

## ORNITHOLOGICAL LITERATURE

A COMPARATIVE STUDY OF THE EGG-WHITE PROTEINS OF PASSERINE BIRDS. By Charles G. Sibley. Bulletin 32, Peabody Museum of Natural History, Yale University, 1970:131 pp., 38 figs. Paper cover. Price not given. A COMPARATIVE STUDY OF THE EGG WHITE PROTEINS OF NON-PASSERINE BIRDS. By Charles G. Sibley and Jon E. Ahlquist. Bulletin 39, *ibid*, 1972:276 pp., 37 figs. Paper cover. \$7.50. Available from Publications Office, Peabody Museum of Natural History, Yale University, New Haven, Conn. 06520.—These two works bring up to date the studies that Sibley and his coworkers have made on egg-white proteins, and they provide a background into which these studies can be placed.

The first report starts with a description of the electrophoretic techniques used and the rationale for using the data so obtained in classification. Of particular value to those not familiar with the field are a discussion and a figure describing the effects of denaturation, sample concentration, polymorphism, and differences in number and mobility of proteins. These are important in attempting to evaluate the differences in the patterns presented in the main portion of the paper. This last consists of accounts of each passerine family, including a list of species examined and a discussion of how egg-white data agree or conflict with other sets of characters. The family accounts are preceded by historical reviews of the classification of the non-oscines and oscines, and followed by a discussion and summary, a bibliography, and a series of figures, most of them showing starch-gel electrophoretic patterns of sixteen species. The second report is essentially a continuation of the first, starting with a review of the principal characters used in the classification of birds and continuing with an updating of techniques and analysis of protein electrophoresis, accounts of each order, a summary, bibliography, and figures.

The scope of the work is world-wide, as it is based on the analysis of 6,600 specimens of egg-white representing 1,484 species and all but 10 passerine and seven non-passerine families of Wetmore's classification. These figures are slightly misleading, for some specimens were poor or unusable (e.g. those of the Vireolaniidae, Cyclarhidae, Galinidae, and *Regulus*); in some instances only a single species of highly diverse groups (e.g. woodcreepers, cotingas, and honey-creepers) was available.

Much of the work is summarized at the end of each paper, in lists of conclusions under the headings of "highly probable," "probable," "possible," and "improbable." Here one finds many things: long-held ideas are confirmed (e.g. "It is highly probable that the Alcidae are closely related to the other charadriiform birds") or denied ("It is highly probable that *Opisthocomus* is a cuckoo"); recently suggested changes are supported ("It is possible that the nearest relatives of the Jacanidae are the Rostratulidae" and "that *Pterocles* is more closely allied to the other shorebirds than to the pigeons") or not ("It is probable that the New World vultures are closer to the other diurnal raptors than to the storks"); one's pet ideas may be given credence ("It is highly probable that *Aegithalos* and *Psaltriparus* are closely related to one another" and "It is possible that the loons are more closely related to the Charadriiformes than to any other living group"); new material is provided on many old controversial subjects, including the monophyly of the ratites, the relationships of the Hawaiian honey-creepers, and the finch-weaver-bird-estrildine problem; and finally many new ideas are presented, such as the possible relationships between *Parus* and *Certhia*, and of *Promerops* with the starlings.

The Australian passerine groups have long been one of the problem areas in avian systematics, and here Sibley has produced evidence suggesting several rearrangements.

Some of the "possibilities" relating to this fauna are that the Meliphagidae are composed of two subgroups; that *Acanthiza*, *Epthianura*, and *Pardalotus* are more closely related to one or another of the meliphagid groups than to the groups with which they were formerly allied; and that *Rhipidura* and *Sphenostoma* are related to each other and are not muscicapids. These and numerous other possibilities raised in these studies point the way toward research in other areas, such as behavior and morphology, as well as to more refined electrophoretic approaches. They also go far in showing that the classification of the higher categories of birds based on phylogenetic relationships is an active field in which many new discoveries are yet to be made.

The two reports constitute a single work providing two major contributions. I predict that the first, the historical review of the classification of birds, with its extensive literature cited section, will become a standard reference for avian taxonomists. On the other hand, the data on egg-white proteins are part of a rapidly changing field. Indeed, the work on several groups has already been superseded by more recent papers by Sibley and his coworkers. One might well question combining the two contributions into single papers on the grounds that the relatively unchanging nature of the first might lead a reader to believe that the ideas in the second might change as little.

There is much to look forward to in the field of protein chemistry. Isoelectric focussing has already brought added resolution of electrophoretic patterns, and other kinds of proteins may yield results that can be compared with those from egg whites. Material from many other species is needed. For example, the relationships of *Aegithalos* and *Psaltriparus* cannot be resolved without a study of the proteins of *Paradoxornis* and its relatives, nor can the partitioning of the "Coerebidae" be tested with only egg-white of the type genus. There still remains the big question—what is the adaptive significance of the demonstrated differences in egg-white proteins? The answer to this would be a major breakthrough.—ROBERT W. STORER.

THE VISIBLE MIGRATION OF BIRDS AT OTTENBY, SWEDEN. Edited by Carl Edelstam. Swedish Ornithological Association, Stockholm, 1972:360 pp., seven tables, numerous graphs, and 110 line drawings by Harald Wiberg. 95 Sw. cr. Available from the Swedish Ornithological Association, Runebergsgatan 8, S-114 29 Stockholm, Sweden.—This unusual hardback book with its attractive yellow cover is Supplement 7 of the Swedish ornithological periodical, *Vår Fågelvärld*. It is a compilation of migration data resulting from dawn-to-dusk counts of migrants during the summer and autumn from 1947 to 1956. The counts were made at the Ottenby Bird Station, located at the southern tip of the island of Öland just off the southeastern coast of Sweden.

From data gathered by a group of enthusiastic and determined ornithologists on 1,509 observation days, the book constructs as detailed a picture as possible of the southward diurnal migrations over one of northern Europe's major assembly points for migratory birds. The information on the quantity and time schedule of migration from June to October was gathered by trapping resting birds and by counting migrants during their daily passage. Although an incredible amount of migration data was amassed during the 10 year period, the book limits its coverage to the yearly, seasonal, and daily temporal changes in the volume of migration for each species. Yearly totals for 60 species of migrants are given in the form of histograms covering 10 pages. These data are further subdivided into a set of 10-day histograms spaced over an equal number of pages.

Finally, 180 pages are devoted to histograms of the daily totals for each of 90 species for each year, and each species has been rendered in a small attractive pen-and-ink sketch at the top of every second page. Brief commentaries on reverse migrations and weather influences are given, but synthesis of the data is in general very sketchy.

The volume is dedicated to Gustaf Kolthoff and his son, Kjell; they were the first to systematically take advantage of the rich possibilities for studying bird migration at the southern tip of Öland. Their work during eight autumns between 1876 and 1895 is classic. The present work might then be regarded as a sequel, but one must ask what this work achieves over that of the Kolthoffs? The answer is, regrettably, very little. The value of publishing partially processed data is questionable, and if one were to ever use these data in writing a paper, one would most certainly prefer to have the actual numerical data instead of the histograms, even though they are carefully done and seemingly exact.

As with all projects of this nature, there are occasional humorous albeit tragic events. One is mentioned on page 69 in a paragraph discussing missing observations: it seems that for 19 August 1947 the observations are incomplete, because the lighthouse keeper's cow devoured all the migration notes from 08:00 to 18:00 hours, corresponding to about half the volume of migration on that day! In addition to migration notes, I have found during the course of my studies that cows are also particularly fond of mist nets.—SIDNEY A. GAUTHREUX, JR.

A PORTFOLIO OF AUSTRALIAN BIRDS. Paintings by William T. Cooper, text by Keith Hindwood. Charles E. Tuttle Co., Rutland, Vermont and Tokyo, Japan, 1968:60 pp., 25 col. pls. \$17.50.—This is a large format picture-book of an small selection of Australia's more interesting or attractive birds. It also marks the world debut of a first-rate bird artist, William T. Cooper, a name to be remembered as future works appear.

Although I am familiar with few of these birds in life, Mr. Cooper's illustrations carry the conviction and strength of all good bird painting. While these vignettes are traditional in their basic conception, their style is original and contemporary. They are exceptionally well-drawn and well-composed, forceful, and inventive.

Mr. Cooper evidently uses a mixed transparent and opaque watercolor technique. In the darker values, he underpaints a tone and overpaints with a lighter tone for texture and form. There is a nice feeling for light and shadow, unusual in this mode of painting.

The pale, off-yellow color backing most but not all of the plates was, I suspect, laid in by the engraver; however, the reproduction is excellent throughout. There is one rather inexplicable aspect to the make-up of this volume—each plate fronts a blank page so that throughout the book one opens to unprinted double-page spreads. Use of the right-hand page would have permitted Mr. Hindwood to double the length of his text, which was obviously tailored to fit one page. Nevertheless, the accounts, brief as they are, nicely compliment the pictures. The whole production is of high quality and worth the rather high price.—DON R. ECKELBERRY.