or to varying mixtures of air and carbon dioxide for longer periods of time. They were then crossed with white-eyed males, and allowed to breed.

In the experimental series, 9 exceptional sons in 3930 sons were found, in the corresponding controls 2 exceptional sons in 4880. Using the formula given by Karl Pearson (*Phil. Mag.*, 6th Series, 13, 365; 1907),

$$\sqrt{\frac{m}{n}(p+1)\left(1+\frac{m}{n}\right)} \times 0.6745 \text{ equals the probable error}$$

of difference, it is calculated that the difference between the mean number of exceptional sons expected from the control series and the actual number of exceptional sons of the carbon dioxide treated flies is equal to 4.66 times the probable error. Among the corresponding daughters two *gynandromorphs* were found, both in the experimental series, none in the controls.

In view of this effect of carbon dioxide on non-disjunction, there is reason to think that it will produce other chromosomal disturbances, and alter germ cells in a manner similar to X-rays; and I write in the hope that those who have facilities for the study of the production of mutations will give carbon dioxide a trial. For those who are working upon 'the somatic mutation' hypothesis for cancer these results are of special interest, in that they provide a way for the production of somatic mutations other than by X-rays and radium.

J. C. MOTTRAM.

The Radium Institute, London,

Jan. 15.

Mounting Medium for Film Sections.

IN the photomicrography of film sections for the purpose of examining the edge of the section, difficulty is encountered in the case of nitrate base when ordinary benzol- or xylol-balsam is used as the mounting medium, owing to the refractive index of the medium being very close to that of nitrate film. A mounting medium of high refractive index ($N_D = 1.591$) suitable for photomicrographing sections of nitrate film is made up as follows:

10 cm.³ of alphabromonaphthalene is added to 15 gm. of dried Canada balsam in a glass-stoppered or 'balsam' bottle. The mixture is heated on the water-bath until the balsam has melted. Gentle agitation will then cause the liquid to become homogeneous.

This highly-refracting balsam will find other applications in microscopy, for example, for use with Diatomaceae and micro-crystals.

For the photomicrography of sections of acetate film, benzol- or xylol-balsam is satisfactory.

EDWIN E. JELLEY.

Research Laboratory,
Kodak, Ltd., The Works,
Wealdstone, Middlesex, Jan. 16.

A Probable Band Spectrum of Neon.

HERZBERG has recently suggested (*Zs. f. Phys.*, vol. 57, p. 626) from theoretical considerations that two excited neon atoms may combine to form a neon molecule, just as two excited helium atoms combine to form a molecule of helium, yielding a band spectrum discovered by Goldstein in 1913, and the subject of numerous researches in recent years by Curtis, Dieke, Takamine, Weizel, and others. It may be interesting in this connexion to note that while working with a neon discharge tube supplied by Leyboldts Nachfolger, Cologne, I obtained about a year ago a number of bands in the red which appear to be due to neon molecules. The bands appeared under a transformer discharge, and disappeared when the discharge was sent from an induction coil.

The bands are rather peculiar, as they show no head,

and consist of a number of lines at equal frequency intervals. Apparently the Q-branch is entirely missing; only the P and R branches are developed. The bands are approximately at 7393, 7208, 7063, 6963, 6847, and seem to be associated with strong red lines of neon. The frequency difference between the successive lines is approximately 6 units, from which the moment of inertia comes out to be 18×10^{-40} cm.²gm., and the distance between the neon atoms comes out to be of the order 1×10^{-8} cm. The distance between the atoms of the Na₂ molecule is stated by Birge to be 2.33×10^{-8} cm. Since the electron in the excited neon comes from a closed shell, its distance from the nucleus should be much less than that of the electron in Na₂, and this is in accordance with my result.

D. G. DHAVALÉ.

Department of Physics,
University of Allahabad,
Dec. 18, 1929.

Preparations of Protozoa and Algæ.

WITH reference to Dr. L. Lloyd's method of obtaining preparations of protozoa and algæ (*NATURE*, Jan. 18, p. 91), I have used a similar method since 1926 for the study of growths of sessile algæ. I demonstrated this method in a paper to Section K (Botany) of the British Association at the Glasgow meeting in 1928.

Glass microscope slides 1-inch wide and of the suitable length are fitted in a metal photograph printing frame and either wired (or chained) on the bed of the river or buoyed at a certain level with corks. After a given period the frame is lifted out and the slides can be fixed and treated in the same manner as other microscopic preparations.

I believe the first to use glass slides for this kind of work was Nauman (see *Ber. Deutsch. Bot. Ges.*, 37, 76-78; 1919).

R. W. BUTCHER.

The Tees Laboratory,
Barnard Castle,
Durham, Jan. 30.

Wild Birds and Butterflies.

APROPOS of the recent discussion in *NATURE* as to the frequency with which butterflies are eaten by birds, the following extract from *The Emu*, 29, Pt. 3, October 1929, p. 88, may be of interest. The writer is Mr. M. S. R. Sharland, Melbourne, and the species of bird is the dusky wood-swallow (*Artamus cyanopterus*). "When almost full-fledged they (i.e. the nestlings) were fed at frequent intervals on butterflies. This was the first time I had noticed butterflies being included in the menu of either adult or young birds. The wood-swallow is evidently immune from any objectionable sensations to the palate which the butterfly may cause, but these insects seem to be shunned by most birds."

J. B. CLELAND.

The University,
Adelaide, Dec. 24, 1929.

Insect Pests of Willows.

IN a letter in *NATURE* of Feb. 8, p. 201, by H. P. Hutchinson and myself, a serious error in the proof escaped notice. *Galerucella luteola* Müll was quoted as a common pest of *Salix triandra* varieties in Great Britain. The species, of course, should have been *G. lineola* Fabr. The former Chrysomelid beetle is common on the Continent and is not indigenous to Great Britain.

H. G. H. KEARNS.

The University,
Bristol.