Fischer de Waldheim, 1817
Subfamily Sciurinae Fischer de Waldheim, 1817
Tribe Sciurini Fischer de Waldheim, 1817

*Douglassciurus* Emry and Korth, 2001

*Douglassciurus sapphirus* n. sp.

(Figure 1; Table 1)

Type Specimen—CM 76647, left m1 or m2.

Referred Specimens—CM 76660, 76662 - p4; CM 76621, 76648-76649, 76656, 76659 - m1 or m2; CM 76658, 76671 - m3; CM 76622, 76666, 76674, 76700, 76701 - M1 or M2; CM 76673 – M3.

Diagnosis—Smallest species of the genus, 30% smaller than type species *D. jeffersoni*; hypocone on upper molar not as large as in the type species; enamel in the basins of the cheek teeth smooth (variably rugose in *D. jeffersoni*).


Description—The anterior cingulum of M1 or M2 runs lingually from the buccal edge of the tooth to a point even with the buccal edge of the protocone. The cingulum is separated from the protoloph by a deep, wide valley. There is a short loph (=protocone crest) in this basin at the lingual end that runs buccally from the protocone. The protoloph runs directly lingually from the paracone to the protocone. A small protoconule is distinguishable near its center. The protocone is anteroposteriorly broadened. The metaloph runs slightly anterolingually from the metacone, then attaches to the protocone. There is a large, distinct metaconule just buccal to the union of the metaloph and the protocone. Buccal to it, along the metaloph is a smaller second metaconule. The posterior cingulum runs from the posterior margin of the protocone to the buccal margin of the tooth, posterior to the metacone. A hypocone is present at the...