



Index seminarum

<https://hdl.handle.net/1874/433762>

Index Seminum

*Utrecht University
Botanic Gardens
The Netherlands*



Universiteit Utrecht

No. 52-2010-11

UNIVERSITEITSBIBLIOTHEEK UTRECHT



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Index Seminum No. 52 - 2010-11

Internet Orders: <http://botgard.bio.uu.nl/collection/>
(including many pictures)

In response to the Convention on Biological Diversity (CBD), the Utrecht University Botanic Gardens supplies seeds and other plant material in accordance with the Code of Conduct for Botanic Gardens and similar collections. We are **IPEN**-member (International Plant Exchange Network) and can exchange material with other IPEN-members without bi-lateral agreements. For a list of current IPEN-members check the web-site of BGCI (Botanic Gardens Conservation International).

http://www.bgci.org/resources/History_of_IPEN/

Non **IPEN**-members have to return the "Agreement on the supply of living plant material for non-commercial purposes leaving the International Plant Exchange Network (IPEN version 2b)" which must be signed by **authorized staff**. This agreement can be made valid for 1, 3 or 5 years and is printed on the back-side of the order form.

Notes on ordering:

- Correspondents are asked to use the order-form provided, **which must be signed by authorised staff**, and send it to the address mentioned upon it. Furthermore, they should check with their own authorities concerning import-regulations and include any necessary permits with their order.
- The first distribution will be shortly after **March 1, 2011**. Many seeds of limited amount will be out of stock shortly afterward, so please order before this date. Requests, with a maximum of 25 packets will be handled in sequence of entry.
- Our Fax no. is +31 30 2535177 (do not use e-mail).

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Nico.R. Stolwijk

Gardens location

- Utrecht: Fort Hoofddijk (University Centre)
- Doorn: Von Gimborn Arboretum

Further (collecting) gardeners for Utrecht: G.E. Bruinenberg, I. van Capel, A. Jacobs, W. Jansen, A.A. Jongerius, R. Koops, G.C. Mazurel, H.W.M. Noordman, and B. Valstar; for Doorn: H.B. Spoor.

Situation and climate:

Geographical position of the Main Garden	52° 06' N : 5° 11' E
Altitude	2 m above sea level
Geographical position of the Von Gimborn Arboretum	52° 00' N : 5° 20' E
Altitude	3 m above sea level
Mean daily minimum of the coldest month	- 0,6°C
Mean daily maximum of the warmest month	+ 21,6°C
Highest temperature	+ 36,8°C *
Lowest temperature	- 24,8°C *
Average rainfall	803 mm

*Monitored since 1849



From the Curator's Department

With the presentation of this Index Seminum No. 52-2010-11 we take the opportunity, as usual, to inform you on the latest developments in Utrecht University Botanic Gardens.

In general, the activities of the curators are divided in the following main groups:

- Hans Persoon [HP]: Arboretum, Systematic Garden, Theme Garden
- Eric Gouda [EG]: Greenhouse Collections (focal point: Neotropical Collections) and the Rock Garden

Specializations:

In the framework of the National Plant Collection (NP), Utrecht University Botanic Gardens are maintaining specializations on the following groups and taxa:

- Flora of the Neotropics: [EG] Flora of the Guianas, with special emphasis on:

Bromeliaceae *Orchidaceae* *Costaceae*

- Broad-leaved hardy trees and shrubs: [HP]

Aceraceae *Betulaceae* *Ericaceae*

Euonymus *Laburnum* *Magnolia*

Oleaceae (esp.: *Fraxinus* and *Syringa*)

- *Annonaceae* (Research Collection) [EG]
- Conifers (esp. *Tsuga*) [HP]
- Alpines [EG]
- selected woodland plants (*Arisaema*, *Asarum* & *Trillium*) [EG]
- *Penstemon* [EG]

These specializations are given extra attention regarding verification, nomenclature, wild source material, etc.

We are especially interested in material from natural sources of the groups and taxa mentioned above. We seek cooperation with gardens with identical specializations. If you are interested, please contact us and we will provide additional information.

Worth mentioning is that since 1 January 2010 the Von Gimborn Arboretum is no longer owned by the University of Utrecht. The Foundation Von Gimborn Arboretum is the new owner of the arboretum, including the NP-collections (all [HP] collections). Over the year 2010 however collection management is still mostly being done by the Utrecht University Botanical Gardens. No seeds were harvested in the arboretum in the year 2010. For 2011 it still is uncertain how collection management in the arboretum will be taken care of.

Aceraceae:

The research within the *Aceraceae* Project will take place in a number of phases and we wish to thank the following organisations for their cooperation:

- * Dutch Botanic Gardens Foundation
- * The Maple Society
- * IUCN-SCC Temperate Broadleaved Trees Specialist Group
- * Botanic Gardens Conservation International (BGCI)
- * Regional Office of BGCI
- * Professional Growers of *Aceraceae* and the Keeper of the "Aceretum", Mr. D.M. v. Gelderen (Fa. C.Esveld) at Boskoop.

One of the goals will be the production of a survey of taxa of *Aceraceae*, currently considered threatened (IUCN Conservation Categories) present in the Western Botanic Gardens.

This list will be analysed and completed with the threatened species native to Temperate Asia. Special emphasis will be put on specimens of recorded wild origin. In this respect we kindly request the help and support of our Chinese colleagues.

Bromeliaceae:

Study and development in the *Bromeliaceae* collection has several focus points. In the first place the *Bromeliaceae* research project for the "Flora of the Guianas" and for the Flora of Ecuador: we try to grow all possible species from this area. Beside this, the *Tillandsioideae* collection (as Subfamily of the *Bromeliaceae*) is part of the National Plant Collection (NP). The genus *Tillandsia* of the Andian countries (especially Bolivia & Equador) has a special attention because of the various taxonomic problems on species level in these areas. To increase the general knowledge about the recognised genera in the Family we try to grow representatives from all genera. It is evident that our *Bromeliaceae* Collections will increase dramatically in both size and quality.

Arisaema:

The last few years we have been very active with this group, increasing the number of wild collected species in the collection. Some areas, like the Peat Garden, have been improved to grow more *Arisaemas*. International contact with various *Arisaema* (*Araceae*) specialists caused considerable improvement of the collection.

Last but not least, the living collections have been enriched this year. Many new accessions from natural sources replaced accessions from cultivated origin, as part of the long-term collection strategy to replace plants of cultivated origin for wild-collected stock.

Codes used

Verification:

The seeds in this list have been taken from verified plants and only if we were reasonably sure that cross-pollination with related species would be unlikely.

Verification codes used:

- 0= not been determined by any authority;
- 1= determined by comparison with other named plants;
- 2= determined by a taxonomist or other competent person;
- 3= determined by a specialist (taxonomist working on that group)

Explanation of provenance codes of the plants:

- W=** Accession of wild source (treat as 'Z' because the donor plant is cultivated in our B.G., except W*, which is wild collected seed, distributed as such.)
- Z=** from a wild source plant in cultivation.
- G=** Garden origin.

IPEN-Number:

The first two positions are the iso-code of the country of origin. xx means: country of origin unknown.

The next position is a digit meaning: special restrictions (1) or not (0).

The next position is the abbreviation of the garden introducing the material in IPEN (in this seed-list only u).

The rest consists of the internal accession number:

The first four digits of it indicate the year of registration, (1900 = unknown year of entry).

The next two characters are coding for the garden location or specific group of plants: **GR**=Green houses; **BL**=Rock Garden; **ZG**=Orig. Von Gimborn Arboretum; **RD**=Woody Plants; **SL**= Seedlist only; **ZE**=Annuals and Biennials; **ZS** and **ZB**= Perennials.

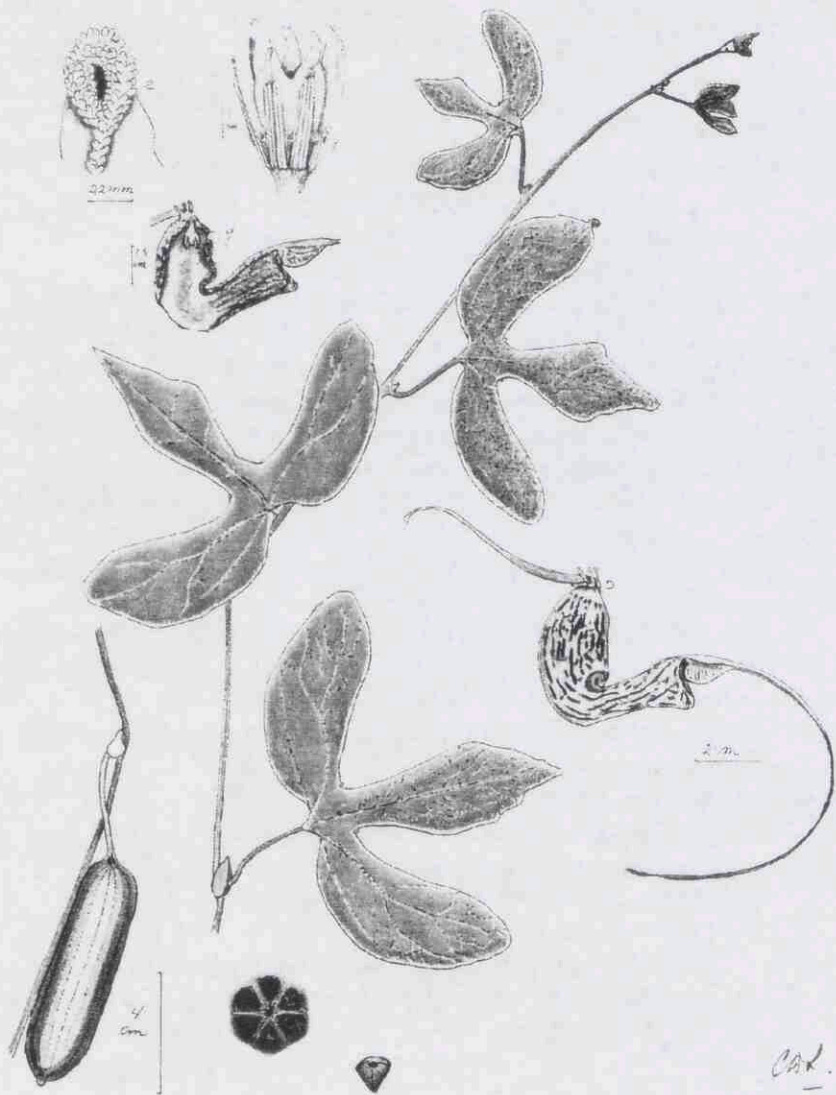
The other five digits are a sequence number within a year.

The IPEN-number as a whole stays attached to the accession, wherever it may go, so that it is always possible to trace back its origin.

The * at the end of the description is followed by the seed-list collecting year.

Source of illustrations used:

From colour illustrations made by the late Dr. C.D. Laros, Utrecht University Botanic Gardens



Aristolochia trilobata L. (Aristolochiaceae)

Aquifoliaceae

- 12 1. 2G *Ilex pedunculosa* var. *pedunculosa* Miq.
[IPEN xx0u-1961RD00653] *2009

Araceae

- 12 2. 2G *Arisaema amurense* Maxim.
[IPEN xx0u-1986BL00211] *2010
- 17 3. 2G *Arisaema candidissimum* W.W.Sm.
[IPEN xx0u-2007BL01718] *2010
- 6 4. 2G *Arisaema ciliatum* var. *liubaense* Gusman & Gouda
[IPEN xx0u-1987BL00172] *2010
- 20 5. 3W *Arisaema ciliatum* var. *liubaense* Gusman & Gouda
[IPEN cn0u-1989BL00077] China: Sichuan, Liuba Alt.: 3600
m. Coll.: Teune, C. 369 14/09/1981 *2010
- 24 6. 2Z *Arisaema consanguineum* Schott
[IPEN cn0u-1998BL00143] China, Tie Jie Shan, just before
the summit pass on the drive from ali to Lijiang. Alt.: 3000 m.
*2010
- 14 7. 2Z *Arisaema consanguineum* Schott
[IPEN cn0u-2001BL00109] China, San-ba. Coll.: A Exp. '94
China (A.G.S.) 2036 *2010
- 32 8. 2W *Arisaema exappendiculatum* Hara
[IPEN np0u-1994BL00890] Himalaya, Nepal: Milke Danda
Ridge, between Hile and Jaljale Himal. *2010
- 19 9. 2G *Arisaema jacquemontii* Blume
[IPEN xx0u-1998BL00062] *2010
- 23 10. 2W *Arisaema ringens* (Thunb.) Schott
[IPEN jp0u-1998BL00750] Japan, *2010
- 22 11. 2W *Arisaema tortuosum* (Wall.) Schott
[IPEN in0u-1997BL00004] India: Uttar Pradesh, Kumaon area,
C.Himalaya Alt.: 1500 -2800 m. Coll.: Chadwell, C. et al.
CC-1760 *2010

Aristolochiaceae

- 10 12. 2W *Aristolochia trilobata* L.
[IPEN gf0u-1992GR00904] French Guiana, Saül. Coll.: Mori,
S. 22351 *2007

Asteraceae

- 9 13. 2W *Achillea odorata* L.
 [IPEN fr0u-1967BL00147] France , E.Pyrenees, Llo. Alt.: 1400 m. *2010
- 10 14. 2Z *Aster pyrenaeus* Desf. ex DC.
 [IPEN fr0u-2002BL00804] France , Dept. Haut Pyrenees, Centre d'Ecologie, Montagnarde, Gabas Coll.: Ern,H. 7249 *2010
- 10 15. 1Z *Berkheya purpurea* Benth., Hook.f. & Mast.
 [IPEN za0u-2005BL01021] South Africa , Drakensberge *2010
- 15 16. 2Z *Townsendia incana* Nutt.
 [IPEN us0wurz-02-47-K-10] United States: Utah , Emery Co. San Rafael Swell Alt.: 2080 m. *2009

Berberidaceae

- 9 17. 2G *Jeffersonia diphylla* (L.) Pers.
 [IPEN xx0u-2000BL00886] *2009
- 12 18. 1G *Jeffersonia diphylla* (L.) Pers.
 [IPEN xx0u-1997BL00254] *2010

Betulaceae

- 9 19. 2W *Betula lenta* subsp. *lenta*
 [IPEN ca0u-1986RD00002] Canada: Ontario , Niagara Reg., Louth Tp., only verified population in Canada, steep slope above Lake Ontario; 1985. Alt.: 88 m. *2007

Boraginaceae

- 10 20. 2W *Onosma echioides* L.
 [IPEN it0u-2001BL00715] Italy , Bosco di S. Antonio, Majella (Aq). Alt.: 1500 m. *2010

Brassicaceae

- 6 21. 1W *Hesperis matronalis* L.
 [IPEN at0u-2008BL00147] Austria: Salzburg(erland) , Puch bei Hallein, Schloss Urstein S 200 m Alt.: 440 m. Coll.: Johann Peter Gruber 06/2007 *2010

Bromeliaceae

- 3 22. 3G *Aechmea bromeliifolia* (Rudge) Baker
[IPEN xx0u-2005GR00294] * 2009
- 3 23. 3G *Aechmea calyculata* (E. Morr.) Bak.
[IPEN xx0u-1979GR00128] * 2010
- 10 24. 3Z *Aechmea caudata* cf. *f. albiflora* W. Weber & Röth
[IPEN br0u-2004GR00485] Brazil, Coll.: Kuzma * 2010
- 1 25. 3G *Aechmea coelestis* var. *coelestis*
[IPEN xx0u-2006GR00646] * 2010
- 8 26. 3W *Aechmea coelestis* var. *coelestis*
[IPEN br0u-1997GR00639] Brazil: Rio de Janeiro, Teresopolis
Coll.: Leme, E. 1922 * 2009
- 6 27. 3W *Aechmea distichantha* var. *schlumbergeri*
[IPEN ar0u-2005GR01554] Argentina, * 2010
- 5 28. 3W *Aechmea nudicaulis* var. *nudicaulis*
[IPEN ve0u-2005GR01419] Venezuela, N. Venezuela Coll.:
Peter Bak s..n. 2003 * 2010
- 7 29. 3G *Billbergia brasiliensis* L.B.Sm.
[IPEN xx0u-1997GR00493] * 2008
- 26 30. 3W *Brocchinia tatei* L.B.Sm.
[IPEN ve0u-2005GR01567] Venezuela, * 2010
- 21 31. 3W *Edmundoa lindenii* var. *rosea* (E.Morren) Leme
[IPEN br0u-2000GR00727] Brazil: Santa Catarina,
Municipality of Florianopolis, from Ilha de Santa Catarina.
Buckup * 2010
- 7 32. 3Z *Fosterella rusbyi* (Mez) L.B.Sm.
[IPEN bo0u-2000GR01112] Bolivia, La Paz, Puente de
Coripata Alt.: 1150 m. * 2010
- 13 33. 3Z *Guzmania fusispica* Mez & Sodiro
[IPEN ec0u-2004GR01099] Ecuador, Hacienda Selva negra,
road to Quito Coll.: Rauh, W. 34472 * 2010
- 5 34. 3G *Guzmania monostachia* var. *alba* Ariza-Julia
[IPEN xx0frp-17793] * 2010
- 9 35. 3Z *Guzmania roezlii* (E.Morren) Mez
[IPEN xx0u-2004GR01095] Ecuador, Alt.: 500 m. Coll.: Rauh,
W. 34701 08/1973 * 2010
- 6 36. 2G *Guzmania wittmackii* (André) André ex Mez
[IPEN xx0u-1996GR01170] * 2010
- 12 37. 3W *Hechtia carlsoniae* Burt-Utley & J.F.Utley
[IPEN mx0u-1996GR00536] Mexico: Guerrero, near Iguala
(type locality). * 2010

Bromeliaceae (cont.)

- 12 38. 2G *Orthophytum sanctum* L.B.Sm.
[IPEN xx0u-1992GR01144] * 2010
- 9 39. 3W *Pitcairnia altensteinii* (Link, Klotzsch & Otto) Lem.
[IPEN ve0u-2006GR01032] Venezuela , N.-Venezuela, rancher
station National Park Henri Pittier near Aragua and Carabobo *
2010
- 7 40. 3Z *Pitcairnia atrorubens* (Beer) Bak.
[IPEN cr0u-2007GR01150] Costa Rica , Schoser, G. s.n. 1989
* 2010
- 6 41. 3W *Pitcairnia aureobrunnea* Rauh
[IPEN ec1u-2006GR00038] Ecuador: Prov. El Oro , Road
Passaje - Catamayo (not main road) Alt.: 1020 m. Coll.:
E.J.Gouda & J.Manzanares 05-29 23/11/2005 * 2010
- 9 42. 3W *Pitcairnia caricifolia* Mart.ex Schult.f.
[IPEN ve0u-2005GR01552] Venezuela , Ilu (weide) Tepui *
2009
- 5 43. 3Z *Pitcairnia flammea* var. *glabrior* L.B.Sm.
[IPEN br0u-2001GR00086] Brazil , Teresopolis * 2010
- 7 44. 3W *Pitcairnia flammea* var. *roezlii* (E.Morr.) L.B.Sm.
[IPEN br0u-2000GR00771] Brazil: Guanabara , Rio de Janeiro
City Coll.: Leme, E. s.n. * 2010
- 11 45. 3W *Pitcairnia grafii* Rauh
[IPEN ve1heid-102579] Venezuela , E Tachira, SW of El
Capacho, down to San Antonio Alt.: 1000 m. Coll.: Graf, H.
Venezuela s.n. (R64680) 27/02/1993 * 2008
- 14 46. 3Z *Pitcairnia hitchcockiana* L.B.Sm.
[IPEN ec0u-2006GR01008] Ecuador , Mera Alt.: 1300 m.
Coll.: Fläschendräger, A. s.n. 20/04/1995 * 2010
- 7 47. 3W *Pitcairnia imbricata* (Brongn.) Regel
[IPEN gt0b-2794993] Guatemala , dept. Guatemala, CA9 to El
Rancho, 24 km behind ciudad de Guatemala Alt.: 750 m. Coll.:
Radtke & Moldenhauer 167 * 2010
- 9 48. 3W *Pitcairnia integrifolia* Ker Gawl.
[IPEN tt1u-1993GR00746] Trinidad and Tobago: Trinidad ,
Mt. Benedict, on sandy slope. Alt.: 250 m. Coll.: Maas, P.J.M.
et al. 8141 * 2010
- 10 49. 3Z *Pitcairnia longissimiflora* Ibisch, R.Vasquez & E.Gross
[IPEN bo0b-2890200] Bolivia: Dept Cochabamba , Prov.
Chapaie, Parque Nacional Carrusco Alt.: 300 m. Coll.:
T.Kromer 8664 * 2010

Bromeliaceae (cont.)

- 6 50. 3W *Pitcairnia paniculata* (Ruiz & Pav.) Ruiz & Pav.
[IPEN xx0u-2005GR01560] Peru , Tarapoto - Moyobamba Alt.:
700 m. Coll.: Peter Bak s.n. 09/2003 * 2010
- 0 51. 3W *Pitcairnia sceptigera* Mez
[IPEN ec1u-2006GR00034] Ecuador: Prov. Azuay , Road
Cuenca - Passaje Alt.: 700 m. Coll.: E.J.Gouda & J.Manzanares
05-24 22/11/2005 * 2009
- 8 52. 3W *Pitcairnia spicata* (Lam.) Mez
[IPEN mq0u-2007GR01343] Martinique , * 2010
- 11 53. 3W *Pitcairnia villetaensis* Rauh
[IPEN co0u-2000GR00646] Colombia , Bogota - Villeta Alt.:
900 m. Coll.: Rauh, W. 37089 * 2010
- 6 54. 3W *Puya floccosa* (Linden) E.Morren
[IPEN ve0u-2008GR01403] * 2010
- 11 55. 2W *Quesnelia quesneliana* (Brongn.) L.B.Sm.
[IPEN br0u-1998GR01185] Brazil: Rio de Janeiro , Mun.
Petropolis, along the BR-040 from Rio de Janeiro to Petropolis,
about 10 km SW of Petropolis Alt.: 20 m. Coll.: Till, W. 4095
22/02/1989 * 2010
- 19 56. 3Z *Racinaea insularis* (Mez) M.A.Spencer & L.B.Sm.
[IPEN ec0u-2000GR00640] Ecuador: Galápagos , Coll.: Rauh,
W. 34230 1979 * 2010
- 19 57. 3W *Tillandsia extensa* Mez
[IPEN pe1heid-130095] Peru , Valley de Rio Sauce, Puente
Popoyan Alt.: 500 m. Coll.: Rauh, W. 20242 07/1967 * 2010
- 23 58. 3G *Tillandsia oerstediana* L.B.Sm.
[IPEN xx0u-2005GR01563] * 2010
- 20 59. 3W *Tillandsia pacifica* Ehlers
[IPEN mx0u-2008GR01147] Mexico: Chiapas , East Chiapas
R:32689 * 2010
- 8 60. 3W *Tillandsia polystachia* (L.) L.
[IPEN mq0u-2006GR01059] Martinique , * 2010
- 11 61. 3W *Tillandsia polystachia* (L.) L.
[IPEN gt0u-1998GR00904] Guatemala , Zacatepequez, valley
of Antigua Alt.: 800 m. 1992 * 2010
- 11 62. 3G *Tillandsia straminea* Humb., Bonpl. & Kunth
[IPEN xx0u-1998GR01773] * 2010
- 22 63. 3W *Tillandsia tovarensis* Mez
[IPEN ve0u-2009GR01171] Venezuela , Alt.: 2500 m. Coll.:
Frank Hase (Bochum, Germany) * 2010

Bromeliaceae (cont.)

- 19 64. 3G *Ursulaea macvaughii* (L.B.Sm.) R.W.Read & H.U.Baensch
[IPEN xx0u-1999GR00775] * 2010
- 16 65. 1W *Vriesea procera* (Mart. ex Schult.f.) Wittm.
[IPEN ec0u-2010GR00361] Ecuador , Elly Bak 1986 * 2010
- 7 66. 3G *Vriesea saundersii* (Carr.) E.Morr. ex Mez
[IPEN xx0u-2006GR01612] * 2010

Campanulaceae

- 10 67. 2Z *Campanula primulifolia* Brot.
[IPEN pt0u-1997BL00455] Portugal , Algarve, Serra de
Monchique, Perna de Negra; 94-08-00 *2009
- 11 68. 2Z *Campanula sibirica* L.
[IPEN ru0bern-2001/228] Armenia , Caucasus *2009
- 10 69. 2W *Campanula takesimana* Nakai
[IPEN kr0u-1992BL01300] South Korea, Ullung Isl., Chonbu-ri
*2009
- 21 70. 1W *Campanula versicolor* Andr.
[IPEN gr0u-2007BL01006] Greece: Peloponesos , Mt Menalo,
Alt.: 1600 m. Coll.: Marijn vd Brink en KeesJan van Zwienen
s.n. 2006 *2009
- 10 71. 1W *Lobelia cardinalis* L.
[IPEN us0u-2006ZE01427] United States: New Jersey , Sussex
Co. Sparta Turnpike, Sparta Mountain 20/09/2005 *2008
- 6 72. 1W *Lobelia siphilitica* L.
[IPEN us0u-2006BL00742] United States: Michigan , Clinton
county, S Shrub-Carr, Rose Lake Fen 2-track Alt.: 256 m.
*2009
- 4 73. 2G *Phyteuma scheuchzeri* All.
[IPEN xx0u-1999BL00256] *2009

Caprifoliaceae

- 6 74. 2G *Heptacodium miconioides* Rehder
[IPEN xx0u-1985RD00389] *2009

Caryophyllaceae

- 6 75. 2W *Dianthus giganteiformis* aff. subsp. *pontederacae* (A.Kerner) Soó
[IPEN at0u-2001BL00897] Austria, Niederosterreich,
Weinviertel, Leiser Berge, buschberg ca. 5.5 km N Ernstbrunn.
Alt.: 450 m. 21/08/1999 *2007
- 9 76. 2W *Dianthus plumarius* L.
[IPEN sk0u-1977BL00186] Slovakia, Montes Malá
Fatra-Slovakia Septentrionalis, Alt.: 600 -1700 m. *2009
- 6 77. 2Z *Dianthus seguieri* subsp. *seguieri*
[IPEN it0u-1998BL01735] Italy, Colla Melosa (IM). Alt.: 1550
m. *2010
- 6 78. 2Z *Dianthus subacaulis* subsp. *subacaulis*
[IPEN fr0u-1994BL01124] France, Herault, Felines-Minervois
*2010
- 8 79. 1W *Dianthus superbus* subsp. *superbus*
[IPEN at0u-2008BL00148] Austria: Salzburg(erland), Grödig,
Fürstenbrunn E, Glaneigg casle NW Alt.: 435 m. Coll.: Günter
08/2007 *2009
- 6 80. 1W *Drypis spinosa* L.
[IPEN hr0u-2005BL00106] Croatia, Velebit Bot.Garden Coll.:
S. Kovačič s.n. 10/09/2002 *2010
- 3 81. 1W *Lychnis viscaria* (L.) Jess.
[IPEN no0u-2003BL01128] Norway, Oppland, Lillehammer,
Faberg, Finnerud. Alt.: 400 m. 17/07/2002 *2010

Crassulaceae

- 12 82. 1W *Sedum ewersii* Ledeb.
[IPEN in0u-2006BL00191] India: Himachal Pradesh,
Borderlands of W.Tibet (from Lahoul), Chandra Valley Alt.:
4450 m. Coll.: Chadwell, C. et al. 5288 2005 *2009
- 11 83. 3W *Sedum obtusifolium* C.A.Mey.
[IPEN tr0u-1993BL00010] Turkey, Prov. Bolu, 20 km S. of
Gerede, W. of the road to Kizilcahaman. Alt.: 1350 m. Coll.:
Alpinar, K. & H.'t Hart 33 *2010
- 5 84. 2W *Sedum stoloniferum* S.G.Gmel.
[IPEN ge0u-1977BL00127] Georgia, Abkhazia (Caucasus),
Awadchara. *2010
- 14 85. 2W *Sempervivum zeleborii* Schott
[IPEN bg0u-1978BL00340] Bulgaria, Rila Mts. *2010

Cyclanthaceae

- 7 86. 2G *Carludovica palmata* Ruiz & Pav.
[IPEN xx0u-1968GR00859] *2009

Dipsacaceae

- 5 87. 2W *Scabiosa cinerea* subsp. *cinerea* Lapeyr. ex Lam.
[IPEN it0u-1994BL00090] Italy , Puglia, Promontorio del
Gargano, NE Coast, ca. 2 km. ESE Coppo dei Fossi, Macchie
Alt.: 150 -200 m. Coll.: Gigerl, P. 09/1992 *2009

Ericaceae

- 8 88. 2G *Enkianthus cernuus* var. *rubens* (Maxim.) Makino
[IPEN xx0u-1900ZG00184] *2009
- 5 89. 2G *Kalmia angustifolia* L.
[IPEN xx0u-1900ZG00034] *2008
- 6 90. 2G *Kalmia latifolia* L.
[IPEN xx0u-1900ZG01222] *2009
- 2 91. 2G *Rhododendron canadense* (L.) Torr.
[IPEN xx0u-1900ZG00097] *2009
- 8 92. 2G *Zenobia pulverulenta* (W.Bartram ex Willd.) Pollard
[IPEN xx0u-1900ZG01146] *2008

Fabaceae

- 6 93. 2W *Anthyllis montana* subsp. *montana*
[IPEN fr0u-1987BL00366] France , Montagne de Tauch, Aude.
*2010
- 3 94. 1W *Dorycnium pentaphyllum* subsp. *pentaphyllum*
[IPEN it0u-2001BL00098] Italy , Südtirol, Bozen SE, Tiers N,
Völsegg, Trockenhang. Alt.: 1200 m. 06/2000 *2010

Gentianaceae

- 9 95. 2G *Gentiana triflora* Pall.
[IPEN xx0u-1996BL00905] *2008

Geraniaceae

- 12 96. 2Z *Geranium swatense* Schonbeck-Temesy
[IPEN pk0u-1998BL00788] Pakistan , without details. *2010

Gesneriaceae

- 12 97. 2G *Haberlea rhodopensis* Friv.
[IPEN xx0u-1966BL00054] *2010

Iridaceae

- 3 98. 2W *Gladiolus imbricatus* L.
[IPEN gr0u-1977BL00056] Greece: Thracia , Daksia (NE of Alexandropolis). Alt.: 330 m. *2010
- 10 99. 2W *Iris ensata* Thunb.
[IPEN kr0u-1994BL00073] Korea, Republic of: Cheju Do (Quelpaert Isl.), Mt. Halla. Alt.: 1100 m. *2008
- 4 100. 1W *Iris foetidissima* L.
[IPEN fr0u-1999BL00576] France , Finistere, Mouelan-sur-Mer, Pointe de Kerhermen. Alt.: 10 m. *2008
- 21 101. 2W *Iris hartwegii* Baker
[IPEN us0u-1996BL00959] United States: California , Humboldt Co., N of Eureka, Prairie Creek Redwoods State Park, Fern Canyon. Alt.: 40 m. *2010
- 8 102. 2Z *Iris sintenisii* subsp. *sintenisii* Janka
[IPEN bg0u-1995BL00180] Bulgaria , Eastern Sredna Gora Mts Coll.: Sterz *2010
- 6 103. 1Z *Iris spuria* subsp. *sogdiana* (Bunge) Mathews
[IPEN ru0u-1982BL00251] Russian Federation: Asiatic Russia exact location not known 1981 *2009

Lamiaceae

- 5 104. 1W *Horminum pyrenaicum* L.
[IPEN it0u-2005BL01310] Italy: Dolomites , Marmolada Alt.: 1500 m. Coll.: Gouda, E.J. 05-04 09/07/2005 *2010
- 5 105. 1Z *Phlomis tuberosa* L.
[IPEN ru0u-2001BL00702] Russian Federation: Asiatic Russia , C Siberia, E of Jenissej. *2010
- 2 106. 1W *Prunella laciniata* (L.) L.
[IPEN fr0u-2007BL00907] France , Curley N04/0473 2004 *2009

Liliaceae

- 4 107. 1G *Gloriosa superba* L.
[IPEN xx0u-1977GR00234] *2010
- 21 108. 1W *Lilium sargentiae* E.H. Wilson
[IPEN cn0u-2002BL01491] China: Yunnan , *2008
- 5 109. 2W *Pancratium maritimum* L.
[IPEN mt0u-1969GR00165] Malta , Coll.: Kramer,K.U. &
L.Y.Th.Westra 6020 *2010
- 19 110. 2U *Paris quadrifolia* L.
[IPEN xx0u-2007BL00933] *2010
- 2 111. 2W *Polygonatum multiflorum* var. *ramosum* (Döll) Geisenh.
[IPEN be0u-2004BL01043] Belgium , Kortrijk, bij ondergronds
kanaaluitgraving Coll.: Prof. P. Van Der Veken s.n. 19/04/1979
*2010

Menispermaceae

- 6 112. 2W *Cocculus trilobus* (Thunb.) DC.
[IPEN tw0u-1980GR00388] Taiwan , approx. S top (Coast)
Coll.: Kramer, K.U. 7928 1980 *2008
- 6 113. 2W *Menispermum canadense* L.
[IPEN us0u-1997RD00161] United States: Michigan , U.S.A.,
Michigan, Ingham County, Mesic Southern Forest, Sitename:
Sanford Woodlot, coll.: 96-10-16. Alt.: 253 m. *2010

Papaveraceae

- 8 114. 1W *Macleaya cordata* (Willd.) R.Br.
[IPEN jp0u-2007BL00823] Japan: Shizuoka Pref. ,
Fujinomiya-shi 26/10/2006 *2010
- 3 115. 1G *Meconopsis betonicifolia* 'Alba' Franch.
[IPEN xx0u-2003BL01541] *2008
- 8 116. 2G *Meconopsis betonicifolia* Franch.
[IPEN xx0u-1964BL00209] *2009

Pinaceae

- 12 117. 2G *Pseudolarix amabilis* (A.Nelson) Rehder
[IPEN xx0u-1900ZG00915] *2009

Plantaginaceae

- 2 118. 2G *Plantago nivalis* Boiss.
[IPEN xx0u-1998BL01693] *2010

Plumbaginaceae

- 16 119. 1G *Acantholimon ulicinum* subsp. *ulicinum*
[IPEN xx0u-1990BL01181] *2009
- 3 120. 2W *Armeria alliacea* (Cav.) Hoffing. & Link
[IPEN fr0u-1977BL00177] France, Hautes Alpes, Serre
Chevalier, (on sand). Alt.: 1550 m. *2010
- 9 121. 2G *Limonium minutum* (L.) Fourr.
[IPEN xx0u-1984BL00199] *2010

Poaceae

- 3 122. 1W *Bouteloua gracilis* (Willd. ex Kunth) Lag. ex Griffiths
[IPEN us0u-2002BL00753] United States: South Dakota,
*2008
- 12 123. 2G *Phyllostachys kwangsiensis* W.Y.Hsiung, Q.H.Dai & J.K.Liu
[IPEN xx0u-2003ZS01271] *2010

Polygonaceae

- 11 124. 1W *Eriogonum umbellatum* subsp. *umbellatum*
[IPEN us0u-1994BL01273] United States: Colorado, Jefferson
County, South Table Mtn. Alt.: 1859 m. *2010
- 6 125. 2W *Eriogonum umbellatum* var. *furcosum* Rev.
[IPEN us0u-1991BL00038] United States: California, Mono
Co., E. of Alturas, Warner Mts., near Cedar Pass. *2010

Primulaceae

- 8 126. 2W *Dodecatheon pulchellum* subsp. *pulchellum* (Raf.) Merr.
[IPEN us0u-1983BL00281] United States: Oregon, N.W. 1982
*2010
- 9 127. 2W *Primula elatior* subsp. *intricata* (Gren. & Godr.) Lüdi
[IPEN it0u-2008BL00406] Italy, Dolomites, mnt. Marmolada
Alt.: 1550 m. Coll.: Gouda, E.J. 07-41 15/08/2007 *2010
- 19 128. 2G *Primula vialii* Delavay ex Franch.
[IPEN xx0u-2001BL00060] *2009

Ranunculaceae

- 7 129. 2W *Aconitum lycoctonum* subsp. *vulparia* (Rchb.) Nyman
[IPEN fr0u-1979BL00015] France , Ain mountains (Praffion -
Jura Francais), 78-11-01. Alt.: 1350 m. *2010

Rosaceae

- 1 130. 2W *Geum montanum* L.
[IPEN it0u-1997BL01069] Italy , Italy, Passo di Valsecca. Alt.:
2000 m. *2010
- 6 131. 2W *Potentilla nitida* L.
[IPEN it0u-1968BL00089] Italy , Lac de Côme Alt.: 2300 m.
1967 *2010

Saxifragaceae

- 9 132. 2W *Saxifraga cherlerioides* var. *rebunshirensis* (Engl. & Irmsch.) Hara
[IPEN jp0u-1997BL00485] Japan , Hokkaido, Mt. —
Nishi-kumaneschiri-dake, Katoh-gun. *2010
- 3 133. 2W *Saxifraga rosacea* subsp. *rosacea*
[IPEN fr0u-1978BL00056] France , Jura Croncot *2010

Sciadopityaceae

- 16 134. 2G *Sciadopitys verticillata* (Thunb. ex Murray) Siebold & Zucc.
[IPEN xx0u-1900ZG01861] *2009

Scrophulariaceae

- 9 135. 1W *Asarina erubescens* (D.Don) Pennell
[IPEN bo0u-2005GR01250] Bolivia: Prov. Santa Cruz ,
direction of Samaipata, near Ayacucho Coll.: Gouda, C.S. s.n.
*2009
- 11 136. 2W *Digitalis ferruginea* L.
[IPEN gr0u-2006BL00502] Greece: Peloponesos , Mt. Killini
*2010
- 9 137. 2Z *Digitalis ferruginea* subsp. *ferruginea*
[IPEN tr0u-2000BL00393] Turkey , N.-Anatolia, Bithynia:
Ala-Dag, Kartalkaya 10 km before ski station. Alt.: 1600 m.
*2010

Scrophulariaceae (cont.)

- 10 138. 2W *Digitalis viridiflora* Lindl.
[IPEN bg0u-2002BL01044] Bulgaria , Eastern Rodopi. Alt.:
1700 m. 25503 2002 *2010
- 4 139. 2G *Mimulus cardinalis* Douglas
[IPEN xx0u-1977BL00141] *2009
- 8 140. 2W *Penstemon alpinus* Torr.
[IPEN us0u-1996BL00291] United States: Colorado , Jefferson
County. Alt.: 2300 m. *2010
- 13 141. 2W *Penstemon barrettiae* A.Gray
[IPEN us0u-2008BL00206] United States: Klickitat County ,
Columbia River Gorge Alt.: 213 m. Coll.: Ron Ratko
(Northwest Native Seeds) *2010
- 8 142. 1W *Penstemon cardwellii* T.J.Howell
[IPEN us0u-1991BL00700] United States: Oregon , Multnomah
Co., no further details! Alt.: 1080 m. *2010
- 5 143. 2G *Penstemon peckii* Pennell
[IPEN us0u-1988BL00028] *2010
- 7 144. 2G *Penstemon pinifolius* E.Greene
[IPEN xx0u-1969BL00346] *2010
- 3 145. 2G *Penstemon smallii* A.A.Heller
[IPEN xx0u-2007BL01697] *2010
- 11 146. 2Z *Penstemon strictiformis* Rydb.
[IPEN us0u-1997BL00959] United States: Colorado , Kenosha
Pass, Park County. Alt.: 3110 m. *2010
- 8 147. 1Z *Phygelis aequalis* Harv. ex Hiern
[IPEN za0u-2004BL01363] South Africa: Free State , Mt.
Aux-Sources, Witsiehoek Mt. Resort Alt.: 2300 m. Coll.:
Lesotho-Edinburgh-Gothenburg Botanical Exped. 315 *2009

Taxodiaceae

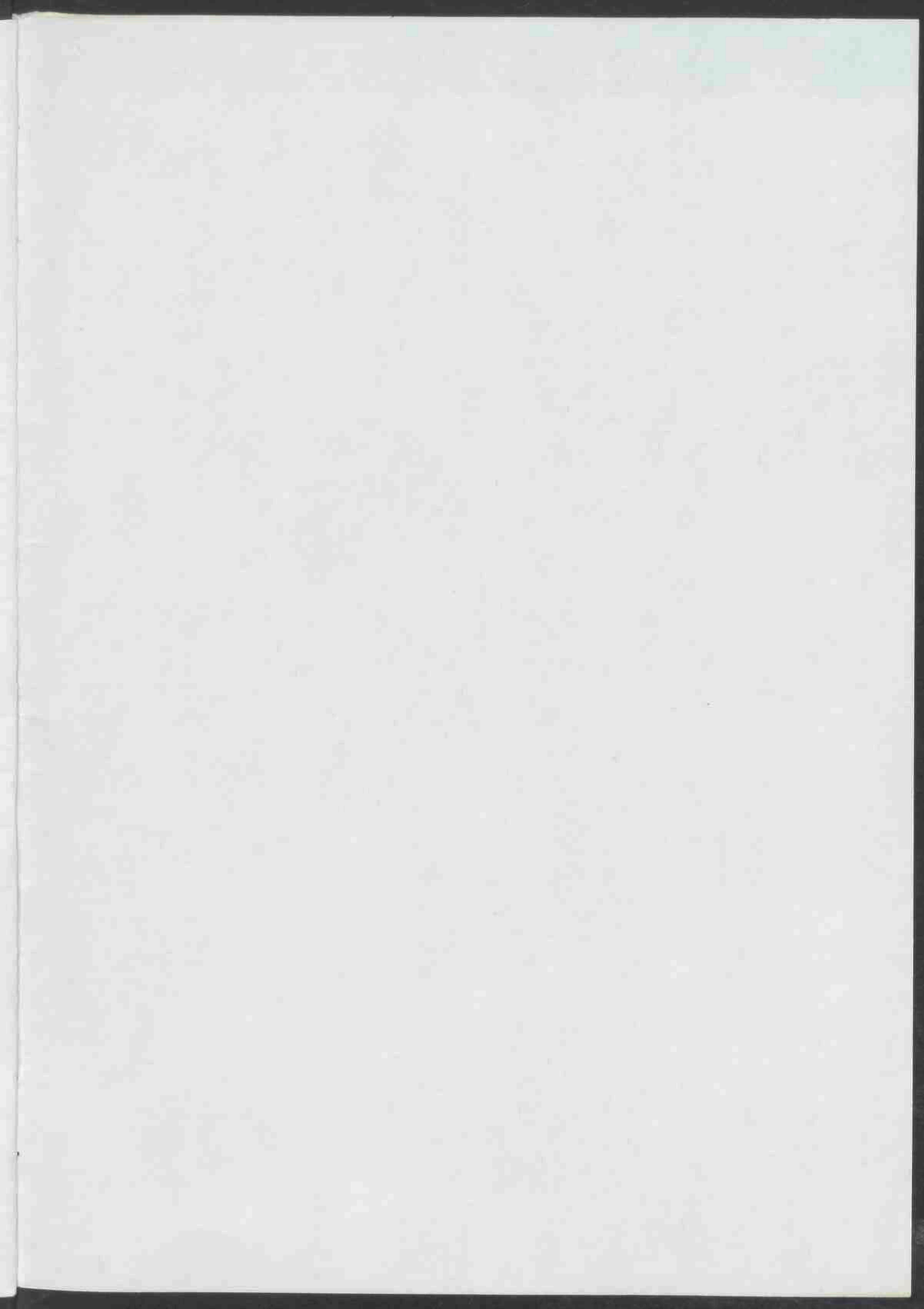
- 9 148. 2G *Cunninghamia lanceolata* (Lamb.) Hook.
[IPEN xx0u-1900ZG00035] *2009

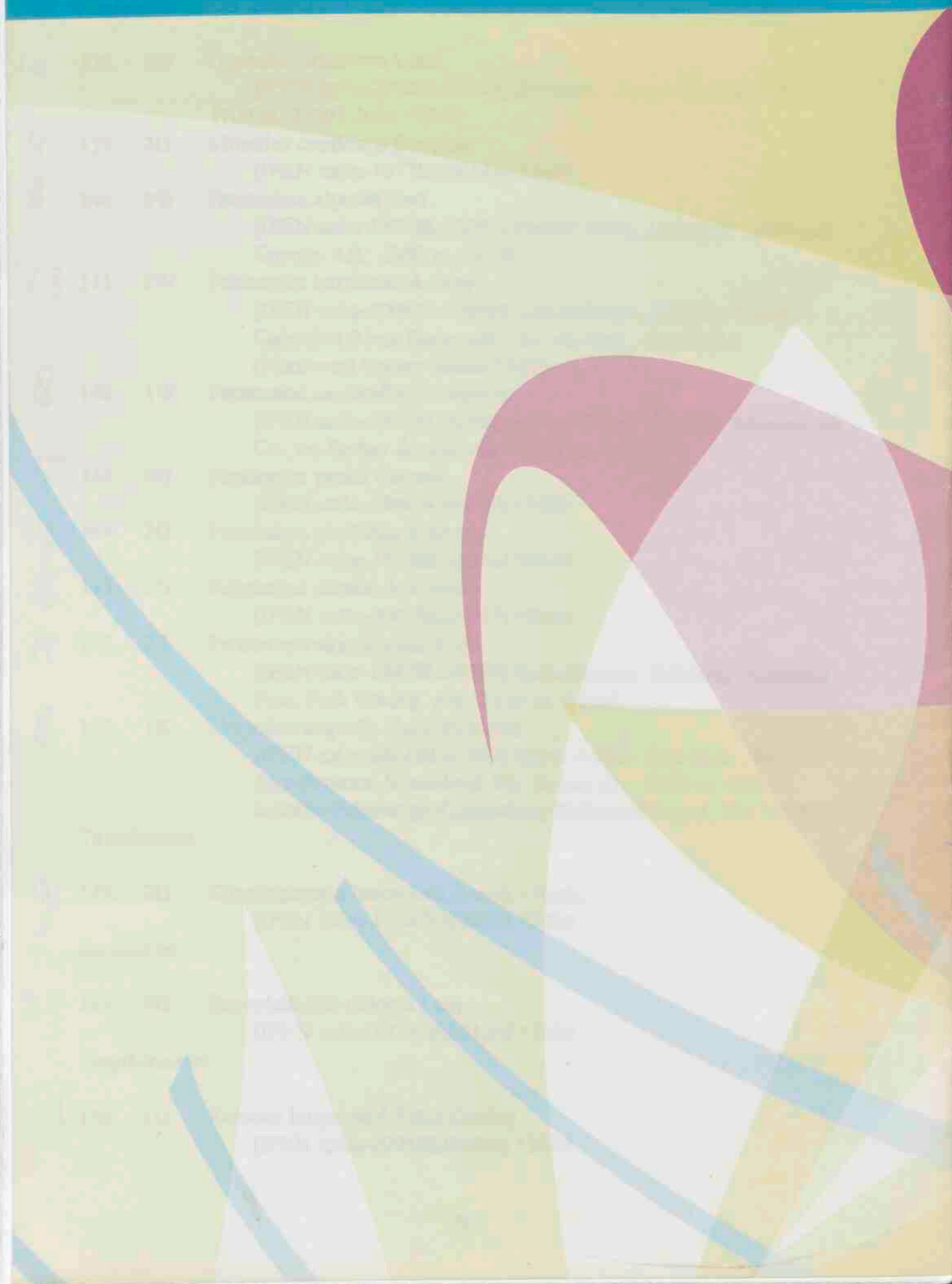
Zamiaceae

- 24 149. 2G *Encephalartos villosus* Lem.
[IPEN xx0u-1975GR00125] *2009

Zingiberaceae

- 13 150. 1G *Roscoea humeana* f. *lutea* Cowley
[IPEN xx0u-2005BL00506] *2009





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