Measurement of light from artificial sources has been done chiefly by photometric methods, but it is to be pointed out that the results obtained in this manner are scarcely more adequate than those of the pyrheliometer.

The sodium cell connected with a suitable portable galvanometer offers many advantages for the measurement of light intensities in natural habitats, and a comparison should be made between it and the various photometers and illuminometers which are now being recommended to the forestry student and the ecologist. It seems highly probable that more exact measurements in the blue-violet region so important in photolysis and phototropism will yield information by which some of the current discordant results may be harmonized. In any case the action of the photoelectric cell in light is more nearly parallel to that of the organism than that of any other light measuring instruments hitherto available.

We are indebted to Professor Jacob Kunz, of the University of Illinois, who has very kindly constructed some cells to meet our particular needs and whose advice has been most helpful in the application of this instrument to physiological uses.

D. T. MacDougal,
H. A. Spoehr

Desert Laboratory,
Tucson, Arizona,
March 30, 1917

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

The 569th regular meeting of the society was held in the Assembly Hall of the Cosmos Club, Saturday, April 7, 1917, called to order at 8 P.M. by President Hay with 45 persons in attendance.

Under the heading brief notes and exhibition of specimens Dr. R. W. Shufeldt exhibited lantern slides of living California quail, calling attention to their rapidly diminishing numbers. Dr. L. O. Howard called attention to the cocoon of a *Cecropia* moth containing moon-stones that had lately come to his notice. He expressed the opinion that they had been placed there by a thieving crow or bluejay. Mr. A. Wetmore stated in this connection that he had seen bluejays insert small acorns and kernels of corn into large cocoons.

The regular program consisted of two communications:

A Note on the Hibernation of the Mud-turtle: Alexander Wetmore and Francis Harper.

The authors reported finding a specimen of *Kinosternon pennsylvanicum* shortly after it had left its underground winter-quarters. The hole from which it had emerged was beneath a dense growth of green-briar in an old field and about fifty yards from the nearest marsh. The burrow was 9½ inches deep, and was open save at the lower end, where the animal had apparently lain encased in a mass of mud. The actions and conditions of the turtle after being placed in water were described in detail, and an account of a post-mortem examination of the viscera was given. Messrs. W. P. Hay, M. W. Lyon, Jr., and Wm. Palmer took part in the discussion.

Botanizing in the Hawaiian Islands: A. S. Hitchcock.

The speaker visited the Hawaiian Islands during five months of 1917. He said the trade winds deposit their moisture upon the eastern and northern mountains of all the islands, furnishing the conditions for rain forests in these regions. The lee side of the islands is dry even to aridity. An interesting feature of the wet areas at or near the summit of the ridges are the open bogs. These bogs are devoid of trees and large shrubs, but contain a variety of low shrubs and herbaceous plants. Many species form tussocks, or hemispherical masses raised above the level of the bog. The most conspicuous of the tussocks is made by a sedge (*Oreobolus furcatus* Mann.). Three peculiar species of *Panicum* are tussock-formers (*Panicum monticola* Hillebr., *P. imbricatum* Hillebr. and *P. isachnoides* Munro). Owing to the extreme isolation of the islands the flora is peculiar and interesting. The family Lobeliaceæ is represented by about 100 species, belonging to about 6 genera. Many species are arboreous, forming trunks ten to twenty feet, or in a few cases as much as forty feet high. The crown of foliage gives the aspect of a palm. The grasses, disregarding the introduced species, are not numerous, but several are peculiar. The genus *Eragrostis* is represented by numerous species. A rare species of *Poa* (*Poa siphonoglossa* Hack.) produces leafless rushlike stems, as much as fifteen feet long. His talk was illustrated by maps, botanical specimens and numerous lantern-slide views of various features of the islands.

M. W. Lyon, Jr.,
Recording Secretary