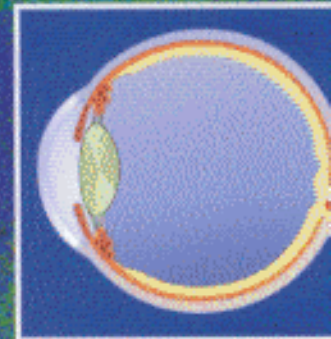


15TH EDITION

Trease and Evans

Pharmacognosy

W.C. Evans



W. B. SAUNDERS



Contents

Preface ix

Contributors xi

Part 1

Introduction 1

1. Plants in medicine: the origins of pharmacognosy 3
2. The scope and practice of pharmacognosy 5
3. Plant nomenclature and taxonomy 8

Part 2

The plant and animal kingdoms as sources of drugs 11

4. Biological and geographical sources of drugs 13
5. A taxonomic approach to the study of medicinal plants and animal-derived drugs 15
6. Pharmacological activities of natural products 41
7. Synergy in relation to the pharmacological action of phytochemicals 49
E. M. Williamson

Part 3

Principles related to the commercial production, quality and standardization of natural products 55

8. Commerce in crude drugs 57
R. Baker
9. Production of crude drugs 61
10. Plant growth regulators 67

11. Plant cell and tissue culture; biological conversions; clonal propagation 72
12. Phytochemical variation within a species 80
13. Deterioration of stored drugs 91
14. Quality control 95

Part 4

Some current trends 107

15. Plant products and High Throughput Screening 109
M. J. O'Neill, J. A. Lewis
16. Biologically active compounds from marine organisms 115
G. Blunden
17. Traditional plant medicines as a source of new drugs 125
P. J. Houghton

Part 5

Phytochemistry 135

18. General methods associated with the phytochemical investigation of herbal products 137
19. Basic metabolic pathways and the origin of secondary metabolites 150

Part 6

Pharmacopoeial and related drugs of biological origin 171

- Introduction 173
20. Hydrocarbons and derivatives 174
 21. Carbohydrates 191
 22. Phenols and phenolic glycosides 214

23. Volatile oils and resins 253
24. Saponins, cardioactive drugs and other steroids 289
25. Miscellaneous isoprenoids 315
26. Cyanogenetic glycosides, glucosinolate compounds and miscellaneous glycosides 327
27. Alkaloids 333
28. Tumour inhibitors from plants 394
P. M. Dewick
29. Antiprotozoal natural products 407
C. W. Wright
30. An overview of drugs with antihepatotoxic and oral hypoglycaemic activities 414
31. Vitamins and hormones 421
32. Antibacterial and antiviral drugs 429
33. Colouring and flavouring agents 435
34. Miscellaneous products 440

Part 7
Plants in complementary and traditional systems of medicine 445

Introduction 447

35. Herbal medicine in Britain and Europe: regulation and practice 449
S. Y. Mills
36. Homoeopathic medicine and aromatherapy 460
M. A. Healy, M. Aslam

37. Aspects of Asian medicine and its practice in the West 467
M. Aslam
38. Chinese herbs in the West 482
S. Y. Mills
39. Plants in African traditional medicine—an overview 488
A. Sofowora

Part 8
Nonmedicinal toxic plants and pesticides 497

40. Hallucinogenic, allergenic, teratogenic and other toxic plants 499
41. Pesticides of natural origin 509

Part 9
Morphological and microscopical examination of drugs 513

Introduction 515

42. Plant description, morphology and anatomy 516
43. Cell differentiation and ergastic cell contents 526
44. Techniques in microscopy 538

Index 549