1. Record Nr. UNINA9910825324003321

| | |
|---|---|
| Autore | Aniszewski Tadeusz |
| Titolo | Alkaloids - secrets of life : alkaloid chemistry, biological significance, applications and ecological role / / Tadeusz Aniszewski |
| Pubbl/distr/stampa | Amsterdam ; ; Oxford, : Elsevier, 2007 |
| ISBN | 1-281-00385-9<br>9786611003852<br>0-08-047533-7 |
| Edizione | [1st ed.] |
| Descrizione fisica | 1 online resource (335 p.) |
| Disciplina | 547.7 |
| Soggetti | Alkaloids<br>Biochemistry |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Cover; Copyright Page; Table of Contents; List of Figures; List of Tables; Preface; Chapter 1 Definition, Typology and Occurrence of Alkaloids; 1. Definition; 1.1. True alkaloids; 1.2. Protoalkaloids; 1.3. Pseudoalkaloids; 2. Occurrence in nature; 2.1. The Dogbane botanical family (Apocynaceae); 2.2. The Aster botanical family (Asteraceae); 2.3. The Logan botanical family (Loganiaceae); 2.4. The Poppy botanical family (Papaveraceae); 2.5. The Citrus botanical family (Rutaceae); 2.6. The Nightshade botanical family (Solanaceae); 2.7. The Coca botanical family (Erythroxylaceae)<br>2.8. The Borage botanical family (Boraginaceae)2.9. The Legume botanical family (Fabaceae); 2.10. The Monseed botanical family (Menispermaceae); 2.11. The Berberry botanical family (Berberidaceae); 2.12. The Buttercup botanical family (Ranunculaceae); 2.13. The Lily botanical family (Liliaceae); 2.14. The Coffee botanical family (Rubiaceae); 2.15. The Amaryllis botanical family (Amaryllidaceae); 2.16. The Oleaster botanical family (Elaeagnaceae); 2.17. The Caltrop botanical family (Zygophyllaceae); 2.18. Mushroom; 2.19. Moss; 2.20. Fungus and bacter; 2.21. Animals<br>Chapter 2 Alkaloid Chemistry1. Alkaloids as secondary metabolism molecules; 2. Synthesis and metabolism; 2.1. Skeleton diversity; 2.2. Ornithine-derived alkaloids; 2.3. Tyrosine-derived alkaloids; 2.3.1. |

Mescaline pathway; 2.3.2. Kreysigine and colchicine pathway; 2.3.3. Dopamine - cephaeline pathway; 2.3.4. Galanthamine pathway; 2.4. Tryptophan-derived alkaloids; 2.4.1. Psilocybin pathway; 2.4.2. Elaeagnine, harman and harmine pathway; 2.4.3. Ajmalicine, tabersonine and catharanthine pathway; 2.4.4. Vindoline, vinblastine and vincristine pathway; 2.4.5. Strychnine and brucine pathway
2.4.6. Quinine, quinidine and cinchonine synthesis pathway2.4.7. Eserine synthesis pathway; 2.4.8. Ergotamine synthesis pathway; 2.5. Nicotinic acid-derived alkaloids; 2.6. Lysine-derived alkaloids; 2.6.1. Pelletierine, lobelanine and piperine synthesis pathway; 2.6.2. The swansonine and castanospermine synthesis pathway; 2.6.3. The lupinine, lupanine, sparteine and cytisine synthesis pathway; 2.7. Methods of analysis; 2.7.1. Methodological considerations; 2.7.2. Structural approach; 2.7.2.1. Piperidine alkaloids; 2.7.2.2. Indolizidine alkaloids; 2.7.2.3. Quinolizidine alkaloids
2.7.2.4. Pyrrolizidine alkaloids2.7.2.5. Izidine alkaloids; 2.7.2.6. Pyrrolidine alkaloids; 2.7.2.7. Tropane alkaloids; 2.7.2.8. Imidazole alkaloids; 2.7.2.9. Quinazoline alkaloids; 2.7.2.10. Acridone alkaloids; 2.7.2.11. Pyridine alkaloids; 2.7.2.12. Sesquiterpene pyridine alkaloids; 2.7.2.13. Phenyl and phenylpropyl alkaloids; 2.7.2.14. Indole alkaloids; 2.7.2.15. Manzamine alkaloids; 2.8. Biogenesis of alkaloids; 2.8.1. Chemistry models; 2.8.2. Biochemistry models; 2.8.3. Molecular biology models; 2.8.4. Analytical dilemmas; 2.9. Methods of alkaloid analysis; 2.9.1. Methods in history
2.9.2. Basic methods and instruments

Sommario/riassunto

Alkaloids, represent a group of interesting and complex chemical compounds, produced by the secondary metabolism of living organisms in different biotopes. They are relatively common chemicals in all kingdoms of living organisms in all environments.  Two hundred years of scientific research has still not fully explained the connections between alkaloids and life.Alkaloids-Chemistry, Biological Significance, Applications and Ecological Role provides knowledge on structural typology, biosynthesis and metabolism in relation to recent research work on alkaloids. Considering an organic c