

exhibitions of war-time utilities in food production in the way of goat, poultry, rabbit, pig, pigeon and bee keeping. A committee has been formed to revise the more obsolete of the by-laws, and the alterations will be put before the ordinary general meeting this month and balloted upon in August. Notable changes in staff have been the retirement of the curator of mammals and birds, and of the librarian, with temporary termination of the duties of the director of the aquarium (who is now working at the War Office), and of Mr. Bushby and Mr. Fisher.

#### British Museum (Natural History): Recent Acquisitions

THE Zoological Department has received from Mr. I. R. P. Heslop two skulls of the pigmy hippopotamus (*Chæropsis liberiensis*) which came from the Owerri and Warri Provinces in southern Nigeria. The interest in these two specimens lies in the fact that the distribution of this species was formerly held to be confined to a comparatively small part of West Africa, namely, to Sierra Leone, Liberia, and the French Ivory Coast. The Museum has received rumours from time to time during the past few years of the existence of the pigmy hippopotamus over a much greater range than was formerly thought to be the case. The occurrence of this species in southern Nigeria shows that its distributional area is very much greater than was assumed.

Major J. F. E. Bowring, of Ickingham Hall, Bury St. Edmunds, has presented to the Department of Mineralogy an exceptionally fine specimen of Burmese amber, probably the largest preserved in any museum. The specimen has a rich, dark brown colour, and is brightly fluorescent in ultra-violet light. It measures 22 in. × 14 in. × 7 in. and weighs 33 lb. 10 oz. The largest specimen of amber so far recorded is one weighing 21½ lb., of lighter coloured Prussian amber, preserved in the Mineralogical Museum of the University of Berlin. The Department of Mineralogy has also acquired some crystals of pale green actinolite from Mogok, Burma. These are the first specimens of the amphibole family from that locality to be represented in the collections. The crystals are of gem quality, and, although they possess the good characteristic prismatic cleavage, the mineral more usually occurs in fibrous aggregates like tremolite asbestos.

#### Large-Scale Plankton Cultures

H. Pettersson, F. Gross and F. Koczy have published an account of large-scale plankton cultures using the plankton shaft of Pettersson's new institute (*Medd. Oceanogr. Inst., Göteborg, No. 3; 1939*). The shaft is cylindrical, 12 metres deep and 2 m. in diameter. Interaction between the concrete walls and the sea-water has been avoided by coating the latter with a British rubber composition 'Semtex', on which a cellulose white paint had been sprayed to lighten the dull grey. The tank was filled with a mixture of sea-water from the Bay of Biscay and fresh water, and was manured with nitrate, phosphate, silicate and filtered soil extract. The water was run in from the bottom after sterilization by passage over

a mercury arc lamp. Layers of different salinity and temperature were formed, the temperature being kept down in the upper less saline layer by means of cooling coils. Illumination was supplied by sodium and mercury lamps and was usually maintained at 30–40 kilolux at the surface.

With a large crop of phyto-plankton or flagellates in the water the light intensity was reduced to 50 per cent in a depth of rather less than a metre, and at the lower limit of the culture medium layer, 550 cm. thick, the light had fallen to the level of the compensation intensity, about 500 lux. Samples of phyto-plankton and zooplankton from the Swedish coast were introduced into the upper layer, which was usually at 7°–9° C. Good growth was obtained and observations were made upon the vertical distribution of the animals as a phototropic response. Quantitative measurements were made at intervals of the changes in the diatoms, autotrophic flagellates and copepods. Thus the first steps have been taken in the development of a valuable method for the study of plankton in an immobilized water column in which the physical and chemical conditions can be varied at will. An observational is thus transformed into an experimental science.

#### Phenology of 1939

THE Royal Meteorological Society's Phenological Report for 1939 has been issued with its usual abundance of statistics and diagrams (Roy. Meteor. Soc., London. 3s.) It is interesting to note that the work is to continue, despite the War, and that other organizations like the British Empire Naturalists' Association and the Rothamsted Experimental Station are co-operating. There is a total of 385 observing stations compared with 439 in the previous report, and a scheme has been prepared to meet the growing demand for a simple method of assessing and demonstrating, at intervals throughout the year, the state of the season in the British Isles, making use of the Society's organization. In order to replace some unsatisfactory plants on the list, flowering dates are being made for the first time of *Cardamine pratensis*, *Acer pseudoplatanus*, *Viburnum opulus*, *Digitalis purpurea* and *Calluna vulgaris*. The historic phenological observations at the Marsham district of Norfolk, which have been made since 1736, are being continued.

With regard to meteorological effects in Great Britain during 1939, the severe December-January cold did not affect plant-life generally; the subsequent warm spells produced forwardness with a tendency to persist, especially with regard to insects, the larvæ of which experienced early favourable conditions for feeding up after hibernation. The general influence of the year, so free from extremes, was favourable to fruit, cereal and root crops (in striking contrast to the previous year), and wild fruits were also plentiful; absence of severe gales and early frosts resulted in brilliant autumn tints and the second flowering of many plants. Spring bird migrants generally tended to lateness in arrival. Of migrant insects, *Vanessa cardui* appeared