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Biology in High Schools of Iowa

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campanius Hollister, was observed to leave the field several times. The cottontail, *Sylvilagus floridanus mearnsi* (Allen), was scared up at nearly every visit. The close pasturage of the field in winter left little cover for smaller rodents.

Five miles south of Stanhope a high gravel hill covered with many large stones and several years of unharmed plant growth furnishes shelter for many mice. There, April 28, 1930, a jumping mouse, *Zapus hudsonius* subsp., was observed, and a prairie deer mouse *Peromyscus maniculatus bairdi* (H. and K.) was taken. On the same day two specimens of the skink, *Plestiodon septentrionalis* Baird, were taken at this hill.

At a forty acre tract of low prairie five miles east of Renwick, May 9, 1928, a flock of seventeen prairie chickens, *Tympanuchus americanus americanus* (Reich.), were observed in their drumming and courting antics.

IOWA STATE COLLEGE,
AMES, IOWA.

BIOLOGY IN HIGH SCHOOLS OF IOWA

GEORGE O. HENDRICKSON

Within recent years Zoology and Botany as separate subjects have nearly disappeared from the curricula of the public High Schools of Iowa. A course known as Biology has taken their places. In an attempt to learn the nature of High School Biology the author secured sample textbooks, laboratory manuals and figures concerning adoptions from the leading publishers of school books. The figures show that approximately 70 per cent of the High Schools of our State offer Biology and that five textbooks, which are termed in this article as the leading texts, serve in nearly 95 per cent of the Biology courses. A study of these five leading textbooks showed that about 12 per cent of the contents, by chapters and pages, are devoted to general principles such as are common to both plant and animal life, 16 per cent to plant study, 21 per cent to animal study, 30 per cent to human anatomy, physiology, hygiene and eugenics, and 20 per cent to applications of biological principles in such fields as forestry, plant and animal breeding, and conservation. The numerous illustrations average one to each one and seven-tenths pages of text material. A glossary, or diacritical markings of words in the index, chapter summaries and questions, and references for further reading are

characteristic of the leading textbooks. Each book has as author or as a co-author an experienced High School teacher. The style and grading to reading difficulties seem quite alike in the several texts.

None is either a strictly type or a strictly principle book. Taxonomy and collections are dealt with lightly. Physiology, behavior and habits of plants and animals are emphasized. Very little microscopic work and not much dissection are required. The laboratory manuals permit of many pupil and teacher demonstrations although provision is made for individual notebook records. The exercises contain many diagrams some of which are only to be labelled while some are to be completed before the labelling. The numerous questions require considerable observation of specimens and study of written material before the answers can be recorded. Relatively few original drawings are required.

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AMES, IOWA.

COMPARATIVE GROWTHS OF INFUSORIA-FREE AND NORMAL LAMBS

E. R. BECKER AND R. E. EVERETT

The digestive tracts of all ruminants are normally inhabited by Protozoa.

It has been held by some that these are harmful; by others that they may be helpful in the digestion of cellulose and protein.

Experiments in defaunating lambs by the use of copper sulphate indicated that the infusoria are not of importance, nor necessary for normal digestion in lambs.

SOME HOME-MADE TEACHING MODELS

J. E. GUTHRIE

Models are of great value in teaching certain biological subjects.

Nearly every teacher feels the need of certain models not obtainable from dealers.

With practice and a fair degree of skill, these may be made for the occasion.