understand the organism as it actually lives in nature. Not until this has been accomplished may it be truly claimed that an investigation in marine biology has been carried to its logical termination. This same conception, of course, applies to land organisms and fresh-water organisms; to mountain biology, desert biology, lake biology, river biology, etc. It is that conception which insists that no organism can be fully understood, in its structure and function quite as much as in its distribution and behavior, apart from its natural abode.

Variations of Picris echioides: R. R. GATES.

Picris echioides is a European plant introduced into California. In a small colony of this composite at Berkeley several marked variations were observed. The most interesting of these were two individuals in which all the florets of the heads were "quilled" or tubular, instead of all being flat and ray-like, as in the ordinary form. In the normal form the heads open early in the morning, but on bright days they are closed again by noon, while in the quilled variation the heads remain open several hours longer and never completely close. Hence there is a marked difference in the physiological reactions of the two forms. Another variation is in the color of the rays, which are usually dark yellow; but occasional plants occur in which all the rays are pale lemon yellow. Again, the stems are usually green, but occasionally reddish throughout. There are also great differences in size, which are very probably genetic in nature. The shortest plants are slender and only 18 inches high; while the tallest are very stout, differ in their branching, have much larger leaves and reach nearly 5 feet in height. Other differences can also be observed, indicating that a considerable number of genetic variations exist in this interbreeding population. It is not known whether similar variations occur in this species in its natural European home.

FORREST SHREVE,
Secretary-Treasurer

SOCIETIES AND ACADEMIES

THE AMERICAN MATHEMATICAL SOCIETY

THE one hundred and eighty-sixth regular meeting of the American Mathematical Society was held at Columbia University on Saturday, October 28, extending through the usual morning and afternoon sessions. The attendance included thirty-nine members. President E. W. Brown occupied the chair. The council announced the election of the following persons to membership in the society: Mr. A. C. Bose, Calcutta, India; Professor L. C. Emmons, Michigan Agricultural College; Professor A. M. Harding, University of Arkansas; Dr. W. L. Hart, Harvard University; Dr. J. R. Musselman, University of Illinois; Mr. S. Z. Rothschild, Immediate Benefit Life Insurance Company, Baltimore, Md.; Professor Pauline Sperry, Smith College. Six applications for membership were received.

Committees were appointed to audit the treasurer's accounts and to arrange for the annual meeting in December and the summer meeting of 1917.

The following papers were read at the October meeting:

Mrs. J. R. Roe: "Interfunctional expressibility problems of symmetric functions."

E. D. Roe, Jr.: "A geometric representation."

E. D. Roe, Jr.: "Studies of the Kreisteilungsgleichung and related questions."

E. D. Roe, Jr.: "The irreducible factors of $x^n + x^{n-1} + x^{n-2} + \ldots + 1$."

H. B. Mitchell: "On the imaginary roots of a polynomial and the real roots of its derivative."

J. H. Weaver: "Some properties of parabolas generated by straight lines and circles."

F. N. Cole: "Complete census of the triad systems in fifteen letters."

O. E. Glenn: "Translation surfaces associated with line congruences."

O. E. Glenn: "Methods in the invariant theory of special groups, based on finite expansions of forms."

R. L. Moore: "A theorem concerning continuous curves."

J. R. Kline: "The converse of the theorem concerning the division of a plane by an open curve."

H. S. Vandiver: "Note on the distribution of quadratic and higher power residues."

H. S. Vandiver: "The generalized Lagrange indeterminate congruence for a composite ideal modulus."

The annual meeting of the society will be held at Columbia University on Wednesday and Thursday, December 27–28. At this meeting President Brown will deliver his retiring address, on "The relation of mathematics to the natural sciences." A regular meeting of the society will also be held in Chicago December 22–23. The San Francisco Section will meet at the University of California on Saturday, November 25. The Southwestern Section will meet at the University of Kansas on Saturday, December 2.

F. N. COLE,
Secretary