

BOOK REVIEWS

Respiratory Metabolism in Plants; H. BEEVES. Row-Peterson Biological Monograph. Harper & Row, New York. 30s.

THIS monograph is written by a distinguished investigator of plant metabolism. It presents with great clarity and authority a physiological view of plant respiration. The subjects in which the author has been an active investigator are not unduly emphasized and the account is well balanced. The book provides an admirable bridge between plant physiology and biochemistry; it is highly recommended.

D. D. DAVIES

2nd Internationale Arbeitstagung Biochemie und Physiologie der Alkaloide: Ed. KURT MOTHES and HANS-BOTHO SCHROTER. 435 pp. DM 39. Akademie-Verlag, Berlin. January, 1963.

THE papers read at the Second International Congress on the Biochemistry and Physiology of Alkaloids held from 21 May to 25 May 1960 at Halle have now been collected together in one volume. These papers, of which fifty are in German, seven in English and one in French, deal with aspects of the structure, occurrence, biosynthesis and physiology of a wide range of alkaloids.

The biosynthesis and metabolism of simple heterocyclic nitrogen compounds which are known precursors of the piperidine alkaloids are dealt with in three papers, and four contributions on the alkaloids of *Nicotiana tabacum* L. describe studies on the biosynthesis of the alkaloids, breakdown during fermentation and on factors which influence the alkaloid content of the plant. Six papers are devoted to the study of the physiology and biosynthesis of the Lupin alkaloids and further evidence is presented for a close relationship between the metabolism of lysine and the biosynthesis of this group. Various aspects of the biosynthesis and metabolism of the tropane alkaloids are discussed in nine papers, one of which deals with the role of acetate in their biosynthesis. The value of *Scopolia tangulica* Maxim. as a source of tropane alkaloids is also discussed. There are three papers on the alkaloids of the opium poppy, *Papaver somniferum* L. and the biogenetic importance of rhoeadin as the most widespread alkaloid of *Papaver* spp. is the subject of one communication. There is a contribution from Sir Robert Robinson entitled "Some Recent Correlations in the Structure of Indole Alkaloids" and five papers on the biosynthesis and metabolism of alkaloids of ergot including a discussion on newly isolated clavines. The biogenesis and occurrence of other indole alkaloids, i.e. harman and simple 3-methy-4-carbolin derivatives are discussed in two communications.

Other contributions include studies on new derivatives of taurine, the protoalkaloids of fungi belonging to the genus *Panaeolus*, the configuration of the halostachins (phenylethylamines), the distribution of caffeine and trigonelline in *Coffea arabica*, the structure of the molecule of the angustifolins and the alkaloids of *Adenocarpus* spp. The application of tritium in biochemical work is discussed in two papers and there are contributions on the use of paper chromatography for the study of the synthesis of reserpine-type alkaloids and on the alkaloids of *Aspidosperma* spp., *Panacratium* spp., *Veratrum album*, *Solanum dulcamara*,

Colchicum cornigerum and *Sedum* spp. There are also communications on the biosynthesis of damascentine, the present state of our knowledge of the taxins, recent developments in the field of steroidal alkaloids, the molecular symmetry of bisbenzylisoquinoline alkaloids of the berbamine-oxyacanthine type, on the oxidation of isoquinoline derivatives by means of mercuric acetate and on the synthesis, stereochemistry and Hofmann degradation of pseudo-conhydrine. This collection of papers makes an important contribution to our knowledge of the biochemistry of alkaloids and should be in the hands of all workers in this field.

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