Index seminum

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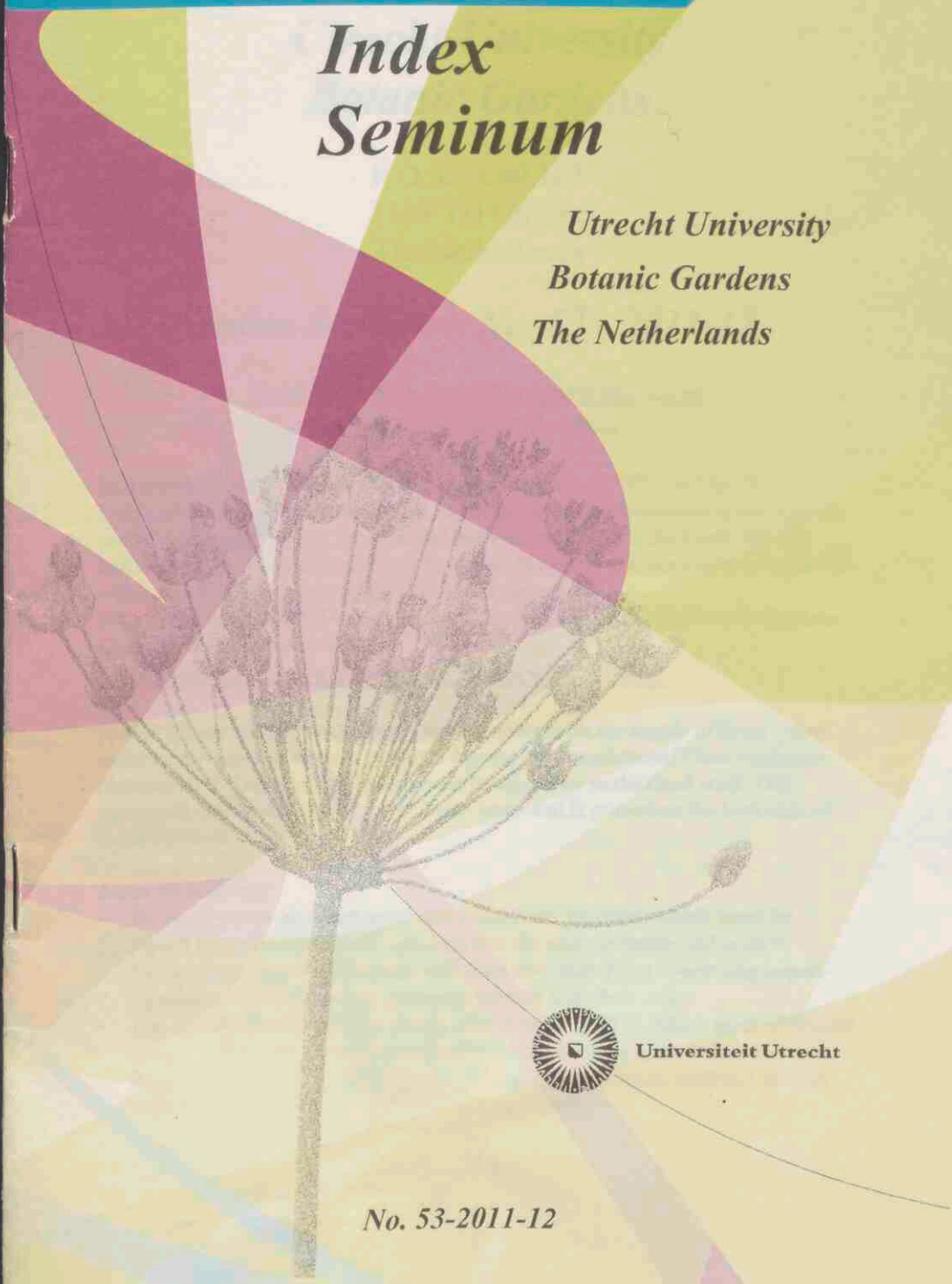
Index Seminum

Utrecht University
Botanic Gardens
The Netherlands



Universiteit Utrecht

No. 53-2011-12

Utrecht University Botanic Gardens

P.O. Box 80.162
3508 TD Utrecht
The Netherlands

Index Seminum No. 53 - 2011-12

Internet Orders: **http://botgard.bio.uu.nl**
(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 (**I**nternational **P**lant **E**xchange **N**etwork) 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 (**B**otanic **G**ardens **C**onservation **I**nternational).
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, 2012.** 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).

Staff

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Garden location

- Utrecht: Fort Hoofddijk (University Centre)

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

Situation and climate:

Geographical position of the Main Garden	52° 06' N : 5°11' E
Altitude	2 m above sea level
~~Geopgraphical 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. **53-2011-12** 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]**: Systematic Garden, Theme Garden, Central Route and student courses.
- 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*

- *Annonaceae* (Research Collection) **[EG]**
- 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 former **[HP]** collections). No seeds were harvested in the arboretum in the year 2011. Some accessionnumber harvested in former years in the arboretum will be offered in this seedlist. From next year and onwards no seeds from the arboretum will be offered in the Utrecht seedlist anymore.

***Bromeliaceae*:**
Study and devellopment 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 abbrevation 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 it allways 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

Amaranthaceae

2 1. 1G Pleuropetalum darwinii Hook.f.
[IPEN xx0bonn-12570] *2011

Aquifoliaceae

10 2. 2G Ilex pedunculosa var. pedunculosa Miq.
[IPEN xx0u-1961RD00653] *2009

Araceae

8 3. 2G Arisaema ciliatum var. liubaense Gusman & Gouda
[IPEN xx0u-1987BL00172] *2010

18 4. 3W Arisaema ciliatum var. liubaense Gusman & Gouda
[IPEN cn0u-1989BL00077] China: Sichuan , Liuba Alt.: 3600 m. Coll.: Teune, C. 369 14/09/1981 *2011

22 5. 2Z Arisaema consanguineum Schott
[IPEN cn0u-2001BL00109] China , San-ba. Coll.: A Exp.-'94 China (A.G.S.) 2036 *2010

18 6. 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

Arecaceae

10 7. 2G Caryota mitis Lour.
[IPEN xx0u-1998GR00723] *2011

Asteraceae

3 8. 2W Achillea odorata L.
[IPEN fr0u-1967BL00147] France , E.Pyrenees, Llo. Alt.: 1400 m. *2010

3 9. 2Z Aster pyrenaeus Desf. ex DC.
[IPEN fr0u-2002BL00804] France , Dept. Haut Pyrenees, Centre d'Ecologie, Montagnarde, Gabas Coll.: Ern,H. 7249 *2010

2 10. ~~0G Baccharis magellanica (Lam.) Pers.~~
~~[IPEN xx0u-2004BL01068] *2010~~

Asteraceae (cont.)

9 11. 1Z Berkheya purpurea Benth., Hook.f. & Mast.
[IPEN za0u-2005BL01021] South Africa , Drakensberge *2010

11 12. 2G Leontopodium alpinum subsp. nivale (Ten.) Tutin
[IPEN xx0u-1992BL00809] *2011

14 13. 2Z Townsendia incana Nutt.
[IPEN us0wurzb-02-47-K-10] United States: Utah , Emery Co. San Rafael Swell Alt.: 2080 m. *2009

Berberidaceae

10 14. 2G Jeffersonia diphylla (L.) Pers.
[IPEN xx0u-2000BL00886] *2009

Betulaceae

15 15. 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. *2011

Boraginaceae

17 16. 1G Arnebia pulchra (Willd. ex Roem. & Schult.) Edmondson
[IPEN xx0u-2007BL01668] *2011

Brassicaceae

9 17. 1W Alyssum spinosum L.
[IPEN es0u-2004BL00016] Spain: Prov. Granada , Sierra Nevada Alt.: 2650 m. Coll.: Gouda, E.J. 03-15 20/07/2003 *2011

10 18. 2Z Aubrieta thessala Boiss.
[IPEN gr0u-1997BL01116] Greece, Pieria, Olympus, Enipevs-Rema. *2011

3 19. 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 *2011

8 20. 1W Pachyphragma macrophyllum (Hoffm.) N.Busch
[IPEN xx0u-1998BL00720] Caucasus , NW. *2011

Bromeliaceae

8 21. 3Z Aechmea aquilega (Salisb.) Griseb.
[IPEN xx0u-1998GR00809] Dominican Republic , *2008

8 22. 2W Aechmea aquilega var. aquilega
[IPEN sr1u-1999GR00107] Suriname , Parimaribo (Suriname Riv.). Coll.: Gouda, E.J. 99-41 1999 *2009

1 23. 3G Aechmea bromeliifolia (Rudge) Baker
[IPEN xx0u-2005GR00295] *2011

5 24. 3Z Aechmea caudata cf. f. albiflora W. Weber & R"th
[IPEN br0u-2004GR00485] Brazil , Coll.: Kuzma *2010

11 25. 3W Aechmea coelestis var. coelestis
[IPEN br0u-1997GR00639] Brazil: Rio de Janeiro , Teresopolis Coll.: Leme, E. 1922 *2011

12 26. 3W Aechmea distichantha var. schlumbergeri
[IPEN ar0u-2005GR01554] Argentina , *2010

0 27. 3W Aechmea lingulata (L.) Baker
[IPEN mq0u-1996GR00403] Martinique , near parque Trois Ilets, epiphyte on Haematoxylon campedrianum. *2011

1 28. 3G Aechmea lueddemanniana (K.Koch) Mez
[IPEN xx0b-1184074] *2011

3 29. 2G Aechmea mexicana Baker
[IPEN xx0u-1999GR00796] *2008

11 30. 3W Aechmea nudicaulis var. nudicaulis
[IPEN ve0u-2005GR01419] Venezuela , N. Venezuela Coll.: Peter Bak s..n. 2003 *2010

7 31. 2Z Aechmea nudicaulis var. nudicaulis
[IPEN br0u-1996GR00653] Brazil: Bahia , Mun. Camaca, Estrada BR101, 2 km S Camaca, ""mata higrofila with Cacao. Coll.: Leuenberger et all. 3096 23/04/1983 *2011

3 32. 3Z Aechmea nudicaulis var. nudicaulis
[IPEN ve0u-2005GR00895] Venezuela , *2010

13 33. 3W Aechmea racinae L.B.Sm.
[IPEN br0u-2000GR00642] Brazil: Santa Catarina , Coll.: Ehlers, Renate s.n. *2011

10 34. 3G Aechmea weberbaueri Harms
[IPEN xx0b-2131687] *2011

8 35. 3G Aechmea weberbaueri Harms
[IPEN xx0u-2006GR01088] *2011

13 36. 3G Alcantarea geniculata (Wawra) J.R.Grant
[IPEN xx0u-2005GR01551] *2011

Bromeliaceae (cont.)

21 37. 3W Alcantarea odorata (Leme) J.R.Grant
[IPEN br0u-1998GR01174] Brazil: Rio de Janeiro , near Raposo Coll.: Leme, E. 262 06/1982 *2011

4 38. 3G Billbergia brasiliensis L.B.Sm.
[IPEN xx0u-1997GR00500] *2007

1 39. 2G Billbergia brasiliensis L.B.Sm.
[IPEN xx0u-2007GR00347] *2011

4 40. 3G Billbergia velascana C rdenas
[IPEN xx0u-2003GR01722] *2011

3 41. 0G Billbergia zebrina (Hernert) Lindl.
[IPEN xx0y-1998GR01199] *2010

11 42. 3W Billbergia zebrina (Hernert) Lindl.
[IPEN br0u-1996GR01181] Brazil: Rio de Janeiro , Rio de Janeiro City, Tijuca National Park Alt.: 500 m. Coll.: Leme, E. 128 05/1981 *2011

20 43. 3W Brocchinia tatei L.B.Sm.
[IPEN ve0u-2005GR01567] Venezuela , *2010

20 44. 3W Canistrum montanum Leme
[IPEN br0u-2002GR01569] Brazil: Bahia , Mun. Una, road Sao Jose - Una, km 9. Atlantic Rainforest. Coll.: Leme, E. 3022 07/04/1995 *2011

7 45. 3Z Deuterocohnia brevispicata Rauh & L. Hromadnik
[IPEN bo0u-1998GR01011] Bolivia , Dept. Chuquisaca Alt.: 1300 m. Coll.: Helmut & Lieselotte Hromadnik (Kritzendorf, Austria) 5213 *2011

13 46. 3W Dyckia ferox Mez
[IPEN py0u-1997GR00647] Paraguay , Dept. Cordillera, hills W of Tobati Alt.: 450 m. Coll.: Till, W. 6050 09/02/1991 *2011

2 47. 2G Dyckia velascana Mez
[IPEN xx0u-1990GR00444] *2010

12 48. 3W Edmundoa lindenii var. rosea (E.Morren) Leme
[IPEN br0u-2000GR00727] Brazil: Santa Catarina , Municipality of Florianopolis, from Ilha de Santa Catarina. Buckup *2010

2 49. 3G Fosterella penduliflora (C.H.Wright) L.B.Sm.
[IPEN xx0u-2007GR01025] *2010

5 50. 3G Fosterella rojasii (L.B.Sm.) L.B.Sm.
[IPEN xx0u-2007GR01026] *2010

Bromeliaceae (cont.)

4 51. 3Z Fosterella rusbyi (Mez) L.B.Sm.
[IPEN bo0u-2000GR01112] Bolivia , La Paz, Puente de Coripata Alt.: 1150 m. *2010

6 52. 3G Guzmania monostachia var. alba Ariza-Julia
[IPEN xx0frp-17793] *2011

19 53. 3Z Guzmania osyana (E.Morren) Mez
[IPEN ec0u-2004GR01099] Ecuador , Hacienda Selva negra, road to Quito Coll.: Rauh, W. 34472 *2011

9 54. 3Z Guzmania osyana (E.Morren) Mez
[IPEN ec0u-2009GR01290] Ecuador , Near Hacienda Selva negra (ex. tipe of Guzmania recurvobracteata Rauh) Coll.: Rauh, W. 34472 *2011

8 55. 3Z Guzmania roezlii (E.Morren) Mez
[IPEN xx0u-2004GR01095] Ecuador , Alt.: 500 m. Coll.: Rauh, W. 34701 08/1973 *2011

3 56. 2G Guzmania wittmackii (Andr,) Andr, ex Mez
[IPEN xx0u-1996GR01170] *2011

21 57. 3W Mezobromelia capituligera (Griseb.) J.R.Grant
[IPEN ec0u-2006GR00061] Ecuador: Prov. Napo , Road Quito - Baeza Alt.: 1960 m. Coll.: E.J.Gouda & J.Manzanares 05-11 19/11/2005 *2011

4 58. 2G Orthophytum sanctum L.B.Sm.
[IPEN xx0u-1992GR01144] *2010

6 59. 3W Pitcairnia altensteinii (Link, Klotzsch & Otto) Lem.
[IPEN ve0u-2006GR01032] Venezuela , N.-Venezuela, rancher station National Park Henri Pittier near Aragua and Carabobo *2010

12 60. 3Z Pitcairnia atrorubens (Beer) Bak.
[IPEN cr0u-2007GR01150] Costa Rica , Schoser, G. s.n. 1989 *2010

5 61. 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 *2011

9 62. 3W Pitcairnia caricifolia Mart.ex Schult.f.
[IPEN ve0u-2005GR01552] Venezuela , Ilu (weide) Tepui *2009

Bromeliaceae (cont.)

12 63. 3W Pitcairnia decidua L.B.Sm.
[IPEN br0u-2007GR01406] Brazil: Espirito Santo , Pedra Azul near Domingos Martins Coll.: Bruno Rezende Silva (RJBG) *2011

1 64. 3G Pitcairnia echinata Hook.f.
[IPEN xx0u-2004GR00680] *2010

3 65. 3Z Pitcairnia flammea var. glabrior L.B.Sm.
[IPEN br0u-2001GR00086] Brazil , Teresopolis *2010

4 66. 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

6 67. 3Z Pitcairnia heterophylla (Lindl.) Beer
[IPEN ec0u-2001GR00065] Ecuador: Prov. Esmaraldas. Lita-San Lorenzo *2011

11 68. 3Z Pitcairnia hitchcockiana L.B.Sm.
[IPEN ec0u-2006GR01008] Ecuador , Mera Alt.: 1300 m. Coll.: Fl,,schendr,,ger, A. s.n. 20/04/1995 *2011

8 69. 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

1 70. 3Z Pitcairnia imbricata (Brongn.) Regel
[IPEN gt0u-2005GR00894] Guatemala , 20 km from Guatemala City towards el Rancho Alt.: 800 m. Coll.: Radtke/Moldenhauer 183 *2011

5 71. 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

18 72. 3W Pitcairnia lehmannii Baker
[IPEN ec0u-2008GR01066] Ecuador: Prov. Azuay , N of Tres Ranchos, road to Paraiso Alt.: 1979 m. Coll.: E.J.Gouda, J.Manzanares & B.Patterson 08-47 01/04/2008 *2011

6 73. 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 *2011

Bromeliaceae (cont.)

4 74. 3W Pitcairnia paniculata (Ruiz & Pav.) Ruiz & Pav.
[IPEN xx0u-2005GR01560] Peru , Tarapoto - Moyobamba Alt.: 700 m. Coll.: Peter Bak s.n. 09/2003 *2010

6 75. 3W Pitcairnia sceptrigera Mez
[IPEN ec1u-2006GR00034] Ecuador: Prov. Azuay , Road Cuenca - Passaje Alt.: 700 m. Coll.: E.J.Gouda & J.Manzanares 05-24 22/11/2005 *2011

3 76. 3W Pitcairnia spicata (Lam.) Mez
[IPEN mq0u-2007GR01343] Martinique , *2010

4 77. 3W Pitcairnia villetaensis Rauh
[IPEN co0u-2000GR00646] Colombia , Bogota - Villeta Alt.: 900 m. Coll.: Rauh, W. 37089 *2011

2 78. 3G Pitcairnia xanthocalyx Mart.
[IPEN xx0u-1997GR00501] *2010

9 79. 3W Puya floccosa (Linden) E.Morren
[IPEN ve0u-2008GR01403] *2010

2 80. 3G Puya mirabilis (Mez) L.B.Sm.
[IPEN xx0u-2001GR00867] *2007

25 81. 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

13 82. 3G Racinaea fraseri (Baker) Spencer & L.B.Sm.
[IPEN xx0u-2007GR01052] *2011

11 83. 3Z Racinaea insularis (Mez) M.A.Spencer & L.B.Sm.
[IPEN ec0u-2000GR00640] Ecuador: Gal pagos , Coll.: Rauh, W. 34230 1979 *2011

16 84. 3W Tillandsia chapailillaensis Ehlers
[IPEN mx0u-2004GR00599] Mexico: Nayarit , near Chapallila, South of Tepic 15, km 18/19 Coll.: Ehlers, Renate EM041501 18/02/2004 *2011

8 85. 3W Tillandsia complanata Benth.
[IPEN pe0u-2010GR00363] Peru , 09/2003 *2011

13 86. 3W Tillandsia extensa Mez
[IPEN pe1heid-130095] Peru , Valley de Rio Sauce, Puente Popoyan Alt.: 500 m. Coll.: Rauh, W. 20242 07/1967 *2010

12 87. 3W Tillandsia extensa Mez
[IPEN pe1heid-130109] Peru , Cochabamba, on the ground Alt.: 3400 m. Coll.: Rauh, W. 20559 27/08/1967 *2010

Bromeliaceae (cont.)

6 88. 3W Tillandsia heterophylla E.Morren
[IPEN mx0u-2004GR01125] *2011

10 89. 3G Tillandsia oerstediana L.B.Sm.
[IPEN xx0u-2005GR01563] *2010

15 90. 3W Tillandsia tovarensis Mez
[IPEN ve0u-2009GR01171] Venezuela , Alt.: 2500 m. Coll.: Frank Hase (Bochum, Germany) *2011

8 91. 3G Ursulaea macvaughii (L.B.Sm.) R.W.Read & H.U.Baensch
[IPEN xx0u-1999GR00775] *2010

6 92. 1W Vriesea procera (Mart. ex Schult.f.) Wittm.
[IPEN ec0u-2010GR00361] Ecuador , Elly Bak 1986 *2010

6 93. 3G Vriesea saundersii (Carr.) E.Morr. ex Mez
[IPEN xx0u-2006GR01612] *2010

Campanulaceae

8 94. 2Z Campanula primulifolia Brot.
[IPEN pt0u-1997BL00455] Portugal , Algarve, Serra de Monchique, Perna de Negra; 94-08-00 *2009

14 95. 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

9 96. 1W Lobelia cardinalis L.
[IPEN us0u-2006ZE01427] United States: New Jersey , Sussex Co. Sparta Turnpike, Sparta Mountain 20/09/2005 *2008

4 97. 1W Lobelia siphilitica L.
[IPEN us0u-2006BL00742] United States: Michigan , Clinton county, S Shrub-Carr, Rose Lake Fen 2-track Alt.: 256 m. *2009

Caryophyllaceae

5 98. 2W Dianthus giganteiformis aff. subsp. pontederae (A.Kerner) Soć
[IPEN at0u-2001BL00897] Austria , Niederosterreich, Weinvierrtel, Leiser Berge, buschberg ca. 5.5 km N Ernstbrunn. Alt.: 450 m. 21/08/1999 *2007

5 99. 2Z Dianthus subacaulis subsp. subacaulis
[IPEN fr0u-1994BL01124] France , Herault, Felines-Minervois *2010

6 100. 1W Drypis spinosa L.
[IPEN hr0u-2005BL00106] Croatia , Velebit Bot.Garden Coll.: S. KovaŠi' s.n. 10/09/2002 *2010

1 101. 1W Lychnis viscaria (L.) Jess.
[IPEN no0u-2003BL01128] Norway , Oppland, Lillehammer, Faberg, Finnerud. Alt.: 400 m. 17/07/2002 *2010

Cistaceae

8 102. 2W Helianthemum nummularium subsp. grandiflorum (Scop.) Schinz & Thell.
[IPEN it0u-2002BL01324] Alps , Dolomites, Canazei - Caprile, Mnt. Marmolada. Alt.: 1750 m. Coll.: Gouda, E.J. 2002-82 09/08/2002 *2011

Crassulaceae

4 103. 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

4 104. 2W Sedum stoloniferum S.G.Gmel.
[IPEN ge0u-1977BL00127] Georgia , Abkhazia (Caucasus), Awadchara. *2011

Cupressaceae

10 105. 2W Cupressus torulosa D.Don
[IPEN np0u-2002RD00103] Nepal , Himalaya. Mustang, Tukuche area, Forest zone. Coll.: Chadwell, C. et al. 4046 2001 *2011

Dipsacaceae

4 106. 1W Cephalaria transylvanica (L.) Roemer & Schultes
[IPEN ro0u-2008BL00444] Romania , Tulcea, Donau-delta Coll.: Bas v/d Riet 08/2007 *2011

4 107. 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

8 108. 2G Enkianthus cernuus var. rubens (Maxim.) Makino
[IPEN xx0u-1900ZG00184] *2009

2 109. 2G Kalmia angustifolia L.
[IPEN xx0u-1900ZG00034] *2008

5 110. 2G Kalmia latifolia L.
[IPEN xx0u-1900ZG01222] *2009

3 111. 2G Rhododendron canadense (L.) Torr.
[IPEN xx0u-1900ZG00097] *2009

8 112. 2G Zenobia pulverulenta (W.Bartram ex Willd.) Pollard
[IPEN xx0u-1900ZG01146] *2008

Fabaceae

14 113. 2W Anthyllis montana subsp. montana
[IPEN fr0u-1987BL00366] France , Montagne de Tauch, Aude. *2010

3 114. 1W Dorycnium pentaphyllum subsp. pentaphyllum
[IPEN it0u-2001BL00098] Italy , S□dtirol, Bozen SE, Tiers N, V"lsegg, Trockenhang. Alt.: 1200 m. 06/2000 *2010

1 115. 1G Rhynchosia precatoria DC.
[IPEN xx0u-1994GR00296] *2011

Geraniaceae

10 116. 1G Geranium maderense Yeo
[IPEN] *2010

Gesneriaceae

14 117. 2G Haberlea rhodopensis Friv.
[IPEN xx0u-1966BL00054] *2010

Iridaceae

7 118. 2W Gladiolus imbricatus L.
[IPEN gr0u-1977BL00056] Greece: Thracia , Dahsia (NE of Alexandropolis). Alt.: 330 m. *2010

11 119. 2W Iris ensata Thunb.
[IPEN kr0u-1994BL00073] Korea, Republic of: Cheju Do (Quelpaert Isl.) , Mt. Halla. Alt.: 1100 m. *2008

4 120. 1W Iris foetidissima L.
[IPEN fr0u-1999BL00576] France , Finistere, Mouelan-sur-Mer, Pointe de Kerhermen. Alt.: 10 m. *2008

13 121. 2W Iris hartwegii Baker
[IPEN us0u-1996BL00959] United States: California , Humbold Co., N of Eureka, Prairie Creek Redwoods State Park, Fern Canyon. Alt.: 40 m. *2010

15 122. 1Z Iris magnifica Vved.
[IPEN uz0u-1998BL00395] Uzbekistan, Rusdakairg. *2011

7 123. 2Z Iris sintenisii subsp. sintenisii Janka
[IPEN bg0u-1995BL00180] Bulgaria , Eastern Sredna Gora Mts Coll.: Sterz *2011

6 124. 1Z Iris spuria subsp. sogdiana (Bunge) Mathews
[IPEN ru0u-1982BL00251] Russian Federation: Asiatic Russia exact location not known 1981 *2009

Lamiaceae

4 125. 2G Scutellaria indica var. parvifolia (Mak.) Mak.
[IPEN xx0u-1990BL00804] *2011

Liliaceae

7 126. 1G Gloriosa superba L.
[IPEN xx0u-1977GR00234] *2010

8 127. 2U Paris quadrifolia L.
[IPEN xx0u-2007BL00933] *2010 8

21 128. 2G Trillium chloropetalum var. giganteum (Hook. & Arn.) A.E.Murray 8
[IPEN xx0u-2007BL01368] *2011

25 129. 2W Trillium flexipes Raf.
[IPEN us0u-2008BL01794] United States: Alabama , *2011 8 +1 09-1134 =6

23 130. 2G Trillium grandiflorum (Michx.) Salisb.
[IPEN xx0u-2000BL00242] *2011

14 131. 2U Trillium grandiflorum (Michx.) Salisb.
[IPEN xx0u-2002BL00679] *2011 8 +2 02-632 W 93-104 W

29 132. 2G Trillium kurabayashii Freeman
[IPEN xx0u-2000BL00131] *2011 8

21 133. 1G Trillium vaseyi Harb.
[IPEN xx0u-1998BL00903] *2011

9 134. 2G Trillium x erectum 'hybride' L.
[IPEN xx0u-1986BL00072] *2011 8

albidum 90-1147 6
angustipetalum 07-615
sulcatum 08-1495

Menispermaceae

6 135. 2W Menispermum canadense L.
[IPEN us0u-1997RD00161] U.S.A., Michigan, Ingham County, Mesic Southern Forest, Sitename: Sanford Woodlot, coll.: 96-10-16. Alt.: 253 m. *2010

Paeoniaceae

15 136. 1G Paeonia japonica (Makino) Miyabe & Takeda
[IPEN xx0u-2006BL01459] *2011

10 137. 2G Paeonia mlokosewitschii Lomakin
[IPEN xx0u-1967BL00273] *2011

Papaveraceae

9 138. 1W Macleaya cordata (Willd.) R.Br.
[IPEN jp0u-2007BL00823] Japan: Shizuoka Pref. Fujinomiya-shi 26/10/2006 *2011

3 139. 1G Meconopsis betonicifolia 'Alba' Franch.
[IPEN xx0u-2003BL01541] *2008

9 140. 2G Meconopsis betonicifolia Franch.
[IPEN xx0u-1964BL00209] *2011

Pinaceae

12 141. 2G Pseudolarix amabilis (A.Nelson) Rehder
[IPEN xx0u-1900ZG00915] *2009

Plumbaginaceae

7 142. 2G Limonium minutum (L.) Fourr.
[IPEN xx0u-1984BL00199] *2011

Poaceae

5 143. 1W Bouteloua gracilis (Willd. ex Kunth) Lag. ex Griffiths
[IPEN us0u-2002BL00753] United States: South Dakota , *2008

9 144. 2G Phyllostachys kwangsiensis W.Y.Hsiung, Q.H.Dai & J.K.Liu
[IPEN xx0u-2003ZS01271] *2010

Polygonaceae

10 145. 1W Eriogonum umbellatum var. umbellatum
[IPEN us0u-1994BL01273] United States: Colorado , Jefferson County, South Table Mtn. Alt.: 1859 m. *2011

9 146. 2W Eriogonum umbellatum var. bahiiforme (Torrey & A. Gray) Jepson
[IPEN us0u-2006BL00242] United States: California , Klamath Mts. Coll.: Loren Russell, Corvallis OR s.n. 2005 *2011

3 147. 2G Eriogonum umbellatum var. subaridum S.Stokes
[IPEN xx0u-1994BL00472] *2011

Primulaceae

11 148. 2G Androsace carnea subsp. rosea (Jordan & Fourr.) Rouy
[IPEN xx0u-2008BL01757] *2011

6 149. 2W Primula elatior subsp. intricata (Gren. & Godr.) L□di
[IPEN it0u-2008BL00406] Italy , Dolomites, mnt. Marmolada Alt.: 1550 m. Coll.: Gouda, E.J. 07-41 15/08/2007 *2010

Ranunculaceae

2 150. 2W Aconitum lycoctonum subsp. vulparia (Rchb.) Nyman
[IPEN fr0u-1979BL00015] France , Ain mountains (Praffion - Jura Francais), 78-11-01. Alt.: 1350 m. *2010

13 151. 2W Clematis songorica var. songorica Hook. & Arn.
[IPEN mn0u-2010BL00552] China: Inner Mongolia , *2011

Rosaceae

2 ~~152. 2G Acaena magellanica (Lam.) Vahl~~
~~[IPEN xx0u-1965BL00324] *2011~~

0 153. 1W Aruncus dioicus (Walter) Fernald
[IPEN ch0u-2007BL01365] Switzerland , Hasliberg, near Meiringen Alt.: 1400 m. Coll.: Gerard van Buiten s.n. *2011

Rubiaceae

3 154. 1W Cephalanthus occidentalis L.
[IPEN us0u-1994RD01206] U.S.A., Massachusetts, Hatfield, Holyoke. *2011

Saxifragaceae

7 155. 2Z Heuchera chlorantha Piper
[IPEN ca-0-mb-1990/367] Canada: British Columbia , Lillooet R.50 *2011

5 156. 2W Saxifraga cherlerioides var. rebunshirensis (Engl. & Irmsch.) Hara
[IPEN jp0u-1997BL00485] Japan , Hokkaido, Mt. Nishi-kumaneschiri-dake, Katoh-gun. *2011

6 157. 1W Saxifraga cotyledon L.
[IPEN it0u-2003BL00068] Italy , Champorcher, V. Brenve. Alt.: 1300 m. *2011

4 158. 2W Saxifraga rosacea subsp. rosacea
[IPEN fr0u-1978BL00056] France , Jura Croncot *2010

Sciadopityaceae

6 159. 1G Sciadopitys verticillata (Thunb. ex Murray) Siebold & Zucc.
[IPEN xx0u-1996RD01105] *2011

Scrophulariaceae

5 160. 2W Antirrhinum majus subsp. majus
[IPEN it0u-2006BL00424] Italy , Mesina, Taormina 07/2001 *2011

5 161. 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

10 162. 2Z Digitalis ferruginea subsp. ferruginea
[IPEN tr0u-2000BL00393] Turkey , N.-Anatolia, Bithynia: Ala-Dag, Kartalkaya 10 km before ski station. Alt.: 1600 m. *2011

9 163. 2W Digitalis obscura L.
[IPEN es0u-2008BL00641] Spain , Sierra Nevada Alt.: 1700 m. *2011

6 164. 2W Digitalis viridiflora Lindl.
[IPEN bg0u-2002BL01044] Bulgaria , Eastern Rodopi. Alt.: 1700 m. 25503 2002 *2011

2 165. 2G Mimulus cardinalis Douglas
[IPEN xx0u-1977BL00141] *2009

3 166. 2W Penstemon alpinus Torr.
[IPEN us0u-1996BL00291] United States: Colorado , Jefferson County. Alt.: 2300 m. *2010

4 167. 1W Penstemon cardwellii T.J.Howell
[IPEN us0u-1991BL00700] United States: Oregon , Multnomah Co., no further details! Alt.: 1080 m. *2010

5 168. 2G Penstemon pinifolius E.Greene
[IPEN xx0u-1969BL00346] *2010

11 169. 2G Penstemon procerus var. tolmiei (W.J.Hook) Cronq.
[IPEN xx0u-1987BL00440] *2011

3 170. 2G Penstemon serrulatus Menzies
[IPEN xx0u-1972BL00081] *2011

5 171. 2G Penstemon smallii A.A.Heller
[IPEN xx0u-2007BL01697] *2010

Scrophulariaceae (cont.)

3 172. 2Z Penstemon strictiformis Rydb.
[IPEN us0u-1997BL00959] United States: Colorado , Kenosha Pass, Park County. Alt.: 3110 m. *2010

8 173. 1W Penstemon whippleanus A.Gray
[IPEN us0u-2008BL01665] United States: California , Mineral Co. Alt.: 3311 m. *2011

7 174. 1Z Phygelius 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 Expedition 315 *2011

2 175. 2Z Veronica bachofenii Heuff.
[IPEN ro0u-2000BL01251] Romania , NW Romania, Apuseni Mts., Podisul Padesului, valley of the Galbena r. near Poiana Florilor; 1995. *2011

Sterculiaceae

4 176. 1G Abroma augusta (L.) L.f.
[IPEN xx0u-1987GR00028] *2011

Taxodiaceae

8 177. 2W Metasequoia glyptostroboides Miki ex Hu & W.C.Cheng
[IPEN cn0u-1961RD01676] China: Sichuan , Wanxian Co., Shui-Hsa-Pa Valley, Modaoqi Village. *2011