

No. 6, p. 68. It is from 500 to 600 feet thick in this vicinity and the stratum of this particular exposure is included somewhere in the upper 150 feet of the formation. Some sandstone ledges appearing a mile and a half south contain *Ostrea larva* and impressions of *Halymenites*, and these ledges mark the beginning of the change to the overlying San Miguel beds. This trunk comes from at least 1,400 feet above the base of the Upper Cretaceous in this state. The Upson clay is underlain by about 750 feet of limestone of the age of the Austin chalk, and below this there are here some 250 feet of sediments corresponding to the Eagle Ford shales. So far as I am aware this is the only known cycad yet found in the Upper Cretaceous of America.

J. A. UDDEN

ROCK ISLAND, ILL.

SOCIETIES AND ACADEMIES

THE TORREY BOTANICAL CLUB

THE club was called to order on May 27, 1908, at the Museum Building of the New York Botanical Garden at 4 P.M. by Vice-president John Hendley Barnhart. Eight persons were present. After the reading and approval of the minutes for May 12, 1908, the announced scientific program was presented. The following abstracts were prepared by the authors of the papers:

The North American Species of Zygodon: Mrs. N. L. BRITTON.

Attention was called to the fact that *Zygodon viridissimus* is a rare species, having been found only a few times in the high mountains of the southern Alleghanies and northern New York. It is usually sterile and propagates by septate brood-bodies, borne in clusters in the axils of the leaves. Fruiting specimens, collected by Dr. J. K. Small on the summit of White Top, Virginia, showed that the peristome is absent, though all the capsules found were either too young or too old for satisfactory determination. A comparison with specimens collected by Drummond near Hudson Bay shows that the latter belong to *Zygodon rupestris*, which is variously placed by European authors as either a species or a variety of *Z. viridissimus*. Sterile specimens of *Zygodon gracilis* have been recently discovered in North Carolina by Dr. A. J. Grout. *Zygodon excelsus*, whose fruit is also still unknown, appears to be more closely related to *Leptodontium* than to *Zygodon*.

The Acceleration of the Period of Senescence by Radium Rays: C. STUART GAGER.

In view of the fact already well known, that, as old age approaches, the size of the cell-nucleus becomes less relative to that of the cell, measurements were made to see if this relation was affected by exposure to radium rays. It was found that in cells near the root-tip of *Zea Mays* the diameter of the nucleus was 35.5 per cent. that of the cells in unexposed plants, but only 33.33 per cent. in roots exposed to radium rays. This is some evidence that exposure to radium rays accelerates the approach of the period of senescence.

A Collection of Philippine Fungi: W. A. MURRILL.

A splendid collection of fungi, six hundred and thirty-seven packets in all, was recently received from the Bureau of Science, Manila, through Mr. E. D. Merrill, botanist. Previous work upon the fungi of this region was briefly sketched, and the collections of Philippine fungi in various institutions compared.

This paper will be published in full, with notes and description of interesting species, in a future number of the *Bulletin of the Torrey Botanical Club*.

An announced paper, on "Botanical Supplies in the Public Schools," was not given, on account of Dr. Hollick's unavoidable absence.

At the close of the stated program Dr. Gager exhibited some photographs of flowers, etc., taken in natural color at the New York Botanical Garden by the Lumière process. The process was briefly explained.

Dr. Murrill exhibited a specimen of "Tuckahoe," and called attention to the fact that the sporophore of a *Polyporus* had been obtained from a form common in parts of Canada, the "Tuckahoe" being a sclerotium, or a resting stage of the mycelium in mass. He would be glad to receive specimens of these sclerotia, either fresh or dried, from any locality, so that the various species, if more than one exists in this country, may be properly distinguished.

Dr. Barnhart exhibited for Mr. Nash a flowering specimen of the lace-bark tree, *Lagetta linearia*, a native of the West Indies. This tree is known to have flowered only once before in cultivation. An article on the specimen, and the peculiarities and uses of the lace-like bark appeared in the June, 1908, number of the *Journal of the New York Botanical Garden*.

C. STUART GAGER,

Secretary