Further tests are in progress in order to determine the earliest age at which these differences in ascorbic acid content of the leaves or other non-fruit parts of the plant are detectable. If the method proves successful and adaptable to other fruits and vegetables, it will make possible a "vitamin sieve" to precede all other tests of adaptability, winter hardiness, consumer preference and trade demands.

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DETERMINATION OF THE CHLOROPLAST PIGMENTS OF PLANTS

THERE is considerable evidence at hand on the possible relationship of the chloroplast pigments, especially the carotinoids, to sexual reproduction in plants.[1] To minimize discouragement in this type of study[2] and the drawing of premature conclusions one should exercise particular care in methods of determination of the carotinoids, a significant percentage of which may be lost in the process of extraction and purification. Of even greater importance is the selection of proper material for the quantitative analysis of these pigments. Carotene, for instance, seems to increase in concentration (Murneek—soybean leaves) and in quantity (Virtanen *et al.*—peas and wheat) till the time of flowering and early fruit setting and then decreases rapidly. Hence the mere determination of these pigments in "fruiting" and "vegetative" plants loses significance, unless their developmental states are carefully correlated with the analytical assay. In fact, at certain stages of growth the fruiting plants may have less carotene than the non-fruiting ones.

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VERTEBRATE LOCALITIES IN SOUTH PARK, COLORADO

DURING the past three summers we have been cooperatively engaged in a geological study of South Park, Colorado. This project was financed at first by grants from Northwestern University and from anonymous contributors, and brought to a successful conclusion, thanks to a grant from the Geological Society of America. With the permission of the society, the following brief account is published as of interest to stratigraphers and especially to vertebrate paleontologists.

The basin of South Park has been the site of subaerial and fresh-water deposition at various times since the Laramide Revolution. There are four localities where we have found fragmentary but identifiable vertebrate remains. Since, for lack of time, only short periods (a day or less in any one place) were devoted to search, there is reason to believe that any of these localities may yield better remains when more carefully examined.

Three of these localities appear to represent beds of White River age and are in what we have tentatively designated the Antero beds. In the southwest quarter, section 33, T. 12 S., R. 76 W., tuffaceous beds above a conglomerate bore fragments of a tooth identified by Mr. C. W. Gilmore, of the National Museum, as that of a titanothere or possibly uintathere of Oligocene or late Eocene age. In the southwest quarter, section 8, T. 14 S., R. 75 W., is a cut exposing fine tuff and gritty, blocky clays, mostly white to light gray in color, which aggregate about 120 feet in thickness; from these beds teeth, skull bones and limb bones were collected, representing six mammalian forms and pronounced by Mr. C. L. Gazin, of the National Museum, to be of White River (Oligocene) age. About a mile east of the Fairplay-Antero Junction highway in section 22, T. 10 S., R. 77 W., on the east side of a flat-topped ridge, white tuff beds are capped by pinkish sandy clays with local conglomeratic layers. From the pink beds several small fragmentary jaws and teeth were collected, representing chiefly insectivores, marsupials and artiodactyls, and referred by Mr. Gazin to White River age.

Immediately south of the park, on the divide separating South Park from Wagon Tongue Creek, in sections 31 and 32, T. 14 S., R. 75 W., gravelly and clayey beds, having a thickness of about 250 feet and tentatively called by us the Wagontongue beds, are well exposed in two northward-facing cuts. From the eastern exposure one jaw representing an Equid was collected and on this basis Mr. Gazin referred the beds to the upper Miocene or Pliocene.

The collections from these localities have so far been given tentative study only, but faunal lists are available. Our project does not include further collecting in the near future. We publish this note in the hope that others may find it possible to devote more time to search for fossils in the places listed. All except the last are readily accessible by secondary roads. If

[1] S. Satina and A. F. Blakeslee, *Proc. Nat. Acad. Sci.*, 12: 191–196 and 197–202, 1926. R. Chodat and W. H. Schopfer, *Comptes Rendus Soc. Phys. et Hist. Nat.*, 44: 176–179, 1927. M. Cajlahjan, *Comptes Rendus Acad. Sci. U. S. S. R.*, 1: 1:40–42, 1932. A. T. Virtanen *et al.*, *Biochem. Zeitschr.*, 267– 1–3: 179–191, 1933. A. E. Murneek, SCIENCE, 79: 528, 1934.

[2] SCIENCE, 82: 596, 1935.