

(or one to six different biomes, as each vegetational climax formation is the basis of one biome). Moreover, many of these climaxes recur in several biotic provinces. The biota of the coniferous forest displays fundamental similarity in the "Coloradan," the "Montanian," the "Hudsonian," as well as other provinces. But Dice's system obscures this; there is no clue that the "Hudsonian" is more closely related to the "Montanian" and "Coloradan" than it is to the "Saskatchewan" and "Kansan" (both primarily grassland). There are, therefore, certain hierarchical relations between the biotic provinces as well as between subdivisions of several provinces which are not at all apparent. Moreover, Dice states (p. 5) that the "classification of biotic provinces . . . is based to a very large extent on the vegetation. . . . The vegetation accordingly offers for the present the most satisfactory basis for distinguishing the major ecologic communities of the continent." If this is so, why could not the relations of the vegetational climaxes be emphasized more? The life belts of one western biotic province are most closely related to corresponding life belts in a neighboring province. Yet the life belts are made subordinate to the biotic province. How does Professor Dice reconcile this feature of his system with his recognition of the fundamental significance of vegetation?

No extended critical analysis of biotic provinces is possible from a study of this book. The discussion of the theoretical bases for the units of Dice's system is inadequate, and in the accounts of provinces not enough is explained of the author's reasons for his decisions. There are no qualitative analyses of the mammalian fauna of each province such as were presented earlier for the "Canadian" and "Sonoran" biotic provinces (Ecol., 19, 1938:503-514 and 20, 1939:118-129, respectively). Perhaps this was the author's intention; lack of adequate data and other circumstances may have prevented him from preparing more detailed accounts of his provinces. But Professor Dice's field experience apparently has been extensive, and, emphasizing that "any biogeographic classification must be in part arbitrary," he wisely offers his classification "frankly as an experiment" (p. 7). Tacitly, then, ecologists and zoogeographers are invited to test this classification. Dice's book serves to re-focus attention on numerous problems in the vast field of biogeography, and my comments are offered in the same spirit of cooperative investigation.—FRANK A. PITELKA.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

JUNE.—The regular monthly meeting of the Southern Division of the Cooper Ornithological Club was held Tuesday, June 29, 1943, at 8:00

p.m. in Room 145, Allan Hancock Foundation, Los Angeles, with President I. D. Nokes in the chair.

Minutes of the May meeting were approved and applications for membership were read from Mr. M. B. Cater, P.O. Box 4247, University Station, Tucson, Arizona, proposed by John McB. Robertson; and from Mr. F. T. Maddocks, Division of Highways, 3435 Sierra Way, Sacramento, California, proposed by Mrs. N. Edward Ayer. A letter was read from Harvey I. Fisher announcing the anniversary edition of the Condor. A motion was carried that Mr. Howard Robertson be elected to honorary membership.

Field observations were reported by Miss Frances L. Cramer, Lieut. Kenneth E. Stager and H. P. Davis.

The address of the evening was given by Dr. Hildegard Howard on the subject of "New Mounts of Old Birds." Illustrated by slides, the talk described restorations of fossil birds of the southwestern states and particularly those from the local Rancho La Brea asphalt pits.

Adjourned.—WALTER W. BENNETT, *Secretary*.

NORTHERN DIVISION

JUNE.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held on Thursday, June 24, 1943, at 8:00 p.m., in Room 2503, Life Sciences Building, University of California, Berkeley, with President Robert C. Miller in the chair and about 130 members and guests present. Minutes of the Northern Division for May were approved as read. There were two proposals for regular membership in the Club: William E. Douglas, Tulelake Ranger Station, Tulelake, California, by H. W. Carriger; P. Quentin Tomich, 2315 Dwight Way, Berkeley 4, California, by Jean M. Linsdale. A special proposal was read nominating Howard Robertson, President of the Board of Directors, to honorary membership in the Club, in recognition of his long service to the organization.

R. C. Miller mentioned the publication of a recent volume by David Lack on the natural history, habits and behavior of the English Robin.

The president called upon Mrs. Joseph Grinnell to give a brief history of the club, as this meeting marked the fiftieth anniversary of its founding on June 22, 1893.

A program appropriate to the occasion was furnished by Mrs. T. Eric Reynolds in the form of Kodachrome motion pictures entitled "Added Fun with Birds." Outstanding was a new sequence on a nesting colony of Caspian Terns near Alvarado, California.

Adjourned.—FRANCES CARTER, *Recording Secretary*.