

which would make the work more accurate and complete. Should secrecy in regard to locality be necessary, this will be rigidly respected.

Since the "Handbook" was completed twelve years ago, such a vast amount of matter relating to distribution, migration, breeding-habits and food has been published, both at home and abroad, that the revision made necessary is a very heavy task involving the rewriting of most of these sections.

Moreover, field characters, habitat, song and 'habits' generally, to which very little space was devoted in the original work, will be greatly expanded, and these new sections are being undertaken by Mr. B. W. Tucker (with Mr. Charles Oldham's kind approbation).

The new work will be very fully illustrated in colour, the aim being to show all the birds in so far as possible all their plumages. Such a series of illus-

trations is not now available to British ornithologists, and it is hoped that this new feature will greatly enhance the usefulness of the work, especially to observers in the field.

The original "Practical Handbook" will be in fact so much a new work that we consider an alteration of the title to "The Handbook of British Birds" justified.

As it is proposed to publish in five volumes at six-monthly intervals, beginning next spring, we shall be glad to have now any notes relating to the order Passeres. It would be a convenience if observations concerning breeding habits or food were sent direct to the Rev. F. C. R. Jourdain at Bellevue Road, Southbourne, and all other notes to me at Gracious Pond Farm, Chobham, Surrey.

H. F. WITHERBY.

July 21.

Points from Foregoing Letters

THREE new types of pleochroic haloes have been found by Prof. G. H. Henderson in the course of an extended examination of biotite specimens. Apparently these are due to certain elements of the uranium family, and are of hydrothermal origin.

A table comparing the ability of colchicine to reduce the size of plant tumours (induced in tomato plants by *B. tumefaciens*) with the effect produced by palmitic acid, by removing the flowers, or covering the terminal buds, is given by L. Havas. The author infers that colchicine, like the other factors mentioned, inhibits the growth through the intervention of plant hormones.

Dr. N. Kemmer gives a condition that must be satisfied by nuclear force-constants in order to account for the fact that nuclei with very large spin do not exist. The force constants previously derived by Volz must be altered to fulfil this condition.

Dr. Lotte Kellner concludes, from infra-red absorption spectrum observations, that in the dry crystalline state the molecules of diketopiperazine and tetramethyldiketopiperazine exist in the keto-form free from mixture with the enol-form.

A radioactive element formed in molybdenum irradiated with deuterons has been investigated by C. Perrier and Prof. E. Segrè. They attribute the radioactivity to isotopes of atomic number 43 (masurium), and find that their reactions are similar to those of the element rhenium.

Further experiments by Dr. J. Kunz and others show that the rotation of the plane of polarization attributed by J. Kunz and P. H. Babcock to organic compounds dissolved in various solvents, under the influence of an electric field, is in reality due to the dichroism induced in suspended particles by the electric field, a phenomenon already known.

An approximate solution of the differential equations of motion of loaded, flexible threads whirling about a vertical axis and subject to air-drag has been developed by E. R. Goshawk. The solution accounts for the limited stability of such systems and is not materially affected by the amplitude of whirl. A simple method is indicated for measuring the air resistance to the motion of cylindrical threads—rough or smooth—at high whirling speeds.

Dr. J. Woltjer, jun., points out the possibility of the existence of a self-regulating mechanism which would maintain the pulsation of a star, depending on the superposition of the oscillations of two modes of vibration, a free and a forced one.

Two types of decomposition of the methyl-ethyl and diethyl ketones in 10 per cent liquid paraffin solution, are described by Prof. R. G. W. Norrish and C. H. Bamford. They find that solvent molecules react with the radicals liberated by the photolysis.

An X-ray investigation by Dr. J. A. A. Ketelaar and E. A. Hanson of the ethyl derivative of chlorophyll, said to be the first of the chlorophyll derivatives to be examined by the X-rays, indicates that the molecules are arranged in spirals.

Three crystalline pigments belonging to the group of carotenoids have been obtained by Dr. G. Wald and H. Zussman from extracts of chicken retinas. One is purplish red (astacene), another a golden or orange xanthophyll, and the third a yellow or yellow-green hydrocarbon. None of these absorbs light in the region 600–700 m μ , and the authors suggest that the chicken, like the pigeon, may be unable to discriminate hue differences in this region.

Curves showing that the maximum sensitivity of photographic plates sensitized with dye-stuffs (erythrosin and phloxine) corresponds with maximum absorption by those dyes when absorbed on layers of silver bromide (but not with their maximum absorption when in solution) are submitted by S. Natanson.

Dr. J. Needham and H. Lehmann have investigated the inhibition of embryonic glucolysis by glyceraldehyde—it is due only to *l*-glyceraldehyde. The fact that the inhibition is apparently incomplete is due to lactic acid formation from glyceraldehyde itself. This is brought about by its transformation into methylglyoxal, which is then converted to lactic acid by glyoxalase.

S. Paramasivan reports that the paintings in the temple of Vijayalaya Cholisvaram at Narthamalai in Pudukottah State (South India) have been executed in a technique which is a combination of fresco with tempera. Lime, carbon, yellow and red ochres, and terre verte have been used as pigments.