

sembled for publication over their authors' signatures. Conciseness is essential and, as stated in a former notice in these columns,<sup>1</sup> "the committee reserves the right to condense and combine" where necessary.

Any one who has developed or improved methods of culturing invertebrate animals and wishes to assist in making this volume as complete as possible is cordially invited to communicate with the committee's secretary, Miss Mary E. Davis, Comstock Hall, Ithaca, N. Y., or with any member of the committee.

FRANK E. LUTZ  
PAUL S. GALTSOFF  
PAUL S. WELCH  
JAMES G. NEEDHAM, *Chairman.*

### CHEMICAL COMPOSITION OF LARGE AQUATIC PLANTS

THE general investigations relating to the productivity of Wisconsin lakes have included studies of the chemical composition of the larger aquatic plants. Since these plants serve as a source of food, not only for strictly aquatic forms such as oligochetes, mollusks, insect larvae and fish but also for such animals as ducks and deer, their food value was regarded as an important item in these chemical studies.

Four papers dealing with the organic as well as the inorganic content of some of the larger aquatics were published by Schuette<sup>1</sup> between 1921 and 1929, which indicated the general food value of the forms that were analyzed. It is interesting to note that the chemical results published by Gortner<sup>2</sup> in a recent number of *SCIENCE* for the large aquatics of Minnesota lakes are in reasonably close agreement with those obtained by Schuette. The greatest difference is found in the Potamogetons, where the Wisconsin material yielded a somewhat smaller percentage of crude protein and a larger percentage of nitrogen-free extract than that from the Minnesota lakes. Birge and Juday<sup>3</sup> found that the percentage of crude protein varied with the stage of maturity of these plants, while Harper and Daniel<sup>4</sup> noted that the percentage of nitrogen varied with the character of the soil on which they grew; thus these two factors are probably responsible for the more marked differences noted in the Potamogetons.

With respect to the annual yield of large aquatic plants, Rickett<sup>5</sup> estimated the crop in Lake Mendota at 2,000 kilograms per hectare (1,800 pounds per acre), dry weight, in the zone occupied by them and 1,780 kilograms per hectare (1,580 pounds per acre) in Green Lake. Similar studies have been made on a dozen lakes in northern Wisconsin; while a report on this work has not been completed, the data indicate that the crop of large aquatics in them is much smaller, especially in those with soft water.

C. JUDAY

UNIVERSITY OF WISCONSIN

### CONCERNING THE TASTE OF HEAVY WATER

IN discussing the recent press reports of the drinking of heavy water by Professor Hansen, of Oslo, the present writers could not account for the "dry burning sensation" said to have been experienced by Professor Hansen—assuming that it had been due to the water. Accordingly, it was decided to make a personal test.

In order to make the experiment as objective as possible, a third person in a different room prepared the samples to be tasted. Each of us was then given two identical watch glasses, one containing one cubic centimeter of ordinary distilled water, and the other the same amount of pure heavy water, especially prepared for biological experiments. One of us kept each sample in his mouth for a short time to make sure of its taste, and then spat it out. The other repeated the same procedure, but swallowed the water. Neither of us could detect the slightest difference between the taste of ordinary distilled water and the taste of pure heavy water. It might be mentioned in this connection that one cubic centimeter of water is not too small an amount to taste properly, since both of us could detect plainly the characteristic "flat" taste of distilled water in both cases. It may be concluded, therefore, that pure deuterium oxide has the same taste as ordinary distilled water.

H. C. UREY

COLUMBIA UNIVERSITY

G. FAILLA

MEMORIAL HOSPITAL

## SCIENTIFIC APPARATUS AND LABORATORY METHODS

### THE CHOICE OF KILLING FLUIDS APPROPRIATE FOR CYTOLOGICAL RESEARCH

THE increasing use of cytological investigations by workers in the fields of physiology and pathology

indicates that we have reached a point in biology where we are ready to use cytomorphological methods as an important adjunct to the study of function.

One of the writers pointed out a quarter of a cen-

<sup>1</sup> *SCIENCE*, 77: 427-428, 1933.

<sup>2</sup> *Trans. Wis. Acad. Sci.*, 20: 529-531, 1921; 23: 249-254, 1927; 24: 135-139 and 141-145, 1929.

<sup>3</sup> *SCIENCE*, 80: 531-533, 1934.

<sup>4</sup> *Wis. Geol. & Nat. Hist. Sur. Bull.*, 64: 215, 1922.

<sup>5</sup> *Bot. Gaz.*, 96: 186-189, 1934.

<sup>6</sup> *SCIENCE*, 52: 641-642, 1920; *Trans. Wis. Acad. Sci.*, 20: 521-527, 1921; 21: 381-414, 1924.