

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

FLORA EUROPAEA

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

FLORA EUROPAEA

VOLUME 2

ROSACEAE TO UMBELLIFERAE

EDITED BY

T. G. TUTIN V. H. HEYWOOD

N. A. BURGES D. M. MOORE D. H. VALENTINE

S. M. WALTERS D. A. WEBB

WITH THE ASSISTANCE OF

P. W. BALL A. O. CHATER I. K. FERGUSON



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore,
São Paulo, Delhi, Dubai, Tokyo, Mexico City

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521153676

© Cambridge University Press 1968

This publication is in copyright. Subject to statutory exception
and to the provisions of relevant collective licensing agreements,
no reproduction of any part may take place without the written
permission of Cambridge University Press.

First published 1968
Ninth printing 2005
First paperback printing 2010

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data
Tutin, Thomas Gaskell, 1908—ed. Flora Europaea.
Includes bibliographies.

CONTENTS: v. 1. Lycopodiaceae to Platanaceae —
v. 2. Rosaceae to Umbelliferae. — v. 3. Diapensiaceae
to Myoporaceae — v. 4. Plantaginaceae to Compositae.
1. Botany — Europe. I. Title.
QK281.T8 581.9'4 64-24315

ISBN 978-0-521-06662-4 Hardback
ISBN 978-0-521-15367-6 Paperback

Cambridge University Press has no responsibility for the persistence or
accuracy of URLs for external or third-party Internet Web sites referred to in
this publication, and does not guarantee that any content on such Web sites is,
or will remain, accurate or appropriate.

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

CONTENTS

THE FLORA EUROPAEA ORGANIZATION	<i>page</i> vii
LIST OF CONTRIBUTORS	ix
PREFACE	xi
INTRODUCTION	xiii
LISTS OF BASIC AND STANDARD FLORAS	xvii
SYNOPSIS OF FAMILIES	xx
KEY TO FAMILIES OF ANGIOSPERMAE	xxi
EXPLANATORY NOTES ON THE TEXT	Blue sheet
TEXT	1–375
APPENDICES:	
I Key to the Abbreviations of Authors' Names	379
II Key to the Abbreviations of Titles of Books cited in Volume 2	392
III Key to the Abbreviations of Titles of Periodicals and Anonymous Works	410
IV Glossary of Technical Terms	421
V Vocabularium Anglo-Latinum	422
INDEX	425
MAPS	<i>at end</i>

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb
Frontmatter[More information](#)

THE FLORA EUROPAEA ORGANIZATION

SPONSORS

The Linnean Society of London

EDITORIAL COMMITTEE

T. G. TUTIN, University of Leicester; *Chairman*
 V. H. HEYWOOD, University of Reading; *Secretary*
 N. A. BURGES, New University of Ulster
 D. M. MOORE, University of Leicester
 D. H. VALENTINE, University of Manchester
 S. M. WALTERS, University of Cambridge
 D. A. WEBB, University of Dublin (Trinity College)

Research Assistants

P. W. BALL, University of Liverpool
 A. O. CHATER, University of Leicester
 I. K. FERGUSON, British Museum (Natural History), London

ORGANIZING COMMITTEE

The above members and:

A. R. CLAPHAM, University of Sheffield
 R. D. MEIKLE, Royal Botanic Gardens, Kew
 A. MELDERIS, British Museum (Natural History), London } Representatives of the
 } Linnean Society

ADVISORY EDITORS

T. W. BÖCHER, Institut for Planteanatomi og Cytologi, København
 J. E. DANDY, British Museum (Natural History), London
 J. DOSTÁL, Universita Palackého, Olomouc
 H. GAUSSEN, Laboratoire de Botanique, Faculté des Sciences, Toulouse
 ANDREY A. FEDOROV, Botaničeskíe Institut Akademii Nauk S.S.S.R., Leningrad
 W. LÜDI, Geobotanisches Institut der E.T.H., Stiftung Rübel, Zürich
 K. H. RECHINGER, Naturhistorisches Museum, Wien
 SIR GEORGE TAYLOR, Royal Botanic Gardens, Kew

REGIONAL ADVISERS

Albania	F. MARKGRAF, Zürich
	I. MITRUSHI, Tirana
Austria	F. EHRENDORFER, Graz
Belgium	A. LAWALRÉE, Bruxelles
Bulgaria	N. STOJANOV, Sofija
	B. KUZMANOV, Sofija
Czechoslovakia	J. DOSTÁL, Olomouc
	J. HOLUB, Průhonice u Prahy

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)**THE FLORA EUROPAEA ORGANIZATION**

Denmark	A. HANSEN, København
Finland	J. JALAS, Helsinki
France	P. DUPONT, Nantes P. JOVET, Paris R. DE VILMORIN, Orsay
Germany	H. MERXMÜLLER, München K. WERNER, Halle
Greece	K. H. RECHINGER, Wien
Hungary	R. SOÓ, Budapest Z. E. KÁRPÁTI, Budapest
Iceland	E. EINARSSON, Reykjavik
Italy	G. MOGGI, Firenze R. E. G. PICHI-SERMOLLI, Genova
Jugoslavia	E. MAYER, Ljubljana V. BLEČIC, Beograd
Netherlands	S. J. VAN OOSTSTROOM, Leiden
Norway	R. NORDHAGEN, Oslo
Poland	B. PAWŁOWSKI, Kraków
Portugal	A. R. PINTO DA SILVA, Oeiras J. DO AMARAL FRANCO, Lisboa (assisted by MARIA DA LUZ DA ROCHA AFONSO)
Romania	A. BORZA, Cluj †E. I. NYÁRÁDY, Cluj
Spain	E. GUINEA, Madrid E. FERNÁNDEZ GALIANO, Sevilla O. DE BOLÓS, Barcelona
Sweden	N. HYLANDER, Uppsala
Switzerland	E. LANDOLT, Zürich
Turkey	P. H. DAVIS, Edinburgh
Russia	T. V. EGOVA, Leningrad A. I. POJARKOVA, Leningrad V. N. TIKHOMIROV, Moskva

TECHNICAL CONSULTANT

Á. LÖVE, Boulder

GEOGRAPHICAL ADVISER

H. MEUSEL, Halle

The above lists refer to the Organization as it was constituted during the preparation of volume 2, which was completed in February 1967

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

LIST OF CONTRIBUTORS TO VOLUME 2

The following is a list of authors who have contributed accounts of genera or parts of them.

- | | |
|----------------------------------|--|
| P. W. BALL, Liverpool | P. LEINS, München |
| B. BAUM, Ottawa | H. MERXMÜLLER, München |
| K. BROWICZ, Kórnik, Poland | D. M. MOORE, Leicester |
| R. K. BRUMMITT, Kew | J. MCNEILL, Liverpool |
| N. A. BURGES, Coleraine | G. NORDBORG, Lund |
| M. S. CAMPBELL, Genève | D. J. OCKENDON, Cambridge |
| J. F. M. CANNON, London | B. PAWŁOWSKI, Kraków |
| A. O. CHATER, Leicester | A. R. PINTO DA SILVA, Oeiras |
| C. D. K. COOK, Liverpool | M. C. F. PROCTOR, Exeter |
| D. E. COOMBE, Cambridge | P. H. RAVEN, Stanford |
| J. CULLEN, Liverpool | N. K. B. ROBSON, London |
| D. H. DALBY, London | A. SCHMIDT, Hamburg |
| J. DOSTÁL, Olomouc | V. SKALICKÝ, Praha |
| T. T. ELKINGTON, Sheffield | A. R. SMITH, Kew |
| I. K. FERGUSON, London | A. TERPÓ, Budapest |
| R. FERNANDES, Coimbra | C. C. TOWNSEND, Kew |
| J. DO AMARAL FRANCO, Lisboa | T. G. TUTIN, Leicester |
| D. FRODIN, Cambridge | D. H. VALENTINE, Manchester |
| W. GAJEWSKI, Warszawa | S. M. WALTERS, Cambridge |
| P. E. GIBBS, St Andrews | †E. F. WARBURG, Oxford |
| E. GUINEA, Madrid | D. A. WEBB, Dublin |
| A. HANSEN, København | P. F. YEO, Cambridge |
| Y. HESLOP-HARRISON, Madison | D. P. YOUNG, Sanderstead, United Kingdom |
| V. H. HEYWOOD, Liverpool | A. CHRŤKOVÁ-ŽERTOVA, Průhonice u Prahy |
| R. B. IVIMEY-COOK, Exeter | |
| Z. E. KÁRPÁTI, Budapest | |
| I. KLÁSTERSKÝ, Průhonice u Prahy | |

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

PREFACE

The development of the Flora Europaea project was outlined in the Preface to Volume 1, and it is not necessary to recapitulate it here. It is sufficient to remind the reader of the successful publication of Volume 1, and the fulfilment of the promise to proceed as quickly as possible with Volume 2. That it has been possible to produce it in less than four years is gratifying to the Editorial Committee, and is a tribute to the unstinted collaboration of our advisers and friends in every part of Europe. We must express our gratitude here to our advisory editors and regional advisers, both old and new. The tradition of biennial Symposia has been maintained with meetings in Denmark in 1965, and in Spain in 1967.

Since the publication of Volume 1, the Editorial Committee has been strengthened by the addition of Dr D. M. Moore; and Dr I. K. Ferguson has been appointed as a third research assistant.

We again record our deep gratitude to the United Kingdom Science Research Council, whose continuing financial support has made it possible to maintain our organization and secretariat, and also to appoint from 1966 the additional Research Assistant. We have also been able to invite, for periods of three months, a number of visiting bursars, who have worked at British Universities and research institutes. Each has prepared an account of a particular genus or group of species for Volume 3. Visitors to date have been Dr A. Jasiewicz (Kraków), Dr S. Kožuharov (Sofija) and Dr J. Holub (Průhonice). The total amount of the Science Research Council grant for the period 1965–8 is £34,000.

In addition to this main grant, the project has received direct and indirect financial help from several countries, among which should be mentioned The Royal Society, London, the Danish Botanical Society and the Spanish Higher Council for Scientific Research. We gratefully acknowledge the continuing sponsorship of our project by the Linnean Society of London. A committee has been set up jointly by the Society and the Flora Europaea Organizing Committee to administer, in the interests of taxonomic research on the flora of Europe, a trust fund arising from the royalties from the Flora.

The British Museum (Natural History) has provided accommodation for Dr Ferguson; our special thanks are due to the Keeper of Botany and his staff for this and for many other favours. We are also grateful to the Director and Staff of the Herbarium and Library, Royal Botanic Gardens, Kew, for much help, willingly given; and to institutions abroad, notably the Naturhistorisches Museum, Wien and the Komarov Botanical Institute of the Academy of Sciences, Leningrad. We should like to mention specially Mr J. E. Dandy, one of our Advisory Editors, who has played an increasingly important part as adviser on nomenclature. In addition, many botanists, not formally associated with our organization, have helped us in various ways, notably H. Runemark (Lund), S. Kožuharov (Sofija) and the late N. Y. Sandwith (Kew). P. D. Sell (Cambridge) undertook the laborious task of preparing the index for the press.

As in Volume 1, the names of the authors primarily responsible for writing the accounts of families and genera are given in footnotes to the text. It should, however, be made clear that the Editorial Committee takes full responsibility for the form in which the text is published.

Acknowledgements are due to the Universities of Cambridge, Dublin, Durham,

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb
Frontmatter

[More information](#)

PREFACE

Leicester, Liverpool and Manchester for their support in making facilities available to members of the Editorial Committee and their assistants. In particular, the University of Liverpool has continued to provide accommodation in the Hartley Botanical Laboratories for the Secretariat. We should in conclusion express our gratitude to the staff of the Secretariat, Mrs J. Beck, Mrs M. E. Donnelly and Mrs M. L. Pollard for their continuing efficiency and loyalty.

INTRODUCTION

The aim of the Flora is in general diagnostic, and the descriptions, while brief, are as far as possible comparable for related species. The Floras listed on pp. xvii–xix, and the monographs or revisions given when appropriate after the descriptions of families and genera, may assist the reader in obtaining more detailed information. Other references to published work are occasionally given in cases of special taxonomic difficulty.

All available evidence, morphological, geographical, ecological and cytogenetical, has been taken into consideration in delimiting species and subspecies, but they are in all cases definable in morphological terms. (Taxa below the rank of subspecies are not normally included.) The delimitation of genera is often controversial and the solution adopted in the Flora may be a somewhat arbitrary choice between conflicting opinions. We have endeavoured to weigh as fairly as possible the various opinions available, but there has been no consistent policy of ‘lumping’ or ‘splitting’ genera (or, for that matter, species). The order and circumscription of the families is that of Melchior in *Engler-Diels, Syllabus der Pflanzenfamilien* ed. 12 (1964). Since, however, this edition of the *Syllabus* did not appear until Volume 1 of the Flora had gone to press, there are some small discrepancies between the two with regard to the sequence of families. In particular, the Cactaceae and Guttiferae, which should have been in Volume 1, have been inserted in Volume 2.

All descriptions of taxa refer only to their representatives in Europe. In practice, we have relaxed this rule slightly for families and genera to avoid giving taxonomically misleading information, particularly in those cases where a large family or genus has only one or few, somewhat atypical, members in Europe. In such cases we have occasionally added ‘in European members’ or a similar phrase to emphasize the atypical representation. It should, however, never be assumed that the description is valid for all non-European taxa.

For the purpose of this Flora, we have tried as far as possible to interpret Europe in its traditional sense. The area covered is shown on the maps at the end of the volume.

Place-names used in the summaries of geographical distribution have been given in their English form when they refer to independent states (including the constituent republics of the U.S.S.R.) or to such geographical features of Europe as transcend national boundaries. All other place-names are given in the language of the country concerned. Thus we write *Sweden, Ukraine, Danube, Alps, Mediterranean* but *Corse, Kriti, Slovenija, Rodopi Planina, Ahvenanmaa*.

In *transliteration* from Cyrillic characters we have followed the ISO system recommended in the UNESCO *Bulletin for Libraries* 10: 137 (1956) for place-names and titles of journals. With personal names, however, we have followed the list of transliterations given in the index-volume (1962) to *Not. Syst. (Leningrad)*, and have transliterated personal names which do not occur in this list according to the conventions used there.

In transliterating place-names from Greek characters, we have, except for omitting the accents, followed *The Times Atlas of the World, Mid-Century Edition, vol. 4* (London, 1956).

On pp. xvii–xix, we give a list of *Basic and Standard Floras*. The reason behind the choice of these Floras was not made clear in Volume 1. Basic Floras have been chosen as widely

INTRODUCTION

known Floras covering large or important parts of Europe. Standard Floras are considered to represent those Floras in current use and likely to be familiar to a large number of people in the particular country concerned; the list has been revised since the publication of Volume 1.

Synonyms, whether full or partial, are given in parentheses in the text only when they are used in one of the Basic Floras or when they are necessary to prevent confusion. (For primarily Iberian and Mediterranean species, synonyms used in the *Prodromus* of Willkomm & Lange, and the *Supplementum* by Willkomm (p. xix) are also included.) Synonyms (or the basionym) are also usually given in the text when the combination has not previously been used in a Flora or monograph, or when the nomenclature is otherwise unfamiliar or in need of explanation. Otherwise, synonyms are given in the Index only; but it is important to note that no attempt has been made to give a complete synonymy. Even at the binomial level, the number of names for European plants is four or five times the number of accepted species, and to include all these would be impracticable. Thus, in addition to the binomials in the text, the Index contains all synonyms at specific rank which are used in the Basic and Standard Floras, or in cited monographs, with an indication of the species in the text under which they have been relegated to synonymy. Some subspecific names also appear in the Index. In this way, we hope that users of any Basic or Standard Flora will be able to relate the names used in their own Floras to those in *Flora Europaea*. In cases where the name of a familiar species has been changed, an explanation of this is usually published as a Notula (see p. xvi).

Citations have been abbreviated, and the abbreviations used for authors and places of publication have been standardized; lists of these abbreviations are given in Appendices I, II and III. These lists apply only to the abbreviations used in Volume 2.

Species descriptions attempt to give, within the limits of length set by the Flora, both the diagnostic characters of the plant and a general idea of its appearance. Where dimensions are given, a measurement without qualification refers to length. Two measurements connected by \times indicate length followed by width. Further measurements in parentheses indicate exceptional sizes outside the normal ranges. In order to save space and facilitate identification, descriptions may sometimes take the form of a comparison with another description. The conventional way of setting this out is, to give an example (p. 41):

16. *Potentilla chamissonis* Hultén... Like 15 but...

This implies that the description with which it is being compared (in this example 15. *P. nivea* L.) applies to this taxon but for the differences noted. It does not necessarily mean that the two taxa are similar in general appearance. Additional descriptive information is sometimes also given, but in separate sentences.

The *diploid chromosome number* ($2n =$) is given where it has been possible to verify that the count was made on material of known wild European origin. For naturalized and cultivated species, the count is from material which is naturalized or is cultivated in the way which justifies its inclusion in the Flora. It is hoped to publish separately a list of references to the data on which the published numbers are based.

Ecological information is given sparingly, and only where the ecological characteristics of a species are clearly and concisely definable for its total European range. Sometimes a general statement, applicable to a whole genus or to a group of species, is made. There is an inevitable irregularity of treatment, as in a great many cases reliable ecological information is not available.

The description of each species is followed by an indication of its *distribution within*

INTRODUCTION

Europe. This falls into two parts: (1) a summary in a short phrase; (2) a list of abbreviations of 'territories' in which the species occurs. The summary phrase makes use of everyday geographical phrases and concepts such as 'W. Europe', 'the Mediterranean region', 'the Balkan peninsula', etc. Maps iv and v and the legends accompanying them indicate the interpretation which is to be put on these phrases. We would emphasize that they are to be interpreted in a simple geographical sense, and do not attempt in any way to divide Europe phytogeographically.

Species believed to be endemic to Europe are distinguished by a symbol (●) before the summary of geographical distribution.

A more precise indication of distribution is given by the enumeration of the 'territories' (indicated by a two-letter abbreviation) in which the plant is believed to occur. The limits of these territories follow, with very few exceptions, existing political boundaries (see Map 1). The territories, of course, vary greatly in size, and Ga, Hs or Ju gives very much less information than does Fa, Rs(K) or Tu. In all cases, however, the lists provide a guide to which national Floras should be searched for further detailed information, whether on taxonomy or on distribution. Occasionally, the list of territories is followed by a brief indication, in parentheses, of extra-European distribution. This is done only for plants of which the European range is but a small fraction of the total and for species not native in Europe.

In general the only infraspecific taxa described and keyed in the Flora are subspecies. Any formal treatment of variation below the level of subspecies would have been impossible in a Flora of this kind; the known variation of taxa is, however, covered in the descriptions. No 'experimental' categories, such as ecotypes, are used in the Flora in a formal systematic sense, though they are sometimes mentioned in notes.

Where it is difficult to distinguish between a number of closely similar species in a genus, an *ad hoc* 'group' has been made, and these groups, not the individual species, are keyed out in the main species key. They will serve for at least a partial identification. Following the description of a group in the text, a key to the component species is given, and they are then numbered and described, so that a more detailed study, or the availability of more adequate material, may enable the user to take the identification further. For example, in *Potentilla* there is the *P. argentea* group, which comprises the species *P. argentea* L., *P. calabra* Ten. and *P. neglecta* Baumg. Such groups have no nomenclatural status.

For inbreeding and apomictic groups, other *ad hoc* treatments have been devised. In Volume 2, the main problems have arisen in the Rosaceae; the methods used to overcome them are described in the notes following the descriptions of that family and the genera concerned.

Only those few *hybrids* which reproduce vegetatively and are frequent over a reasonably large area (e.g. *Circaea* × *intermedia*) are described and keyed as for species. Other common hybrids may be mentioned individually in notes (e.g. in *Viola*), or collectively for the whole genus (e.g. in *Epilobium*).

We have attempted to include the following categories of *alien species*:

(i) Aliens which are effectively naturalized. These include garden plants which have escaped to situations not immediately adjacent to those in which they are cultivated, as well as weeds and other plants which have been accidentally introduced; provided, in both cases, that the plant has been established in a single station for at least 25 years, or is reported as naturalized in a number of widely separated localities.

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

INTRODUCTION

(ii) Trees or crop-plants which are planted or cultivated in continuous stands on a fairly extensive scale.

Casual aliens, i.e. those which do not persist without repeated re-introduction, are not included unless they have often been mistaken for a native or established species, or are for any other reason of special interest. In assessing the status of a species in any part of Europe we have, however, been dependent very largely on the information contained in the national Floras, and it is clear that the criteria used by different authors vary widely. All data on native, naturalized or casual status relating to synanthropic plants must, therefore, be regarded only as approximate.

It is the policy of the Committee not to publish new names in the Flora itself. To deal with the publication of much of this material, an arrangement has been made with the Editorial Board of *Feddes Repertorium*, by which taxonomic and nomenclatural notes are being published as part of a series entitled *Notulae Systematicae ad Floram Europaeam spectantes*; the first six parts of these have already appeared.

LISTS OF BASIC AND STANDARD FLORAS

BASIC FLORAS

- COSTE, H. *Flore descriptive et illustrée de la France, de la Corse et des Contrées limitrophes*. Vols. 1–3. Paris, 1900–1906.
- HAYEK, A. VON. *Prodromus Florae Peninsulae balcanicae*. (In *Feddes Repert. (Beih.)* 30.) Vols. 1–3. Berlin-Dahlem, 1924–1933.
- HEGI, G. *Illustrierte Flora von Mitteleuropa*, ed. 1. Vols. 1–7. München, 1906–1931. Ed. 2. Vols. 1–. München, 1936–.
- HYLANDER, N. *Nordisk Kärleväxtflora*. Vols. 1–. Stockholm, 1953–.
- KOMAROV, V. L. *et al.* (ed.). *Flora URSS*. Vols. 1–30. Leningrad & Moskva, 1934–1964.

STANDARD FLORAS

- ARCANGELI, G. *Compendio della Flora italiana*, ed. 1. Torino, 1882.
- BARCELÓ Y COMBIS, F. *Flora de las Islas Baleares*. Palma de Mallorca, 1879–1881.
- BECK VON MANNAGETTA, G. *Flora Bosne, Hercegovine i Novipazarskog Sandžaka*. Vols. 1–4(1). Beograd & Sarajevo, 1903–1950.
- BINZ, A. *Schul- und Exkursionsflora für die Schweiz*, ed. 11 by A. Becherer. Basel, 1964.
- BINZ, A. & THOMMEN, E. *Flore de la Suisse*, ed. 2. Lausanne, 1953.
- BOISSIER, E. *Flora orientalis*. Vols. 1–5. Genève, Bâle and Lyon, 1867–1884. *Supplementum*. 1888.
- BORZA, A. *Conspectus Florae Romaniae*. Cluj, 1947–1949.
- BRIQUET, J. *Prodrome de la Flore corse*.

- Vols. 1–3, Genève, Bâle, Lyon and Paris, 1910–1955.
- CADEVALL I DIARS, J. *Flora de Catalunya*. Vols. 1–6. Barcelona, 1913–1937.
- CLAPHAM, A. R., TUTIN, T. G. & WARBURG, E. F. *Flora of the British Isles*, ed. 2. Cambridge, 1962.
- COUTINHO, A. X. PEREIRA. *Flora de Portugal*, ed. 2 by R. T. Palhinha. Lisboa, 1939.
- DEGEN, A. VON. *Flora velebatica*. Vols. 1–4. Budapest, 1936–1938.
- DIAPOULIS, K. A. *Ellenike Khloris*. Vols. 1–3. Athenai, 1939–1949.
- DOMAC, R. *Flora za odredivanje i upoznavanje Bilja*. Zagreb, 1950.
- DOSTÁL, J. *Květena ČSR*. Praha, 1948–1950.
- FIORI, A. *Nuova Flora analitica d'Italia*. Vols. 1–2. Firenze, 1923–1929.
- FIORI, A. & PAOLETTI, G. *Iconographia Florae italicae*, ed. 3. San Casciano, Val di Pesa, 1933.
- FOMIN, A. V. *et al.* (ed.). *Flora RSS Ucr.*, ed. 1. Vols. 1–12. Kijiv, 1936–1965. Ed. 2. Vol. 1. Kijiv, 1938.
- FOURNIER, P. *Les quatre Flores de la France, Corse comprise*. Poinson-les-Grancey, 1934–1940. (Reprints with additions and corrections, Paris, 1946 and 1961.)
- FRITSCH, K. *Exkursionsflora für Österreich und die ehemals österreichischen Nachbargebiete*, ed. 3. Wien and Leipzig, 1922.
- GEIDEMAN, T. S. *Opređelitel' Rastenij Moldavskoj SSR*. Moskva and Leningrad, 1954.
- GOFFART, J. *Nouveau Manuel de la Flore de Belgique et des Régions limitrophes*, ed. 3. Liège, 1945.

LISTS OF BASIC AND STANDARD FLORAS

- GORODKOV, B. N. & POJARKOVA, A. I. (ed.). *Flora Murmanskoy Oblasti*. Vols. 1–. Moskva & Leningrad, 1953–.
- HALÁCSY, E. VON. *Conspectus Florae graecae*. Vols. 1–3. Leipzig, 1900–1904. *Supplementum 1*. Leipzig, 1908. *Supplementum 2* (in *Magyar Bot. Lapok 11*). Budapest, 1912.
- HEUKELS, H. *Flora van Nederland*, ed. 15 by S. J. van Ooststroom. Groningen, 1962.
- HITTONEN, H. I. A. *Suomen Kasvio*. Helsinki, 1933.
- HYLANDER, N. *Förteckning over Nordens Växter. 1. Kärlväxter*. Lund, 1955. *Tillägg och Rättelser* (in *Bot. Not. 112*). Lund, 1959.
- JANCHEN, E. *Catalogus Florae Austriae*. Vol. 1. Wien, 1956–1960. *Ergänzungsheft*. Wien, 1963. *Zweites Ergänzungsheft*. Wien, 1964. *Drittes Ergänzungsheft*. Wien, 1966.
- JORDANOV, D. (ed.). *Flora na Narodna Republika Bălgarija*. Vol. 1–. Sofija, 1963–.
- KNOCHE, H. *Flora balearica*. Vols. 1–4. Montpellier, 1921–1923.
- LID, J. *Norsk og svensk Flora*. Oslo, 1963. — *The Flora of Jan Mayen*. Oslo, 1964.
- LINDMAN, C. A. M. *Svensk Fanerogamflora*, ed. 2. Stockholm, 1926.
- LÖVE, A. *Islenzkar Jurtir*. København, 1945.
- MAEVSKIJ, P. F. *Flora srednej Polosy evropejskoj Časti SSSR*, ed. 9 by B. K. Schischkin. Leningrad, 1964.
- MAYER, E. *Seznam praprotnic in Cvetnic Slovenskega Ozemlja* (in *Razpr. Mat.-Prir. Akad. Ljubljani. Dela 5. Inšt. Biol.* 3). Ljubljana, 1952.
- MERINO Y ROMÁN, P. B. *Flora descriptiva é ilustrada de Galicia*. Vols. 1–3. Santiago, 1905–1909.
- NORDHAGEN, R. *Norsk Flora*. Oslo, 1940.
- NYMAN, C. F. *Conspectus Florae europaeae*. Örebro, 1878–1882. *Supplementum 1*, 1883–1884. *Additamenta*, 1886. *Supplementum 2*, 1889–1890.
- OSTENFELD, C. E. H. & GRÖNTVED, J. *The Flora of Iceland and the Faeroes*. København, 1934.
- PALHINHA, R. T. *Catálogo das Plantas vasculares dos Açores*. Lisboa, 1966.
- RACIBORSKI, M., SZAFER, W. & PAWŁOWSKI, B. (ed.). *Flora polska*. Vols. 1–. Kraków and Warszawa, 1919–.
- RASMUSSEN, R. *Föroya Flora*, ed. 2. Tórshavn, 1952.
- RAUNKJÆR, C. *Dansk Ekskursions-Flora*, ed. 7 by K. Wiinstedt. København, 1950.
- RECHINGER, K. H. *Flora aegaea* (in *Denkschr. Akad. Wiss. Math.-Nat. Kl. (Wien)* 105(1)). Wien, 1943. *Supplementum* (in *Phyton (Austria)* 1). Horn, 1949.
- ROBYNS, W. (ed.). *Flore Générale de Belgique. Spermatophytes*. Vols. 1–. Bruxelles, 1952–.
- ROHLENA, J. *Conspectus Florae montenegrinae* (in *Preslia* 20 and 21). Praha, 1942.
- RØNNING, O. I. *Svalbards Flora*. Oslo, 1964.
- ROSTRUP, F. G. E. *Den danske Flora*, ed. 19 by C. A. Jørgensen. København, 1961.
- ROTHMALER, W. *Exkursionsflora von Deutschland. 2: Gefäßpflanzen*. Berlin, 1962. 4: *Kritischer Ergänzungsband: Gefäßpflanzen*. Berlin, 1963.
- ROUY, G. C. C. *Conspectus de la Flore de France*. Paris, 1927.
- ROUY, G. C. C. *et al. Flore de France*. Vols. 1–14. Asnières, Paris and Rochefort, 1893–1913.
- SAMPAIO, G. A. DE SILVA FERREIRA. *Flora portuguesa*, ed. 2 by A. Pires de Lima. Porto, 1947.
- SĂVULESCU, T. (ed.). *Flora Republicii Populare Române*. Vols. 1–. București, 1952–.
- SCHMEIL, O. & FITSCHEN, J. *Flora von Deutschland*, ed. 67/68 by H. Voerke & G. Müller. Jena, 1957.
- Soó, R. DE & JÁVORKA, S. *A Magyar Növényvilág Kézikönyve*. Vols. 1–2. Budapest, 1951.

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

LISTS OF BASIC AND STANDARD FLORAS

- | | |
|---|---|
| <p>STANKOV, S. S. & TALIEV, V. I. <i>Opređelitel' vysših Rastenij Evropejskoj Časti SSSR</i>, ed. 2. Moskva, 1957.</p> <p>STEFÁNSSON, S. <i>Flóra Íslands</i>, ed. 3 by S. Steindórsson. Akureyri, 1948.</p> <p>STOJANOV, N., STEFANOV, B. & KITANOV, B. <i>Flora na Bălgarija</i>. Vols. 1–2, ed. 4. Sofija, 1966–67.</p> <p>SZAFER, W., KULCZYŃSKI, S. & PAWŁOWSKI, B. <i>Rósliny polskie</i>. Warszawa, 1953.</p> <p>TRELEASE, W. <i>Botanical Observations on the Azores</i> (in <i>Ann. Rep. Missouri Bot. Gard.</i> 8). St Louis, 1897.</p> <p>WEBB, D. A. <i>An Irish Flora</i>, ed. 5. Dundalk, 1967.</p> | <p>WEBB, D. A. <i>The Flora of European Turkey</i> (in <i>Proc. R. Irish Acad.</i> 65B: 1–100). Dublin, 1966.</p> <p>WEEVERS, T. <i>et al.</i> (ed.). <i>Flora neerlandica</i>. Vols. 1– . Amsterdam, 1948– .</p> <p>WILLKOMM, H. M. <i>Supplementum Prodromi Florae hispanicae</i>. Stuttgart, 1893.</p> <p>WILLKOMM, H. M. & LANGE, J. <i>Prodromus Florae hispanicae</i>. Vols. 1–3. Stuttgart, 1861–1880.</p> <p>WULF, E. V. <i>Flora Kryma</i>. Vols. 1– . Yalta, Leningrad and Moskva, 1927– .</p> <p>ZEROV, D. K. <i>et al.</i> (ed.). <i>Viznačnik Roslin Ukrajini</i>, ed. 2. Kijiv, 1965.</p> |
|---|---|

SYNOPSIS OF FAMILIES

Rosales (continued)

- LXXX Rosaceae
LXXXI Leguminosae

Geraniales

- LXXXII Oxalidaceae
LXXXIII Geraniaceae
LXXXIV Tropaeolaceae
LXXXV Zygophyllaceae
LXXXVI Linaceae
LXXXVII Euphorbiaceae

Rutales

- LXXXVIII Rutaceae
LXXXIX Cneoraceae
XC Simaroubaceae
XCI Meliaceae
XCII Polygalaceae

Sapindales

- XCIII Coriariaceae
XCIV Anacardiaceae
XCV Aceraceae
XCVI Sapindaceae
XCVII Hippocastanaceae
XCVIII Balsaminaceae

Celastrales

- XCIX Aquifoliaceae
C Celastraceae
CI Staphyleaceae
CII Buxaceae

Rhamnales

- CIII Rhamnaceae
CIV Vitaceae

Malvales

- CV Tiliaceae
CVI Malvaceae

Thymelaeales

- CVII Thymelaeaceae
CVIII Elaeagnaceae

Guttiferales

- CIX Guttiferae

Violales

- CX Violaceae
CXI Passifloraceae
CXII Cistaceae
CXIII Tamaricaceae
CXIV Frankeniaceae
CXV Elatinaceae
CXVI Datisceae

Cucurbitales

- CXVII Cucurbitaceae

Cactales

- CXVIII Cactaceae

Myrtales

- CXIX Lythraceae
CXX Trapaceae
CXXI Myrtaceae
CXXII Punicaceae
CXXIII Onagraceae
CXXIV Haloragaceae
CXXV Theligonaceae
CXXVI Hippuridaceae

Umbelliflorae

- CXXVII Cornaceae
CXXVIII Araliaceae
CXXIX Umbelliferae

KEY TO FAMILIES OF ANGIOSPERMAE

This key covers all the families of Angiospermum in volumes 1 and 2 and the great majority of those in volumes 3–4, though some introduced families and, doubtless, some anomalous genera, have been omitted. A comprehensive key will be included in volume 4

- 1 Plant free-floating on or below surface of water, not rooted in mud
 - 2 Plant with small bladders on leaves or on apparently leafless stems; leaves divided into filiform segments **Lentibulariaceae**
 - 2 Not as above
 - 3 Plant without obvious differentiation into stems and leaves **Lemnaceae**
 - 3 Plant with obvious stems and leaves
 - 4 Leaves with a cuneate basal part, 4–6 setaceous segments and a terminal orbicular lobe **LXXXI. Droseraceae**
 - 4 Leaves not as above
 - 5 Floating leaves sessile **Hydrocharitaceae**
 - 5 Floating leaves long-petiolate
 - 6 Floating leaves orbicular, entire **Hydrocharitaceae**
 - 6 Floating leaves rhombic, dentate in upper $\frac{3}{4}$ **CXX. Trapaceae**
 - 1 Land-plants or aquatics rooted in mud
 - 7 2- to 4-fid coloured staminodes present inside the sepals; leaves often fasciculate **LIII. Molluginaceae**
 - 7 Not as above
 - 8 Perianth of 2 (rarely more) whorls differing markedly from each other in shape, size or colour
 - 9 Petals not all united into a tube at base, very rarely cohering at apex, or else flowers papilionate
 - 10 Ovary superior
 - 11 Carpels 2 or more, free, or united at the base only
 - 12 Sepals and petals 3
 - 13 Carpels more than 3
 - 14 Leaves lobed **LXI. Ranunculaceae**
 - 14 Leaves entire **Alismataceae**
 - 13 Carpels 3
 - 15 Leaves palmately divided; petioles spiny **Palmae**
 - 15 Leaves simple, sessile **LXXXII. Crassulaceae**
 - 12 Sepals or petals more than 3
 - 16 Flowers zygomorphic; petals deeply divided **LXIX. Resedaceae**
 - 16 Flowers actinomorphic; petals entire
 - 17 Stamens more than twice as many as petals
 - 18 Shrubs or herbs with stipulate leaves; flowers perigynous **LXXX. Rosaceae**
 - 18 Herbs; stipules 0, though leaf-bases sometimes sheathing; flowers hypogynous
 - 19 Fruit a head of achenes; sepals deciduous **LXI. Ranunculaceae**
 - 19 Fruit of 2–5 follicles; sepals persistent **LXII. Paeoniaceae**
 - 17 Stamens not more than twice as many as petals
 - 20 Leaves 3-foliolate **LXXX. Rosaceae**
 - 20 Leaves simple
 - 21 Carpels spirally arranged on an elongated receptacle **LXI. Ranunculaceae**
 - 21 Carpels in 1 whorl
 - 22 Trees with palmately lobed leaves; flowers in globose capitula **LXXXIX. Platanaceae**
 - 22 Herbs or shrubs; leaves not palmately lobed; flowers not in globose capitula
 - 23 Herbs or dwarf shrubs with terete stems; leaves \pm succulent **LXXXII. Crassulaceae**
 - 23 Shrubs with angular stems; leaves not succulent **XCVI. Coriariaceae**
 - 11 Carpels obviously united for c. $\frac{1}{2}$ their length or more, or carpel solitary
 - 24 Flowers actinomorphic
 - 25 Corona of long filaments present inside the petals **CXI. Passifloraceae**
 - 25 Flowers without a corona
 - 26 Petals more than 10
 - 27 Aquatic herbs with petiolate leaves
 - 28 Leaves floating, usually with a deep basal sinus **LVIII. Nymphaeaceae**
 - 28 Leaves not floating, peltate **LIX. Nelumbonaceae**
 - 27 Terrestrial herbs or shrubs with sessile or subsessile leaves
 - 29 Stamens 4–6 **LXIII. Berberidaceae**
 - 29 Stamens numerous **LII. Aizoaceae**
 - 26 Petals fewer than 10
 - 30 Stamens more than twice as many as petals
 - 31 Stamens with their filaments united into a tube **CVI. Malvaceae**
 - 31 Stamens free or united into bundles
 - 32 Perianth-segments persistent in fruit, 2 large and 2 small **XLVII. Polygonaceae**
 - 32 Perianth-segments not as above
 - 33 Ovary on a long gynophore **LXVII. Capparaceae**
 - 33 Ovary sessile or nearly so
 - 34 Ovary surrounded by a cup-shaped perigynous zone; ovule 1 **LXXX. Rosaceae**
 - 34 No cup-shaped perigynous zone; ovules 2 or more
 - 35 Leaves 2-pinnate or simple phyllodes present **LXXXI. Leguminosae**
 - 35 Leaves not as above
 - 36 Carpel 1; leaves 2-ternate, lower leaflets stalked **LXI. Ranunculaceae**
 - 36 Carpels 2 or more; leaves not as above
 - 37 Large trees; inflorescence with a conspicuous bract partly adnate to peduncle **CV. Tiliaceae**
 - 37 Not as above
 - 38 Styles more than 1, free
 - 39 All or most leaves alternate; outer perianth-segments petaloid **LXI. Ranunculaceae**
 - 39 All leaves opposite or verticillate; outer perianth-segments sepaloid **CIX. Guttiferae**
 - 38 Style 1 or 0
 - 40 Petals 4 **LXVI. Papaveraceae**
 - 40 Petals 5
 - 41 Ovary 1-locular or septate at base only; stamens numerous **CXII. Cistaceae**
 - 41 Ovary 3-locular; stamens 15 **LXXXV. Zygophyllaceae**
 - 30 Stamens not more than twice as many as petals
 - 42 Trees, shrubs or woody climbers
 - 43 Flowers on tough leaf-like cladodes; leaves scale-like, brownish **Liliaceae**
 - 43 Not as above
 - 44 Leaves small, scale-like or ericoid
 - 45 Perianth-segments in 2 whorls of 3; stamens 3 **Empetraceae**
 - 45 Perianth-segments and stamens more than 3 in a whorl
 - 46 Leaves opposite **CXIV. Frankeniaceae**
 - 46 Leaves alternate **CXIII. Tamaricaceae**
 - 44 Leaves neither scale-like nor ericoid
 - 47 Peduncles adnate to petioles; ovary on a short gynophore **LXXXIX. Cneoraceae**

KEY TO ANGIOSPERMAE

- 47 Not as above
- 48 All leaves opposite
- 49 Leaves pinnate
- 50 Shrubs; fruit a capsule **CI. Staphyleaceae**
- 50 Tree; fruit of 2 single-seeded samaras **XCV. Aceraceae**
- 49 Leaves entire or palmately lobed
- 51 Fruit of 2 single-seeded samaras; leaves usually palmately lobed **XCV. Aceraceae**
- 51 Fruit a fleshy capsule; leaves not palmately lobed **C. Celastraceae**
- 48 At least some leaves alternate
- 52 Stamens 6 **LXVIII. Cruciferae**
- 52 Stamens 4, 5, 10 or 12
- 53 Stamens 4 or 5
- 54 Stamens opposite petals
- 55 Shrubs or small trees; petals shorter than sepals **CIII. Rhamnaceae**
- 55 Woody climbers; petals longer than sepals **CIV. Vitaceae**
- 54 Stamens alternating with petals
- 56 Bark resinous; ovule 1 **XCIV. Anacardiaceae**
- 56 Bark not resinous; ovules several **LXXVIII. Pittosporaceae**
- 53 Stamens 10 or 12
- 57 Leaves entire **Ericaceae**
- 57 Leaves pinnate
- 58 Spiny tree **LXXXI. Leguminosae**
- 58 Unarmed shrubs or small trees
- 59 Stamens free **XCIV. Anacardiaceae**
- 59 Stamens with connate filaments **XCI. Meliaceae**
- 42 Herbs, sometimes \pm woody at base
- 60 Sepals 2, petals 5
- 61 Stems erect or prostrate, not twining **LV. Portulacaceae**
- 61 Stems twining **LVI. Basellaceae**
- 60 Sepals as many as the petals
- 62 Leaves forming long pitchers; stigma very large, peltate **LXX. Sarraceniaceae**
- 62 Not as above
- 63 Flowers strongly perigynous with a long tubular or campanulate receptacle **CXIX. Lythraceae**
- 63 Flowers hypogynous or perigynous with a flat or weakly concave receptacle
- 64 Cauline leaves opposite or whorled
- 65 Leaves deeply divided, rarely only serrate
- 66 Petals 4 **LXVIII. Cruciferae**
- 66 Petals 5
- 67 Stamens without scales on the inner side of the filaments **LXXXIII. Geraniaceae**
- 67 Stamens with scales on the inner side of the filaments **LXXXV. Zygophyllaceae**
- 65 Leaves simple and entire
- 68 Leaves in 1 whorl; flower solitary, terminal **Trilliaceae**
- 68 Leaves opposite or in more than 1 whorl
- 69 Stipules present
- 70 Stipules scarious; land-plants **LVII. Caryophyllaceae**
- 70 Stipules not scarious; usually submerged aquatics **CXV. Elatinaceae**
- 69 Stipules absent
- 71 Sepals united to more than half-way
- 72 Styles connate; placentation parietal **CXIV. Frankeniaceae**
- 72 Styles free; placentation free-central **LVII. Caryophyllaceae**
- 71 Sepals free or united at base only
- 73 Ovary 1-celled; placentation free-central **LVII. Caryophyllaceae**
- 73 Ovary 4- to 5-celled; placentation axile **LXXXVI. Linaceae**
- 64 Leaves alternate or all basal
- 74 Leaves ternate **LXXXII. Oxalidaceae**
- 74 Leaves not ternate
- 75 Sepals and petals 2-3 **XLVII. Polygonaceae**
- 75 Sepals and petals 4-5
- 76 Both whorls of perianth-segments green **LXXX. Rosaceae**
- 76 Inner whorl of perianth-segments not green
- 77 Sepals and petals 4; stamens 4 or 6
- 78 Stipules absent; stamens usually 6 **LXVIII. Cruciferae**
- 78 Stipules present; stamens 4 **LVII. Caryophyllaceae**
- 77 Sepals and petals 5; stamens 5 or 10
- 79 Leaves with conspicuous, red, viscid, glandular hairs **LXXI. Droseraceae**
- 79 Not as above
- 80 Leaves with numerous pellucid glands, strongly scented when crushed **LXXXVIII. Rutaceae**
- 80 Leaves without pellucid glands
- 81 Style 1; stigma entire or shallowly lobed; anthers opening by pores **Pyrolaceae**
- 81 Style or stigmas more than 1; anthers opening by longitudinal slits
- 82 Stigmas 5
- 83 Leaves lobed or pinnate **LXXXIII. Geraniaceae**
- 83 Leaves entire
- 84 Sepals united; leaves basal **Plumbaginaceae**
- 84 Sepals free; leaves cauline **LXXXVI. Linaceae**
- 82 Stigmas 2-4
- 85 Flowers with conspicuous glandular-fimbriate staminodes **LXXXIV. Parnassiaceae**
- 85 Glandular-fimbriate staminodes absent
- 86 Stamens 5 **LVII. Caryophyllaceae**
- 86 Stamens 10 **LXXXIII. Saxifragaceae**
- 24 Flowers zygomorphic
- 87 Flowers saccate or spurred at base
- 88 Sepals 2, small **LXVI. Papaveraceae**
- 88 Sepals 3 or 5
- 89 Sepals 3, very unequal, 1 spurred; petals 3, not spurred **XCVIII. Balsaminaceae**
- 89 Sepals 5; petals 5
- 90 Leaves peltate **LXXXIV. Tropaeolaceae**
- 90 Leaves not peltate
- 91 Leaves alternate **CX. Violaceae**
- 91 Leaves opposite **LXXXIII. Geraniaceae**
- 87 Flowers not saccate or spurred at base
- 92 All, or all but one, of the stamens united into a tube **LXXXI. Leguminosae**
- 92 All stamens free
- 93 Trees or shrubs
- 94 Leaves simple
- 95 Ovary on a long gynophore **LXVII. Capparaceae**
- 95 Ovary sessile
- 96 Petals 4 **LXVIII. Cruciferae**
- 96 Petals 5 **LXXXI. Leguminosae**
- 94 Leaves compound
- 97 Leaves trifoliolate or pinnate **LXXXI. Leguminosae**
- 97 Leaves palmate with more than 3 leaflets **XCVII. Hippocastanaceae**
- 93 Herbs
- 98 Ovary and fruit deeply 5-lobed
- 99 Flowers in umbellate cymes; fruit with a long beak **LXXXIII. Geraniaceae**

KEY TO ANGIOSPERMAE

- 99 Flowers in racemes; fruit not beaked
LXXXVIII. Rutaceae
- 98 Ovary and fruit not deeply 5-lobed
- 100 Petals fimbriate or lobed LXIX. Resedaceae
- 100 Petals entire or emarginate
- 101 Stamens 10 LXXXI. Leguminosae
- 101 Stamens not more than 6
- 102 Sepals inserted on a cup-like perigynous zone
LVII. Caryophyllaceae
- 102 Sepals free
- 103 Ovary 2-locular; gynophore short or 0
LXVIII. Cruciferae
- 103 Ovary 1-locular; gynophore long
LXVII. Capparaceae
- 10 Ovary inferior or partly so
- 104 Petals numerous
- 105 Aquatic plants; leaves not succulent
LVIII. Nymphaeaceae
- 105 Land-plants; leaves succulent
LII. Aizoaceae
- 104 Petals 5 or fewer
- 106 Petals and sepals 3
- 107 Flowers zygomorphic
- 108 Style and filaments obvious Iridaceae
- 108 Stigma and stamens sessile Orchidaceae
- 107 Flowers actinomorphic
- 109 Outer perianth-whorl sepaloid Hydrocharitaceae
- 109 Both perianth-whorls petaloid
- 110 Stamens 6 Amaryllidaceae
- 110 Stamens 3 Iridaceae
- 106 Petals and sepals 2, 4 or 5
- 111 Stamens numerous
- 112 Leaves opposite, with pellucid glands CXXI. Myrtaceae
- 112 Leaves alternate, without pellucid glands
- 113 Leaves entire; seeds covered with pulp
CXXII. Punicaceae
- 113 Leaves serrulate; seeds dry
- 114 Styles free; fruit fleshy LXXX. Rosaceae
- 114 Styles united, except at the top; fruit a capsule
LXXXV. Hydrangeaceae
- 111 Stamens 10 or fewer
- 115 Aquatic; leaves pinnate, segments filiform; flowers in spikes
CXXIV. Haloragaceae
- 115 Not as above
- 116 Trees, shrubs or woody climbers
- 117 Flowers in umbels
- 118 Climbers CXXVIII. Araliaceae
- 118 Erect shrubs
- 119 Evergreen; umbels flat CXXIX. Umbelliferae
- 119 Deciduous; umbels globose CXXVII. Cornaceae
- 117 Flowers not in umbels
- 120 Leaves palmately lobed LXXVII. Grossulariaceae
- 120 Leaves not lobed
- 121 Both perianth-whorls petaloid CXXIII. Onagraceae
- 121 Outer perianth-whorl sepaloid
- 122 Calyx-teeth very small; ovules 1 in each carpel; fruit a drupe
CXXVII. Cornaceae
- 122 Calyx-teeth large; ovules numerous; fruit a capsule
- 123 Stamens 10 LXXXV. Hydrangeaceae
- 123 Stamens 5 LXXXVI. Escalloniaceae
- 116 Herbs
- 124 Both perianth-whorls sepaloid LXXX. Rosaceae
- 124 Inner perianth-whorl petaloid
- 125 Petals 5
- 126 Stamens 5 CXXIX. Umbelliferae
- 126 Stamens 10 LXXIII. Saxifragaceae
- 125 Petals 4 or 2
- 127 Flowers in umbels surrounded by 4 conspicuous white bracts
CXXVII. Cornaceae
- 127 Flowers not in umbels; no conspicuous white bracts
CXXIII. Onagraceae
- 9 Petals all united at base into a longer or shorter tube
- 128 Ovary superior
- 129 Flowers papilionate
- 130 Sepals free; stamens 8 XCII. Polygalaceae
- 130 Sepals connate; stamens 10 LXXXI. Leguminosae
- 129 Flowers not papilionate
- 131 Stamens at least twice as many as corolla-lobes
- 132 Herbs with succulent leaves LXXII. Crassulaceae
- 132 Shrubs or trees
- 133 Flowers unisexual Ebenaceae
- 133 Flowers hermaphrodite
- 134 Anthers opening by pores; hairs simple or scale-like
Ericaceae
- 134 Anthers opening by longitudinal slits; hairs stellate
Styracaceae
- 131 Stamens as many as or fewer than corolla-lobes
- 135 Plant without chlorophyll; leaves scale-like
- 136 Flowers zygomorphic; stem stout, erect Orobanchaceae
- 136 Flowers actinomorphic; stem slender, twining
Convolvulaceae
- 135 Green plants
- 137 Sepals 2; flowers actinomorphic
- 138 Petals 2; leaves in a rosette Eriocaulaceae
- 138 Petals 5; leaves not in a rosette LV. Portulacaceae
- 137 Sepals more than 2, or flowers zygomorphic
- 139 Ovary deeply 4-lobed with 1 ovule in each lobe
- 140 Leaves alternate Boraginaceae
- 140 Leaves opposite Labiateae
- 139 Ovary not 4-lobed
- 141 Flowers actinomorphic or nearly so
- 142 Carpels free
- 143 Leaves peltate; carpels 5 LXXII. Crassulaceae
- 143 Leaves not peltate; carpels 2
- 144 Corolla with a corona; styles 2, free but united by the stigma
Asclepiadaceae
- 144 Corolla without a corona; styles 2, united except at the very base
Apocynaceae
- 142 Carpels united
- 145 Stamens fewer than corolla-lobes
- 146 Herbs Scrophulariaceae
- 146 Shrubs or trees
- 147 Leaves opposite Oleaceae
- 147 Leaves alternate Oleaceae
- 148 Flowers yellow Oleaceae
- 148 Flowers not yellow Scrophulariaceae
- 145 Stamens as many as corolla-lobes
- 149 Stamens opposite the corolla-lobes
- 150 Styles or stigmas more than 1; ovule 1
Plumbaginaceae
- 150 Style 1; stigma 1; ovules numerous
- 151 Herbs Primulaceae
- 151 Shrubs Myrsinaceae
- 149 Stamens alternating with the corolla-lobes
- 152 Leaves opposite
- 153 Shrubs
- 154 Large, erect; leaves deciduous Buddlejaceae
- 154 Small, procumbent; leaves evergreen
- 155 Leaves elliptical or oblong; flowers pink
Ericaceae
- 155 Leaves spatulate; flowers white
Diapensiaceae
- 153 Herbs
- 156 Land-plants; leaves sessile Gentianaceae
- 156 Aquatic plants; leaves petiolate
Menyanthaceae
- 152 Leaves alternate or all basal
- 157 Sepals, petals and stamens 4
- 158 Shrubs XCIX. Aquifoliaceae
- 158 Herbs
- 159 Corolla not violet-blue Plantaginaceae
- 159 Corolla violet-blue Gesneriaceae
- 157 Sepals, petals and stamens 5 (rarely sepals fewer)
- 160 Ovary 3-celled; stigmas 3 or 3-lobed
- 161 Leaves pinnate Polemoniaceae

KEY TO ANGIOSPERMAE

- 161 Leaves simple **Diapensiaceae**
 160 Ovary 2-celled; stigmas 2 or 1
 162 Ovules 4 or fewer
 163 Flowers numerous, in scorpioid cymes; corolla-lobes distinct **Boraginaceae**
 163 Flowers solitary or few, not in scorpioid cymes; corolla not or scarcely lobed **Convolvulaceae**
 162 Ovules numerous
 164 Aquatic or bog-plants; corolla fimbriate **Menyanthaceae**
 164 Land-plants; corolla not fimbriate
 165 Leaves all basal **Gesneriaceae**
 165 Some leaves cauline
 166 Corolla-tube much shorter than lobes; stamens patent **Scrophulariaceae**
 166 Corolla-tube long, or anthers connivent **Solanaceae**
 141 Flowers strongly zygomorphic
 167 Anthers opening by pores **Ericaceae**
 167 Anthers opening by slits
 168 Calyx with patent spines and erect, membranous, usually dark-spotted lobes **Primulaceae**
 168 Calyx not as above
 169 Flowers small, crowded in capitula **Globulariaceae**
 169 Flowers not in capitula
 170 Ovary 1-celled; carnivorous plants **Lentibulariaceae**
 170 Ovary 2-celled; not carnivorous plants
 171 Ovules numerous **Scrophulariaceae**
 171 Ovules 4
 172 Bracts shorter than calyx **Verbenaceae**
 172 Bracts or bracteoles much longer than calyx **Acanthaceae**
 128 Ovary inferior
 173 Stamens 8–10, or 4–5 with filaments divided to base
 174 Herb; anthers opening by slits; leaves ternate **Adoxaceae**
 174 Woody; anthers opening by pores; leaves simple **Ericaceae**
 173 Stamens 5 or fewer; filaments not divided
 175 Leaves in whorls of 4 or more **Rubiaceae**
 175 Leaves not in whorls
 176 Stamens opposite corolla-lobes **Primulaceae**
 176 Stamens alternating with corolla-lobes
 177 Leaves opposite; stipules interpetiolar **Rubiaceae**
 177 Leaves alternate, or stipules not interpetiolar
 178 Flowers in capitula surrounded by an involucre of more than 2 bracts
 179 Anthers coherent in a ring round the style
 180 Ovule 1; calyx, if present, represented by hairs or scales **Compositae**
 180 Ovules numerous; calyx-lobes conspicuous, green **Campanulaceae**
 179 Anthers free
 181 Ovules numerous; corolla-lobes longer than tube **Campanulaceae**
 181 Ovule 1; corolla-lobes much shorter than tube **Dipsacaceae**
 178 Flowers not in capitula, or bracts 2
 182 Anthers coherent in a tube round the style **Lobeliaceae**
 182 Anthers not cohering to one another
 183 Anthers sessile; pollen-grains cohering in pollinia **Orchidaceae**
 183 Stamens with filaments; pollen-grains free
 184 Stamens 1–3 **Valerianaceae**
 184 Stamens 4–5
 185 Shrubs (sometimes small and creeping), or woody climbers **Caprifoliaceae**
 185 Herbs
 186 Tendrils present **CXVII. Cucurbitaceae**
 186 Tendrils absent
 187 Leaves pinnate **Caprifoliaceae**
 187 Leaves not pinnate
 188 Flowers hermaphrodite; fruit a capsule **Campanulaceae**
 188 Flowers unisexual; fruit fleshy **CXVII. Cucurbitaceae**
 8 Perianth not of 2 or more markedly different whorls
 189 Perianth entirely petaloid
 190 Parasites or saprophytes without chlorophyll
 191 Flowers mostly unisexual; stamen 1 **XLVI. Balanophoraceae**
 191 Flowers hermaphrodite; stamens 6–16
 192 Filaments free **Monotropaceae**
 192 Filaments united into a column **XLV. Rafflesiaceae**
 190 Green plants
 193 Perianth-segment 1, bract-like **Aponogetonaceae**
 193 Perianth-segments more than 1, or perianth tubular
 194 Stems succulent, leafless but with groups of spines **CXVIII. Cactaceae**
 194 Not as above
 195 Stamens more than 12
 196 Herbs, or, rarely, woody climbers with pinnate leaves **LXI. Ranunculaceae**
 196 Trees with simple leaves **LXIV. Magnoliaceae**
 195 Stamens 12 or fewer
 197 Flowers in ovoid capitula without an involucre **LXXX. Rosaceae**
 197 Flowers not in capitula, or capitula with an involucre
 198 Ovary superior
 199 Perianth-segments 4 **XLI. Proteaceae**
 200 Flowers zygomorphic
 200 Flowers actinomorphic
 201 Perianth tubular below **CVII. Thymelaeaceae**
 201 Perianth-segments free
 202 Herbs **Liliaceae**
 202 Shrubs **XLVII. Polygonaceae**
 199 Perianth-segments more than 4
 203 Carpels more than 1, free or nearly so
 204 Leaves triquetrous, all basal **Butomaceae**
 204 Leaves flat, cauline **LI. Phytolaccaceae**
 203 Carpel 1, or carpels obviously united
 205 Perianth-segments 6 **Liliaceae**
 205 Perianth-segments 5
 206 Stigmas 2–3; stipules sheathing, scarious **XLVII. Polygonaceae**
 206 Stigma 1; stipules absent
 207 Ovules numerous; perianth divided almost to base **Primulaceae**
 207 Ovule 1; perianth with a long tube **L. Nyctaginaceae**
 198 Ovary inferior, or flowers male
 208 Leaves in whorls of 4 or more **Rubiaceae**
 208 Leaves not in whorls
 209 Flowers in capitula surrounded by an involucre
 210 Anthers cohering in a tube round the style, or flowers unisexual **Compositae**
 210 Anthers free; flowers hermaphrodite **Dipsacaceae**
 209 Flowers not in capitula, though sometimes shortly pedicellate in compact umbels
 211 Ovules numerous
 212 Perianth-segments 3, or perianth tubular with a unilateral entire limb **XLIV. Aristolochiaceae**
 212 Perianth-segments 6
 213 Stamens 6 **Amaryllidaceae**
 213 Stamens 3 **Iridaceae**
 211 Ovules 1 or 2
 214 Leaves opposite **Valerianaceae**
 214 Leaves alternate
 215 Flowers in simple cymes or solitary **XLII. Santalaceae**

KEY TO ANGIOSPERMAE

- 215 Flowers in umbels or superposed whorls
CXXIX. Umbelliferae
- 189 Perianth not petaloid, often absent, if brightly coloured then dry and scarious
- 216 Trees or shrubs, sometimes small
- 217 Parasitic on branches of trees or shrubs
XLIII. Loranthaceae
- 217 Not parasitic
- 218 Stems creeping or climbing with adventitious roots; evergreen
CXXVIII. Araliaceae
- 218 Not as above
- 219 Flowers borne on flattened evergreen cladodes; leaves small, brownish, scale-like
Liliaceae
- 219 Not as above
- 220 Most leaves opposite or subopposite
- 221 Stems green and fleshy or leaves fleshy
XLVIII. Chenopodiaceae
- 221 Neither leaves nor stems fleshy
- 222 Styles 3
CII. Buxaceae
- 222 Styles 4, or 1
- 223 Flowers in catkins
XXXI. Salicaceae
- 223 Flowers not in catkins
- 224 Leaves pinnate; stamens 2
Oleaceae
- 224 Leaves simple; stamens 4 or more
- 225 Stamens 5, alternating with sepals
CIII. Rhamnaceae
- 225 Stamens 8; sepals 5
XCV. Aceraceae
- 220 Most leaves alternate
- 226 Leaves pinnate
- 227 Ovary inferior; styles 2; pith septate
XXXIII. Juglandaceae
- 227 Ovary superior; styles 3 or 1; pith not septate
- 228 Style 1; fruit a lomentum
LXXXI. Leguminosae
- 228 Styles 3; fruit a dry, 1-seeded drupe
XCIV. Anacardiaceae
- 226 Leaves simple
- 229 Leaves not more than 2 mm wide, oblong or linear
- 230 Stigma 1
CVII. Thymelaeaceae
- 230 Stigmas 2-9
- 231 Stamens 3
Empetraceae
- 231 Stamens 5
XLVIII. Chenopodiaceae
- 229 Leaves more than 2 mm wide
- 232 Petiole with dilated base, enclosing the bud
LXXIX. Platanaceae
- 232 Petiole-base not enclosing the bud
- 233 Anthers opening by transverse valves
LXV. Lauraceae
- 233 Anthers opening by longitudinal slits
- 234 Flowers not in catkins or dense heads
- 235 Inflorescence of several male flowers, each of 1 stamen, and a female flower, appearing as a stalked ovary, all surrounded by 4 or 5 conspicuous glands; latex present
LXXXVII. Euphorbiaceae
- 235 Inflorescence not as above; no latex
- 236 Flowers unisexual
- 237 Peltate scale-like silvery or ferruginous hairs present beneath the leaves and often elsewhere; ovary 1-locular; fruit fleshy
CVIII. Eleagnaceae
- 237 No scale-like hairs; ovary 3-locular; fruit dry
LXXXVII. Euphorbiaceae
- 236 Flowers hermaphrodite
- 238 Trees; perianth-tube short, with stamens inserted near its base
XXXVII. Ulmaceae
- 238 Shrubs; perianth-tube long, with stamens inserted near its apex
CVII. Thymelaeaceae
- 234 Flowers in catkins or dense heads
- 239 Latex present; fruit or false fruit fleshy
XXXVIII. Moraceae
- 239 Latex absent; fruit dry
- 240 Dioecious; perianth absent
- 241 Bracts (catkin-scales) fimbriate or lobed at apex; flowers with a cup-like disk
XXXI. Salicaceae
- 241 Bracts (catkin-scales) entire; disk absent
- 242 Leaves without pellucid glands; stamens with long filaments; ovules numerous
XXXI. Salicaceae
- 242 Leaves with pellucid glands; stamens with short filaments; ovule 1
XXXII. Myricaceae
- 240 Monoecious; perianth present in male or female flowers or both
- 243 Styles 3 or more; flowers of both sexes with perianth
XXXVI. Fagaceae
- 243 Styles 2; perianth present in flowers of 1 sex only
- 244 Male flowers 3 to each bract; perianth present
XXXIV. Betulaceae
- 244 Male flowers 1 to each bract; perianth absent
XXXV. Corylaceae
- 216 Herbs
- 245 Perianth absent or represented by scales or bristles, minute in flower; flowers in the axils of bracts, a number of which are usually closely imbricate on a rhachis, forming a spikelet; leaves usually linear, grass-like, sheathing below
- 246 Flowers usually with a bract above and below; sheaths usually open; stems usually with hollow internodes
Gramineae
- 246 Flowers with a bract below only; sheaths usually closed; stems usually with solid internodes
Cyperaceae
- 245 Perianth present, or flowers not arranged in spikelets
- 247 Aquatic plants; leaves submerged or floating; inflorescence sometimes emergent
- 248 Leaves divided into numerous filiform segments
- 249 Leaves pinnately divided; flowers in a terminal spike
CXXIV. Haloragaceae
- 249 Leaves dichotomously divided; flowers solitary, axillary
LX. Ceratophyllaceae
- 248 Leaves entire or dentate
- 250 Flowers in spikes
- 251 Rhizome densely covered with stiff fibres; spikes subtended by a group of leaf-like bracts (marine)
Posidoniaceae
- 251 Not as above
- 252 Flowers hermaphrodite, arranged all round or on 2 sides of a terete rhachis (fresh or brackish water)
Potamogetonaceae
- 252 Flowers unisexual, arranged on one side of a flat rhachis (marine)
Zosteraceae
- 250 Flowers not in spikes
- 253 Flowers solitary or few, sessile or shortly pedicellate, axillary
- 254 Leaves in whorls of 8 or more
CXXVI. Hippuridaceae
- 254 Leaves not in whorls of 8 or more
- 255 Carpels 2 or more, free
- 256 Carpels nearly or quite sessile in fruit
Zannichelliaceae
- 256 Carpels in fruit with stalks several times their own length
Ruppiaceae
- 255 Carpels united, or solitary
- 257 Female flowers with a very long filiform perianth-tube resembling a pedicel
Hydrocharitaceae
- 257 Perianth-tube short or 0
- 258 Perianth-segments 4-6; stamens 4 or more; leaves ovate to obovate
- 259 Perianth-segments 4; ovary inferior
CXXIII. Onagraceae

KEY TO ANGIOSPERMAE

- 259 Perianth-segments 6; ovary superior
CXIX. Lythraceae
- 258 Perianth-segments fewer than 4, or perianth absent; stamen 1; leaves linear to lanceolate
- 260 Leaves alternate (brackish) Zannichelliaceae
- 260 Leaves opposite (freshwater)
- 261 Leaves entire, without sheathing base; ovary compressed, deeply 4-lobed
Callitrichaceae
- 261 Leaves spinulose-dentate, with sheathing base; ovary terete, not lobed Najadaceae
- 253 Flowers in heads on long peduncles or in compound inflorescences
- 262 Flowers hermaphrodite; heads few-flowered
Juncaceae
- 262 Flowers unisexual; heads many-flowered
- 263 Leaves all basal; heads solitary on long scapes
Eriocaulaceae
- 263 Some leaves cauline; inflorescence with female heads below and male heads above
Sparganiaceae
- 247 Terrestrial plants or, if aquatic, with inflorescence and either stems or leaves emergent
- 264 Climbing plants with unisexual flowers
- 265 Leaves opposite; perianth-segments 5
XXXIX. Cannabaceae
- 265 Leaves alternate; perianth-segments 6 Dioscoreaceae
- 264 Not climbing, or rarely climbers with hermaphrodite flowers
- 266 Leaves linear
- 267 Flowers unisexual
- 268 Female flowers solitary; male flowers solitary or in short cymes XLVIII. Chenopodiaceae
- 268 Male and female flowers numerous, in dense heads or spikes
- 269 Male and female flowers in separate globose heads
Sparganiaceae
- 269 Flowers in a dense cylindrical spike, male above, female below
Typhaceae
- 267 Flowers hermaphrodite
- 270 Plant densely pubescent XLVIII. Chenopodiaceae
- 270 Plant glabrous or sparsely hairy
- 271 Flowers in dense spikes; spikes apparently lateral on a flattened leaf-like stem Araceae
- 271 Not as above
- 272 Carpel 1
- 273 Leaves not subverticillate, exstipulate
XLVIII. Chenopodiaceae
- 273 Leaves subverticillate, with minute stipules
LVII. Caryophyllaceae
- 272 Carpels more than 1
- 274 Carpels free (except at base); leaves with a conspicuous pore at apex Scheuchzeriaceae
- 274 Carpels \pm completely united; leaves without a conspicuous pore at apex
- 275 Flowers in unbranched racemes; styles short or 0
Juncaginaceae
- 275 Flowers in cymes in a branched inflorescence; styles 3, distinct
Juncaceae
- 266 Leaves lanceolate or wider, or sometimes small and scale-like, but never linear
- 276 Leaves compound
- 277 Flowers in compound umbels CXXXIX. Umbelliferae
- 277 Flowers not in compound umbels
- 278 Flowers in capitula
- 279 Leaves simply pinnate; style 1 or 2
LXXX. Rosaceae
- 279 Leaves ternate; styles 3-5
Adoxaceae
- 278 Flowers not in capitula
- 280 Stamens numerous
LXI. Ranunculaceae
- 280 Stamens 4 or 5(-10)
- 281 Epicalyx present
LXXX. Rosaceae
- 281 Epicalyx absent
LXXXIII. Geraniaceae
- 276 Leaves simple or apparently absent
- 282 Flowers numerous, small, crowded on an axis (spadix) subtended and often \pm enclosed by a conspicuous bract (spathe)
Araceae
- 282 Not as above
- 283 Inflorescence of several male flowers, each of 1 stamen, and a female flower, appearing as a stalked ovary, all surrounded by 4 or 5 conspicuous glands; latex present
LXXXVII. Euphorbiaceae
- 283 Not as above
- 284 Leaves apparently absent; stem green and succulent
XLVIII. Chenopodiaceae
- 284 Leaves obvious; stem not succulent
- 285 Lower leaves opposite, upper alternate; monoecious; male flowers with 2-partite perianth, female with tubular perianth
CXXV. Theligonaceae
- 285 Not as above
- 286 Plant densely clothed with stellate hairs; ovary 3-locular with 1 ovule in each loculus
LXXXVII. Euphorbiaceae
- 286 Not as above
- 287 Densely papillose annuals
- 288 Leaves oblong-lanceolate, never hastate; fruit opening by 5 valves
LII. Aizoaceae
- 288 Leaves ovate-rhombic, often hastate; fruit indehiscent
LIV. Tetragoniaceae
- 287 Not densely papillose annuals
- 289 Leaves whorled
- 290 Stigma 1; stems hollow
CXXVI. Hippuridaceae
- 290 Stigmas 3; stems solid
LIII. Molluginaceae
- 289 Leaves not in whorls
- 291 Leaves alternate or all basal (rarely the lower opposite)
- 292 Stamens numerous; carpels free except sometimes at base
LXI. Ranunculaceae
- 292 Stamens 12 or fewer; carpels not free, or one only
- 293 Carpels attached to a central axis, otherwise free
LI. Phytolaccaceae
- 293 Carpels united, or one only
- 294 Stamens 12
XLIV. Aristolochiaceae
- 294 Stamens 10 or fewer
- 295 Stipules united into a sheath
XLVII. Polygonaceae
- 295 Stipules free or absent
- 296 Leaves very large, palmately lobed, all basal; inflorescence of dense many-flowered spikes much shorter than the leaves
CXXIV. Haloragaceae
- 296 Not as above
- 297 Epicalyx present; stipules leaf-like
LXXX. Rosaceae
- 297 Epicalyx 0; stipules small or 0
- 298 Ovary superior
- 299 Perianth tubular below
- 300 Ovule basal
XLVIII. Chenopodiaceae
- 300 Ovule pendent
CVII. Thymelaeaceae
- 299 Perianth-segments free or nearly so, rarely absent in female flowers
- 301 Perianth-segments 4
- 302 Flowers in ebracteate racemes
LXVIII. Cruciferae
- 302 Flowers in axillary clusters
XL. Urticaceae
- 301 Perianth-segments 5

Cambridge University Press

978-0-521-15367-6 - Flora Europaea, Volume 2: Rosaceae to Umbelliferae

Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters and D. A. Webb

Frontmatter

[More information](#)

KEY TO ANGIOSPERMAE

- | | |
|--|---|
| <p>303 Perianth herbaceous, rarely
absent in female flowers
XLVIII. Chenopodiaceae</p> <p>303 Perianth scarious
XLIX. Amaranthaceae</p> <p>298 Ovary inferior</p> <p>304 Leaves reniform, cordate
LXXIII. Saxifragaceae</p> <p>304 Leaves subulate to linear-
lanceolate XLII. Santalaceae</p> <p>291 Leaves opposite (rarely a few upper
apparently alternate)</p> <p>305 Leaves toothed or lobed</p> <p>306 Flowers hermaphrodite</p> <p>307 Ovary inferior; stigmas 2
LXXIII. Saxifragaceae</p> <p>307 Ovary superior; stigmas 5
LXXXIII. Geraniaceae</p> <p>306 Flowers unisexual</p> <p>308 Perianth-segments 4 or 2; style 1
XL. Urticaceae</p> | <p>308 Perianth-segments 3; styles 2
LXXXVII. Euphorbiaceae</p> <p>305 Leaves entire</p> <p>309 Perianth 0; ovary compressed, 4-lobed
Callitrichaceae</p> <p>309 Perianth present; ovary not com-
pressed and 4-lobed</p> <p>310 Perianth-segments 3
XLVII. Polygonaceae</p> <p>310 Perianth-segments 4 or more</p> <p>311 Ovary inferior CXXIII. Onagraceae</p> <p>311 Ovary superior</p> <p>312 Perianth-segments 6 or 12; style
and stigma 1 CXIX. Lythraceae</p> <p>312 Perianth-segments 4 or 5; styles or
stigmas 2 or more</p> <p>313 Leaves without a long spinose
apex; fruit unwinged
LVII. Caryophyllaceae</p> <p>313 Leaves with a long spinose apex;
fruit transversely winged
XLVIII. Chenopodiaceae</p> |
|--|---|

EXPLANATORY NOTES ON THE TEXT

Signs and abbreviations

| | |
|------------------|--|
| c. | <i>circa</i> , approximately |
| C. | central |
| cm | centimetre(s) |
| E. | eastern, east |
| incl. | including |
| <i>loc. cit.</i> | <i>loco citato</i> , on the same page in the work cited above |
| m | metre(s) |
| mm | millimetre(s) |
| N. | northern, north |
| 2n | the somatic chromosome number |
| <i>op. cit.</i> | <i>opere citato</i> , in the work cited above |
| S. | southern, south |
| Sect. | Sectio |
| sp. } | species |
| spp. } | |
| Subfam. | Subfamilia |
| Subgen. | Subgenus |
| Subsect. | Subsectio |
| subsp. } | subspecies |
| sub spp. } | |
| var. | varietas |
| W. | western, west |
| ± | more or less |
| 0 | absent |
| ● | endemic to Europe |
| [] | not native |
| * | status doubtful; possibly native |
| ? | (before a two-letter geographical abbreviation)
occurrence doubtful |
| † | extinct |

*Abbreviations of geographical territories**(For precise definitions of these territories, see map 1)*

| | |
|----|-----------------------------------|
| Al | Albania |
| Au | Austria |
| Az | Açores (Azores) |
| Be | Belgium and Luxembourg |
| Bl | Islas Baleares (Balearic Islands) |
| Br | Britain |
| Bu | Bulgaria |
| Co | Corse (Corsica) |
| Cr | Kriti (Crete) |
| Cz | Czechoslovakia |
| Da | Denmark |
| Fa | Færøer (Faroes) |
| Fe | Finland |
| Ga | France |
| Ge | Germany |
| Gr | Greece |
| Hb | Ireland |
| He | Switzerland |
| Ho | Netherlands |
| Hs | Spain |
| Hu | Hungary |
| Is | Iceland |
| It | Italy |
| Ju | Jugoslavia |
| Lu | Portugal |

| | |
|----|---|
| No | Norway |
| Po | Poland |
| Rm | Romania |
| Rs | U.S.S.R. (European part), subdivided thus:
(N) Northern region
(B) Baltic region
(C) Central region
(W) South-western region
(K) Krym (Crimea)
(E) South-eastern region |
| Sa | Sardegna (Sardinia) |
| Sb | Svalbard (Spitsbergen) |
| Si | Sicilia (Sicily) |
| Su | Sweden |
| Tu | Turkey (European part) |

General notes

The sequence of families is that of Melchior in Engler-Diels, *Syllabus der Pflanzenfamilien* ed. 12 (1964), except that the Cactaceae and Guttiferae, which should have been in Volume 1, have been inserted in Volume 2.

Descriptions of taxa refer only to the European populations of the taxon in question. If extra-European representatives differ substantially, an explanatory note is sometimes added.

Groups of species have been used in some genera where the species are very difficult to separate. These groups have no formal nomenclatural status and are simply a device to enable a partial identification to be made.

Taxa below the rank of subspecies are neither keyed nor described, and varieties are mentioned only when there are special reasons.

Aliens are included only when they appear to be effectively naturalized or when planted in continuous stands on a fairly large scale.

Hybrids are mentioned only when they occur frequently.

A measurement given without qualification refers to length. Two measurements connected by × indicate length followed by width. Further measurements in parentheses indicate exceptional cases outside the normal range.

Synonyms given in the text are principally those names under which the species or subspecies is described in the Basic Floras listed on p. xvii. The index contains (in addition to these) names which occur in any of the Standard Floras (p. xvii) or in well-known monographs.

Chromosome numbers are given only when the editors are satisfied that the count has been made on correctly identified material known to be of wild European origin. For naturalized and cultivated species the count is from material which is naturalized or is cultivated in the way which justifies its inclusion in the Flora.

Ecological information is provided only when the habitat-preference of a species is sufficiently uniform over its European range to permit it to be summed up in a short phrase.

Geographical terms such as 'W. Europe', 'Mediterranean region', etc., are to be interpreted as shown on maps iv and v. The statement that a plant occurs in one or more of these regions does not necessarily imply that it occurs throughout the region.

Extra-European distribution is indicated only for those plants whose European range is small and whose range outside Europe is considerably greater, or for species which are not native in Europe.