A DICTIONARY

OF THE

FLOWERING PLANTS

AND

FERNS

BY

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PREFACE

IN this edition the work is completely revised, and as far as possible brought up to date. The most noteworthy new feature is the incorporation of all the parts into one general dictionary, and the omission of Part I of previous editions. When first written this had certain advantages, as being one of the few presentations in English of the elementary facts and theories of ecology. But this advantage has long disappeared, and it seemed to me that the space would be better employed in increasing the number of genera dealt with. On consulting Sir David Prain and other botanists, I found that they agreed with this idea. By a slight addition to the total number of pages I have found it possible to include all the genera, and hope that in this way the usefulness of the work to botanists in general may be greatly increased. I have of course attempted no criticism of those included, but have tried to indicate, as far as space would permit, the genera from which they have been segregated in many cases, or to which they are united by the other of the two chief recent editors of the vegetable kingdom (Bentham-Hooker, Engler-Prantl). It is obviously impossible to do very much in this direction. As it stands, the book is convenient for use, but a very slight addition to the facts given for each genus would add a line to the entry and, as there are roughly some 20,000 entries, this would add 400 pages to the book, and make it unwieldy. The same remark applies to the geographical distribution, which could not in general be given in great detail.

Before criticising, again, the inclusion of many obsolete technical terms and synonyms, it must be remembered that some who use this book wish to use it in connection with floras now long published, and also that it is impossible to

reset such a book all through for each edition, so that it is necessary to insert a little "padding" on practically every page.

* * * * * *

A book like this must obviously be a compilation, and I have to express my warmest thanks to Prof. A. Engler for permission to draw upon the vast mass of material contained in *Die Natürlichen Pflanzenfamilien*. Owing to the war I have had no opportunity of asking him to renew this permission, and I trust that he will understand as much. When an article, as is frequently the case with the grouping of the subfamilies within the family, is taken from the work mentioned, I have acknowledged the same by giving the name of the author. Otherwise I have in general drawn upon the book for the genera accepted by its authors, for the number of species (which has been brought roughly up to date by aid of the Supplements to the *Index Kewensis*), and for their geographical distribution.

The list of friends to whom I owe valuable suggestions, useful pieces of assistance, and the like, is very long, and I have no doubt that the following enumeration is incomplete, and must ask the pardon of those who do not figure in it, through some oversight on my part to note down their names at the moment the help was given. In the first place I wish to thank Sir David Prain and the staff at Kew, more especially Drs Hill, Stapf, and Rolfe, and Mr S. A. Skan, whose detailed knowledge of the library has been of the very greatest assistance in easing my labour. The writing of this edition has occupied very much time during the last five years, and I am particularly grateful to Prof. Seward, who placed at my disposal a table large enough to enable me to spread out 20 works of reference at once, and to Dr Moss and others of the Cambridge staff. The first two of the five years were spent in Rio de Janeiro and I am much indebted for help to my colleagues there, particularly the late Dr Alberto

Löfgren and Dr Achilles de Faria Lisbôa. I also owe many useful suggestions to my colleagues in other Botanic Gardens, *e.g.* Prof. O. Ames at Harvard, Prof. I. B. Balfour at Edinburgh, Prof. N. L. Britton at New York, Mr I. H. Burkill at Singapore, Prof. A. Engler at Berlin, Dr J. H. Maiden at Sydney, the late Dr H. H. W. Pearson at Cape Town, Dr Sargant at Jamaica Plain, and others. The late Dr E. A. N. Arber, and Mrs Arber, have laid me under very many obligations, and so have Sir Francis Darwin, Professors Bower, Farmer, Goebel, Goodale, Henry, Lang, Oliver, Scott, and Yapp, and Messrs Davie, Lock, Lynch, Riddle, Small, Smith, and many more. To my wife my obligations are unmeasured. Finally for the illustrations I have to thank Herr Engelmann for permission to copy some of the late Prof. Eichler's figures, and Dr Rendle for the use of some of those in his book on Classification.

J. C. WILLIS

CAMBRIDGE,
April 4, 1919.

PREFACE TO FIFTH EDITION

Pages 30, 31, 46, 51, 76, 80, 87, 94, 109, 117, 119, 147, 163, 176, 179, 205, 215, 217, 222, 243, 249, 250, 253, 255, 272, 284, 314, 335, 350, 360, 371, 374, 375, 377, 392, 404, 405, 417–20, 439–41, 457, 464, 480, 505, 535, 538, 615, 646 have been rewritten in a style that will gradually be adopted throughout.

J. C. W.

March 24, 1925.

PREFACE TO SIXTH EDITION

A considerable number of pages have been completely rewritten in this as in the Fifth Edition.

J. C. W.

January 1931.

INDEX

TO THE IMPORTANT GENERAL ARTICLES, UNDER WHICH LISTS OF EXAMPLES (DESCRIBED AT GREATER LENGTH) WILL BE FOUND.

GENERAL

Abbreviations, Collecting, Concrescence, Description, Dimorphism, Literature, Nomenclature.

VEGETATIVE ORGANS

Adnate, Adventitious, Aerenchyma, Aerial Root, Branch, Bud, Bulb, Bulbil, Cauli(flory), Concrescence, Corm, Iso-(bilateral, &c.), Leaf, Phyllo-(taxy, &c.), Poly-(morphism), Rhizome, Stem, Stipule, Sym-(podium), Thorn, Tuber, Vegetative Reproduction.

REPRODUCTIVE ORGANS

Aestivation, Aggregate fruit, Andro-(phore, &c.), Anemo-(philous), Aniso-(phylly), Apetalous, Apo-(gamy), Aril, Asymmetrical, Bee-flowers, Berry, Bract, Butterfly-flowers, Carrion-flowers, Cincinnus, Cleistogamy, Cyme, Dichasial cyme, Dichogamy, Dioecism, Dispersal, Endo-(sperm, &c.), Epi-(gynous, &c.), Floral, Flower, Fly-flowers, Fruit, Geo-(carpic), Gyno-(dioecism, &c.), Heter-(ostylism), Inflorescence, Loose-pollen mechanisms, Mixed inflorescence, Nectary, Nut, Ovary, Perianth, Pollination, Receptacle, Seed, Sex distribution, Stamen, Staminode, Zygo-(morphism).

CLASSIFICATION

Nomenclature; and *cf.* Key to Families at end of book.

FORMS OF VEGETATION; GEOGRAPHICAL DISTRIBUTION

Beach-jungle, Chaparral, Climbing Plants, Dispersal, Epiphytes, Floral regions, Halo-(phytes), Insectivorous Plants, Mangroves, Myrmecophilous Plants, Parasites, Pitcher Plants, Plant formations, Saprophytes, Water Plants, Xerophytes, Zones of Vegetation.

ECONOMIC BOTANY

Alcohol, Alkaloids, Arrowroot, Bamboo, Bark, Camphor, Cinnamon, Condiments, Cotton, Drugs, Dyes, Ebony, Economic Botany, Economic Products, Edible Products, Fibres, Fodder, Foliage Plants, Grass, Gum, Guttapercha, Lac, Latex, Mucilage, Oil, Ornamental Plants, Poison, Resins, Rubber, Sugar, Tan, Timber.

EXPLANATORY INTRODUCTION

The Index of English names, technical terms, &c., which formed Part III of former editions, is now incorporated with the list of genera, so that the work forms one dictionary from end to end, with the exception of the key to the families at the end of the book.

All the genera of Bentham-Hooker, Engler-Prantl, and Linnaeus are now included, as well as all given in the *Index Kewensis* and Supplements (except many synonyms), together with a large number published since the last Supplement, and which, by the kindness of the Director of Kew, I have been able to obtain from the MS lists kept at Kew. The most recent of these are given in a little Supplement at the end of the main dictionary, and I hope to bring this supplement up to date at intervals during the currency of the edition, adding the entries later to the body of the work so far as the padding will allow. Besides the genera, all families and higher divisions are also included.

The name of the genus is followed by the name of its author, often abbreviated, *e.g.* R.Br. (*cf.* Abbreviations), on the system explained under Nomenclature. The original description of the genus may be found by reference to the *Index Kewensis*. In the same way, the author is given after every species quoted, and the original description may be discovered from the same book.

Owing to the continual changes that go on in many families and genera, names are often reduced to synonyms; a great number of such are given in this book, chiefly those used in well-known floras; *e.g.* Abildgaardia Vahl = Fimbristylis Vahl. Under some of the best known genera, *e.g.* Abies, a few specific synonyms have also been given, especially names frequently met with in gardens, and opposite to each of these is given the name now generally used; thus *Abies alba* Michx. must be looked for under Picea, *Abies Douglasii* Lindl. under Pseudotsuga, and so on. It is very difficult to decide when divergence of two forms is sufficient to entitle them to rank as genera, and this difficulty is the cause of much synonymy. A genus *A* is established by one author, and then it is discovered not to differ sufficiently from another genus *B*, established by the same or another author, to remain as an independent genus. *A* is therefore merged in *B* and becomes a synonym. The

species of *A* retain as far as possible their old specific names when placed in *B*. When an entry such as "Abildgaardia Vahl = Fimbristylis Vahl p.p." is found, it means that the genus Abildgaardia as established by Vahl is merged in his Fimbristylis. Many of the species change their names, but some retain their specific names, when the name is not already occupied. This latter case is often indicated by putting the name of the old genus in brackets after that of the new, thus, *F.* (*A.*) *fulvescens*. In many cases the names of some of the genera thus merged in other genera are indicated thus: *Axinandra* Thw. (*BH.* incl. *Naxiandra* Krasser); no attempt however has been made to give all such cases or a fraction of them, but only a few of the more important. In particular those have been given where the genus as here defined differs from the definition in Engler and Prantl's *Natürliche Pflanzenfamilien* or Bentham and Hooker's *Genera Plantarum* by the inclusion and exclusion of other genera.

The name of the genus is followed by that of the family to which it belongs, and after this is often a number (in brackets) indicating the section of the family, thus Acacia belongs to Subfamily 1 and Tribe 2 of Leguminosae. The general plan upon which the book has been constructed, and the necessity for condensation, render it essential, if the full advantage is to be derived from its use, that the student should refer to the family as well as the genus. There he will find the important general characters possessed by its members, and should examine the genus to see in what it agrees, and in what it disagrees, with these. A further reference to the classification given at the end of the article upon the family will point out the special characters to be looked for in the genus as a member of some particular sub-family or tribe. In this way a large amount of information about the particular plant in question may be obtained, and at the same time the student will get into the way of regarding plants not as so many independent and disconnected units, but as related members of one great whole. In this way too he will soon acquire an appreciation of the relative importance of the different characters in classification and will learn to recognise the approximate relationships of most plants after a brief inspection, or even at sight.

The families are those given by Engler in his *Syllabus* and in *Die natürlichen Pflanzenfamilien*, but sufficient reference is made to Bentham and Hooker's system of classification to enable any one who may prefer to use that system to do so.

The name of the family is followed by a statement of the number of

species in the genus, and its geographical distribution. The number, unless very small, is always only an approximation; new research is always bringing new species to light, splitting up older ones, or combining two or more into one. This is all the information that is given about a very large number of the genera; only when a genus presents some character of interest which is not common to the order or group, is any particular mention made of it. The biological peculiarities of the most important genera are dealt with pretty fully, but much has been omitted. Thus in dealing with the pollination-methods of flowers a selection of important genera, illustrating the various methods, has been made for description; so too with epiphytes, xerophytes, the morphology of parts, and so on. General discussions of all these subjects will be found under the title of the subject itself, and numerous examples are there quoted; these examples are mostly dealt with more fully. Numerous cross-references to other articles, *e.g.* Buds, Dichogamy, Fruit, Leaf, Parasite, Xerophyte, &c. (*cf.* Index), are made, and should be looked up.

While in the morphology, &c. a selection has thus been made of genera for treatment, this is less the case with economic botany. This has been more fully treated, only a comparatively few genera being omitted. Space, however, has not permitted of a detailed description of economic products or the way in which they are obtained; for this reference must be made to other works (see Literature).

Turning now to the other articles upon the families, the same general principles apply to them. After the name of the family is given the order to which it belongs, marked *EP.* or *BH.* if necessary to distinguish between these systematists. This should be looked up in the key at the end; this will show the families which are most nearly related to the one under consideration, and the characters that distinguish one from the other can be made out by comparison of their descriptions. The student should always endeavour to make out why a given family is classified in the position assigned to it. When the family as defined by Engler differs from that defined by Bentham and Hooker, as is so often the case, an attempt should be made to discover the reasons for the difference.

After the position of the family in the system follows the number of its genera and species, the morphology and natural history of its vegetative and reproductive organs, its economic products, and finally, in the case of the more important families, its classification into sub-families and tribes, with the more important genera belonging to each. The student should work through this part and study as many of the genera

as possible before leaving the family. This is easily managed in dealing with the outdoor collection in our botanic gardens.

No particular attempt is made in the book to avoid technical terms. When a term or abbreviation is used that the reader does not understand he should look it up in the Dictionary, or under Abbreviations.

To save space, in many cases in which there are several words in use beginning with the same prefix, *e.g.* aniso-, apo-, endo-, epi-, geo-, gyno-, halo-, heter-, iso- phyllo-, poly-, sym-, xero-, &c., all are given under the heading of the prefix. If a word is looked up as a whole, therefore, and not found. reference should be made to the prefix before saying that it is omitted from the Dictionary.

Many genera are described by different authors under different spellings, and the most common and important of such cases are included; thus Prunella is also described under Brunella, Eleocharis also under Heleocharis, &c.

First Edition 1897
Second Edition 1904
Third Edition 1908
Reprinted 1914
Fourth Edition 1919
Fifth Edition 1925
Sixth Edition 1931
Reprinted 1948
1951

A (fl.-class), fls. with freely exposed honey; *Acer*, *Euphorbia*, *Galium*, *Hedera*, *Ilex*, *Rhamnus*, *Saxifraga*, *Umbelliferae*.

A-, **An-** (Gr. prefix), not.

Aaron's Beard, *Hypericum calycinum* L.

AB (fl.-class), fls. with partially concealed honey; *Caltha*, *Crataegus*, *Cruciferae*, *Fragaria*, *Potentilla*, *Ranunculus*, *Sedum*.

Ab- (Lat. prefix), from; **-axial** (side), away from axis; **-breviated**, shortened; **-errant**, differing from type; **-normal**, varying from the rule; **-original**, strictly native; **-ortion**, imperfect or arrested development; **-rupt**, terminating suddenly; **-sciss-layer**, separation-layer for dropping the l.; **-sorption**, taking up of fluids by r. or l.

Abaca, Manila hemp, *Musa textilis* Née.

Abasoloa La Llave. Compositae (5). 1 Mex.

Abatia Ruiz et Pav. Flacourtiaceae (7) (Samydaceae, *BH.*). 5 trop. S. Am. Fl. apet. L. opp.

Abauria Becc. (*Koompassia* Maingay, *EP.*). Legum. (II. 5). 2 Malaya.

Abbevillea Berg. = Campomanesia Ruiz et Pav. p.p. (Myrt.).

Abbottia F. Muell. Rubiaceae (II. 2). 1 N. Austr.

Abbreviations. Descriptions of floral morphology are largely given in the terms of Floral Formulae, explained under that heading. When the name of a genus or family is repeated in the article dealing with it, it is represented by the initial letter only, *e.g.* A. for Abies. The name of a family is sometimes abbreviated by the omission of the terminal *aceae*, &c.; *e.g.* Capparid., Compos. The term 'warm' is sometimes used instead of 'tropical and subtropical.' The expression *BH.* after a genus or family, &c., means "as defined by Bentham and Hooker in their *Genera Plantarum*"; *EP.* means "as defined by Engler and Prantl in the *Pflanzenfamilien* and *Pflanzenreich*."

The following mathematical and other symbols are largely used:

☿, hermaphrodite	① or ⊙, annual
♂, male	② or ☉, biennial
♀, female	♃, perennial
( ) enclosing P, K, C, A, or G, united or concrescent	♄, tree or shrub
	>, more than
G̲ superior, G̅ inferior, ovary	<, less than
∞, indefinite, numerous	±, more or less than
×, hybrid	⊥, at right angles to
§, section (of sp. or genus)	∥, parallel to

=, equal to, merged in
!, seen by author
μ, micromillimetre, $\frac{1}{1000}$ mm.
⊕, actinomorphic
+, zygomorphic

⁎, N. hemisphere
⁎, S. hemisphere
|⁎, Old World
⁎|, New World

The following abbreviations are largely employed in this and other botanical books:

A(ndroeceum)
Abyss(inia)
Achlam(ydeous)
Actinom(orphic)
Acum(inate)
Adv(entitious)
Afr(ica)
Aggr(egate)
Agr(icultural)
Alb(umen)
Alt(ernate)
Am(erica)
Amphitr(opous)
Anatr(opous)
Anemoph(ilous)
Ann(ual) (als, &c.)
Ant(arcti)c
Apet(alous)
Apoc(ar)p(ous)
Arch(ipelago)
Archichl(amydeae)
Arct(ic)
Arg(entina)
Art(icle)
As(ia)
Assim(ilation)
Asymm(etrical)
Atl(antic)
Austr(alia)
Axill(ary)
B(eatus), the late
Beitr(äge)
Ber(ichte)
Bot(any)
Br(act)
Braz(il)
Brit(ain)
Bull(etin)
C(entral) (orolla)
Cal(yx) (edonia)
Calif(ornia)
Campylotr(opous)
Cap(itate)
Caps(ule)
c.c., cubic centimetre
Cel(eberrimus)
Centr(al) (alblatt)
Char(acter)
Chi(na)
Cl(arissimus) (ements*)
Cleist(ogamic)
cm., centimetre
Col(ony)
Coll(ected by) (ection)
Concr(escence)
Consp(icuous)
Conv(olute)
Cor(olla)
Cosmop(olitan)
Cot(yledon)
C(om)p(oun)d
C(ar)p(e)l
Cult(ivated)
Dehisc(ent)
Dep(artment)
Descr(iption)
Dich(asial)
Dichlam(ydeous)
Dichot(omous)
Dicot(yledon)
Dim(inutive)
Dioec(ious)
Diplost(emonous)
Distr(ibution)
Dorsiv(entral)
Ed(ible) (ition)
Endosp(erm)
Engl(and)
Entomoph(ilous)
Epig(ynous)
Epipet(alous)
Epiph(yte)
Esp(ecially)
Ess(ential)
Eur(ope)
Evap(oration)
Evergr(een)
Exalb(uminous)
Exc(ept)
Excl(uding)
Exstip(ulate)
Extr(orse)
Extrafl(oral)
Fam(ily)
Fert(ilisation)
Fl(ower)(in)g
Fl(ore) pl(eno), double-flowered
Fol(ium, a leaf) (iage)
Fr(uit)
Fri(gid)
G(ynoeceum)
Gen(us)
Germin(ation)
Ges(ellschaft)
Gland(ular)
Gr(eek)
H(erbarium)
Hab(itat)
Hem(isphere)
Herb(arium)
Heterochlam(ydeous)
Heterost(yled)
Himal(aya)
Hind(ustani)
Homochlam(ydeous)
Horiz(ontal)
Hort(orum), of gardens

* *Research Methods in Ecology.*

Hybr(id)
Hypog(ynous)
I(sland)
Ic(on), figure
Imbr(icate)
Inc(ertae) sed(is), of unknown position
Incl(uding)
Inconspic(uous)
Ind(ia)
Indeh(iscent)
Indomal(aya)
Ined(itus), unpublished
Inf(erior)
Infl(orescence)
Interpet(iolar)
Intr(orse)
Invol(ucre)
Irreg(ular)
Isobil(ateral)
Jap(an)
Jard(in)
K, calyx
L(eaf)
Lat(in) (eral)
Laticif(erous)
L(oco) c(itato), in the place quoted
Linn(ean)
Loc(ulus)
Loculic(idal)
m(etre)
Madag(ascar)
Mag(azine)
Mal(aya)
Masc(arenes)
Mech(anism)
Medit(erranean)
Membr(anous)
Met(amorphosed)
Mex(ico)
mm., millimetre
Moluc(cas)
Monoch(asial)
Monochlam(ydeous)
Monocot(yledon)
Monoec(ious)
Mus(eum)
n(ovus), new
N(atural) O(rder)
Nat(ural) (uralised)
Nat(ürlichen) Pfl(anzenfamilien)
Nearct(ic)
Neotrop(ical)
Nom(en), a name
Nud(us), naked, without description
N(ew) Z(ealand)
Obdipl(ostemonous)
Off(icinal)
Opp(osite)
Orn(amental)
Orthotr(opous)
Ov(ule) (ary)
P(erianth)
Pac(ific)
Palaearct(ic)
Palaeotrop(ical)
Paras(ite)
Ped(icel) (uncle)
Pen(insula)
Pend(ulous)
Perenn(ial)
Perf(ume)
Perig(ynous)
Pet(al)
Pfl(anzen) R(eich)
Phil(ippines)
Pl(ant)
Plac(enta)
Poll(icaris), inch
Pollin(ation)
Polyg(amous)
Polyn(esia)
Post(erior)
p(ro) p(arte), in part
Pref(ix)
Prodr(omus)
Protandr(ous)
Protog(ynous)
P(oin)t
R(oot)
Rad(ix) (ical)
Recept(acle)
Reg(ular)
Repr(oduction)
Repres(ented)
Rev(iew)
Rhiz(ome)
Rudim(entary)
S(eu), or
Sandw(ich Is.)
Sci(ence)
Sem(en), a seed
Sep(al)
Septic(idal)
Septifr(agal)
Ser(ies)
Sicc(us), dry
Soc(iety)
Sol(itary)
Sp(ecies)
Sta(men)
St(amino)d(e)
Stip(ule)
Subm(erged)
Subtrop(ical)
Succul(ent)
Suff(ix)
Sup(erior)
Sympet(alous)
Syn(onym)
Sync(arpous)
T(abula), a figure
T(omus), a volume
Tab(ula), a figure
Tasm(ania)
Temp(erate)
Term(inal)
Trans(actions)
Transv(erse)
Trop(ical)
Undershr(ub)
Usu(ally)
Var(iety)
Varieg(ated)
Veg(etation)
V(idi) S(iccam), dry specimen seen
V(idi) V(ivam), living specimen seen
W(est) I(ndies)
Wiss(enschaft)
Xero(phyte)
Zygom(orphic)

Of course many of these abbreviations also signify the adjectival and

other forms of the word, *e.g.* albumen, albuminous, &c.; character, characterised, characteristic, &c.

The following abbreviations of authors' names are in common use in giving the authority for genera or species:

Achar(ius)
Adans(on)
Afz(elius)
Ag(ardh)
Ait(on)
Alef(eld)
Allem(ao)
All(ioni)
Anders(on)
Andr(ews)
Ant(oine)
Arch(er)
Ard(uino)
Aresch(oug)
Arn(ott)
Aschers(on)
Aubl(et)
Auct(orum)
Bab(ington)
Bail(ey)
Baill(on)
Bak(er)
Bal(ansa)
Balb(is)
Balf(our)
Barb(osa) Rodr(igues)
Barnad(es)
Barn(eoud)
Barr(elier)
Bartl(ing)
Batem(an)
Bauh(in)*
Baumg(arten)
Beauv(ois)
Becc(ari)
Bedd(ome)
Benj(amin)
Benn(ett)
Benth(am)
B(entham and) H(ooker)†
Berg(ius)
Bernh(ardi)
Bert(ero)
Berth(elo)
Berthol(ini)
Bertol(oni)
Bess(er)
Bieb(erstein)
Bigel(ow)
Binn(endijk)
Bisch(off)
Bl(ume)
Boeck(eler)
Boerh(ave)
Boiss(ier)
Boj(er)
Bomm(er)
Bong(ard)
Bonpl(and)
Borck(hausen)
Br(aun, own)
Bref(eld)
Brongn(iart)
Brot(ero)
Brunf(els)
Buch(anan)-Ham(ilton)
Burch(eil)
Bur(eau)
Burm(ann)
Buxb(aum)
Camb(essedes)
Carr(iere)
Carr(uthers)
Casp(ary)
Cass(ini)
Cast(agne)
Cav(anilles)
C. DC., Casimir de Candolle
Cerv(antes)
Cham(isso)
Champ(ion)
Chapm(an)
Chav(annes)
Chois(y)
Cl(ements)
Clus(ius)
Cogn(iaux)
Colebr(ooke)
Col(enso)
Colm(eiro)
Comm(elin)
Comm(erson)
Corn(uti)
Coss(on)
Cram(er)
Cunn(ingham)
Curt(is)
Dalz(ell)
Dav(enport)
DC., A. P. de Candolle (1778–1841)
Dec(ais)ne
Deless(ert)
Del(ile)
Dennst(aedt)
De Not(aris)
Desf(ontaines)
Desr(ousseaux)
Desv(aux)
Dicks(on)
Didrichs(en)
Dietr(ich)
Dill(enius)
Dillw(yn)
Dodon(aeus)
Dougl(as)
Drumm(ond)
Dryand(er)
Duch(artre)
Dumort(ier)
Dun(al)
Eat(on)
Eckl(on)
Edgew(orth)
Ehrenb(erg)
Ehrh(art)
Eichl(er)
Ell(iott)
Endl(icher)‡
Engelm(ann)
Engl(er)§
Eschsch(oltz)
Eschw(eiler)
Ettingsh(ausen)
Fabr(icius)
Falc(oner)
Fing(erhuth)
Fisch(er)
Flac(ourt)
Forsk(ål)
Forst(er)
Fourn(ier)
Fourr(eau)
Franch(et)
Frem(ont)
Fres(enius)
Fr(ies)
Gaertn(er)
Gal(eotti)
Gardn(er)
Gasp(ari)
Gaudich(aud)
Gaud(in)
Gies(enhagen)
Gilb(ert)
Gilib(ert)
Gill(ies)
Gis(eke)
Gled(itsch)
Gmel(in)
Godr(on)
Goldm(ann)
Grah(am)
Gren(ier)
Grev(ille)
Griff(ith)
Griseb(ach)

* *Prodromus Theatri Botanici*, 1620.
† *Genera Plantarum*, 1862–83.
‡ *Ibid.* 1836–40.
§ *Natürlichen Pflanzenfamilien*, 1889–97; *Das Pflanzenreich*, 1900–(in progress).

Gronov(ius)
Guett(ard)
Guill(emin)
Guss(one)
Hack(el)
Hall(er)
Ham(ilton)
Hanst(ein)
Hartm(ann)
Hartw(eg)
Harv(ey)
Hassk(arl)
Haw(orth)
Hedw(ig)
Hegelm(aier)
Heist(er)
Hemsl(ey)
Henfr(ey)
Herb(ert)
Herm(ann)
Hern(andez)
Hieron(ymus)
Hildebr(and)
Hill(ebrand)
Hochst(etter)
Hoffm(ann)
Hoffm(an)s(eg)g
Honck(eney)
H(oo)k(er)
Hook(er)
Hook. f(ilius) *
Horan(inow)
Hort(orum), of gardens
Houst(on)
Houtt(uyn)
Huds(on)
Humb(oldt)
H(umboldt), B(onpland) & K(unth)
Isn(ard)
Jacks(on)
Jacq(uin)
Jenm(an)
Jord(an)
Jungh(uhn)
Juss(ieu) 1748–1836
Kaempf(er)
Karst(en)
Kaulf(uss)
Kell(ogg)
Kl(otzsch)
Knaut(ius)
Koel(er)
Koen(ig)
Koern(icke)
Kon(ig)
Korth(als)
Kostel(etzky)
K(un)tze, O.
K(un)ze
L(innaeus) † 1707–78
Labill(ardière)
Lag(asca)
Lam(arck)
Lamb(ert)
Langsd(orff)
Lapeyr(ouse)
Laxm(ann)
Leandr(o)
Leavenw(orth)
Ledeb(our)
Lehm(ann)
Lej(eune)
Lem(aire)
Lepr(ieur)
Lesch(enault)
Less(ing)
Lestib(oudois)
L. f(ilius)
L'Herit(ier)
Licht(enstein)
Liebm(ann)
Lindl(ey) 1799–1865
Lindm(ann)
Linn(æus) †
Loefl(ing)
Loes(ener)
Loud(on)
Lour(eiro)
Ludw(ig)
Luerss(en)
Macfad(yen)
Maing(ay)
Mak(ino)
Marcgr(af)
Markh(am)
Mart(ius)
Mast(ers)
Maxim(owicz)
Medic(us)
Meissn(er)
Mert(ens)
Mett(enius)
Mey(er)
Mich(au)x
Mich(eli)
Mig(uel)
Mihi, of me
Mik(an)
Mill(er)
Miq(uel)
Mirb(el)
Mitch(ell)
Moc(ino)
Moehr(ing)
Mol(ina)
Monn(ier)
Moq(uin-Tandon)
Morr(en)
Muehlenb(erg)
Muell-Arg(au)
Muell(er)
Muell, F(erd. v.)
Murr(ay)
Naud(in)
Neck(er)
Newm(an)
Nied(en)z(u)
Nor(onha)
Nutt(all)
Nyland(er)
Nym(an)
Oerst(ed)
Oliv(er)
Ort(ega)
Parl(atore)
Parm(entier)
Pasq(uale)
Pav(on)
Perr(ottet)
Pers(oon)
Peterm(ann)
Peyr(itsch)
Pfeiff(er)
Pfitz(er)
Phil(ippi)
Planch(on)
Pluk(enet)
Plum(ier)
Poepp(ig)
Poir(et)
Poll(ich)
Ponted(era)
Pr(esl)
Putterl(ick)
Racib(orski)
Radlk(ofer)
Raf(inesque)
R(obert) Br(own)
Red(outé)
Reich(ardt)
R(ei)ch(en)b(ach)
Reinw(ardt)
Reiss(eck)
Retz(ius)
Reut(er)
Rich(ard)
Ridl(ey)
Riv(inus) ‡
Roem(er)
Rohrb(ach)
Roth(ert)
Rottb(oell)
Roxb(urgh)
Rudb(eck)
Rumph(ius)
Rupp(ius)
Rupr(echt)
Sadeb(eck)
Sald(anha)
Salisb(ury)
Sanguin(etti)
Sauv(ageau)

* See B. & H.

† The starting point of modern nomenclature is the publication in 1753 of his *Species Plantarum*.

‡ Bachmann, 1652—1723.

Sauv(alle)
Schau(er)
Scheff(er)
Scheidw(eiler)
Schlecht(en)d(al)
Schmid(el)
Schnizl(ein)
Schomb(urgk)
Schrad(er)
Schreb(er)
Schult(es)
Schum(acher)
Schum(ann)
Scop(oli)
Scortech(ini)
Seem(ann)
Sendtn(er)
Ser(inge)
Seub(ert)
Shuttl(eworth)
Sibth(orp)
Sieb(old)
Siegesb(eck)
Smirn(ow)
Sm(ith)
Sod(iro)
Soland(er)
Solms-Laub(ach)
Sond(er)
Sonn(erat)
Spegazz(ini)
Splitg(erber)
Spr(engel)
Steinh(eil)
Steph(ens)
Sternb(erg)
Steud(el)
St Hil(aire)
Sw(artz)
Tabern(aemontanus) 1520–90
Targ(ioni) Toz(zetti)
Taub(ert)
Teysm(ann)
Thoms(on)
Thonn(ing)
Thou(ars)
Thunb(erg)
Thw(aites)
Tod(aro)
Torr(ey)
Tourn(efort) 1656–1708
Tratt(inick)
Trautv(etter)
Tréc(ul)
Trev(isano)
Trin(ius)
Tul(asne)
Turcz(aninew)
Turp(in)
Tuss(ac)
Und(erwood)
Urb(an)
Vaill(ant)
Vand(elli)
Vell(ozo)
Vent(enat)
Vieill(ard)
Vill(ars)
Vis(iani)
Viv(iani)
Vog(el)
Wahlenb(erg)
Wall(ich)
Walir(oth)
Walp(ers)
Walt(ers)
Warb(urg)
Warm(ing)
Wats(on)
Webb(er)
Wedd(ell)
Welw(itsch)
Wendl(and)
Wettst(ein)
Wigg(ers)
Wikstr(om)
Willd(enow)
Willem(et)
Willk(omm)
Wimm(er)
Wulf(enius)
Wydl(er)
Zahlbr(uckner)
Zenk(er)
Zeyh(er)
Zipp(el)
Zoll(inger)
Zucc(arini)

Abdominea J. J. Smith. Orchidaceae (II. 20). 1 Java.

Abdra Greene (*Draba* L. p.p.). Cruciferae (4). 1 N. Am.

Abele tree, *Populus alba* L.

Abelia R.Br. (*Linnaea* Gronov. p.p. *EP.*). Caprifoliaceae (3). 15 As., Mex. Sta. 4, didynamous.

Abelmoschus Medic. (*Hibiscus* L. p.p.). Malv. 50 trop., Austr.

Aberemoa Aubl. (*Duguetia* St. Hil.). Anon. (1). 30 trop. S. Am., W.I.

Aberia Hochst. (*Doryalis* E. Mey. p.p. *EP.*). Flacourtiaceae (4). (Bixineae, *BH.*). 12 Afr., Ceylon. *A. caffra* Harv. et Sond. (Kei apple), and others, ed. fr.

Abies (Tourn.) L. *Synonymy: A. alba* Michx. = Picea a.; *do.* Mill. = A. pectinata DC.; *A. americana* Mill. = Tsuga canadensis; *A. californica* Hort. = Pseudotsuga Douglasii; *A. canadensis* Michx. = Tsuga c.; *do.* Mill. = Picea alba; *A. Cedrus* Poir. = Cedrus Libani; *A. Deodara* Lindl. = C. D.; *A. Douglasii* Lindl. = Pseudotsuga D.; *A. excelsa* Link = A. pectinata; *do.* Poir. = Picea e.; *A. Kaempferi* Lindl. = Pseudolarix K.; *A. Larix* Poir. = Larix europaea; *A. montana* Nym. = Picea excelsa; *A. mucronata* Rafin. = Pseudotsuga Douglasii; *A. nigra* Desf. or Duroi = Picea n.; *A. Omorika* Nym. = Picea O.; *A. orientalis* Poir. = Picea o.; *A. pectinata* Poir. = Picea rubra; *A. Picea* Lindl. = A. pectinata DC.; *do.* Mill. = Picea excelsa; *A. rubra* Poir. = Picea r.; *A. vulgaris* Poir. = A. pectinata. Coniferae (Pinaceae, 2; see C. for generic characters). 24 N. temp. The firs are evergreen trees with needle l. borne directly on the stems.