discovered in the state.[1] It was discovered in territory previously mapped as Morrison,[2] Comanchean or Jurassic. This evidence warrants placing the Purgatoire as the bottom member of the Cretaceous and assigning the bone-producing horizon (Morrison?) to the Jurassic.

The formation where the bones were found lies near the top of the valley wall, and is a dark brown gray-mottled shale which breaks out readily in somewhat cubical blocks. The same formation may be seen exposed in several places on both the east and west walls of West Carrizo Creek Canyon north of Kenton. In this canyon the Purgatoire and Dakota overlie the Morrison.

After some digging the fifth or sixth rib from the left side, two caudal vertebrae and various fragments were uncovered. The two vertebrae are unbroken and only slightly distorted. Excepting the absence of the head, the rib is in perfect condition. When uncovered, it was lying ventral side up and intact.

The work of excavation will be continued under the direction of the department of paleontology of the University of Oklahoma. A detailed study of the area will be made in order to determine the actual extent of the Jurassic in that part of the state. If it seems advisable, a new map showing the outcrops will be prepared.

The writer wishes to thank Mr. R. C. Tate, of Kenton, Oklahoma, who acted as guide while the party was in the area, and who so kindly pointed out the location of the bones.

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PEACH MOSAIC—A NEW VIRUS DISEASE

IN the course of field work for the phony peach eradication campaign, conducted jointly by the U. S. Department of Agriculture and state agencies, inspectors observed in certain peach orchards in Brown and in Callahan Counties, Texas, in July, 1931, characters that suggested the phony disease but that appeared to be different. Fresh specimens from these trees were sent to the writer for identification and study. They gave only negative results with the recently discovered laboratory test for the phony disease, which confirmed the fact that the symptoms were not typical for the latter disease. A striking character of this material was the appearance of the twigs. New growth was abnormal both in number and arrangement of branches, and internodes were in most cases abnormally short.

Inoculation experiments were performed on July 15 and 16, 1931, in which 56 peach nursery trees were grafted or budded with material from the Texas specimens. Although the graft and bud-shield unions were in most cases successful, the inoculated trees failed to develop pathological symptoms during the remainder of 1931. With the beginning of growth in the early spring of 1932, symptoms of a virus disease were at once apparent in the new shoots from all aerial parts of the inoculated trees and in new sucker growth from the roots. Internodes were short, buds in the leaf axils started into growth in profusion, leaf-blades displayed striking mosaic patterns and in many instances were small, narrow, irregular in outline and crinkled. Over 95 per cent. of the inoculated plants developed positive symptoms of a mosaic disease. The fact that inoculum from either the root or the shoot of the suspicious trees in the field communicated the disease indicates that infection is systemic. Experiments have been performed for determining whether the disease may be transmitted by juice, but they have not had time to mature. Experimental plants are isolated in a double-screened (wire and cloth) house and every precaution is taken to prevent accidental dissemination of the disease.

In view of the fact that the above-described characters appeared uniformly in all the successfully inoculated plants, the name *peach mosaic* is suggested for the new disease. Not only is peach mosaic interesting in that it constitutes a new member of the group of peach virus diseases, but it is thought to be the first positive, infectious mosaic to be recorded for the peach. Yellows, little peach, rosette and phony disease cause the development of a variety of pathological characters in twig and leaf, but none of them produce mosaic patterns in the leaves.

Only a few trees are known to be infected with peach mosaic at the present time. Forty-two cases were located by inspectors, scattered over three blocks of trees in an orchard in Brown County, and a few cases were seen in an orchard in Callahan County. The supposedly sparse population and limited distribution of peach mosaic would appear to present an ideal case for thorough survey supported by prompt eradication.

A detailed, illustrated description of the disease and the experiments that proved its infectious nature will appear in a forthcoming publication.

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A CORRECTION

I HAVE just received from Mr. Hoyt S. Gale, of Los Angeles, a statement of facts which enables me to make two small corrections in my note, "The

[1] Pierce Larkin, *Jour. of Geol.*, v. 18, 1910.
[2] E. P. Rothrock, *O. G. S. Bull.*, 34, 1925.

Muddy Mountain Thrust in Fact and in Fiction," printed in SCIENCE, July 29. Mr. Gale was the first geologist to visit White Basin, in southern Nevada, after the discovery there of the mineral colemanite. He writes that John Perkins recorded his first claim in March, 1920, and not in the fall of that year as I had supposed. However, it was not until November, 1920, that the Western Borax Company acquired an interest in the deposits and began the first mining development in the district. This same company built the automobile road connecting the district with the Union Pacific Railroad; in my article the Pacific Coast Borax Company is given credit for building this road.

Although neither of these points affect the main thought of my published article, I wish to make the corrections in the interest of strict accuracy of the record.

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SOCIETIES AND ACADEMIES

THE NORTH CAROLINA ACADEMY OF SCIENCE

THE thirty-first annual meeting of the North Carolina Academy of Science was held at Wake Forest College, Wake Forest, N. C., on May 6 and 7, 1932, with 215 members and visitors registered at the meeting. Papers were presented before the general section of the academy on the first day. In the evening the retiring president, F. A. Wolf, professor of botany at Duke University, gave the presidential address on "An Old Botanical Puzzle" (tobacco frenching). On the second day the academy met in the following sections: general section, chemistry section, mathematics section and physics section. Seventy papers and ten exhibits were on the program. (Abstracts of most of these and complete papers of several will appear in an early number of the *Journal of the Elisha Mitchell Scientific Society.*)

Resolutions of respect were passed in honor of two deceased members, William Willard Ashe, senior forest inspector in "Region 7" of the U. S. Forest Service, a charter member of the academy; and of Mary Frances Seymour, professor of biology at Catawba College.

The academy celebrated its thirty years of active service by electing to life membership those charter members now on its roll. These members are C. S. Brimley, zoologist with the North Carolina Department of Agriculture; H. H. Brimley, curator of the State Museum; W. L. Poteat, president emeritus and professor of biology at Wake Forest College; Franklin Sherman, Jr., professor of entomology at Clemson College; and H. V. Wilson, professor of zoology at the University of North Carolina. The academy also elected to life membership C. W. Stiles, recently retired from the U. S. Public Health Service, who, though not a charter member of the academy, has held membership for many years while laboring so effectively for health improvement throughout the South. The executive committee reported the election of thirty-five active members during the year.

Miss Frances Katherine Faust, a student of the Greensboro Senior High School, was declared the winner of the high-school science prize, a silver loving-cup, for the best essay submitted by a high-school student. (Essays for 1932 were confined to the fields of chemistry and physics).

The officers elected for 1933 were:

GENERAL ACADEMY

President, J. B. Bullitt, University of North Carolina.
Vice-president, Earl H. Hall, North Carolina College.
Secretary-treasurer, H. R. Totten, University of North Carolina.
Executive Committee, the above officers; W. L. Porter, Davidson College; F. W. Sherwood, N. C. Agricultural Experiment Station; Charles M. Heck, State College.
Representative to the A. A. A. S., H. R. Totten, University of North Carolina.

CHEMISTRY SECTION

Chairman, F. W. Sherwood, N. C. Agricultural Experiment Station.
Vice-chairman, H. D. Crockford, University of North Carolina.
Secretary-treasurer, R. W. Bost, University of North Carolina.
Councilor, L. G. Willis, State College.
Executive Committee, L. A. Bigelow, Duke University; A. S. Wheeler, University of North Carolina; J. H. Saylor, Duke University.

MATHEMATICS SECTION

Chairman, J. M. Thomas, Duke University.
Secretary, Helen Barton, North Carolina College.

PHYSICS SECTION

Chairman, H. E. Fulcher, Davidson College.
Secretary, C. N. Warfield, North Carolina College.

The thirty-second annual meeting of the North Carolina Academy of Science will be held at Davidson College, Davidson, N. C., in the spring of 1933.

H. R. TOTTEN,
Secretary