writer has been able to determine, pasteurella equiseptica-like strains have not heretofore been isolated from the brains of horses suffering from so-called cornstalk disease.

ROBERT GRAHAM

UNIVERSITY OF ILLINOIS

A FRESH WATER SPONGE FROM SOUTHERN CALIFORNIA

FRESH-WATER sponges are rare in California, largely because of the scarcity of permanent streams. This is especially true of so-called Southern California, south of the San Gabriel or Sierra Madre mountains. It appears, in fact, that hitherto no fresh-water sponge has ever been reported in this part of the state. On October 13, 1934, a student, Mr. Donald Nelson, found and a few days later brought to my attention such a sponge, *Asteromeyenia plumosa* (Weltner) Annandale. This is a rare species, originally described from Kinney County, Texas, and having as its only other reported locality Shreveport, Louisiana. The two Southern California specimens were each about the size of the palm of a man's hand, growing in a cement weir box which is part of an irrigation system, near Fullerton (just southeast of Los Angeles). The source of water is the Santa Ana River, which runs deep in winter, but is often dry in the summer. The specimen collected was well provided with gemmules and is typical to the most minute degree of the species as previously described.

M. W. DE LAUBENFELS

ALTADENA, CALIF.

SCIENTIFIC BOOKS

ELECTROLYTES

Electrolytes. By HANS FALKENHAGEN, professor in the University of Köln. Translated by R. P. Bell, fellow of Balliol College, Oxford. Royal 8vo, pp. 346. $9.50. Oxford University Press.

THE motif of this comprehensive monograph is "not only to give the most important theoretical principles in the domain of electrolytes, but also to give the reader some idea of methods of experimental investigation and the reliable experimental results obtained." This statement obviously implies the notable advances made by Debye and his followers, but readers interested in topics closely allied to electrolytes will find the English translation extremely valuable.

Although the present book is for the greater part simply a translation of the 1932 German edition, it has been revised in consultation with the author to bring it into line with the experimental and theoretical advances of the past two years. The added topics embrace: theoretical and experimental work on transport numbers, Onsager's treatment of the dissociation field effect, the extension by Fuoss and Kraus of Bjerrum's theory of ion-association and finally an appendix by R. H. Fowler illuminating R. H. Gurney's application of quantum mechanics to electrode processes.

The author does not assume that, since the basic subject-matter is a time-honored one, all readers will be prepared to comprehend the intricacies of such specialized topics as those just enumerated. To this end, he devotes the first six chapters to an elementary and well-organized presentation of the problems of the equilibrium state and the irreversible process of conductance in a way which should prove helpful to one who is approaching the subject for the first time.

The thermodynamic treatment follows closely the classical methods of Planck, modified, of course, to embrace the activity concept of G. N. Lewis. Although disciples of the American and Danish schools of physical chemistry would doubtless prefer a more concise and less labored development, nevertheless the thermodynamics is eminently sound and consistent. In chapters 7 to 10, the principles of the Debye-Milner theory are developed pictorially, then mathematically and finally tested in their limiting forms as explanations of the solubility influences of ions upon ions, the salting-out effect of ions upon neutral molecules, heats of dilution and dependence of conductance upon concentration (Onsager's theory), viscosity, frequency and field strength (Wien effect).

The author has made notable contributions, in collaboration with Debye, on the intricate problem of the frequency and field strength effects, and hence is well qualified to present the subject. Although there is now available a wealth of experimental data supporting the theory in its numerous aspects, the author selects examples which not only substantiate his case, but give appropriate credit to pioneer workers in the field.

The title of Chapter 11, "More Concentrated Solutions," may prove somewhat disappointing in that one who has not been dealing with the subject might expect that the concentrated solutions of industrial importance are to be discussed. As a matter of fact, the term refers primarily to that all too dilute range of concentrations for which it is necessary to consider the ion-size parameter "a" as a correction to the limiting laws—to account for the specific effects of individual electrolytes. The Hückel formula which is based upon the assumption of specific linear decrease of dielectric constant with concentration and which reproduces the experimental results of really concentrated solutions (0.1 to 4 M) is dismissed as little