

### Fixation of Atmospheric Nitrogen by *Hippophaë rhamnoides* L.

G. Bond and J. T. MacDonnell (*Ann. Bot.*, 20, 79, 501; 1956) have shown that when *Hippophaë* plants were inoculated at the six-leaf stage with a suspension of crushed nodules, they began to develop nodules in about two weeks and soon afterwards were able to grow satisfactorily in culture solution free of combined nitrogen. Some 79 mgm. nitrogen per plant was accumulated during seven months of active growth. They conclude that the nodules fix atmospheric nitrogen, and that in its nitrogen nutrition the *Hippophaë* plant shows a close similarity to the nodulated legume. They point out that *Hippophaë* and the other angiosperms with nitrogen-fixing root nodules are all woody species or belong to a family which includes woody types. They also make the interesting suggestion that the physiological property under consideration is a very ancient character and may go back to a period when only woody plants existed. In a further study, G. Bond has found that field nodules of alder, like those of plants grown in the greenhouse, regularly fix nitrogen (*New Phytol.*, 55, 2, 147; 1956).

### Scintillation of Starlight

A PAPER by A. H. Mikesell on "The Scintillation of Starlight" (Pub. U.S. Naval Obs., Series 2, 17, Part 4, 143; 1955) describes the results of the observations of scintillation since 1950. The two main objects of the investigations were to measure its effects on the accuracy of stellar photometry and to locate the underlying meteorological causes of the phenomena; and a very full description is given in the paper of the equipment, reduction of observations, discussion of the results, etc., with numerous diagrams. It was found that harmonic components of scintillation decreased with frequency approximately uniformly from 0.1 c./s. to about 500 c./s. Many combinations of telescopes and photoelectric photometers were used, and it was found that the form of the optical equipment was unimportant so long as the objective aperture was circular and all incident light reached the photo-tube. Seasonal variations in scintillation plotted against different frequencies gave the largest values at high frequencies. There was a correlation between scintillation and the maximum speed of winds aloft, especially with winds at altitudes of 8-16 km., but at levels much lower than this region the correlation was not so obvious. At frequencies higher than 150 c./s. the action of the wind was most striking, and on thirty-eight nights when scintillation was observed at frequencies greater than 550 c./s. the maximum reported speed aloft was always greater than 85 m.p.h.; on sixty-two other nights when scintillation appeared only at frequencies less than 550 c./s. the maximum wind-speed exceeded 85 m.p.h. fewer than ten times, and the average maximum speed was 72 m.p.h. with a standard deviation of 23 m.p.h. Detailed examination of the distributions of winds or temperatures on each of the hundred nights of observations showed that there was no correlation of scintillation with a common weather characteristic, such as wind shear, wind direction, location of wind maximum or minimum, intermediate temperature inversion, location or minimum value of the stratospheric temperature, or temperature lapse-rate. The variation of scintillation with zenith distance  $z$  of the light source was found to be sensitive to frequency; while scintillation is constant at about

100 c./s., below or above this frequency it changes greatly with  $z$ , a fact which encourages the use of Polaris as a scintillation source in routine observations. Although there is some correlation between scintillation and seeing, more extensive observations and more definitive criteria of seeing are necessary before accurate assessment of the correlation can be made.

### Smuts Collection of the Transvaal Museum, Pretoria

IN Bulletin No. 2 of the Transvaal Museum, Pretoria, it is stated that the Smuts collection has, with the consent of the Minister of Education, Arts and Science, been deposited by the Union Archives in the Transvaal Museum. The collection comprises a wealth of items belonging to the late J. C. Smuts and include his field-marshal's baton, medals and decorations, numerous freedoms of cities and other presentations, together with many personal items.

### Announcements

PROF. W. T. ASTBURY, professor of biomolecular structure, University of Leeds, has been elected a foreign member of the Swedish Royal Academy of Sciences.

DR. D. S. DANE has been appointed lecturer in microbiology in The Queen's University of Belfast.

DR. G. R. HARRISON, dean of science at the Massachusetts Institute of Technology, has been awarded the first Pittsburgh Spectroscopy Award, which has been established by the Spectroscopy Society of Pittsburgh in recognition of distinguished contributions to this field of science. Among Dean Harrison's outstanding achievements are his numerous studies of line spectra, the measurements and compilations for the "M.I.T. Table of Wavelengths" and important contributions to the ruling of gratings; for ten years he has been editor of the *Journal of the Optical Society of America*.

THE Council of the Gesellschaft Deutscher Naturforscher und Ärzte has decided to establish from time to time a competition to direct attention to certain problems, in natural science and medicine, which call for special discussion, and a prize of D.M. 7,000 has been allocated this year for treatises on "The Formation of Stars by Condensation of Diffuse Matter". Entries may be in English, French or German and should be submitted by April 30, 1958, to the Hamburger Sternwarte, Hamburg-Bergedorf, Gojenbergsweg 112, from which further information can be obtained.

THE fifth International Congress of the International Association on Quaternary Research will be inaugurated at Madrid on September 30 and closed at Barcelona on October 3, 1957. Meetings will comprise sessions dealing with a wide range of subjects bearing on Quaternary geological studies. There will be excursions centred on both cities and into the country between them, to study Quaternary geology and Palaeolithic sites. Further information can be obtained from Señor L. Solé Sabaris, Instituto Geológico, Universidad, Barcelona, Spain.

ERRATUM. The title of the communication by Dr. Winifred M. Watkins and Prof. W. T. J. Morgan in *Nature* of December 8, p. 1289, is incorrect; it should read, "Role of O- $\beta$ -D-Galactopyranosyl-(1  $\rightarrow$  4)-N-acetyl-D-glucosamine as Inhibitor of the Precipitation of Blood Group Substances by Anti-Type XIV Pneumococcus Serum".