

like the Trichoptera and Diptera, but unlike the Planipennia and Lepidoptera, which retain all their main tracheæ. In the fresh pupa of Chorista the fusions which take place later on between certain veins are not yet accomplished, and hence the imaginal venation can be interpreted with certainty. Use is also made of the distribution of the macrotrichia to determine the limits of *Cu*.—W. W. L'Estrange and Dr. R. Greig-Smith: The springing of tins of preserved fruit. The blowing of tins containing fruits preserved in syrup appears to be due to the action of yeasts or other gas-forming organisms drawn into the containers through leaks in the joints while cooling after the cooking process. Although various organisms from defective containers were examined, none survived the temperatures to which the contents of containers were subjected during the canning process.

August 28.—Prof. H. G. Chapman, president, in the chair.—Dr. R. J. Tillyard: Mesozoic insects of Queensland. No. 3, Odonata and Protodonata. In the order Odonata two new forms are described from the Upper Triassic beds of Ipswich. One of these is placed in the family Lestidæ, forming the sole representative of a new sub-family Triassolestinae. It shows close affinities with the Epiophlebiinae, being more or less intermediate between this sub-family and the more reduced types like Synlestes. The other dragon-fly fossil is not placed, being only the tip of a wing, but it has sufficient characters of interest to merit a name. In the order Protodonata a very remarkable new fossil, *Aëroplana mirabilis*, is described, and is made the sole representative of a new sub-order *Aëroplanoptera*. The characters of this extraordinary insect are fully discussed, and a comparison made with *Meganoura* (Upper Carboniferous of Commeny). From this reasons are given why the insect should be placed in this order, though it stands very far apart from any known type, and might, perhaps, be considered better placed in a new order. A reconstruction of both wings of this fossil is shown in one of the plates.—J. Mitchell: The Carboniferous Trilobites of Australia. Of the nine species of Australian Carboniferous Trilobites previously recorded, five only are considered worthy of recognition. Thirteen species of *Phillipsia*, one of *Griffithides*, and one of *Brachymetopas* are described as new.

BOOKS RECEIVED.

- Contributions to Embryology. Vol. viii. Nos. 24, 25, and 26. Pp. 198+plates. (Washington: The Carnegie Institution of Washington.)
- Winter Botany. By Prof. W. Trelease. Pp. xxxii+394. (Urbana: Prof. W. Trelease.) 2.50 dollars.
- The Cambridge Pocket Diary, 1918-19. (Cambridge: At the University Press.) 2s. net.
- Reports of the Progress of Applied Chemistry. Vol. ii., 1917. Pp. 536. (London: Society of Chemical Industry.) 6s. 6d.
- Alfred Russel Wallace: The Story of a Great Discoverer. By L. T. Hogben. Pp. 64. (London: S.P.C.K.) 2s. net.
- A Manual of the Common Invertebrate Animals, Exclusive of Insects. By Prof. H. S. Pratt. Pp. 737. (Chicago: A. C. McClurg and Co.)

DIARY OF SOCIETIES.

- THURSDAY, NOVEMBER 7
- ROYAL SOCIETY, at 4.30.—Prof. G. E. Hale: The Nature of Sun-spots.—E. O. Hercus and T. H. Laby: The Thermal Conductivity of Air.—T. K. Chinnayandam: Haidinger's Rings in Mica.
- CHEMICAL SOCIETY, at 8.
- INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—Tenth Kelvin Lecture—L. B. Atkinson: The Dynamical Theory of Electric Engines.

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FRIDAY, NOVEMBER 8.

- ROYAL ASTRONOMICAL SOCIETY, at 5.—H. C. Plummer: The Distribution of the Stars.—Rev. A. L. Cortie: (1) The Spectrum of the Corona, 1914, August 21; (2) The Earlier Spectrum of Nova Aquilæ.—R. J. Pocock: The Relation Between Mean Parallax and Magnitude.—H. H. Turner: Note on the Nebulosity round Nova Persei.—R. Watson: Observations of the Light Variation of Nova Aquilæ, 1918.—A. S. Eddington: The Pulsations of a Gaseous Star and the Problem of the Cepheid Variables. Part I.—S. Chapman: The Energy of Magnetic Storms.—Prof. G. E. Hale: The 100-inch Telescope of the Mount Wilson Observatory.—Probable Paper: Royal Observatory, Greenwich: Magnitudes of Nova Aquilæ from June 10 to November 1, 1918.
- MALACOLOGICAL SOCIETY, at 7.—The Rev. Dr. A. H. Cooke: The Radula of *Thais*, *Drupa*, *Concholepas*, *Cronia*, *Rapana*, and the Allied Genera.—W. T. Webster: Notes on the Life-history of *Planorbis corneus* and other Freshwater Mollusca.
- PHYSICAL SOCIETY, at 5.—Prof. J. C. McLennan: Low-voltage Arcs in Metallic Vapours.—Dr. W. Wilson: Relativity and Gravitation.—C. R. Gibson: Experiments Illustrating Colour-blindness.

MONDAY, NOVEMBER 11.

- ROYAL GEOGRAPHICAL SOCIETY, at 8.—Col. G. S. F. Napier: The Road from Baghdad to Baku.

THURSDAY, NOVEMBER 14.

- ROYAL SOCIETY, at 4.30.—Probable Papers:—A. Mallock: Sounds produced by Drops falling on Water.—G. H. Hardy and S. Ramanujan: The Coefficients in the Expansions of certain Modular Functions.—Hon. R. J. Strutt: The Light Scattered by Gases; Its Polarisation and Intensity.—Dr. F. Horton and Ann C. Davies.—An Investigation of the Ionising Power of the Positive Ions from a glowing Tantalum Filament in Helium.
- OPTICAL SOCIETY, at 8.—T. Smith: Some Generalised Forms of an Optical Equation.—H. S. Ryland: The Manufacture of Binoculars.

FRIDAY, NOVEMBER 15.

- INSTITUTION OF MECHANICAL ENGINEERS, at 6.—Adjourned Discussion: Prof. C. A. Edwards and F. W. Willis: A Law Concerning the Resistance to Penetration of Metals which are Capable of Plastic Deformation, and a New Hardness Scale in Fundamental Units.—R. G. C. Batson: The Value of the Indentation Method in the Determination of Hardness; and Dr. W. C. Unwin: The Ludwik Hardness Test.—T. T. Heaton: Electric Welding.

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