

shown that they belong to the Miocene. In 1919 Knowlton definitely referred the Elko shales to this latter horizon, and this decision was later substantiated by the discovery of a Miocene mammal in the deposit (Winchester, 1923). The bed covers only a small area, not over thirty square miles, and appears to have been laid down by a fresh water lake under climatic conditions not unlike those which existed at Florissant during the Miocene. The only insects from this deposit which I have been able to locate are in the Museum of Comparative Zoölogy, and were collected by S. W. Garman in the thinly laminated paper shales about twenty miles northeast of the Elko station.

The other Miocene ant beds are the Florissant shales, which are located about thirty miles west of Colorado Springs, Colorado. Scudder's description of the location of the deposit is so admirable that I quote his own words: "By climbing a neighboring peak, thrice baptized as Crystal Mountain, Topaz Butte, and Cheops Pyramid, and known to the old miners as Slim Jim, we obtain an admirable view of the ancient lake and the surrounding region. To the southeast is Pike's Peak; to the west, South Park and the cañon of the South Platte, shown by a depression; to the extreme south the Grand Cañon of the Arkansas; while to the north a few sharp, ragged, granite peaks surmount the low wooded hills and ravines characteristic of the nearer region. Among these hills and ravines, and only a little broader than the rest of the latter, lies to the south, the ancient Florissant Lake basin, marked by an irregular L-shaped grassy meadow, the southern half broader and more rolling than the northwestern, the latter more broken and with deeper inlets." This deposit, which has produced more insects than any other known locality, was found to be fossiliferous by A. C. Peale in 1876. The geology and stratigraphy have been discussed in detail by a number of investigators, so only a brief survey of that aspect will be presented here. The upper part of the formation alone is fossiliferous, and this is composed of strata which vary much in thickness and composition, although for the most part volcanic ash, sand, and mud are the constituents. The shales apparently had their origin at the bottom of a lake, in the vicinity of which were a number of active volcanoes. The dust and ashes from the frequent eruptions of these volcanoes fell to the surface of the lake, carrying along the insects which happened to be flying or blown over the water, and quickly entombed them in a matrix of ash, sand and mud. Leaves of trees and shrubs, torn from their branches by violent winds and falling cinders, are exceedingly common in these shales. The flora of the deposit, which has been studied mainly by Lesquereux (1878, 1883), Kirchner (1878), Cockerell