

in life would have been at least 10 centimeters long and 6 centimeters in maximum diameter.

I have naturally not seen as much recent comparative material as I should like, but I have been impressed with the resemblance between the fossil and the fruits of the modern genus *Calycophysum*, which, according to Pittier, embraces at least five species of vines of valleys below about 4000 feet in Colombia, Venezuela, Ecuador, and Bolivia. It may be, of course, that some related genus whose fruits I have not seen, as for example, in the genus *Sicana*, may be more similar to the fossil, and there may still exist, in the Mexican region, a less decidedly tropical member of the Cucurbitaceae which the fossil represents. Those who will take the trouble to compare the accompanying illustrations with Pittier's figures of *Calycophysum brevipes*,* and especially with the section shown on his plate 30, will, I think, be forced to admit the great similarity between the fossil and this modern fruit, and will at least concede that its reference to the Cucurbitaceae is correct.

It is regrettable that the exact age of the fossil can not be determined. It is obviously Tertiary. If it be considered to represent a modern tropical genus it can scarcely be younger than late Eocene or Oligocene. If, on the other hand, it represents a modern genus of the Mexican plateau region, which is suggested by its geographical location, it might very well represent an element in the flora of the Panhandle and Clarendon Miocene, or even the Blanco Pliocene. I am inclined to think that one or the other of the latter alternatives is correct.

EDWARD W. BERRY.

SHORTER NOTES

BULBOUS BLUEGRASS (*POA BULBOSA* L.)

This grass has been established many years in the lawns of Capitol Square, Richmond, Virginia. It is there regarded with disfavor because while making a beautiful green turf in late fall, winter and early spring, it turns black and apparently dies in June and then makes very unsightly patches. The grass was first brought to our attention in June, 1915, by Mr. John W.

* Pittier, H., Cont. U. S. Natl. Herb., vol. 20, p. 487, pls. 27-30, 1922.

Richardson, of Richmond, but no positive identification was hazarded until February, 1916. At Arlington Farm, Virginia, the grass flowers in April and May, some of the panicles normal but in many the spikelets are proliferous. At Middletown, Connecticut, most of the panicles are normal.

The underground stem of *Poa bulbosa* is a true bulb, about the size of a wheat grain. These lie dormant at Arlington from about June 1 to October 15, but during the rest of the year the grass makes exquisite turf. Planted in Bermuda turf, the two provide a perennial green sward, the *Poa bulbosa* beginning to grow about the time the frost turns the Bermuda brown. In late spring the Bermuda greens up about the time the *Poa* is waning. For this use the grass promises to be of value particularly on golf courses in the South. It is esteemed for this purpose in southern France.

Poa bulbosa also occurs at Ashland, Virginia, and specimens with proliferating heads have been collected in Washington State at Bingen and Walla Walla. According to Prof. F. H. Hillman the bulblets of *Poa bulbosa* occur not uncommonly in alfalfa seed from Turkestan and have been found in alfalfa seed from France and red clover seed from Italy.

CHARLES V. PIPER.

NOTES ON SOME FOREIGN CRAB-GRASSES

A number of foreign crab-grasses have recently been introduced for experiments in foreign crop investigations by the United States Department of Agriculture. As it is desired to refer to these under their correct names, in another connection, eleven species heretofore known under various other generic names are here referred to *Syntherisma*, the oldest valid name* for the crab-grasses.

Syntherisma abyssinica (Hochst.) Newbold.

Panicum abyssinicum Hochst.; A. Rich. Tent. Fl. Abyss. 2: 360. 1851.

According to Dr. H. L. Shantz this grass is closely grazed by stock in Ukambe Province, Kenia, Africa.

Syntherisma eriantha (Steud.) Newbold.

Digitaria eriantha Steud., in Flora 12: 468. 1829.

* Hitchcock, U. S. Dept. Agr. Bull. 772: 215. 1920.

This grass is said to be one of the best tropical African sweet grasses for use as a cattle fodder.

Syntherisma exilis (Kippist) Newbold.

Paspalum exile Kippist, in Proc. Linn. Soc. 1: 157. 1842.

The seeds are known in Sierra Leone, Africa, as *fundi* and are prized as a cereal; Prof. Piper considers this a remarkably promising forage for the southern states.

Syntherisma henryi (Rendle) Newbold.

Digitaria henryi Rendle, in Journ. Linn. Soc. Bot. 36: 323. 1904.

Introduced from China as a possible forage crop.

Syntherisma iburua (Stapf) Newbold.

Digitaria iburua Stapf, in Kew Bull. Misc. Inf. 8: 382. 1915.

Iburu is grown as a cereal by the natives of northern Nigeria. It is being tested in this country as a forage crop.

Syntherisma nodosa (Parl.) Newbold.

Digitaria nodosa Parl. Pl. Nov. 39. 1842.

This species is reported by Stapf to be a good fodder in tropical Africa.

Syntherisma parviflora (R. Br.) Newbold.

Panicum parviflorum R. Br. Prodr. 192. 1810.

Reported by B. Harrison, Burringbar, New South Wales, to be a heavy yielder of nutritious fodder and to grow well in sandy soil.

Syntherisma puberula (Link) Newbold.

Digitaria puberula Link, Hort. Berol. 1: 223. 1827.

A slender annual, native to India, introduced for trial as a possible forage plant.

Syntherisma royleana (Nees) Newbold.

Panicum royleanum Nees; Steud. Syn. Pl. Gram. 47. 1854.

Considered by Prof. Piper to furnish excellent pasturage.

Syntherisma ternata (A. Rich.) Newbold.

Cynodon ternatus A. Rich., Tent. Fl. Abyss. 2: 405. 1851.

Cultivated for forage in the central provinces of Nigeria.

Syntherisma uniglumis (A. Rich.) Newbold.

Panicum uniglume A. Rich., Tent. Fl. Abyss. 2: 370. 1851.

Reported by Dr. H. L. Shantz to be an important river-bottom grass in the Belgian Kongo.

PATTY THUM NEWBOLD.

A GENUINE FOSSIL OPHIOGLOSSUM

Dr. Hollick's recent paper* on "The taxonomic and morphologic status of *Ophioglossum Alleni* Lesquereaux" is especially noteworthy for the admirable new figures he presents. We are agreed, at least, that the fossil has nothing to do with *Ophioglossum*. One objection to the idea that it is a pod is the fact that I could never see two valves in any of the specimens. Were they present they would be indicated by the overlapping



OPHIOGLOSSUM HASTATIFORME, twice natural size.

of the very open reticulation. *Dobinea*, on the other hand, is quite a new suggestion, but the marginal venation of that plant (not well shown in Dr. Hollick's figure) is quite unlike that of the fossil.

It is very interesting to now discover a perfectly genuine *Ophioglossum* in our Tertiary rocks. It was discovered by Mr. H. N. Brown of Lander, Wyoming, who transmitted it to Professor I. A. Keyte of Colorado College. It was finally referred to the Museum of the University of Colorado, to which it has been kindly presented. Two specimens were found.

***Ophioglossum hastatiforme* new species**

Lamina elongate, enlarged apically with the outline of a spear-head, the apex broad but acute; spike elongate, formed as usual in the genus, the gradually attenuate end not quite reaching the end of the lamina. Sporangia in about 28 pairs, the series

*Bulletin, Torrey Botanical Club, 50: 207-213. 1923.

about 16 mm. long; expanded portion of the lamina about 8 mm. long and 3.2 wide. The sporophyll not apiculate.

Wind River or Bridger formation, Eocene Tertiary; Tipperary, Wyoming. The plants were possibly immature, but the long lamina accords with the mature condition of such species as the Asiatic *O. pendulum*, although that does not present the outline of a spear-head. The generic reference is, at any rate, quite satisfactory.

T. D. A. COCKERELL.

BOOK REVIEW

The New York Walk Book* while meant for hikers should be of interest to all botanists in the neighborhood of New York. In the introduction the author states that "if this book seems to imply that scenery and climbing and rocks and mileage are the main goal for walkers, it is not for any lack of appreciation of the lure and variety of rewards offered by hunts for trees and all growing things, birds and all moving things, snow tracks or winter buds." The book divides the region within some fifty miles of the city into fifteen districts, briefly describes each as to the general topography and other features, and outlines the best walks that can be taken. These walks are described in detail, beginning with the best ways of reaching the starting points, with the time and cost by trolley or train, the character of the walk—level or hilly, rough or smooth, dry or swampy, the trails and paths to follow, special features of interest, the location of springs, etc. The directions are so detailed and clear that it is hard to see how anyone at all used to the outdoors can lose the trail. Moreover, the directions have such suggestion of wild places, fine views, the possibilities of finding rare plants and the joy of the great outdoors that to read them is to be filled with a great desire to take the trail, "to keep to the ridge to a fine spring under an ash tree, to follow along the ridge through the briar patch and the wild apple orchard, up the nose of the hill past a fine boulder." The botanist certainly will find much of interest

* New York Walk Book, Raymond Torrey, Frank Place and Robert L. Dickinson, The American Geographical Society, Broadway at 156th Street, New York. Pocket Edition, thin paper and flexible covers, \$2.00; Special Library Edition, heavier paper and fifteen half tones, \$4.00.



Piper, Charles V., Newbold, Patty Thum, and Cockerell, Theodore D. A. 1924.
"SHORTER NOTES." *Torrey* 24(1), 7-11.

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