

### Wisconsin Limnology.

THE veteran limnologist, Dr. E. A. Birge, together with Dr. Chancey Juday and other collaborators, has made several additions to the detailed study of Wisconsin lakes in the *Transactions of the Wisconsin Academy*, vol. 23, *Proceedings of the American Philosophical Society*, vol. 66, and in *Ecology*, vol. 8. The Academy papers deal with the temperature of the bottom deposits of Lake Mendota, with the chemical composition of its larger aquatic plants and with the phosphorus content of that and other Wisconsin lakes. Temperatures were measured in the mud of Lake Mendota down to 5 metres, in depths of water from 8 m. to 23.5 m. The data accumulated are used to calculate the annual heat-budget. At the shallowest station this amounted to 2950 calories per sq. cm. and 1100 calories at the deepest. Preliminary data on the heat-budget of Karluk Lake, Alaska, are given in *Ecology*, July 1927. These are compared with the values given by lakes in Central Europe.

Supplementing a previous study of the composition of *Cladophora* and *Myriophyllum*, analyses of *Vallisneria* and *Potamogeton* are now given. Rickett had previously shown that Mendota, 10.4 sq. kilometres in area, yielded, in dry weight, 1112 metric tons of *Potamogeton* and 736 of *Vallisneria*. Of these, the latter has an ash content of 25.2 per cent, the former 11.4 per cent. Their influence upon the water and soil of the lake must, therefore, be very considerable. The analyses are unusually detailed and record the amounts of certain important minor constituents, such as phosphorus, iron, manganese, and silica, which are frequently omitted.

The organic matter content of lake waters is considered in a preliminary survey (*Amer. Phil. Soc.*), which, however, contains analyses from forty-four lakes. These are grouped into *autotrophic*, which derive their organic matter from internal sources only, namely, from the phytoplankton and attached vegetation, and *allotrophic*, into which drainage brings soil and marsh extractives. For each lake the organic matter is a fairly definite quantity, showing no great variation either with depth or time. This is in striking contrast to the oxygen content, which is often greatly reduced in the deeper cold water, the hypolimnion; this during summer remains unmixed with the warm epilimnion.

Analyses were made of the waters of eighty-eight lakes to determine the soluble phosphorus existing as phosphate, also the phosphorus in organic combination. This was done in order to ascertain whether the simple yearly cycle, observed in the open sea, could also be traced in these lakes. The marine workers found a winter maximum and a minimum in early summer, lasting until August, the surface waters being, during the summer, almost or quite devoid of inorganic phosphorus, and the deeper waters—in shallow seas—being much reduced. In the lakes, however, observations made in May, soon after the disappearance of the ice, and in July or August, were complicated by two factors—the very minute amount of inorganic phosphorus and its regeneration from the plankton. Accordingly, no such simple seasonal cycle was revealed. Possibly the rate of regeneration, rather than the absolute amount of phosphorus, may here be the limiting factor.

In *Ecology* (8, No. 4; 1927) an account is given of the occurrence of two crustacea, *Pontoporeia affinis* and *Mysis oculata* var. *relicta*, which are regarded as 'marine relicts'. Though thoroughly studied in Europe, their American distribution is imperfectly known. It was found that *Pontoporeia* occurs chiefly in the hypolimnion, where the supply of

oxygen may fall below 1 c.c. per litre. The breeding season extends from December to May. *Mysis* was found in two lakes. During summer it remains on the bottom during daytime, but may even reach the surface at night. The breeding season extends from October to May.

### University and Educational Intelligence.

CAMBRIDGE.—The solicitors carrying out the will of the late Mr. John Humphrey Plummer state that, in view of the many conflicting and wholly unauthorised statements that have appeared, the time has arrived when some authoritative statement should be made concerning the benefaction which will accrue to the University. The residue of the estate is to be applied in perpetuity for the promotion and encouragement of education in chemistry, biochemistry, physical science, or such other allied subjects in the University as the trustees shall think fit. The testator further expressed his desire and intention that his trustees should, as soon as possible, establish and endow a professorship or professorships, each of the annual value of £1200 in accordance with a scheme to be devised. The testator further expressed the wish that the trust should be known as the John Humphrey Plummer Foundation. The trustees are advised that the estate should yield an income to the University of approximately £10,000 a year.

The Drapers Company has made a grant of £1000 per annum for a further period of 10 years to the School of Agriculture.

Dr. H. B. Roderick and Mr. G. Stead have been reappointed University lecturers in medicine.

EDINBURGH.—Principal Sir Alfred Ewing announced at the meeting of the University Court on May 27, in connexion with the proposed internal reconstruction of the medical buildings at Teviot Place, that gifts have been intimated for this purpose of £20,000 from Sir William Dunn's trustees, and £35,000 from the Rockefeller Foundation, making a sum of £55,000 in all. This, along with other moneys available, now secures the carrying out in its entirety of a scheme drawn up by Mr. Balfour Paul, architect, in consultation with the heads of the departments concerned, whereby the medical buildings, erected in 1880, will be radically altered in their internal arrangements, so as to bring them in line with the most modern requirements for teaching and research. The external aspect of the buildings, as designed by the late Sir Rowand Anderson, will remain unaltered. The work will be begun in the summer vacation. Certain portions of the reconstructed building will in future be associated with the name of Sir William Dunn in recognition of the generous gift from his estate.

LONDON.—The following doctorates have been conferred: D.Sc. in metallurgical chemistry on Mr. J. C. Hudson (Imperial College, Royal College of Science, and Royal School of Mines), for a thesis entitled "Third (Experimental) Report to the Atmospheric Corrosion Committee (of the British Non-Ferrous Metals Research Association)"; D.Sc. in agricultural chemistry on Mr. V. Subrahmanyam (Rothamsted Experimental Station), for a thesis entitled "Biochemistry of Waterlogged Soils".

MANCHESTER.—Mr. J. B. M. Hay, lecturer in engineering, has resigned on his appointment as head of the Civil Engineering Department in Bradford Technical College.

Applications are invited for two Grisedale biological scholarships in, respectively, botany and zoology, each of the value of £200. Applications should reach the registrar by at latest June 22.