

Biological Briefs

RUTH SHERMAN

LEWIS, HARRISON F. *Reverse Migration*.
The Auk 56: 13-27. January, 1939.

Birds have been observed migrating in a direction opposite to the one usual for that season. In most cases of this sort, they are heading directly into the wind. Perhaps some birds habitually migrate against the direction of the wind, even when this necessitates a radical change in direction. Such occurrences need to be studied further. The author suggests the establishment of a series of observation stations at suitable points along favored routes of migration.

BENNETT, LOGAN J., AND GEORGE O. HENDRICKSON. *Adaptability of Birds to Changed Environment*. The Auk 56: 32-37. January, 1939.

A study of bird populations in Iowa marsh-lands has been made, comparing environmental and population changes which have occurred between the years 1907 and 1937. Much of the marsh-land has been partly or completely drained, thus diminishing the available food sources and nesting sites of marsh birds, and in their place substituting areas devoted to grains and bluegrass. While the total number of birds has been somewhat reduced, all the breeding species noted in 1907 were still present in 1937, and in addition 18 hitherto unrecorded species. Several land-nesting species are using bluegrass, oats, and alfalfa instead of native grasses for materials. It may therefore be possible that economic and conser-

vational interests can be in accord, and that animal species can make adaptations to man-made changes in environment without the special intervention of conservational agencies.

RAMALEY, FRANCIS. *Sand-Hill Vegetation of Northeastern Colorado*. Ecological Monographs 9(1): 1-51. January, 1939.

This is a thorough ecological study of the flora occurring in a type of environment not so frequently studied. Topics include climatology, soils, physiographic plant ecology, plant communities, succession, local and seasonal societies, the seasonal march of vegetation, and discussion of communities. In regions where similar communities occur, this would appear to be of considerable value in biologic teaching.

BABCOCK, H. L. *How to Find a Bee-Tree*.
DOW, RICHARD, AND R. J. HAMMERSTROM. *Honeybee Facts*. New England Naturalist 1: 2-3, 5-8. December, 1938.

This is the first issue of a journal published by the New England Museum of Natural History, and one which promises to be a valuable teaching aid. Articles are well written and illustrated, so that they may be used by student as well as teacher. The wild honeybees of New England are descendants of colonies of European honeybees imported in early colonial times. A bee-tree may be located

by trapping a worker, allowing her to gather a load of honey-water from the trap, and then following her successive flights to the colony. Nests are often in old partly decayed and hollow trees, well up on the trunk or in one of the higher branches.

The second article presents a summary of the life history, habits, and care of the honeybee, well illustrated.

LONG, CHARLES I. *Insect Galls*. Scientific Monthly 48(2): 152-158. February, 1939.

Gall-forming insects include gall-wasps, gall-gnats, and aphids, and less commonly sawflies, thrips, caterpillars, and chalcis flies. Usually the gall forms around the feeding larva, and the adult emerges by sawing its way out with its jaws. The galls of aphids, which have sucking mouthparts, possess natural holes through which the adults emerge. Some gnat pupae have spines with which to bore an exit tunnel; in other galls, a rupture of the wall coincides with the emergence of the adult. In most cases, galls form as the result of irritating poisons secreted at the time of oviposition; where galls form only after the larvae have begun feeding, the movements and secretions of the latter are probably the activating agents. The correlation between insect structure and habit and gall form might be explained by natural selection. Parthenogenesis, and alternation of sexual with parthenogenetic forms, are common among gall-wasps and aphids. Trees commonly afflicted with galls include oaks, hickories, and willows; other plants include goldenrod, loose-strife, and members of the rose family.

LEATHERS, W. S., AND A. E. KELLER. *An Investigation Concerning the Status of Hookworm in Florida*. American Journal of Hygiene 29(1) Section D: 1-16. January, 1939.

In a study of inhabitants of rural communities in Florida in 1937-1938, 29,064 whites were examined. Of these, 34.8% gave a positive test, with western sections testing highest in frequency and southern counties testing lowest. The greatest incidence occurred in school children, especially in those 15 to 19 years old. There was a positive correlation between the number of infested members of one family and the degree of infestation. The prevalence of hookworm in negroes was approximately half that of the whites in the same area, while the severity of infection in negroes was only one third as great.

REQUEST FOR COURSES OF STUDY

Ross Clover of San Juan Union High School, Fair Oaks, California, would like to receive unit or lesson outlines for year courses in biology from teachers throughout the United States. It is desired that the topic sequence for the entire school year be given, together with the reasons why such an order is followed. Information on the location and size of the school and on community industries would be very helpful. A survey of such material would give some idea of the relative popularity of biology courses presented through the "types," "principles," and "systematic" approaches. The data received will be summarized in the AMERICAN BIOLOGY TEACHER.