

Miscellaneous notes bearing on the capture of one of the young by a garter snake, the stereotyped method of approach to the nest used by the parents, notes as to the behavior of the nestlings, and a summary, conclude the paper.

The nest and nestlings being under continual observation for 144 hours and 53 minutes established an enviable record. If there are other ornithologists seeking for something difficult to do and something much worth while, let them go and do likewise.

Students of animal behavior will be interested in the suggested modifiability of behavior brought about by artificial conditions. Laboratory methods for the study of animal behavior are greatly emphasized at the present time. Such a paper as this, however, makes us ask the question whether first-hand information gained as this was is not vastly superior and more dependable than similar information which could have been gained by laboratory experiments. The artificial conditions which surround laboratory experiments on higher vertebrates, even though proper controls be used, usually make the results less dependable. The field method has the added advantage also of a comparatively small equipment.

The limited amount of available information regarding the life-histories of our song birds becomes apparent only to those who attempt to search into the subject. To those who appreciate the dearth of material such papers as the one before us give encouragement and bring hopes that their advent but presages increased activity in this field.—H. C. BRYANT.

LIFE ZONES AND CROP ZONES OF NEW MEXICO. By VERNON BAILEY. (North American Fauna No. 35, Sept. 5, 1913, pp. 1-100, pls. I-xvi, 6 figs. in text).

A great deal of valuable information is concentrated in the small compass of this publication, which is a brief but comprehensive survey of the subject. The life zones found in New Mexico are Lower Sonoran, Upper Sonoran, Transition, Canadian, Hudsonian, and Arctic-Alpine. Each is treated separately, first with a general account of the nature of the country covered, this followed by nominal lists of the mammals, birds, reptiles, and plants peculiar to the division, and similar lists of the fruits, vegetables and other crops most apt to thrive. Following this classification of the life zones is a series of descriptions of the more important mountain ranges of the state.

The ornithological matter contained in the publication is limited to nominal lists of the breeding birds of each zone, and similar lists of the species occurring in the various mountain ranges. Transients and winter visitants

are not included, as having no bearing upon the subject of the report. We understand, however, that the animals of the state are to receive more detailed attention in future papers, which they certainly deserve, as pertaining to a portion of North America which hitherto has not received its fair share of attention from naturalists.

More explicit statements of the manner of occurrence of certain species may be expected to explain what at present appear to be some rather puzzling discrepancies in the status of the same birds in New Mexico and at points farther west. Thus the Scott Oriole (*Icterus parisorum*) is here listed as Lower Sonoran, while in the experience of the present reviewer it is in Arizona and California most emphatically Upper Sonoran. Similarly the Cooper Tanager (*Piranga rubra cooperi*), given as Upper Sonoran, is in Arizona a characteristic bird of the Lower Sonoran wooded river beds, while the White-rumped Shrike (*Lanius l. excubitorides*), also here considered as Upper Sonoran, is in Arizona and California at least as abundant in the Lower Sonoran valleys. There are other similar cases.

The doubtful inclusion of the Calliope Hummingbird (*Stellula calliope*) among the breeding birds of the Canadian Zone of New Mexico is probably another instance of the extension of a hummingbird's breeding range from the appearance of migrating individuals, usually adult males, at distant points before the breeding season is fairly over.

On the whole, however, these lists of the birds, as well as those of the other components of the fauna and flora of the state, the carefully worked out results of extensive and painstaking field work by an admitted authority on the subject, may be taken as practically final. The above comments by the reviewer on certain species are directed not as criticisms of statements made, but rather to call attention to the various conditions under which species have been found in different portions of their habitats.

The numerous plates and figures are well selected to illustrate the nature of the country, while the accompanying colored map of the life zones of the state, of unusually large size, is apparently most carefully worked out as regards the finer details.—H. S. SWARTH.

BIRD STUDY NOTE BOOK. By CLARA COZAD KEZEL. (Published by the author, Garnett, Kansas).

This title appears on the cover of a little note book carefully prepared to meet the needs of the growing number of students interested in bird life. It is arranged in columns appropriately headed for entering the name of the bird, date of arrival, residence (winter,