in connection with biological work, PAUL WEATHERWAX; Bacteria in frozen soil, H. A. NOYES; Some abnormalities in plant structure, M. S. MARKLE; Plants of Boone County, Kentucky, JAMES C. NELSON; Plants new to Indiana. VIII, CHARLES C. DEAM; Analyses of 100 soils in Allen County, Indiana, R. H. CARR and V. R. PHARES; The relation of nitrogen, phosphorus, and organic matter to corn yield in Elkhart County, Indiana, R. H. CARR and LEROY HOFFMAN; Soil survey of Cass County, Indiana, COLONZO C. BEALS; Ascomycetes new to the flora of Indiana, BRUCE FINK and SYLVIA C. FUSON; The dormant period of timothy seed after harvesting, M. L. FISHER.—J. M. C.

Douglas firs.—HENRY[25] and FLOOD have described three American and four Asiatic species of *Pseudotsuga*, separating the Pacific Coast trees from those found in the Rocky Mountains. Aside from some minor differences in leaf and cone structure, the authors believe that the Rocky Mountain form, *P. glauca*, shows more xerophytic structures and is much more resistant to injury by frost and drought. The differences in the behavior of the two forms under silvicultural conditions in Great Britain seems to afford a much better basis for considering the eastern form a separate species. Of the Asiatic species, one is native to Japan, one to Formosa, and two are native to Yunnan, China. All are found in restricted areas and are to be regarded as so rare as to be of little economic importance.—GEO. D. FULLER.

Evaporation and vapor pressure deficit.—It has been shown by JOHNSTON[26] that it is possible, by using vapor pressure deficit and wind velocity data, the former being derived from hygrometer and thermometer readings, to calculate the "potential evaporation" or evaporating power of the air in a manner that will show a very close agreement with the records from the porous cup atmometer. In this way considerable data collected by the Weather Bureau may be translated into terms that are significant and valuable for the ecologist.—GEO. D. FULLER.

Plantago in Hawaii.—ROCK[27] has monographed the two endemic species of *Plantago* occurring in the Hawaiian Islands. One of them, *P. princeps*, is a branching shrub, and its variability is indicated by the fact that 8 varieties are recognized. The other species, *P. pachyphylla*, includes 7 varieties, among which there is a new one (var. *anomala*) which combines the characteristic capsule and venation of *P. pachyphylla* with the seeds and arborescent branching habit of *P. princeps*.—J. M. C.

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[25] HENRY, A., and FLOOD, MARGARET G., The Douglas firs: a botanical and silvicultural description of the various species of *Pseudotsuga*. Proc. Roy. Irish Acad. **35**: sect. B. 67–92. *pls. 12–14*. 1920.

[26] JOHNSTON, E. S., Evaporation compared with vapor pressure deficit and wind velocity. Mo. Weather Rev. **47**:30–33. *figs. 2*. 1919.

[27] ROCK, J.F., The genus *Plantago* in Hawaii. Amer. Jour. Bot. **7**:195–210. *pl. 13*. 1920.