

## STACE EDITION 4: CHANGES

### NOTES

Changes to the textual content of keys and species accounts are not covered.

"**Mention**" implies that the taxon is or was given summary treatment at the head of a family, family division or genus (just after the key if there is one).

"**Reference**" implies that the taxon is or was given summary treatment inline in the accounts for a genus.

"**Account**" implies that the taxon is or was given a numbered account inline in the numbered treatments within a genus.

"**Key**" means key at species / infraspecific level unless otherwise qualified.

"**Added**" against an account, mention or reference implies that no treatment was given in Edition 3.

"**Given**" against an account, mention or reference implies that this replaces a less full or prominent treatment in Stace 3.

"**Reduced to**" against an account or reference implies that this replaces a fuller or more prominent treatment in Stace 3.

### GENERAL

Family order changed in the Malpighiales

Family order changed in the Cornales

Order Boraginales introduced, with families Hydrophyllaceae and Boraginaceae

Family order changed in the Lamiales

### BY FAMILY

#### 1 LYCOPODIACEAE

##### 4 DIPHASIASTRUM

Key added.

D. complanatum => D. x issleri

D. tristachyum keyed and account added.

#### 5 EQUISETACEAE

##### 1 EQUISETUM

Key expanded.

E. x meridionale added to key and given account.

#### 7 HYMENOPHYLLACEAE

##### 1 HYMENOPHYLLUM

H. x scopulorum given reference.

#### 11 DENNSTAEDTIACEAE

##### 2 HYPOLEPIS added.

Genus account added.

H. ambigua: account added.

**13 CYSTOPTERIDACEAE**

Takes on Gymnocarpium, Cystopteris from Woodsiaceae.

2 CYSTOPTERIS

C. fragilis ssp. fragilis: account added.

C. fragilis ssp. huteri: account added.

**14 ASPLENIACEAE**

1 ASPLENIUM

A. obovatum ssp. lanceolatum => A. obovatum ssp. billotii.

**16 WOODSIACEAE**

Reduced to Woodsia.

**17 ATHYRIACEAE**

Added.

Takes on Athyrium from Woodsiaceae.

**18 BLECHNACEAE**

2 WOODWARDIA

Given genus account.

W. radicans given account.

**20 DRYOPTERIDACEAE**

1 POLYSTICHUM

P. polyblepharum given mention but not keyed.

3 DRYOPTERIS

Key simplified.

D. erythrosora: mention added.

D. borrieri => D. affinis ssp. borrieri.

D. cambrensis => D. affinis ssp. cambrensis.

D. cambrensis ssp. pseudocomplexa removed.

D. affinis ssp. paleaceolobata removed.

D. pseudodisjuncta => D. affinis ssp. pseudodisjuncta and given account.

**22 GINKGOACEAE**

Added.

1 GINKGO added.

G. biloba added.

**23 PINACEAE**

Genus order changed.

2 PINUS

P. muricata added to key and given account.

P. taeda: mention added.

P. pinea: mention added.

P. contorta ssp. contorta: reference added.

P. contorta ssp. latifolia: reference added.

3 PICEA

P. orientalis added to key and account added.

P. breweriana: mention added.

- 6 TSUGA  
T. canadensis given account.
- 7 ABIES  
A. delavayi: mention added.  
A. homolepis: mention added.  
A. amabilis added to key and account added.

## 25 CUPRESSACEAE

Genus key revised and expanded.

- 1 METASEQUOIA  
Added to genus key and given genus account.  
M. glyptostroboides given account.
- 5 TAXODIUM  
Added to genus key and given genus account.  
T. distichum given account.
- 6 THUJOPSIS  
Added to genus key and genus account added.  
T. dolobrata: account added.
- 7 THUJA  
T. occidentalis: account added.
- 8 CUPRESSUS  
Now subsumes Cupressus, Chamaecyparis, Xanthocyparis, X Cuprocyparis  
C. sempervirens: mention added.  
X Cuprocyparis leylandii => Cupressus x leylandii.  
Xanthocyparis nootkatensis => Cupressus nootkatensis.  
Chamaecyparis lawsoniana => Cupressus lawsoniana.  
Chamaecyparis pisifera => Cupressus pisifera.
- 10 CALOCEDRUS  
Added to genus key and genus account added.  
C. decurrens added.
- 11 PLATYCLADUS  
Added to genus key and genus account added.  
P. orientalis: account added.

## 28 NYMPHAEACEAE

- 1 NYMPHAEA  
N. x marliacea given account.

## 31 MAGNOLIACEAE

- Added.
- .. MAGNOLIA: mention added.  
M. x soulangeana: mention added.
- 1 LIRIODENDRON added without genus account.  
L. tulipifera: account added.

## 34 PAPAVERACEAE

- Genus key revised.
- .. MECONOPSIS  
Subsumed into Papaver
- 1 PAPAVER  
Subsumes Meconopsis.  
Three spp. moved to Roemeria.  
Key revised.

- P. pseudoorientale => P. setiferum.  
Meconopsis cambrica => Papaver cambricum.
- 2 ROEMERIA  
Added to genus key and genus account added.  
Key added.  
Papaver bivalve ssp. hybridum => Roemeria hybrida and given full account.  
Papaver hybridum => Roemeria hispida.  
Papaver argemone => Roemeria argemone.
- 9 LAMPROCAPNOS  
Added to genus key and genus account added.  
L. spectabilis: given account.
- 13 FUMARIA  
F. caroliana: reference added.

### 35 BERBERIDACEAE

Genus key expanded.

- 1 BERBERIS  
B. x rubrostilla added to key and account added.
- 2 MAHONIA  
Key added.  
M. x wagneri keyed and given account.  
M. x media: mention added.  
M. x media 'Winter Sun': mention added.  
M. x media 'Charity': mention added.  
M. japonica: mention added.  
M. repens: mention added.  
(NOTE: the changes to circumscriptions entailed in these changes mean that some plants recorded as M. x wagneri are in fact M. x media.)
- 3 EPIMEDIUM  
Added to genus key and given genus account.  
E. alpinum given account.

### 36 RANUNCULACEAE

- 1 CALTHA  
C. palustris var. barthei: mention added.
- 3 HELLEBORUS  
H. x hybridus: reference added.
- 13 RANUNCULUS  
R. acris ssp. friesianus: reference added.  
R. arvensis var. inermis: reference added.  
R. saniculifolius: mention added.  
R. hederaceus x omiophyllus: reference added.
- 18 THALICTRUM  
Key expanded.  
T. simplex: mention added.  
T. speciosissimum added to key and account added.

### 37 PLATANACEAE

- 1 PLATANUS  
P. orientalis: account added.

**40 PAEONIACEAE**

- 1 PAEONIA  
Key added.  
P. lactiflora added to key and given account.

**42 SAXIFRAGACEAE**

Genus key expanded and revised.

- .. TIARELLA  
Mention added.  
T. cordifolia: mention added.
- 2 RODGERSIA  
R, aesculifolia: mention added.
- 3 BERGENIA  
Key added.  
B. x media: mention removed.  
B. x schmidtii added to key and given account.
- 5 SAXIFRAGA  
Two spp. removed to Micranthes (but still all keyed together).  
Key revised.  
S. hostii: mention added.  
S. 'Arendsii' added to key and account added.
- 6 MICRANTHES  
Given genus account.  
Saxifraga nivalis => Micranthes nivalis.  
Saxifraga stellaris => Micranthes stellaris.
- 9 MITELLA  
Added to genus key and genus account added.  
M. ovalis: account added.

**43 CRASSULACEAE**

Genus key expanded and revised.

- 1 CRASSULA  
Key expanded.  
C. pubescens added to key and given account.
- 3 CHIASTOPHYLLUM  
Added to genus key and genus account added.  
C. oppositifolium: account added.
- 5 AEONIUM  
A. canariense: mention added.  
A. balsamiferum: account added.
- 6 RHODIOLA  
Added to genus key and genus account added.  
Sedum rosea => Rhodiola rosea.  
R. pachyclados: mention added.
- 7 SEDUM  
Split to Rhodiola, Sedum, Phedimus, Hylotelephium and Petrosedum.  
Key revised for additions and name changes (but all except Rhodiola still keyed together).  
S. cepaea: mention removed.  
S. mexicanum: mention removed.  
S. oreganum: mention added.  
Sedum confusum => Sedum kimnachii.
- 8 PHEDIMUS  
Genus account added.

*Sedum kamtschaticum* => *Phedimus kamtschaticus*  
*P. kamtschaticus* var. *ellacombeanus*: reference added.  
*Sedum hybridum* => *Phedimus hybridus*, added to key and given account.  
*Sedum spurium* => *Phedimus spurius*.  
*Sedum stoloniferum* => *Phedimus stoloniferus*.  
*Sedum stellatum* => *Phedimus stellatus*.

9 HYLOTELEPHIUM

Genus account added.  
*Sedum anacampseros* => *Hylotelephium anacampseros*, reduced to mention but retained in key.  
*Sedum spectabile* => *Hylotelephium spectabile*.  
*Sedum 'Herbstfreude'* => *Hylotelephium 'Herbstfreude'*.  
*Sedum telephium* => *Hylotelephium telephium*.

10 PETROSEDUM

Genus account added.  
*Sedum nicaeense* => *Petrosedum sediforme*.  
*Sedum rupestre* => *Petrosedum rupestre*.  
*Sedum forsterianum* => *Petrosedum forsterianum*.

44 HALORAGACEAE

- 1 HALORAGIS => GONOCARPUS  
*Haloragis micrantha* => *Gonocarpus micrantha*.  
2 MYRIOPHYLLUM  
*M. verrucosum*: mention removed.

45 VITACEAE

- 2 PARTHENOCISSUS  
*P. vitacea* => *P. inserta*.

46 FABACEAE

Tribe Psoraleae removed and *Cullen* reduced to mention but retained in genus key.  
Tribe Dalbergiae added and *Arachis* given genus account.  
Subfamily Caesalpinioideae and genus *Senna* removed.  
Subfamily Cercidoieae, tribe Cercideae added.

- .. CULLEN  
Reduced to mention.  
*C. americanum* reduced to mention.  
.. TETRAGONOLOBUS  
subsumed under *Lotus*.  
.. DORYCNIUM  
subsumed under *Lotus*.  
.. LENS  
Subsumed under *Vicia*.  
.. PISUM  
Subsumed under *Lathyrus*.  
.. SESBANIA  
Removed.  
.. SENNA  
Removed.  
7 ASTRAGALUS  
*A. cicer* reduced to mention but retained in key.  
*A. boeticus*: mention removed.

- 9 ARACHIS  
Added to genus key.  
A. hypogaea given account.
- 12 LOTUS  
Subsumes Lotus, Tetragonolobus and Dorycnium.  
Tetragonolobus maritimus => Lotus maritimus.  
Dorycnium rectum => Lotus rectus.  
Dorycnium pentaphyllum => Lotus dorycnium.  
Dorycnium hirsutum => Lotus hirsutus, added to key and account added.
- 14 CORONILLA  
C. scorpioides reduced to mention.
- 18 VICIA  
Split to Vicia, Ervillia and Ervum but single key retained.  
Lens culinaris => Vicia lens.
- 19 ERVILLA  
Genus account added.  
Vicia sylvatica => Ervillia sylvatica.  
Vicia hirsuta => Ervillia hirsuta.
- 20 ERVUM  
Genus account added.  
Vicia parviflora => Ervum gracile.  
Vicia tetrasperma => Ervum tetraspermum.
- 21 LATHYRUS  
L. ochrus: mention removed.  
L. vernus added to key and given account.  
Pisum sativum => Lathyrus oleraceus.
- 23 ONONIS  
O. natrix reduced to mention but retained in key.  
O. baetica reduced to mention but retained in key.  
O. mitissima reduced to mention but retained in key.  
O. alopecuroides reduced to mention but retained in key.
- 25 TRIGONELLA  
T. corniculata => T. esculenta.
- 26 MEDICAGO  
M. arborea added to key and given account.
- 27 TRIFOLIUM  
T. lappaceum reduced to mention but retained in key.  
T. cernuum reduced to mention but retained in key.
- 35 CERCIS  
Added to key.  
C. siliquastrum: account added.  
ALBIZIA => PARASERIANTHES (pro parte) but retained in key under earlier name (?)  
Albizia lophantha => Paraserianthes lophantha.

**48 ROSACEAE**

- .. STEPHANANDRA  
Subsumed in Neillia.
- .. WALDSTEINIA  
Mention added.
- 3 SPIRAEA  
S. x cinerea: mention added.  
S. x brachybotrys removed from key and reduced to mention.

Stace edition 4 changes

- 8 PRUNUS  
P. laurocerasus 'Otto Luyken': reference added.
- 11 CHAENOMELES  
C. x superba given account.  
Notes on cultivars added to all species accounts.
- 12 PYRUS  
P. salicifolia added to key and given account.
- 13 MALUS  
M. tschonoskii: mention added.  
M. x robusta: mention removed.  
M. pumila => M. domestica.  
M. baccata added to key and given account.  
M. floribunda added to key and given account.
- 14 SORBUS  
S. vilmorinii: mention added.  
S. aucuparia x S. minima: reference added.  
S. x proctoris => S. x proctoriana.  
S. austriaca added to key and account added.  
S. aria x S. eminentiformis: reference added.  
S. herefordensis added to key and account added.  
S. richii added to key and account added.  
S. porrigentiformis x S. torminalis: reference added.  
S. evansii added to key and account added.  
S. greenii added to key and account added.  
S. spectans added to key and account added.  
S. arvonicola added to key and account added.  
S x tomentella => S. x decipiens.  
S. decipiens => S. sellii.
- 15 ARONIA  
A. x prunifolia given account.
- 16 STRANVAESIA => PHOTINIA  
P. x fraseri: mention added. (Many records of P. davidiana may be this.)  
Stranvaesia davidiana => Photinia davidiana.
- 17 COTONEASTER  
C. salicifolius cv. 'Rothschildianus': reference added.  
C. brickellii added to key and account added.  
C. turbinatus added to key and account added.  
C. vestitus added to key and account added.  
C. procumbens added to key and account added.  
C. ambiguus added to key and account added.  
C. pseudoobscurus added to key and account added.  
C. qungbixiensis added to key and account added.
- 18 PYRACANTHA  
P. crenulata: mention added.  
P. crenatoserrata: mention added.  
P. coccinea x rogersiana given account.
- 21 CRATAEGUS  
C. punctata: mention removed.  
C. mollis: mention added.  
C. pedicellata in key corrected to C. coccinea.  
C. x lavalleyi added to key and account added.  
C. rhipidophylla ssp. rhipidopylla: account added.  
C. rhipidophylla ssp. lindmanii: account added.



- 22 FILIPENDULA  
'F. rubra': mention added.
- 23 RUBUS  
R. saxatilis x R. caesius: reference added.  
R. x knappianus: account added.
- 24 POTENTILLA  
Dasiphora split off.  
P. rivalis reduced to mention but retained in key.  
P. nepalensis: mention added.  
P. tabernaemontani => P. verna
- 25 DASIPHORA  
Potentilla fruticosa => Dasiphora fruticosa  
Dasiphora davurica: mention added.
- 29 GEUM  
G. x convallis: account added.
- 34 ACAENA  
A. pusilla => A. anserinifolia ssp. pusilla.
- 35 ALCHEMILLA  
Key expanded.  
A. acutidens added to key and account added.  
A. venosa added to key and account added.
- 37 ROSA  
R. arvensis x R. corymbifera takes on the binomial R. x deseglisii with the raising of 'R. canina Group Pubescentes' to species R. corymbifera.  
R. arvensis x R. squarrosa: reference added.  
R. arvensis x R. vosagiaca: reference added.  
R. spinosissima x R. canina (s.s.) becomes R. x grovesii.  
R. spinosissima x R. corymbifera takes on the binomial R. x hibernica.  
R. spinosissima x R. vosagiaca: reference added.  
R. ferruginea => R. glauca.  
R. x rufescens: reference added.  
R. stylosa x R. squarrosa: reference added.  
R. stylosa x R. vosagiaca: reference added.  
R. canina: circumscription restricted to 'groups Lutetianae and Transitoriae'.  
R. x semiglabra: reference added.  
R. x insignis: reference added.  
R. x dumalis => R. x subcollina (with a query).  
R. canina 'group Pubescentes' => R. corymbifera: added to key and given account.  
R. x hemitricha: reference added.  
R. corymbifera x R. caesia: reference added, with query.  
R. corymbifera x R. vosagiaca: reference added.  
R. corymbifera x R. tomentella: reference added.  
R. x aberrans: reference added.  
R. corymbifera x R. sherardii: reference added.  
R. corymbifera x R. mollis: reference added.  
R. corymbifera x R. agrestis: reference added.  
R. canina 'group Dumales' => R. squarrosa: added to key and given account.  
R. squarrosa x R. vosagiaca => R. x dumalis: reference added.  
R. squarrosa x R. tomentosa: reference added.  
R. caesia ssp. caesia => R. caesia.  
R. caesia ssp. vosagiaca => R. vosagiaca: added to key and given account.  
R. x implexa: reference added.  
R. x bakeri: reference added.

R. caesia x R. obtusifolia => R. vosagiaca x R. tomentella.  
R. caesia x R. tomentosa => R. vosagiaca x R. tomentosa (with a query).  
R. vosagiaca x R. sherardii: reference added, with query.  
R. vosagiaca x R. mollis: reference added.  
R. vosagiaca x R. rubiginosa: reference added, with query.  
R. x longicolla: reference added.  
R. obtusifolia => R. tomentella.  
R. villosa added to key and account added.  
R. x bigeneris => R. x gremlii.

**51 ULMACEAE**

1 ULMUS

U. wallichiana: mention added.  
U. x hollandica 'Dampieri': reference added.  
U. minor ssp. cornubiensis added to subspecies key and account.

**54 URTICACEAE**

1 URTICA

U. membranacea added to key and given account.

**55 NOTHOFAGACEAE**

1 NOTHOFAGUS

Key added.  
N. dombeyi keyed and given account.

**56 FAGACEAE**

1 FAGUS

F. orientalis: mention added.  
F. moesiaca: mention added.

3 QUERCUS

Key expanded.  
Q. coccinea added to key and given account.

**59 BETULACEAE**

1 BETULA

B. populifolia reduced to mention but retained in key.  
B. lenta: mention added.  
B. pubescens: subspecies key added.  
B. pubescens ssp. celtiberica: keyed and account added.

2 ALNUS

Key expanded.  
A. x elliptica: reference added.  
A. viridis added to key and given account.

**60 CUCURBITACEAE**

3 CUCUMIS

C. myriocarpus: mention removed.

**64 HYPERICACEAE**

1 HYPERICUM

Key expanded.  
H. x hidcoteense added to key and given account.  
H. olympicum added to key and given account.

H. perforatum x H. undulatum: reference added.  
H. x caesariense: account added.

**66 VIOLACEAE**

1 VIOLA

V. canina ssp. montana => V. canina ssp. ruppii.  
V. persicifolia => V. stagnina.  
V. tricolor given ssp. key.  
V. tricolor ssp. saxatilis added to key and given account.

**67 PASSIFLORACEAE added.**

1 PASSIFLORA

P. caerulea: account added.

**68 SALICACEAE**

1 POPULUS

Key revised.  
P. 'Balsam Spire' => P. x hastata

2 SALIX

Key revised.  
S. babylonica: mention extended to note f. pekinensis 'Tortuosa'.  
S. fragilis => S. euxina.  
S. triandra x S. purpurea removed.  
S. purpurea x S. viminalis x S. caprea x S. cinerea removed.  
S. x lintonii removed.  
S. x strepida => S. x puberula.  
S. aurita x S. arbuscula: reference added.

**69 EUPHORBIACEAE**

3 EUPHORBIA

Key expanded.  
E. myrsinites: mention added.  
E. mellifera added to key and given account.  
E. x gayeri reduced to reference but retained in key.  
E. x pseudolucida: reference added.

**70 LINACEAE**

.. RADIOLA

Subsumed in Linum.

1 LINUM

Key expanded.  
L. grandiflorum added to key and account added.  
Radiola linoides => Linum radiola and added to Linum key.

**71 GERANIACEAE**

Genus key expanded.

.. MONSONIA

Reduced to mention but retained in genus key.  
M. brevirostrata reduced to mention.

1 GERANIUM

Key re-organised and expanded.  
G. procurrans: mention added.

- 2 G. dalmaticum added to key and account added.  
ERODIUM  
E. chium reduced to mention but retained in key.  
E. lebelii => E. aethiopicum.
- 3 PELARGONIUM  
Added to genus key, and genus account added.  
P. x hybridum given mention.  
P. tomentosum given account.  
P. inodorum: account added.

**73 ONAGRACEAE**

- 1 EPILOBIUM  
E. brachycarpum added to key and account added.
- 2 CHAMERION => CHAMAENERION.  
Chamerion dodonaei => Chamaenerion dodonaei.  
Chamerion angustifolium => Chamaenerion angustifolium.
- 3 LUDWIGIA  
L. grandiflora ssp. hexapetala: reference added.
- 4 OENOTHERA  
O. rubricaulis: mention removed.  
O. grandiflora: mention removed.  
O. renneri => O. villosa.

**77 SAPINDACEAE**

- 3 ACER  
Key expanded.  
A. pseudoplatanus var. villosum => A. villosum  
A. palmatum added to key and account added.

**78 RUTACEAE**

- Genus key added.
- 2 CORREA  
Added to genus key.  
Given genus account.  
C. backhouseana given account.
- 3 RUTA  
Added to genus key.  
Given genus account.  
R. graveolens given account.

**80 MALVACEAE**

- Genus key expanded.
- .. SIDA  
Reduced to mention but retained in genus key.  
S. spinosa reduced to mention.  
S. rhombifolia reduced to mention.
- 1 ANODA  
Added to genus key and given genus account.  
A. cristata: given account.
- 3 MALVA  
M. preissiana reduced to mention but retained in key.  
M. nicaeensis reduced to mention but retained in key.  
M. moschata x M. alcea: reference added.

- M. pseudolavatera => M. multiflora.  
9 TILIA  
Key enhanced.  
T. americana: mention added.  
T. tomentosa added to key and given account.  
T. 'Petiolaris' referred to T. tomentosa.  
T. x euchlora added to key and given account.

**82 CISTACEAE**

- 1 TUBERARIA  
T. lignosa: account added.

**83 TROPAEOLACEAE**

- 1 TROPAEOLUM  
Key added.  
T. peregrinum given account.

**86 CLEOMACEAE**

- 1 CLEOME => TARENAYA  
Cleome sesquiorgyalis => Tarenaya hassleriana

**87 BRASSICACEAE**

- Genus key expanded.  
.. CARRICHTERA  
Mention removed.  
.. ERUCARIA  
Mention removed.  
.. CALEPINA  
Mention added.  
C. irregularis: mention added.  
1 ERYSIMUM  
Key expanded.  
E. rhaeticum: mention added.  
E. linifolium: mention added.  
E. repandum added to key and given account.  
4 NESLIA  
N. apiculata: mention removed.  
12 LEPIDIUM  
Key expanded.  
L. divaricatum reduced to mention but retained in key.  
L. heterophyllum ssp. smithii: reference added.  
L. densiflorum added to key and given account.  
21 ARABIS  
Key expanded.  
A. procurrens added to key and account added.  
23 DRABELLA  
Split from Draba, added to genus key and genus account added.  
Draba muralis => Drabella muralis.  
24 DRABA  
Key reduced.  
D. muralis removed to Drabella.  
28 BRASSICA  
B. oleraceus x B. napus: reference added.

- 29 SINAPIS  
S. flexuosa: mention removed.
- 31 ERUCASTRUM  
E. nasturtiifolium: mention added.
- 51 COCHLEARIA  
C. acaulis reduced to mention but retained in key.

**91 PLUMBAGINACEAE**

- .. CERATOSTIGMA  
Mention added.  
C. willmottianum: mention added.
- 2 ARMERIA  
A. maritima ssp. miscella: mention added.

**92 POLYGONACEAE**

- Bistorta, Reynoutria added.  
Genus key revised in light of generic changes.
- 1 PERSICARIA  
Key reduced in line with species reattribution.  
Five species and one hybrid transferred to Koenigia.  
Three species transferred to Bistorta.
- 2 KOENIGIA  
Key added to deal with species reattribution.  
Persicaria alpina => Koenigia alpina.  
Persicaria x fennica => Koenigia x fennica.  
Persicaria campanulata => Koenigia campanulata.  
Persicaria weyrichii => Koenigia weyrichii.  
Persicaria mollis => Koenigia mollis.  
Persicaria wallichii => Koenigia polystachya.
- 3 BISTORTA  
Added to genus key and given genus account.  
Persicaria bistorta => Bistorta officinalis.  
Persicaria amplexicaulis => Bistorta amplexicaulis.  
Persicaria vivipara => Bistorta vivipara.  
Bistorta affinis keyed and account added.
- 4 FAGOPYRUM  
Key added.  
F. dibotrys => F. cymosum.  
F. tataricum keyed and given account.
- 5 POLYGONUM  
P. arenastrum => P. depressum.  
P. depressum subsumes P. microspermum, P. arenastrum, P. denudatum, P. parvulum, P. polycnemiforme as treated in Sell & Murrell.  
P. aviculare subsumes P. aviculare, P. chamechyton, P. neolittorale, P. agrestinum, P. monspeliense as treated in Sell & Murrell.  
P. patulum => P. bellardii.
- 6 FALLOPIA  
Split into Fallopia and Reynoutria.  
Key reduced.
- 6x8 X REYLLLOPIA  
Added.  
Fallopia x conollyana => X Reyllopiya conollyana.

- 8 REYNOUTRIA  
Added, with key.  
Fallopia japonica => Reynoutria japonica.  
R. japonica var. japonica: reference added.  
Fallopia x bohemica => Reynoutria x bohemica.  
Fallopia sachalinensis => Reynoutria sachalinensis.
- 10 RUMEX  
R. brownii reduced to mention but retained in key.  
R. subalpinus: mention added.  
R. frutescens => R. cuneifolius.  
R. patientia ssp. patientia: reference added.  
R. crispus ssp. robustus: account added but not keyed.  
R. crispus ssp. strictissimus: mention added.  
R. crispus x R. rupestris given binomial R. x celticus.  
R. x kloosii: reference added.

**93 DROSERACEAE**

- 1 DROSERA  
D. x belezeana => D. x eloisiana.

**94 CARYOPHYLLACEAE**

- Myosoton sunk in Stellaria.  
Minuartia split to Minuartia, Sabulina and Cherleria.  
Genus key revised to reflect genus changes.
- .. TELEPHIUM  
Mention removed.
- .. MYOSOTON  
Sunk in Stellaria.
- 4 MINUARTIA  
Four spp. removed to Sabulina.  
One sp. removed to Cherleria.  
Key removed.
- 5 SABULINA  
Added to genus key and genus account added.  
Key added.  
Minuartia verna => Sabulina verna.  
Minuartia rubella => Sabulina rubella.  
Minuartia stricta => Sabulina stricta.  
Minuartia hybrida => Sabulina tenuifolia.
- 6 CHERLERIA  
Added to genus key and genus account added.  
Minuartia sedoides => Cherleria sedoides.
- 7 STELLARIA  
Key expanded.  
Myosoton aquaticum => S. aquatica.
- 20 SILENE  
Key expanded.  
S. muscipula added to key and given account.  
S. dichotoma added to key and given account.
- 23 GYPSOPHILA  
G. elegans reduced to mention.
- 24 PETRORHAGIA  
Key error corrected.

**95 AMARANTHACEAE**

Chenopodium split to Chenopodium, Lipandra, Chenopodiastrum, Oxybasis and Blitum (but single key retained).

.. AXYRIS

Mention removed.

1 ATRIPLEX

A. suberecta reduced to mention but retained in key.

A. prostrata x A. patula: account added.

A. longipes x A. littoralis: mention added.

2 CHENOPODIUM

One species removed to Lipandra.

Two species removed to Chenopodiastrum.

Four species removed to Oxybasis.

Two species removed to Blitum.

Single key retained.

C. hircinum reduced to mention but retained in key.

C. nitrariaceum reduced to mention but retained in key.

3 LIPANDRA

Genus account added.

Chenopodium polyspermum => Lipandra polysperma.

4 CHENOPODIASTRUM

Genus account added.

Chenopodium hybridum => Chenopodiastrum hybridum.

Chenopodium murale => Chenopodiastrum murale.

5 OXYBASIS

Genus account added.

Chenopodium glaucum => Oxybasis glauca.

Chenopodium rubrum => Oxybasis rubra.

Chenopodium chenopodioides => Oxybasis chenopoioides.

Chenopodium urbicum => Oxybasis urbica.

6 BLITUM

Genus account added.

B. virgatum: mention. added.

Chenopodium capitatum => Blitum capitatum.

Chenopodium bonus-henricus => Blitum bonus-henricus.

7 DYSPHANIA

D. multifida reduced to mention but retained in key.

D. carinata reduced to mention but retained in key.

D. cristata reduced to mention but retained in key.

D. pumilio reduced to mention but retained in key.

D. x christii reduced to mention.

D. x bontei reduced to mention.

D. botrys added to key and given account.

13 SALICORNIA

S. pusilla => S. disarticulata.

S. disarticulata x S. ramosissima given binomial S. x marshallii.

15 SALSOLA

S. kali ssp. kali => S. kali.

S. kali ssp. tragus => S. tragus.

16 AMARANTHUS

A. crispus remains as mention but added to key.

A. standleyanus reduced to mention but retained in key.



- A. capensis reduced to mention but retained in key.
- A. quitensis reduced to mention but retained in key.
- A. viridis remains as mention but added to key.

**96 AIZOACEAE**

- .. MESEMBRYANTHEMUM  
Mention removed.
- 2 DROSANTHEMUM  
D. candens: mention removed.
- 6 DISPHYMA  
D. australe: mention removed.

**97 PHYTOLACCACEAE**

- 1 PHYTOLACCA  
Key added.  
P. americana added to key and given account.

**101 HYDRANGEACEAE**

- 3 HYDRANGEA  
H. petiolaris reduced to mention.

**102 CORNACEAE**

- 1 CORNUS  
Key expanded.  
C. canadensis added to key and account added.

**103 BALSAMINACEAE**

- 1 IMPATIENS  
I. walleriana: mention added.

**104 POLEMONIACEAE**

- Genus key expanded.
- 2 GILIA  
Added to genus key and given genus account.  
G. capitata given account.

**105 PRIMULACEAE**

- Glaux, Anagallis, Trientalis and Centunculus subsumed into Lysimachia.  
Genus key reduced to reflect changes.
- .. GLAUX  
Subsumed in Lysimachia.
- .. ANAGALLIS  
Subsumed in Lysimachia.
- .. TRIENTALIS  
Subsumed in Lysimachia.
- .. CENTUNCULUS  
Subsumed in Lysimachia.
- 1 PRIMULA  
P. bulleyana: mention added.  
P. denticulata added to key and given account.
- 2 LYSIMACHIA  
Subsumes Lysimachia, Glaux, Anagallis, Trientalis and Centunculus.  
Key expanded.

*Glaux maritima* => *Lysimachia maritima*.  
*Centunculus minimus* => *Lysimachia minima*.  
*Anagallis tenella* => *Lysimachia tenella*.  
*Anagallis arvensis* ssp. *arvensis* => *Lysimachia arvensis*.  
*Anagallis x doerfleri* => *Lysimachia x doerfleri*.  
*Anagallis arvensis arvensis* ssp. *foemina* => *Lysimachia foemina*.  
*Trientalis europaea* => *Lysimachia europaea*.  
*Trientalis borealis* => *Lysimachia borealis*.

4 CYCLAMEN

Key expanded.  
*C. graecum* added to key and given account.

**107 SARRACENIACEAE**

1 SARRACENIA

*S. flava* given account.

**108 ERICACEAE**

.. PIERIS

*P. formosa*: mention added.

4 RHODODENDRON

Key expanded.  
*R. x superponticum* added to key and account added.

9 ERICA

Key expanded.  
*E. carnea* added to key and given account.

**110 RUBIACEAE**

.. NERTERA

Reduced to mention but retained in genus key.

5 GALIUM

Key expanded.  
*G. murale* added to key and given account.  
*G. parisiense* var. *leiocarpum*: reference added.  
*G. parisiense* var. *parisiense*: reference added.

**111 GENTIANACEAE**

3 CENTAURIUM

*C. scilloides* => *C. portense*.  
*C. latifolium* => *C. erythraea* var. *latifolium*  
*C. erythraea* x *C. littorale* given the binomial *C. x ubsdellii*  
*C. tenuiflorum*: Br plants now referred to ssp. *anglicum*.

5 GENTIANELLA

Key reduced through demotion of two spp. to subspecies.  
*G. amarella*: subspecies key expanded.  
*G. anglica* => *G. amarella* ssp. *anglica*.  
*G. uliginosa* => *G. amarella* ssp. *occidentalis*.

**113 HYDROPHYLLACEAE**

Split from Boraginaceae.

1 PHACELIA

Added to genus key.  
*P. ciliata*: mention removed.

- 2 NEMOPHILA  
Added to genus key and given genus account.  
N. menziesii: given account.

**114 BORAGINACEAE**

Phacelia and Nemophila removed to Hydrophyllaceae.  
Cerinthe added.

Lithospermum split to Lithospermum, Aegonychon and Buglossoides.

Anchusa split to Anchusa and Lycopsis.

Genus key expanded.

- .. ASPERUGO  
Reduced to mention but retained in genus key.  
A. procumbens reduced to mention.
- .. HELIOTROPIUM  
Mention removed.
- 1 LITHOSPERMUM  
Loses one species each to Aegonychon and Buglossoides.  
Key removed.
- 2 AEGONYCHON  
Added to genus key and given genus account.  
Lithospermum purpureocaeruleum => Aegonychon purpureocaeruleum.
- 3 BUGLOSSOIDES  
Added to genus key and given genus account.  
Lithospermum arvense => Buglossoides arvensis.
- 4 ECHIUM  
Key expanded.  
E. rosulatum added to key and given account.
- 5 CERINTHE  
Added to genus key and genus account added.  
C. major: account added.
- 9 ANCHUSA  
Loses one sp. to Lycopsis.  
Key reduced.
- 10 LYCOPSIS  
Added to genus key and given genus account.  
Anchusa arvensis => Lycopsis arvensis.
- 11 NONEA  
Added to genus key and given genus account.  
N. rosea: mention removed.  
N. lutea given account.
- 18 MERTENSIA  
M. virginica: mention removed.  
M. ciliata: mention removed.
- 19 MYOSOTIS  
M. secunda x M. stolonifera given binomial M. x bollandica.  
M. discolor ssp. discolor and ssp. dubia given fuller treatment.
- 22 CYNOGLOSSUM  
Key added.  
C. amabile added to key and given account.

**115 CONVOLVULACEAE**

- 1 CONVOLVULUS  
C. tricolor given account.

- 3 IPOMOEA  
Key expanded.  
I. lacunosa reduced to mention but retained in key.  
I. batatas added to key and given account.
- 4 CUSCUTA  
C. australis: mention removed.  
C. suaveolens: mention removed.

**116 SOLANACEAE**

Physalis split to Physalis and Alkekengi.

Genus key expanded to reflect above.

- 7 PHYSALIS  
One species removed to Alkekengi.  
Key revised and expanded.  
P. pubescens added to key and given account.  
P. angulata added to key and given account.
- 8 ALKEKENGI  
Added to genus key.  
Physalis alkekengi => Alkekengi officinarum.
- 10 SOLANUM  
Key expanded.  
S. pygmaeum: mention removed.  
S. abutiloides: mention removed.  
S. americanum: mention removed.  
S. physalifolium (var. nitidibaccatum) => S. nitidibaccatum.  
S. sarachoides => S. sarrachoides.  
S. diflorum => S. pseudocapsicum, added to key and given account.
- 11 NICOTIANA  
N. goodspeedii: mention removed.

**117 OLEACEAE**

- 1 FORSYTHIA  
F. suspensa given account.
- 5 LIGUSTRUM  
Key removed.  
L. x vicaryi => L. ovalifolium 'Vicaryi' and reduced to reference.

**120 VERONICACEAE**

- 3 VERONICA  
V. austriaca ssp. teucrium => V. teucrium

**124 SCROPHULARIACEAE**

Genus key expanded.

- 1 VERBASCUM  
V. sinuatum: mention removed.  
V. x brockmuelleri: reference added.  
V. nigrum x V. speciosum given binomial V. x angulosum.
- 2 SCROPHULARIA  
Key expanded.  
S. peregrina added to key and account added.
- 4 SUTERA => CHAENOSTOMA  
Sutera cordata => Chaenostoma cordatum.

- 5 NEMESIA  
Added to genus key and given genus account.  
N. denticulata: mention added.  
N. strumosa given account.

**125 ACANTHACEAE**

Strobilanthes added.

Genus key added.

- 2 STROBILANTHES  
Keyed and genus account added.  
S. pentastemonoides: account added.

**127 VERBENACEAE**

- 1 VERBENA  
Key expanded.  
V. x hybrida added to key and given account.

**128 LAMIACEAE**

- .. SIDERITIS  
Mention removed.
- 9 PHLOMIS  
P. samia: mention removed.
- 19 CLINOPODIUM  
C. calamintha => C. nepeta.
- 22 THYMUS  
Key expanded.  
T. x citriodorus => T. x carolipauli, added to key and given account.  
T. polytrichus => T. drucei.

**129 PHRYMACEAE**

- 1 MIMULUS => ERYTHRANTHE  
Key expanded.  
Mimulus moschatus => Erythranthe moschata.  
Mimulus guttatus => Erythranthe guttata.  
Mimulus guttatus x (Mimulus luteus x Mimulus cupreus) => Erythranthe guttata x (Erythranthe lutea x Erythranthe cuprea).  
Mimulus x robertsii => Erythranthe x robertsii.  
Erythranthe peregrina added to key and account added.  
Mimulus x burnetii => Erythranthe x burnetii  
Mimulus luteus => Erythranthe lutea.  
Mimulus variegatus => Erythranthe variegata.  
Mimulus x smithii => Erythranthe x smithii.  
Mimulus x maculosus => Erythranthe x maculosa.

**131 OROBANCHACEAE**

Orobanche split to Orobanche and Phelipanche.

- 2 EUPHRASIA  
E. septentrionalis: mention added.  
E. officinalis x E. tetraquetra: reference added.  
E. notata => E. x notata and given reference.  
E. rivularis x E. scottica: reference added.  
E. arctica x E. pseudokernerii: reference added.  
E. arctica x E. campbelliae: reference added.

- E. tetraquetra x E. salisburgensis: reference added.
- E. confusa x E. marshallii: reference added.
- E. foulaensis x E. ostenfeldii: reference added.
- E. foulaensis x E. campbelliae: reference added.
- E. rhumica => E. x rhumica.
- E. marshallii x E. heslop-harrisonii: reference added.
- 9 OROBANCHE  
Two spp. moved to Phelipanche.  
Key reduced.
- 10 PHELIPANCHE  
Added to genus key and genus account added.  
Orobanche ramosa => Phelipanche ramosa.  
Orobanche purpurea => Phelipanche purpurea.

### 133 CAMPANULACEAE

- .. DOWNINGIA  
Reduced to mention but retained in genus key.  
D. elegans: reduced to mention.
- 1 CAMPANULA  
Key enlarged.  
C. garganica added to key and account added.
- 8 PRATIA  
P. pedunculata: account added.

### 135 ASTERACEAE

- Tribe and genus ordering changed.
- Acroptilon => Rhaponticum.
- Arctotis added.
- Filago split to Filago and Logfia.
- Gnaphalium split to Omalotheca, Gnaphalium, Gamochaeta, Pseudognaphalium and Laphangium.
- Helichrysum split to Helichrysum and Xerochrysum.
- Inula split to Inula and Limbarda.
- Solidago split to Solidago, Euthamia.
- Aster split to Symphyotrichum, Aster, Eurybia, Galatella and Tripolium.
- Felicia added.
- Anthemis split into Anthemis and Cota.
- Senecio split to Senecio and Jacobaea (but remain keyed together).
- Iva => Euphrosyne.
- Genus keys revised and expanded.
- .. TOLPIS  
Removed.
- .. RHAGADIOLUS  
Removed.
- .. CNICUS  
Removed.
- .. MANTISALCA  
Removed.
- .. SPILANTHES  
Removed.
- .. VERBESINA  
Removed.
- .. ONCOSIPHON  
Removed.

Stace edition 4 changes

- .. ANACYCLUS  
Removed.
- .. MADIA  
Removed.
- .. HEMIZONIA  
Removed.
- .. AETHEORHIZA  
Reduced to mention but retained in genus keys.
- .. HEDYPNOIS  
Reduced to mention but retained in genus keys.  
H. cretica => H. rhagadioloides.
- .. GEROPOGON  
Reduced to mention but retained in genus keys.  
G. glaber => G. hybridus.
- .. CALOTIS  
Reduced to mention but retained in genus keys.
- .. SCHKURIA  
Reduced to mention but retained in genus keys.
- .. TELEKIA  
Subsumed into Bupthalmum.
- .. CONYZA  
Subsumed into Erigeron.
- .. SOLIVA  
Subsumed into Cotula.
- 3 ARCTIUM  
A. x ambiguum: given reference.  
A. tomentosum added to key and given account.
- 5 CARDUUS  
C. macrocephalus: mention removed.  
C. thoermeri: mention removed.
- 6 CIRSIUM  
C. erisithales: reduced to mention but retained in key.  
C. x lanseriae: reference added.
- 7 GALACTITES  
Added to keys and given genus account.  
G. tomentosus given account.
- 8 ONOPORDUM  
O. nervosum reduced to mention.
- 12 RHAPONTICUM  
Acroptilon repens => Rhaponticum repens.
- 13 CENTAUREA  
C. melitensis reduced to mention but retained in key.  
C. hyalolepis: mention removed.
- 16 CICHORIUM  
C. endivia given account.
- 25 SCORZONERA  
S. hispanica given account.
- 33 PILOSELLA  
P. x acutifolia: reference added.
- 34 HIERACIUM  
Sect. Villosa added to key and account added.  
H. villosum: reference added.

- 36 ARCTOTIS  
Added to genus key and genus account added.  
A. stoechadifolia: mention added.  
A. aspera: account added.
- 38 FILAGO  
Two spp. moved to Logfia.  
Key reduced.  
F. vulgaris => F. germanica.
- 39 LOGFIA  
Added to genus key and genus account added.  
Filago minima => Logfia minima.  
Filago gallica => Logfia gallica.
- 42 OMALOTHECA  
Added to genus key and genus account added.  
Gnaphalium norvegicum => Omalotheca norvegica.  
Gnaphalium sylvaticum => Omalotheca sylvatica.  
Gnaphalium supinum => Omalotheca supina.
- 43 GNAPHALIUM  
Three spp. moved to Omalotheca.  
One sp. moved to Gamochaeta.  
One sp. moved to Pseudognaphalium.  
One sp. moved to Laphangium.  
Key removed.
- 44 GAMOCHAETA  
Added to genus key and genus account added.  
Gnaphalium purpureum => Gamochaeta purpurea.
- 45 PSEUDOGNAPHALIUM  
Added to genus key and genus account added.  
Gnaphalium undulatum => Pseudognaphalium undulatum.
- 46 LAPHANGIUM  
Added to genus key and genus account added.  
Gnaphalium luteoalbum => Laphangium luteoalbum,
- 47 HELICHRYSUM  
Key added.  
One sp. lost to Xerochrysum.  
H. italicum: added to key and given account.
- 48 XEROCHRYSUM  
Added to genus key and genus account added.  
Helichrysum bracteatum => Xerochrysum bracteatum.
- 50 INULA  
One sp. moved to Limbarda.  
Key revised.  
I. orientalis added to key and account added.
- 51 LIMBARDA  
Added to genus key and genus account added.  
Inula crithmoides => Limbarda crithmoides.
- 54 BUPHTHALMUM  
Added to genus key (replacing Telekia) and genus account added.  
Telekia speciosa => Buphthalmum speciosum.  
B. salicifolium: given account.
- 56 SOLIDAGO  
One sp. moved to Euthamia.  
Key revised.



- S. canadensis ssp. canadensis: account removed.  
S. canadensis ssp. altissima: account removed.  
S. canadensis var. hargeri: reference added.  
S. sempervirens added to key and account added.
- 57 EUTHAMIA  
Added to genus key and genus account added.  
Solidago graminifolia => Euthamia graminifolia.
- 58 SYMPHYOTRICHUM  
Added to genus key and genus account added.  
Key derived from former Aster and revised.  
Aster dumosus => Symphyotrichum dumosum.  
Aster novae-angliae => Symphyotrichum novae-angliae.  
Aster puniceus => Symphyotrichum puniceum, added to key and given account.  
Aster laevis => Symphyotrichum laeve.  
Aster concinnus => Symphyotrichum laeve var. concinnum.  
Aster x versicolor => Symphyotrichum x versicolor.  
Aster novi-belgii => S. novi-belgii.  
Aster x salignus => Symphyotrichum x salignum.  
Aster lanceolatus => Symphyotrichum lanceolatum.  
Aster pilosus => Symphyotrichum pilosum.  
Aster squamatus => Symphyotrichum squamatum.
- ASTER  
.. Given mention under Symphyotrichum.  
A. amellus given mention under Symphyotrichum.
- .. EURYBIA  
Given mention under Symphyotrichum.  
E. schreberi given mention under Symphyotrichum.
- 59 GALATELLA  
Added to genus key and genus account added.  
Aster sedifolius => Galatella sedifolia.  
Aster linosyris => Galatella linosyris.
- 60 TRIPOLIUM  
Aster tripolium => Tripolium pannonicum.
- 61 CHRYSOCOMA  
C. tenuifolia reduced to mention.
- 62 ERIGERON  
Subsumes Erigeron and Conyza.  
Key expanded.  
E. speciosus added to key and given account.  
X Conyzigeron huelsenii => Erigeron x huelsenii.  
E. x stanleyi: account added.  
Conyza canadensis => Erigeron canadensis.  
Conyza canadensis x Conyza bonariensis given binomial Erigeron x foucaudii.  
Conyza floribunda => Erigeron floribundus.  
Conyza sumatrensis => Erigeron sumatrensis.  
Conyza bonariensis => Erigeron bonariensis.
- 63 FELICIA  
Added to genus key and genus account added.  
F. bergeriana: account added.
- 71 ACHILLEA  
Key revised.  
A. ligustica reduced to mention but retained in key.  
A. millefolium ssp. sudetica: reference added.

- 73 A. nobilis added to key and given account.  
ANTHEMIS  
Two spp. moved to Cota.  
Key reduced.
- .. X TRIPLEUROTHEMIS => X ANTHEPLEUROSPERMUM
- 74 COTA  
Added to genus key and genus account added.  
Anthemis tinctoria => Cota tinctoria.  
Anthemis austriaca => Cota austriaca.
- 75 ISMELIA  
Added to genus key and genus account added.  
I. carinata given account.
- 82 COTULA  
Subsumes Cotula and Soliva.  
Key expanded.  
C. turbinata: mention removed.  
C. alpina added to key and account added.  
Soliva pterosperma => Cotula sessilis.
- 83 SENECIO  
Split into Senecio and Jacobaea (but keyed together).  
S. x subnebrodensis => S. x londinensis.
- 84 JACOBAEA  
Genus account added.  
Senecio cinerea => Jacobaea maritima.  
Senecio x albescens => Jacobaea x albescens.  
Senecio x thuretii => Jacobaea x thuretii.  
Senecio jacobaea => Jacobaea vulgaris.  
Senecio x ostenfildii => Jacobaea x ostenfildii.  
Senecio aquaticus => Jacobaea aquatica.  
Senecio aquaticus ssp. aquaticus => Jacobaea aquatica ssp. aquatica.  
Senecio aquaticus ssp. ornatus => Jacobaea aquatica ssp. ornata.  
Senecio erucifolius => Jacobaea erucifolia.  
Senecio paludosus => Jacobaea paludosa.
- 93 PETASITES  
P. japonicus x P. pyrenaicus: reference added.  
P. fragrans => P. pyrenaicus.
- 98 IVA => EUPHROSYNE  
Replaces Iva in genus key.  
Iva xanthiifolia => Euphrosyne xanthiifolia.
- 100 RUDBECKIA  
R. fulgida: mention added.
- 102 GUIZOTIA  
G. scabra: mention added.
- 103 SIGESBECKIA  
S. orientalis reduced to mention.
- 106 COREOPSIS  
C. tinctoria given account.
- 111 HELENIUM  
H. autumnale => H. x clementii.
- 136 ESCALLONIACEAE**
- 1 ESCALLONIA  
E. macrantha => E. rubra var. macrantha.

*E. x langleyensis* given account.

**137 ADOXACEAE**

Gains *Sambucus* and *Viburnum* from Caprifoliaceae.

Genus key added.

2 SAMBUCUS

Transferred from Caprifoliaceae.

3 VIBURNUM

Transferred from Viburnum.

*V. davidii*: mention added.

*V. bodnantense*: mention added.

**138 CAPRIFOLIACEAE**

Loses *Sambucus* and *Viburnum* to Adoxaceae.

.. ABELIA

Mention added.

*A. x grandiflora*: mention added.

5 LONICERA

*L. x purpusii*: mention added.

**140 DIPSACACEAE**

2 CEPHALARIA

*C. syriaca*: mention removed.

3 KNAUTIA

*K. macedonica*: mention added.

**143 ARALIACEAE**

1 HEDERA

*H. x sepulcralis*: reference added.

**145 APIACEAE**

Genus ordering radically changed.

X *Beruladium* added.

*Helosciadium* added.

*Melanoselinum* added.

*Visnaga* added.

Genus key expanded.

.. BIFORA

Removed.

3 ERYNGIUM

Key expanded.

*E. x tripartitum*: mention removed.

*E. variifolium* added to key and account added.

8x9 X BERULADIUM

Added.

X *B. procurrens*: reference added.

9 HELOSCIADIUM

Split from *Apium*.

Added to genus key, and genus account added.

*Apium nodiflorum* => *Helosciadium nodiflorum*.

*Apium nodiflorum x Apium repens* => *Helosciadium nodiflorum x Helosciadium repens*.

*Apium x moorei* => *Helosciadium x moorei*.

*Apium repens* => *Helosciadium repens*.

- 19 Apium inundatum => Helosciadium inundatum.  
TORILIS  
T. leptophylla: mention removed.
- 20 CAUCALIS  
Added to genus key and given genus account.  
C. platycarpus given account.
- 22 MELANOSELINUM  
Added to genus key and genus account added.  
M. decipiens: account added.
- 23 DAUCUS  
D. glochidiatus reduced to mention.
- 24 PIMPINELLA  
Key added.  
P. peregrina keyed and account added.
- 33 SISON  
Petroselinum segetum => Sison segetum.
- 35 CARUM  
C. verticillatum goes to Trocdaris.
- 36 TROCDARIS  
Added to genus key and genus account added.  
C. verticillatum => Trocdaris verticillata.
- 39 APIUM  
Three spp. removed to Helosciadium.  
A. leptophyllum: mention removed.
- 40 AMMI  
One sp. removed to Visnaga.
- 42 PETROSELINUM  
One sp. removed to Sison.
- 44 FOENICULUM  
F. vulgare cv. Purpureum: mention added.
- 46 VISNAGA  
Added to genus key and genus account added.  
Ammi visnaga => Visnaga daucoides.
- 53 THYSELIMUM => THYSSELINUM.  
Thyselium palustre => Thysselinum palustre.
- 55 ANGELICA  
A. archangelica ssp. archangelica: account added.  
A. archangelica ssp. littoralis: account added.

**147 ARACEAE subsumes LEMNACEAE.**

- Orontium added.  
Genus key expanded.
- .. COLOCASIA  
Mention removed.  
C. antiquorum: mention removed.
- 1 LYSICHITON  
L. x hortorum: reference added.
- 4 ORONTIUM  
Added to genus key and genus account added.  
O. aquaticum: account added.
- 8 PISTIA  
Added to genus key and genus account added.  
P. stratiotes: account added.

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- 9 SPIRODELA  
Added to genus key.
- 10 LEMNA  
Added to genus key.
- 11 WOLFFIA  
Added to genus key.

**149 ALISMATACEAE**

- 1 SAGITTARIA  
Key expanded.  
S. graminea added to key and account added.

**156 POTAMOGETONACEAE**

Potamogeton split to Potamogeton and Stuckenia.  
Genus key expanded.

- 1 POTAMOGETON  
Key C reduced.  
P. x vepsicus: reference added.
- 2 STUCKENIA  
Added to genus key, genus account added and key transferred.  
Potamogeton filiformis => Stuckenia filiformis.  
Potamogeton x suecicus => Stuckenia x suecica.  
Potamogeton pectinatus => Stuckenia pectinata.  
Potamogeton x bottnicus => Stuckenia x bottnica.
- 4 ZANNICHELLIA  
Z. obtusifolia: account added.

**157 RUPPIACEAE**

- 1 RUPPIA  
R. cirrhosa => R. spiralis.

**163 LILIACEAE**

- 2 ERYTHRONIUM  
E. californicum: mention added.
- 3 TULIPA  
Key added.  
T. tarda: mention added.  
T. praestans: mention added.  
T. saxatilis keyed and given account.
- 4 FRITILLARIA  
F. imperialis: mention added.
- 5 LILIUM  
Key added.  
L. regale: mention removed.  
L. candidum keyed and given account.

**164 ORCHIDACEAE**

CALYPSOEAE => EPIDENDREAE

- .. X DACTYLODENIA  
Gymnadenia densiflora x Dactylorhiza praetermissa given binomial X Dactylodenia  
ettlingeriana.  
Gymnadenia densiflora x Dactylorhiza purpurella: reference added.  
X D. lacerta: reference added.

X *D. varia*: reference added.

*Gymnadenia borealis* x *Dactylorhiza traunsteinerioides*: reference added.

16 DACTYLORHIZA

*D. ebudensis* sunk into *D. traunsteinerioides*.

Key reduced.

*D. incarnata* ssp. *lobelii*: reference added.

*D. praetermissa* ssp. *schoenophila*: reference added (under *D. traunsteinerioides*).

*D. purpurella* x *D. ebudensis*: reference removed.

*D. traunsteinerioides* ssp. *francis-drucei*: reference added.

21 SERAPIAS

*S. lingua*: given account.

22 OPHRYS

*O. tenthredinifera*: mention added.

*O. insectifera* x *O. apifera* given binomial *O. x pietzschii*.

165 IRIDACEAE

Genus key reduced.

.. HERMODACTYLIS

Sunk into *Iris*.

4 IRIS

*Hermodactylis tuberosa* => *Iris tuberosa* and added to *Iris* key.

7 CROCUS

*C. serotinus* reduced to mention (ssp. *salzmannii*) but retained in key.

*C. vernus* ssp. *vernus* => *C. neapolitanus*.

*C. vernus* ssp. *albiflorus* => *C. vernus*.

*C. vernus* x *C. tommasinianus* => *C. neapolitanus* x *C. tommasinianus*.

*C. chrysanthus* x *C. biflorus* => *C. x hybridus* (binomial confirmed).

*C. x stellaris* => *C. x luteus*.

8 GLADIOLUS

*G. gallaecicus*: reference added to *G. illyricus* account.

166 XANTHORRHEACEAE => ASPHODELACEAE

*Aristaloe* added.

Genus key expanded.

6 ARISTALOE

Added to genus key and genus account added.

*A. aristata*: account added.

167 ALLIACEAE => AMARYLLIDACEAE

Genus key expanded.

.. NECTAROSCORDIUM

Sunk into *Allium*.

.. NERINE

Mention added.

*N. sarniensis*: mention added.

*N. bowdenii*: mention added.

1 ALLIUM

*A. christophii*: mention added.

*A. trifoliatum*: Added to key and account added.

*A. oleraceum* var. *complanatum*: reference added.

*Nectaroscordium siculum* => *Allium siculum*.

*Nectaroscordium siculum* ssp. *siculum* => *Allium siculum* ssp. *siculum*.

*Nectaroscordium siculum* ssp. *bulgaricum* => *Allium siculum* ssp. *dioscoridis*.

- 10 GALANTHUS  
G. reginae-olgae reduced to mention but retained in key.  
G. ikariae: mention added.  
G. nivalis x G. plicatus given binomial G. x valentinei.  
G. plicatus x G. elwesii given binomial G. x hybridus.
- 11 NARCISSUS  
N. 'February Silver': reference added.

**168 ASPARAGACEAE**

Furcraea added.

Genus key expanded.

- 2 POLYGONATUM  
P. biflorum: mention removed.
- 15 FURCRAEA  
Added to genus key and genus account added.  
F. parmentieri: account added.

**169 ARECACEAE**

- 1 PHOENIX  
Given genus account.  
P. dactylifera given account.

**171 PONTEDERIACEAE**

- .. EICHHORNIA  
Mention added.  
E. crassipes: mention added.

**172 TYPHACEAE**

- 2 TYPHA  
Key added.  
T. minima keyed and account added.

**175 JUNCACEAE**

- 1 JUNCUS  
Key expanded.  
J. ensifolius: mention added.  
J. xiphioides added to key and account added.  
J. articulatus x J. bulbosus: reference added.  
J. inflexus x J. pallidus: given separate (fuller) reference.  
J. effusus x J. pallidus: given separate (fuller) reference.
- 2 LUZULA  
Key expanded.  
L. nivea added to key and given account.

**176 CYPERACEAE**

Genus key reduced.

- .. KOBRESIA  
Sunk into Carex.
- 3 BOLBOSCHOENUS  
B. laticarpus: account added.
- 6 ELEOCHARIS  
E. palustris ssp. vulgaris => E. palustris ssp. waltersii.

- 16 CAREX  
Subsumes Kobresia.  
Key expanded.  
C. lepidocarpa x C. demissa: reference added.  
C. x schatzii: reference added.  
C. demissa x C. viridula: reference added.  
C. oederi => C. viridula.  
C. aquatilis x C. elata: reference added.  
C. trinervis x C. nigra => C. x timmiana (binomial added).  
C. cespitosa added to key and account added.  
C. comans added to key and account added.  
Kobresia simpliciuscula => Carex simpliciuscula.

177 POACEAE

Extensive reordering of genera.  
Arundo added.  
Stipa split to Stipa, Stipellula and Celtica.  
Avenula split to Avenula and Helictochloa.  
Deschampsia split into Deschampsia, Aristavena and Avenella.  
Festuca split into Festuca and Drymochloa.  
Key revised.

- .. ELYTRIGIA  
Subsumed into Elymus.
- .. ARUNDO  
Added to genus key and mention added.  
A. donax: mention added.
- .. TRAGUS  
Reduced to mention and key removed, but retained in genus key.  
T. racemosus reduced to mention.  
T. australianus reduced to mention.  
T. beteronianus reduced to mention.
- .. CHLORIS  
Reduced to mention and key removed, but retained in genus key.  
C. truncata reduced to mention.  
C. divaricata reduced to mention.  
C. virgata reduced to mention.
- .. ERIOCHLOA  
Reduced to mention, but retained in genus key.  
E. crebra: mention removed.  
E. fatmensis: mention removed.  
E. pseudoacrotricha: reduced to mention.
- .. STIPA  
One sp. moved to Stipellula.  
S. aristiglumis: mention removed.  
S. variabilis: mention removed.  
S. verticillata: mention removed.  
S. ambigua: mention removed.
- .. STIPELLULA  
Added to genus key and mention added.  
Stipa capensis => Stipellula capensis and reduced to mention.
- .. EHRHARTA  
Reduced to mention but retained in genus key.  
E. stipoides reduced to mention.



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- .. RYTIDOSPERMA  
Reduced to mention but retained in genus key.  
R. racemosum reduced to mention.
- .. SCHISMUS  
Reduced to mention but retained in genus key.  
S. arabicus: mention removed.  
S. barbatus reduced to mention.
- .. HAINARDIA  
Reduced to mention but retained in genus key.  
H. cylindrica reduced to mention.
- .. LEPTOCHLOA => DIPLACHNE  
Reduced to mention.  
L. muelleri: mention removed.  
L. uninervia: mention removed.  
Leptochloa fusca => Diplachne fusca and reduced to mention.
- .. CELTICA  
Split from Stipa, added to genus key and mention added.  
C. gigantea: mention added.
- .. HELICTOTRICHON  
Added to genus key and mention added.  
H. sempervirens: mention added.
- .. AMPHIBROMUS  
Reduced to mention but retained in genus key.  
A. neesii reduced to mention.
- BAMBUSEAE => ARUNDINARIEAE
- 12 NASSELLA  
N. formicarum: mention removed.  
N. trichotoma: mention removed.  
N. neesiana: reduced to mention.
- 14 ORYZOPSIS => OLOPTUM  
Oryzopsis miliaceum => Oloptum miliaceum.
- 16 MELICA  
M. altissima: mention added.
- 17 BRACHYPODIUM  
B. distachyon => B. hybridum and reduced to mention but retained in key.
- 19 LOLIUM  
L. remotum reduced to mention but retained in key.
- 20 DRYMOCHLOA  
Split from Festuca, added to genus key and genus account added.  
Festuca altissima => Drymochloa sylvatica.
- 21 FESTUCA  
Key revised.  
F. glauca added to key and given account.
- 22 VULPIA  
V. geniculata => V. ligustica.
- 23 DACTYLIS  
D. glomerata x D. polygama: reference added.
- 36 AVENA  
A. byzantina: mention removed.
- 41 PHALARIS  
P. brachystachys: account removed.  
P. angusta: mention removed.  
P. coerulescens: mention removed.

- 43     DESCHAMPSIA  
One sp. removed to *Aristavena*.  
One sp. removed to *Avenella*.  
Species key removed.  
*D. cespitosa* ssp. *cespitosa* var. *pseudalpina*: reference added.
- 44     ARISTAVENA  
Split from *Deschampsia*.  
Added to genus key and genus account added.  
*Deschampsia setacea* => *Aristavena setacea*.
- 45     AVENELLA  
Split from *Deschampsia*.  
*Deschampsia flexuosa* => *Avenella flexuosa*.
- 47     HELICTOCHLOA  
Split from *Avenula*.  
Added to genus key and genus account added.  
*Avenula pratensis* => *Helictochloa pratensis*.
- 48     AGROSTIS  
*A. hyemalis* reduced to mention but retained in key.
- 52     CALAMAGROSTIS  
*C. x acutiflora* / *C. x subulata*: mention added.
- 54     GASTRIDIDIUM  
*G. phleoides*: account removed.
- 55     POLYPOGON  
Key added.  
*P. maritimus* keyed and account added.
- 60     PHLEUM  
*P. subulatum*: mention removed.
- 62     BROMUS  
*B. commutatus* sunk into *B. racemosus*.  
*B. squarrosus*: mention removed.  
*B. scoparius*: mention removed.  
*B. alopecurus*: mention removed.  
*B. pectinatus*: mention removed.  
*B. briziformis*: mention removed.
- 63     ANISANTHA  
*A. rubens* reduced to mention but retained in key.
- 65     CERATOCHLOA  
*C. brevis* reduced to mention but retained in key.
- 66     ELYMUS  
Takes on *Elytrigia*.  
*Elytrigia campestris* sunk in *Elymus repens*.  
Key revised.  
*E. scabrus*: reduced to mention.  
*Elytrigia repens* => *Elymus repens*.  
*Elytrigia x drucei* => *Elymus x drucei*.  
*Elytrigia x laxa* => *Elymus x laxus*.  
*Elytrigia atherica* => *Elymus athericus*.  
*Elytrigia atherica* f. *setigera* => *Elymus athericus* f. *setigerus*.  
*Elytrigia x acuta* => *Elymus x obtusiusculus*.  
*Elytrigia juncea* => *Elymus junceiformis*.  
X *ELYTRORDEUM* => X *ELYHORDEUM*  
*Elymus caninus* x *Hordeum secalinum*: mention added.  
X *Elytrordium langei* => X *Elyhordeum x langei*.

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- 69     HORDEUM  
      H. pusillum reduced to mention but retained in key.  
      H. euclaston reduced to mention but retained in key.  
      H. pubiflorum reduced to mention but retained in key.
- 72     TRITICUM  
      Key expanded.  
      T. monococcum added to key and account added.  
      T. dicoccon added to key and account added.  
      T. spelta added to key and account added.  
      T. compactum added to key and account added.
- 73     DIGITARIA  
      D. brownii: mention removed.
- 75     BRACHIARIA  
      B. eruciformis: mention removed.
- 78     CENCHRUS  
      C. incertus: mention removed.  
      C. pauciflorus: mention removed.  
      C. purpurascens: mention added.
- 80     PASPALUM  
      P. dilatatum: mention removed.
- ARUNDINEAE => MOLINIEAE
- 88     ERAGROSTIS  
      E. barrelieri: mention removed.  
      E. plana: mention removed.  
      E. virescens reduced to mention but retained in key.  
      E. parviflora reduced to mention but retained in key.
- CYNODONTIAE => ZOYSIEAE in part.
- 89     SPOROBOLUS  
      S. elongatus: mention removed.  
      S. indicus reduced to mention.  
      S. africanus given account.
- 92     ELEUSINE  
      Key removed.  
      E. multiflora reduced to mention.  
      E. tristachya reduced to mention.
- 93     CYNODON  
      C. incompletus reduced to mention.