

discussed in four papers, one paper deals with the intermediary metabolism of ergot and the variability of alkaloid production in submerged culture and one paper reports the results of experiments on the influence of tryptophane content on alkaloid production. The remaining nine papers on the indole alkaloids include a general review of the biosynthesis of members of the group by Professor E. Leete and an important paper by Professor G. H. Svoboda on the "Current Status of Research on the Alkaloids of *Vinca rosea* L. (*Catharanthus roseus* G. Don) and their Role in Cancer Chemotherapy". The biosynthesis of the alkaloids of *Catharanthus* is discussed in one paper and other papers deal with stereochemical relationships of the indole alkaloids, and the configuration of vincamine and other alkaloids.

The physiology and biochemistry of the tropane alkaloids is the subject of an introductory lecture by Professor W. C. Evans and is followed by ten papers covering various aspects of the biosynthesis of this group of alkaloids including studies on the biosynthesis of the alkaloids of Pomegranate and the tigloyl esters of *Datura* spp. Other papers deal with the changes in the nature of the alkaloids during development of plants of *Datura* spp., the effect of chemical fertilizers on the growth and alkaloid production in *Datura stramonium* var. *inermis* and the effect of gamma radiation. One paper is devoted to studies on the alkaloids of *Scopolia lurida* Dun. from the Himalayas.

A paper on the pyrrolizidine alkaloids reports experiments on the biosynthetic pathways leading to the formation of alkaloids of *Senecio* spp. and the biogenesis of the quinazoline group of alkaloids, including berberine, is discussed in four communications. The remaining papers of the Symposium include studies on the physiology and biosynthesis of muscarine in species of *Inocybe*, investigations on sterile root cultures of *Delphinium elatum*, the breakdown of caffeine in *Coffea arabica*, the biosynthesis of damascenine, the biosynthesis of galegine and the protoalkaloids of *Capsicum annum*.

The collected papers of this Symposium make a valuable contribution to our knowledge of the biochemistry of the alkaloids and workers in this rapidly growing field will find much of interest in this volume.

B. T. CROMWELL

MARTIN LUCKNER: **Prüfung von Drogen.** Gustav Fischer-Verlag, Jena, GDR, 1966. 357 pp. £2 1s. 9d.

THIS book deals generally with the examination of crude drugs and medicinal plants but in particular with the analytical procedures adopted by the Deutsches Arzneibuch 1965-6 (DAB-7, the Pharmacopoeia of the German Democratic Republic) for maintaining the standards of the numerous crude drugs, both organized and unorganized, included among the monographs of this publication.

The book is divided into twenty-one sections. The first section briefly introduces the principles involved in the physical and physico-chemical methods used which includes paper and thin-layer chromatography, fluorimetry and flame photometry as well as the more conventional pharmacopoeial methods, e.g. ash values, moisture content, acid values, etc. The other sections deal with a more detailed examination of drugs containing alkaloids, anthocyanins, anthracene derivatives, volatile oils (and the individual oils), bitters, diferuloyl methane derivatives, fixed oils (and the individual oils), flavonoids, furanochromone derivatives, tannins, cardiac glycosides, hydroquinones, carbohydrates, coumarins, leuco-anthocyanins, proazulene derivatives, saponins and, finally, a miscellaneous group which

cannot be fitted into any of the previously mentioned groups. This list is in German alphabetical order but it might have been better to group the substances on a more scientific basis.

The majority of analytical methods described are based upon published procedures and all the references are given in the appendix. A number of them were worked out by the author and his colleagues in preparation for this edition of the pharmacopoeia. It is interesting to note that both paper and thin-layer chromatography are frequently used and instead of giving R_f values figures are included to indicate the positions to which the various substances should move. This is probably the most interesting part of the book, giving as it does details of chromatographic systems suitable for separating many different groups of substances together with the means of detecting them. The book should be of value to all persons interested in the examination of crude drugs or medicinal plants. Students who can read German will find it useful since there is a brief explanation given of the chemistry involved in many of the reactions. It is unlikely, however, to be of great value to the phytochemist undertaking research into the "vast unknown" of plant life.

The book is well produced in readable type and is strongly bound. The information is well presented, though perhaps to English eyes a little too regimented.

E. J. SHELLARD