

Zalesky also notes his discovery that the members of the order Hemipsocoptera, which was established by him in 1936<sup>1</sup>, similarly possessed a "proboscis-shaped" head and mouth-parts like those of the Homoptera. The species for which he erected this new order, *Mauria sylvensis* Zal., was based upon a single and poorly preserved specimen, showing the more general features of both fore and hind wings. At that time (1936) the nature of the hind wings of the Permian Homoptera was not known, and Zalesky, noting that the hind pair of *Mauria* suggested the wings of the Permian Psocoptera, and the fore pair those of the Permian Homoptera (Archescytnidæ), made the new order Hemipsocoptera for the genus. In 1935 I collected in the Permian strata of Kansas a number of Homoptera belonging to several genera of the family Archescytnidæ, descriptions of which are now in press. The hind wings have a venation like that of *Mauria* and the fossils show beyond doubt that the latter is nothing more than a typical member of the Homopterous family Archescytnidæ. It is not surprising, therefore, that the members of the "order" Hemipsocoptera

possessed sucking mouth-parts like those of the Homoptera, for as I have already shown (1931)<sup>2</sup>, the Archescytnidæ had a perfectly developed haustellate beak, with a swollen clypeal region, and piercing stylets.

The close relationship between the Psocoptera and the Homoptera has been recognized for many years by students of insect phylogeny and morphology, and the similarity between the Permian representatives of these two groups is, of course, very striking. It is unfortunate that Zalesky did not wait for more satisfactorily preserved specimens of *Mauria* before he established a new order.

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<sup>1</sup> NATURE, 140, 847 (Nov. 13, 1937).

<sup>2</sup> Proc. Amer. Acad. Arts Sci., 68, 446 (1933).

<sup>3</sup> Amer. J. Sci., (5) 24, 4 (1932).

<sup>4</sup> Proc. Linn. Soc. N.S.W., 60, 267 (1935).

<sup>5</sup> Ann. Soc. Geol. Nord., 60, 51 (1936).

<sup>6</sup> Amer. J. Sci., (5) 22, 116 (1931).

### Points from Foregoing Letters

A NEW type of monochromator, built up of a number of 'Polaroid' films with intermediate quartz plates, is described by Prof. Yngve Öhman, who calculates the intensity of distribution in a spectrum transmitted by such a filter. Single bands of about 50 Å. can be separated. Photographs are submitted comparing results obtained with a grating spectrograph and with the new instrument, which appears to be especially useful in observing solar prominences, since the field of view is not limited by a slit as in the ordinary spectrograph.

From X-ray photographs of crystals of ammonianickel-nitrate,  $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{NH}_3$ , S. H. Yü concludes that the behaviour of the  $\text{NO}_3$  group in those crystals must be abnormal, and submits diagrams of possible structure which allows for an abnormally large oscillation of the nitrate group. This may be correlated with the large amount of heat motion of the atoms, indicated by the rapid decrease of intensities of the X-ray reflections with increase of glancing angle. Cooling the crystals to the temperature of liquid air produces contraction (at  $-100^\circ\text{C}$ .) followed by expansion, while the colour changes from blue-violet to dark purple and then to brilliant pink.

Dr. D. F. Martyn and G. H. Munro have identified a second ordinary echo from the *F* region of the ionosphere at frequencies below the Larmor gyro-frequency  $f_1 = He/m$ . The retardation of this echo increases, and it eventually disappears just below the frequency  $f_1 \cos \theta$ , where  $\theta$  is the complement of the inclination of the earth's magnetic field. The discovery of this echo shows that the Lorentz polarization term is not to be applied in the treatment of dispersion in the ionosphere, and provides a means of measuring the earth's magnetic field in the ionosphere with greater accuracy than was hitherto possible.

Diagrams of transverse sections of the mantle edge of the spat of the oyster before and after attachment are submitted by H. A. Cole. They show in the later stage the existence of a pair of organs not found in

the free-swimming larvæ and possibly serving to receive, and react to, vibrations caused by disturbances in the surrounding medium. The newly described sense-organs appear as thin-walled spherical pigmented sacs forming part of the surface layer of cells, projecting from the inside mantle surface and containing, in the cavity, a comparatively large concretion which stains vividly with eosin.

Prof. N. A. Iljin gives an account of experiments in which the shedding of certain types of wool fibres in sheep while other types of wool fibres remain unchanged, is produced by means of treatment with thallium acetate. This phenomenon, termed 'selective or differential experimental moult', is considered as a peculiar morphogenetic reaction; it is evidence of the possibility of a physiological distinction between morphologically different structures proper to the race with a certain genetical constitution.

Prof. H. Munro Fox shows that certain sabellid worms removed from their tubes live indefinitely in aerated water, but they die in water deficient in oxygen, whereas intact worms live in the latter water. In their tubes, these sabellids execute rhythmic respiratory movements, the absence of which in tubeless worms may account for their lower viability. The absence of rhythmic movements in tubeless worms is reflected in their lowered metabolism.

The death of two swans from lesions of the intestine is tentatively ascribed by E. Gray to the presence of diatoms entangled in weeds ingested in early spring, combined with a high percentage of silica in the water.

Prof. D. Thoday directs attention to Dr. Razvi's observation that the opening of the stomata in the leaves of certain succulent plants depends not on the water-content of the leaf as a whole but on the water-content of the surface layer of cells. This, Prof. Thoday suggests, may explain why in the leaves of the coffee plant the stomata begin to close within three minutes of exposure to the sun, though the water supply may be abundant.