

zone.¹ While leading to some confusion in the resulting effort to separate Transition zone into upper and lower divisions, this error is largely compensated by the fact that the vertical range of each species is given and the zones can be checked up thereby. When the zone-marking species are accurately mapped over wider areas, such local defects are easily eliminated.

Approximately ninety pages are devoted to notes on the 139 species of birds, and it is only fair to say that few lists of equal length have contained so much important data on distribution, abundance, migration and habits. A chapter on Bird Population and its Modifying Influences throws much light on local migrations up and down the mountains in pursuit of food, while the bird census and the varying abundance of birds in relation to insect food show the vital importance of birds in an agricultural region. The great number of nesting records, each with date, exact locality, altitude and zonal surroundings, gives for the first time sufficient data for mapping the breeding zones of many of the species in these mountains and furnishes a mine of material for the student of distribution. The nesting habits, food habits, songs, call notes, rare eggs and rare or little known plumages are described and much information that is actually new is put on record.

The notes on 35 species of mammals cover twenty-six pages and are practically all first-hand records of observations on distribution, abundance, food and habits. Many of the species that show local variation or interesting peculiarities are described in detail and in some cases tables of measurements are given. All of these notes are of permanent value and contribute toward a fuller knowledge of our native mammals.

Eleven pages of notes on lizards and snakes

¹The same error of extending transition zone to the upper limit of *Pinus jeffreyi* was made by Dr. H. M. Hall in his otherwise accurate and excellent botanical survey of the San Jacinto Mountains, and in this case also it led to an effort to separate the zone into upper and lower divisions. (See University of California Publications in Botany, Vol. I., pp. 1-140, 1902.)

are of importance in defense of these interesting, useful and much maligned animals.

Besides the colored zone map and transverse section of the mountain zones there are twenty-two full-page plates from photographs of mountain scenery, trees, shrubs, birds' nests and snakes.

The value of such detailed, accurate and reliable local surveys is appreciated nowhere more than in the U. S. Biological Survey, which is working along the same lines over wider fields.

VERNON BAILEY

The Microscope; an Introduction to Microscopic Methods and Histology. By SIMON HENRY GAGE, Professor of Histology and Embryology, Emeritus in Cornell University. Tenth edition. Pp. 359, 258 figures.

The tenth edition of this well-known book on the microscope retains all the meritorious features which have contributed to the success of the former editions. It has been the author's constant desire to have his book represent the "present state of knowledge of the microscope and the technique of its employment." All who have had acquaintance with the former editions (and who among microscopists has not?) know how successful he has been in accomplishing this end. In the present edition, besides incorporating discussions of new or improved features of the microscope and its accessories, additions have been made to the sections dealing with the manipulation of materials.

The same general order of presentation has been followed as in former editions. Of the ten chapters which constitute the work, chapters I.-VII., deal with the microscope and its appliances. Chapter VIII. is given up to various methods of photography (including photographing with a microscope, photographing opaque objects and the surface of metals and alloys, enlargements, etc.) and is rich in practical directions and advice, serviceable to the experienced, as well as to the inexperienced, worker. Chapter IX. is devoted to the preparation of reagents, the making of microscopic mounts, together with notes and comments on materials, methods of storing, and

the like, and is interspersed with numerous useful hints and cautions. In the 48 pages of chapter X., the author gives a concise statement of the fixation, sectioning, staining and mounting of tissues, together with brief discussions of microtomes and section knives, drawings for book illustrations, and the preparation of models. The practicability of the method for making models of blotting paper will appeal to all biological workers.

The book is remarkably free from typographical errors. Only two or three insignificant ones have been noted by the reviewer, as: the omission of the prime marks of $A'B'$, Fig. 15, page 6; *ecently* for *recently*, page 260; and *specimen* for *specimen*, page 282.

An extended review of the book would be superfluous as its merits are already sufficiently known to the readers of SCIENCE. Its past success is adequate commentary on the author's judgment as to what is needful in a book devoted to the principles involved in making microscopic observations.

MICHAEL F. GUYER

SCIENTIFIC JOURNALS AND ARTICLES

THE April number (volume 10, number 2) of the *Transactions of the American Mathematical Society* contains the following papers:

L. E. Dickson: "General theory of modular invariants."

I. Schur: "Beiträge zur Theorie der Gruppen linearer homogener Substitutionen."

E. J. Wilczynski: "Projective differential geometry of curved surfaces (fourth memoir)."

Edward Kasner: "Natural families of trajectories: conservative fields of force."

G. W. Hartwell: "Plane fields of force whose trajectories are invariant under a projective group."

W. A. Manning: "On the order of primitive groups."

G. D. Birkhoff: "Existence and oscillation theorem for a certain boundary value problem."

Maxime Böcher: "On the regions of convergence of power series which represent two-dimensional harmonic functions."

THE April number (volume 15, number 7) of the *Bulletin of the American Mathematical*

Society contains: Report of the February meeting of the society, by F. N. Cole; "Bézout's Theory of Resultants and its Influence on Geometry" (presidential address), by H. S. White; "On the Representation of Numbers by Modular Forms," by L. E. Dickson; "Note on Lüroth's Type of Plane Quartic Curves," by H. S. White and K. G. Miller; "Cantor's History of Mathematics," by D. E. Smith; "Shorter Notices": Slaughter and Lennes' High School Algebra, by E. B. Lytle; Schoenflies' Einführung in die Hauptgesetze der zeichnerischen Darstellungsmethoden, by Virgil Snyder; Laurent's Géométrie Analytique Générale, by E. B. Cowley; Petit-Bois' Tafeln unbestimmter Integrale, by E. L. Dodd; Annuaire du Bureau des Longitudes, by E. W. Brown; "Notes"; "New Publications."

THE May number of the *Bulletin* contains: Report of the February meeting of the San Francisco Section, by W. A. Manning; "The Construction of a Space Field of Extremals," by E. G. Bill; "The Second Variation of a Definite Integral," by A. L. Underhill; "A Simpler Proof of Lie's Theorem for Ordinary Differential Equations," by L. D. Ames; "Heath's Euclid," by D. E. Smith; "Shorter Notices": Czuber's Differential- und Integralrechnung, by L. W. Dowling; Fabry's Traité de Mathématiques Générales, by C. L. E. Moore; Schubert's Auslese aus meiner Unterrichts- und Vorlesungspraxis and Loria's Passato ed Presente delle Teorie Geometriche, by Edward Kasner; Müller's Führer durch die mathematische Literatur, by G. A. Miller; Voss' Ueber das Wesen der Mathematik, by Florian Cajori; "Notes"; "New Publications."

BOTANICAL NOTES

THE BOTANY OF THE FAERÖES

EIGHT years ago under the general direction of Professor Dr. Eugene Warming the first volume of a comprehensive work on the vegetation of the Faeröes Islands was published simultaneously in Copenhagen (Det Nordiske Forlag) and London (John Wheldon & Co.). It contained 340 pages of text, ten plates and