therefore, that where similar conditions exist, that is to say, where there is an abundance of water plants in clear cool waters, the former can be used for fodder with great advantage.

I have found from experience that the vegetation growing in marshy warm waters can not be used to feed cattle on account of the musty odor, which they dislike. For example, plants growing in ponds used for carp breeding are not suitable for fodder. Cows, in particular, show a marked aversion to musty-smelling fodder and are reluctant even to eat the grass round the edges of the ponds. If they are forced to eat this kind of fodder by being given none other, the result is that they give less milk.

VILIM MRŠIĆ
MORPHOLOGIC-BIOLOGICAL INSTITUTE
UNIVERSITY OF ZAGREB, YUGOSLAVIA

EGGS BY PHEASANTS AND QUAIL INDUCED BY NIGHT-LIGHTING

IN SCIENCE for March 13, 1936, appeared a short note by Clark, Leonard and Bump[1] describing the results of some experiments on "Light and Reproduction in Game Birds." The birds used were pheasants, quail and grouse. The method followed evidently was one adapted from the earlier work of Bissonnette[2] on starlings and ferrets.

Beginning on December 16, 1935, we have carried out similar experiments independently on pheasants and quail, using Bissonnette's improved methods of illumination.[3] One cock and four hens of the hybrid ring-necked variety of pheasant and a single pair of quail were used as experimental animals. The rest of the colonies of these types of birds were used as controls. The birds were kept in outside cages subject to winter conditions.

On January 15, at thirty days of experimental lighting, the pheasants began to lay and before the 28th they were laying at the rate of about three and a half eggs each day of twenty-four hours in spite of very severe weather. Before March 16 well over 120 eggs were laid by the four hens. Three of them are still laying well at date of writing.

Of the first 37 eggs laid and incubated in an improvised electric incubator, 32, or about 86.5 per cent., were fertile and began development. Owing to trouble with the electric lighting none hatched. Two eggs from a setting placed under a hen and accidentally broken had live chicks in them. The single female quail began to lay on March 22 and is continuing to do so, but none of her eggs have yet been set. None of the controls have yet begun to lay (March 30).

Details of these experiments will be published elsewhere. The authors wish to acknowledge the valuable cooperation of the State Department of Fish and Game of Connecticut, without which these experiments could not have been carried out.[4]

T. HUME BISSONNETTE
TRINITY COLLEGE

ALBERT G. CSECH
SHADE SWAMP SANCTUARY
FARMINGTON, CONN.

[1] L. B. Clarke, S. L. Leonard and G. Bump, SCIENCE, 83: 2150, 268, March 13, 1936.

[2] T. H. Bissonnette, *Quart. Rev. Biol.*, 8: 2, 201–208, 1933.

[3] T. H. Bissonnette, *Jour. Exp. Zool.*, 71: 2, 341–373, 1935; *Jour. Exp. Zool.*, 27: 4, 315–320, 1935; *Anat. Rec.*, 63: 2, 159–168, 1935.

SOME RARE BOOKS ON PROTOZOOLOGY

VERY recently Gustav Foch, of Leipzig, has made a reprint of the monumental work of Ph. Fr. de Siebold "Fauna Japonica," published the first time in 1833–50, and considered since as a classical reference book. Unfortunately, the small original edition and the prohibitive price account for the scarcity of the work. The reprint fills a serious gap in many libraries.

It occurs to me that there are many old and very important reference books on protozoology, as for instance Muller's "Animalcula Infusoria," 1786; Ehrenberg's "Die Infusionsthierchen als Vollkommene Organismen," 1838; Dujardin's "Histoire Naturalle des Zoophythes Infusoires," 1841; Claparéde and Lachmann's "Etudes sur les Infusoires et les Rhizopodes," 1858–61; Stein's "Der Organismus des Infusionthiere," 1854–83; Saville Kent's "A Manual of the Infusoria," 1880–81; etc. All of them are out of print to-day, and when listed in second-hand book catalogues they have a very high price. That accounts for the lack of reference works so important, not only in private laboratories but also in libraries of smaller institutions.

It would be welcome to very many serious students of the protozoa, especially for those not connected with great institutions, if some firm should make a reprint, as economically as possible, of the abovementioned books. I am sure that, if properly advertised and moderately priced, such reprinted books would have quite a large demand, and make profitable the enterprise.

ENRIQUE BELTRÁN
NATIONAL SCHOOL OF AGRICULTURE
CHAPINGO, MEXICO

SOURCE MATERIAL REQUESTED

WE are starting to work on the history of the botanical succession in the upper Hudson Highlands. To do this thoroughly, we must first reconstruct the original forests as they existed hereabouts at the time

[4] Aided by grants from the National Research Council, Committee for Research in Problems of Sex.

of the first settlements, circa 1683. With these data in hand, we plan to trace down through the years the effect of man's occupancy on the composition of these original forest types.

The second item will not be very difficult. But the first point—an accurate determination of the composition of the old stands—is a different matter. Source material is none too plentiful and we shall be grateful if any of your readers who happen to be informed regarding this subject will communicate directly with the writer.

H. H. TRYON

BLACK ROCK FOREST,
CORNWALL-ON-HUDSON, N. Y.

SOCIETIES AND MEETINGS

THE IOWA ACADEMY OF SCIENCE

THE fiftieth annual meeting of the Iowa Academy of Science was held at the State University of Iowa at Iowa City on April 3 and 4 with two hundred and thirty-nine members and visitors in registered attendance.

The presidential address, "Paul Bunyan turns Scientist," was presented by Dr. R. E. Buchanan, director of the Iowa Agricultural Experiment Station. Other papers of general interest were "Research *vs.* Conservation," by W. W. Aitken, state biologist of Iowa, and "Actuarial Aspects of Old Age Assistance," by L. A. Knowler, of the department of mathematics of the State University of Iowa. The annual address was presented by Dr. W. J. Robbins, professor of botany of the University of Missouri, who also represented the American Association for the Advancement of Science. His subject was "The Relation of Light to Plant Growth and Movement."

At an all-academy dinner commemorating the fiftieth anniversary of the academy the following members were honored: Herbert Osborn, first president of the academy, C. P. Gillette, B. Shimek, Charles Carter, S. W. Stookey, Maurice Ricker, G. L. Houser, R. I. Cratty, W. H. Norton, L. S. Ross, E. D. Ball, J. C. Arthur, H. M. Kelly, C. R. Keyes, Paul Bartsch, H. L. Bruner, T. J. Fitzpatrick, F. E. Leverett, Charles D. Reed and H. W. Norris.

The following officers and section chairmen were elected for the next meeting: *President,* L. P. Sherman, Grinnell College; *Vice-President,* A. C. Trowbridge, State University of Iowa; *Secretary-Treasurer* and *American Association for Advancement of Science Representative,* J. C. Gilman, Iowa State College; *Editor,* Mrs. F. W. Nichols, Ames; *Botany and Bacteriology,* R. A. French, Dubuque University; *Chemistry, general and physical,* A. J. Rider, Drake University; *Chemistry, organic and biological,* G. A. Lillis, St. Ambrose College; *Geology,* J. T. Lonsdale, Iowa State College; *Mathematics,* R. B. McClenon, Grinnell College; *Physics,* William Kadesch, Iowa State Teachers College; *Psychology,* Earl E. Emme, Morningside College; *Zoology,* K. A. Stiles, Coe College.

The academy convened in eight sections for the presentation of one hundred and seventy papers of special interest. The Junior Academy of Science of Iowa met with the academy with an attendance of delegates from sixteen clubs. Dr. G. W. Martin and Dr. P. A. Bond, of the State University of Iowa, presented talks on their program.

JOSEPH C. GILMAN,
Secretary-Treasurer

THE ALABAMA ACADEMY OF SCIENCE

THE thirteenth annual meeting of the Alabama Academy of Science was held at the Alabama Polytechnic Institute, Auburn, on Friday and Saturday, March 20 and 21, with a registration of one hundred and fourteen.

The academy program was divided into four sections, at which 68 papers were presented as follows:

Section I. Biology and Medicine: 27 papers (4 by title and 4 by demonstration).
Chairman, C. M. Farmer, State Teachers College, Troy.
Secretary, Margaret Hess, Judson College, Marion.

Section II. Chemistry, Physics and Mathematics: 17 papers (3 by title).
Chairman, B. F. Clark, Birmingham-Southern College, Birmingham.
Secretary, John Xan, Howard College, Birmingham.

Section III. Geology, Anthropology and Archeology: 12 papers.
Chairman, T. G. Andrews, University of Alabama, Tuscaloosa.
Secretary, David L. DeJarnette, Alabama Museum of Natural History, University of Alabama, Tuscaloosa.

Section IV. Industry and Economics: 12 papers.
Chairman, W. M. Mobley, Alabama By-Products Company, Tarrant.
Secretary, Troy Sizemore, Alabama By-Products Company, Tarrant.

On Friday night at the annual banquet at the Thomas Hotel, the presidential address was given by A. G. Overton under the title "Research, its Value and Influence on Recovery." The toastmaster for this occasion was J. L. Brakefield, Howard College. The address of welcome was given by Dr. Luther Duncan, president of the Alabama Polytechnic Insti-