



**Repertorium  
Plantarum  
Succulentarum  
L (1999)**





# Repertorium Plantarum Succulentarum L (1999)

*Index nominum novarum plantarum succulentarum anno MCMXCIX  
editorum nec non bibliographia taxonomica ab U. Eggli et D. C. Zappi  
compositus.*

International Organization for Succulent Plant Study  
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### Conventions used in Repertorium Plantarum Succulentarum

- Repertorium Plantarum Succulentarum attempts to list, under separate headings, newly published names of succulent plants and relevant literature on the systematics of these plants, on an annual basis. New names noted after the issue for the relevant year has gone to press are included in later issues. Specialist periodical literature is scanned in full (as available at the libraries at ZSS and Z or received by the compilers). Also included is information supplied to the compilers direct. It is urgently requested that any reprints of papers not published in readily available botanical literature be sent to the compilers.
- Validly published names are given in bold face type, accompanied by an indication of the nomenclatural type (name or specimen dependent on rank), followed by the herbarium acronyms of the herbaria where the holotype and possible isotypes are said to be deposited (first acronym for holotype), according to Index Herbariorum, ed. 8 and supplements as published in Taxon. Invalid, illegitimate, or incorrect names are given in *italic* type face. In either case a full bibliographic reference is given. For new combinations, the basionym is also listed. For invalid, illegitimate or incorrect names, the articles of the ICBN which have been contravened are indicated in brackets (note that the numbering of some regularly cited articles has changed in the Tokyo (1994) edition of ICBN).
- The compilers would like to point out that they do not accept any names that might be inadvertently validated in this volume of RPS.
- Bibliographic details of papers dealing only with the description of one or two new taxa are not repeated in the bibliographic section.
- Abbreviations for periodicals are those suggested in 'Bibliography of Succulent Plant Periodicals' (U. Eggli in Friciana 60: 1-139, 1998 ('1995')) for specialized periodicals, or those of Bibliographia Periodicorum Huntianum (including Supplement) for most other periodicals.

### Konventionen im Zusammenhang mit dem Repertorium Plantarum Succulentarum

- Das Repertorium Plantarum Succulentarum ist eine jährlich herausgegebene Zusammenstellung neuer Namen für sukkulente Pflanzen und der relevanten systematischen Literatur. Neue Namen, die nach der Drucklegung der Ausgabe des betreffenden Jahres bekannt werden, erscheinen in der nächsten erreichbaren Ausgabe. Spezialisierte Zeitschriften werden umfassend durchgesehen, soweit sie in den Bibliotheken von Z und ZSS vorhanden sind oder den Herausgebern privat vorliegen. Die Herausgeber bitten alle Autoren dringend, Separata relevanter Publikationen zur Verfügung zu stellen, vor allem wenn es sich um Beiträge in schwer zugänglichen Serien handelt.
- Gültig veröffentlichte Namen werden in Fettschrift wiedergegeben unter Angabe des nomenklatorischen Typs (Name oder Belegexemplar je nach Rangstufe; gefolgt von den Herbarabkürzungen [entsprechend Index Herbariorum, ed. 8, und in Taxon publizierten Supplementen] der publizierten Hinterlegungsorte für Holotyp [1. Abkürzung] und Isotypen). Ungültige, illegitime oder falsch angewandte Namen erscheinen in *Kursivschrift* unter Angabe (in Klammer) derjenigen Artikel des ICBN, die verletzt worden sind. In allen Fällen folgen die kompletten bibliographischen Angaben. Für Umkombinationen wird auch das Basionym angegeben. Dabei ist zu beachten, dass die Nummerierung einiger häufig zitierter Artikel mit dem Erscheinen der Tokyo-Version (1994) des ICBN geändert hat.
- Die Herausgeber weisen mit aller Deutlichkeit darauf hin, dass sie keinen Namen anerkennen, der zufälligerweise in dieser Ausgabe des RPS validiert worden sein könnte.
- Beiträge, welche nur Beschreibungen eines oder zweier Taxa enthalten, werden in der bibliographischen Liste nicht separat aufgeführt.
- Die Abkürzungen für spezialisierte Sukkulente-Zeitschriften richten sich nach 'Bibliography of Succulent Plant Periodicals' (U. Eggli in Friciana 60: 1-139, 1998 ('1995')), für allgemeine botanische Zeitschriften in der Regel nach Bibliographia Periodicorum Huntianum und Supplement.

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## Preface by the President of IOS

*Repertorium Plantarum Succulentarum:*

*A mainstay of the International Organization for Succulent Plant Study*

As members of the International Organization for Succulent Plant Study (IOS) in 2000, we can now look back on 50 years of the existence of and involvement in an Organization that concerns itself exclusively with the study of succulent plants. This in itself might seem like a good enough reason to belong to the IOS. But without products associated with this noble cause, it is little more than an exclusive "old boys' club" of mostly succulent plant researchers, an indulgence that can be ill-afforded in the consumer-driven environment in which all of us nowadays operate. Indeed, a perceived drawback of membership of the IOS is that it does not publish its own learned or even hobbyist journal. This has, in fact, been the case from its inception in 1950.

However, the IOS has been producing a newsletter (titled "IOS Bulletin") for many years and, just as important, the *Repertorium Plantarum Succulentarum* (RPS), the annual bibliography of published succulent plant research. These two publications have been the mainstay of the Organization for many years and have indeed made membership thoroughly worthwhile.

It is therefore a privilege to contribute a foreword to the 50th anniversary edition of the RPS. All the issues of this journal put together represent the most comprehensive compilation of information related to the past 50 years of succulent plant research, particularly with reference to new names established for the plants we love so dearly. However, dictionaries and compilations of the nature of the RPS are generally not cited in the lists of references provided at the end of scientific or popular papers, creating the impression that they are of little use. But quite the opposite is true: we know for sure that they are used frequently and extensively. Indeed, for every part of the world, regardless of the size or diversity of its flora, we can draw up lists of similar publications that are indispensable reference works, dog-eared through frequent use. The immense utilitarian value of the RPS should therefore not be underestimated. It certainly belongs on the bookshelf of every researcher interested in the succulents of the world.

Compiling a bibliography of the nature of the RPS is not a charismatic job: few scientists have the patience, dedication or even the encyclopedic knowledge to attempt such an onerous task. Short of aiming to put together issues that are as complete and correct as possible, there are few challenges to this time-consuming exercise. Indeed, these documents are usually mentioned in discussions only when they exclude, by mistake, a particular item searched for by the user. But that is the criticism with which a compiler of bibliographies must live and make peace. However, compilers can rest assured that such criticism is a positive reflection on their efforts to facilitate the research of others. This is even more so when one's works are later taken up in a book for easy reference, as has happened with the early RPS volumes when the Royal Botanic Gardens Kew and the Sukkulanten-Sammlung Zürich published the "List of *Cactaceae* Names from *Repertorium Plantarum Succulentarum* (1950-1990)" and the "List of Names of Succulent Plants (other than Cacti) from *Repertorium Plantarum Succulentarum* (1950-1992)".

Finally, this brief message can never be complete without paying homage to the past and current compilers of the RPS. Without their dedication, the scientific world in general would have been so much the poorer. Drs Urs Eggli and Daniela Zappi, and their predecessors, are therefore to be congratulated on having produced a series of milestones and essential reference works as part of the history of the IOS.

*Prof. Gideon F. Smith, President of IOS*

### Compilers' Preface

This issue of RPS again includes numerous bibliographical references which have been overlooked in previous years. As a policy, we are including additions for the past 5 years, i.e. 1995-onwards. These additions are mainly the result of help provided by Reto Nyffeler, Harvard University, Cambridge, and V. V. Byalt, Komarov Botanical Institute, St. Petersburg. We are very grateful for this valuable help, as well as to all colleagues who have supplied separate prints of their relevant papers.

A special word of thanks is due to Katherine Challis of the Index Kewensis team at Kew, for her helpful suggestions and discussions of various "thorny" nomenclatural problems.

The Compilers

### Vorwort der Herausgeber

Auch diese Ausgabe des RPS enthält wieder zahlreiche Literaturhinweise, die in früheren Jahren übersehen wurden. In der Regel werden Nachträge aus den letzten 5 Jahren berücksichtigt, d.h. also ab 1995. Diese Ergänzungen sind hauptsächlich das Resultat der Hilfe von Reto Nyffeler, Harvard University, Cambridge, und V. V. Byalt, Komarov Botanical Institute, St. Petersburg. Wir sind für diese wertvolle Unterstützung sehr dankbar und danken auch allen Fachkolleginnen und -kollegen, die uns im Laufe des Jahres mit Separatdrucken ihrer Veröffentlichungen versorgt haben.

Ein spezieller Dank gebührt Katherine Challis vom Index-Kewensis-Team in Kew für ihre hilfreichen Vorschläge und Diskussionen verschiedener "dorniger" Nomenklaturprobleme.

Die Herausgeber



## Corrections to previous volumes

- The combination *Rebutia nigricans* (Wessner) Hunt (Oct. 1997) as given in RPS 48 has been pre-dated by J. Pilbeam in his book *Rebutia*, p. 61 (publ. mid-May 1997).
- The basionym for *Antimima androsacea* was incorrectly given in RPS 49 and should have been *Ruschia androsacea*, and the basionym for *Antimima propinqua* should have been *Mesembryanthemum propinquum*. The basionym for *A. compacta* is also erroneous and should have been *Ruschia compacta* L. Bolus.
- *Antimima persistens* was published as combination and given as such in RPS 49 but should have been treated as *nom. nov.* according to ICBN Art. 58.3 Ex. 2, and is accordingly cited as *A. persistens* H. E. K. Hartmann.
- The basionym for *Echinomastus unguispinus* ssp. *loui* was inadvertently given as *Echinocereus loui* in RPS 49, but should of course have been *Echinomastus loui*.
- The specific epithet of *Kalanchoe ndotoensis* was incorrectly spelled 'ndotensis' in RPS 49.
- The combination *Orostachys paradoxa* was incorrectly ascribed to Byalt in RPS 49, but was in fact published by Czerepanov in *Vasc. Pl. Russia Adjac. States*, 193, 1995.
- The name *Euphorbia obtusifolia* var. *wildpretii* has been listed as invalid under Art. 43.1 in RPS 49, but it is merely incorrect under Art. 11.4.

## Korrekturen zu früheren Bänden

- Die im RPS 48 aufgeführte Kombination *Rebutia nigricans* (Wessner) Hunt (Oct. 1997) wurde bereits vorher durch J. Pilbeam in seinem Buch *Rebutia*, p. 61 (publ. Mitte Mai 1997) publiziert.
- Das Basionym für *Antimima androsacea* wurde im RPS 49 falsch angegeben und ist *Ruschia androsacea*, und das korrekte Basionym für *Antimima propinqua* ist *Mesembryanthemum propinquum*. Auch das für *A. compacta* angegebene Basionym ist falsch und lautet richtig *Ruschia compacta* L. Bolus.
- *Antimima persistens* wurde als Kombination veröffentlicht und im RPS 49 auch entsprechend aufgenommen, muss aber gemäss ICBN Art. 58.3 Ex. 2 als *nom. nov.* betrachtet und entsprechend als *A. persistens* H. E. K. Hartmann zitiert werden.
- Das Basionym für *Echinomastus unguispinus* ssp. *loui* wurde im RPS 49 fälschlicherweise als *Echinocereus loui* angegeben, muss aber natürlich *Echinomastus loui* lauten.
- Der Artnamen von *Kalanchoe ndotoensis* wurde im RPS 49 unkorrekterweise 'ndotensis' geschrieben.
- Die Kombination *Orostachys paradoxa* wurde im RPS 49 fälschlicherweise Byalt zugeschrieben, wurde aber bereits 1995 von Czerepanov in *Vasc. Pl. Russia Adjac. States*, 193, beschrieben.
- Der Name *Euphorbia obtusifolia* var. *wildpretii* wurde im RPS 49 als ungültig unter Art. 43.1 bezeichnet, ist aber lediglich unter Art. 11.4 unkorrekt.

## NOMINA NOVA

## AGAVACEAE

- Agave apedicellata* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. [Nom. nov. pro *Bravoa sessiliflora* Hemsley 1880 (non *Agave sessiliflora* Hemsley 1880).]
- Agave xblissii* (Worsley) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Basionym: *Polianthes xblissii*.
- Agave bulliana* (Baker) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Bravoa bulliana*.
- Agave xbundrantii* (Howards) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Basionym: *Polianthes xbundrantii*.
- Agave chameleensis* (E. J. Lott & Verhoek-Williams) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 110, 1999. Basionym: *Manfreda chameleensis*.
- Agave confertiflora* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. [Nom. nov. pro *Bravoa densiflora* B. L. Robinson & Fernald 1894; non *Agave densiflora* Hooker 1857.]
- Agave dolichantha* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Typus: *Rose et Hay* 6290 (US [lecto]) [Lectotype according to Thiede, SPS3 ms. 1999.]. [Nom. nov. pro *Polianthes longiflora* Rose 1903 (non *Agave longiflora* (Rose) G. D. Rowley 1977).]
- Agave duplicata* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Typus: *Lexarza* s.n. (not preserved?). [Nom. nov. pro *Bravoa geminiflora* Lexarza 1824 (non *Agave geminiflora* (Tagliabue) Ker Gawler 1817).]
- Agave duplicata* ssp. *clivicola* (McVaugh) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Basionym: *Polianthes geminiflora* var. *clivicola*.
- Agave duplicata* ssp. *graminifolia* (Rose) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Polianthes graminifolia*.
- Agave gracilis* García-Mendoza & E. Martínez, *Sida* 18(1): 227-229, ills., 1998. Based on Martínez et al. 2639. *Nom. illeg.* (Art. 53.1). [Non *Agave gracilis* Jacobi 1865 nec Jacobi 1870.]
- Agave howardii* (Verhoek-Williams) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Polianthes howardii*.
- Agave involuta* (McVaugh) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 110, 1999. Basionym: *Manfreda involuta*.
- Agave longibracteata* (Verhoek-Williams) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 110, 1999. Basionym: *Manfreda longibracteata*.
- Agave michoacana* (Cedano & al.) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Polianthes michoacana*.
- Agave nanchititlensis* (Matuda) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 110, 1999. Basionym: *Manfreda nanchititlensis*.
- Agave neonelsonii* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Typus: *Nelson* 4630 (US?). [Nom. nov. pro *Polianthes nelsonii* Rose 1903; non *Agave nelsonii* Trelease 1912.]
- Agave neopringlei* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Typus: *Pringle* 5438 (GH, US). [Nom. nov. pro *Polianthes pringlei* Rose 1903; non *Agave pringlei* Engelmann ex Orcutt 1883.]
- Agave palustris* (Rose) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Polianthes palustris*.
- Agave platyphylla* (Rose) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Basionym: *Polianthes platyphylla*.
- Agave producta* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. [Nom. nov. pro *Polianthes elongata* Rose 1905 (non *Agave elongata* Jacobi 1865).]
- Agave rosei* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. Typus: *Rose* 2178 (US). [Nom. nov. pro *Polianthes montana* Rose 1903 (non *Agave montana* Villarreal 1996).]
- Agave schidigera* cv. *Durango Delight* G. D. Starr, *Desert Pl.* 14(2): 31, ill., 1999. [Dated 1998, received 20. 2. 1999. Published as a trademark name.]
- Agave sileri* (Verhoek-Williams) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Basionym: *Manfreda sileri*.
- Agave stictata* Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 111, 1999. Typus: [icono]: Martius, *Ausw. merkw. Pfl.*, t. 13, 1831 [Type according to Thiede, SPS3 ms. 1999.]. [Nom. nov. pro *Polianthes maculata* Martius 1831 (non *Agave maculata* Regel 1856).]
- Agave tuberosa* (Linné) Thiede & Eggl, *Kakt. and. Sukk.* 50(5): 112, 1999. *Nom. illeg.* (Art. 53.1), based on *Polianthes tuberosa*. [Non *Agave tuberosa* Miller 1768.]
- Furcraea niquivilensis* Matuda ex García-Mendoza, *Novon* 9(1): 42-45, ills., 1999. Typus: *García-Mendoza et al.* 6441 (MEXU, ENCB, K, MO).
- Yucca angustissima* ssp. *avia* (Reveal) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca angustissima* var. *avia*. [Dated 1998, received Feb. 1999.]
- Yucca angustissima* ssp. *kanabensis* (McKelvey) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca kanabensis*. [Dated 1998, received Feb. 1999.]
- Yucca angustissima* ssp. *toftiae* (S. L. Welsh) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca toftiae*. [Dated 1998, received Feb. 1999.]
- Yucca arkansana* ssp. *louisianensis* (Trelease) Hochstätter, *Kaktusblüte* 1999: 26, ills. (pp. 30-31), 1999. Basionym: *Yucca louisianensis*. [Repeated in *Succulenta* 78(3): 122, 1999.]
- Yucca baileyi* ssp. *intermedia* (McKelvey) Hoch-



stätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca intermedia*. [Dated 1998, received Feb. 1999.]

*Yucca elata* ssp. *utahensis* (McKelvey) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca utahensis*. [Dated 1998, received Feb. 1999.]

*Yucca glauca* ssp. *stricta* (Sims) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca glauca* var. *stricta*. [Dated 1998, received Feb. 1999.]

*Yucca harrimaniae* ssp. *neomexicana* (Wootton & Standley) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca neomexicana*. [Dated 1998, received Feb. 1999.]

*Yucca harrimaniae* ssp. *sterilis* (Neese & S. L. Welsh) Hochstätter, *Cactaceae Rev.* 1(2): 21, 1999. Basionym: *Yucca harrimaniae* var. *sterilis*. [Dated 1998, received Feb. 1999.]

AIZOACEAE

*Aptenia cordifolia* cv. *Karine Lodé*, *Fichier Encycl. Cact. autres Succ.* 23: 2287, ill., 1999. [Given as 'n.n.' but probably validly published as cultivar.]

*Conophytum* Sect. *Batrachia* Opel & S. A. Hammer, *Cact. Succ. J. (US)* 71(3): 153, 1999. Typus: *Conophytum armianum* S. A. Hammer. The statement that the section is monotypic is interpreted as sufficient indication of the type under Art. 37.4.

*Conophytum cubicum* Pavelka, *Kaktusy 35(Speciál 1)*: 26-27, ill., 1999. Typus: *Pavelka* s.n. (PRC 960).

*Conophytum danielii* Pavelka, *Kaktusy 35(Speciál 1)*: 29-30, ill., 1999. Typus: *Pavelka* s.n. (PRC 962).

*Conophytum hanae* Pavelka, *Kaktusy 35(Speciál 1)*: 27-29, ill., 1999. Typus: *Pavelka* s.n. (PRC 961).

*Conophytum tomasi* Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 184, 1998. Based on *Halda* 97080130. *Nom. inval.* (Art. 37.5).

*Dinteranthus vanzylii* cv. *Emerald* Y. Shimada, *Cact. Succ. J. Japan* 13(8): 2-3, ill., 1999. [Repeated in *Mesemb Study Group Bull.* 14(3): 58, ill. (p. 67), 1999.]

*Faucaria felina* ssp. *britteniae* (L. Bolus) L. E. Groen, *Bothalia* 29(1): 41, 1999. Basionym: *Faucaria britteniae*.

*Faucaria felina* ssp. *tuberculosa* (Rolfe) L. E. Groen, *Bothalia* 29(1): 42, 1999. Basionym: *Mesembryanthemum tuberculosum*.

*Jacobsenia vaginata* (L. Bolus) Ihlenfeldt, *Mitt. Inst. Allg. Bot. Hamburg* 27: 124, 1997. Basionym: *Drosanthemum vaginatum*. [Omitted previously.]

*Khadia media* P. J. Winter & N. Hahn, *Aloe* 36(1): 16-17, ill., 1999. Typus: *Hahn et Winter* 1494 (PRE, BOL, UNIN).

×*Lapiderma* S. A. Hammer, *Mesemb Study Group Bull.* 14(4): 92, 1999. [= *Lapidaria* ×

*Argyroderma*.]

ALOACEAE

×*Algestoloba* D. M. Cumming, *Haworthiad* 13(1): 20, 1999. [= *Aloe* × *Astroloba* × *Gasteria*.]

*Aloe ahmarensis* Favell & al., *Cact. Succ. J. (US)* 71(5): 257-259, ill., 1999. Typus: *al-Gifri* 3776 (Herb. Univ. Aden).

*Aloe heybensis* Lavranos, *Cact. Succ. J. (US)* 71(3): 159-160, ill., 1999. Typus: *Lavranos et Bauer* 27847 (UPS).

*Aloe ruffingiana* Rauh & Petignat, *Kakt. and. Sukk.* 50(11): 270-272, ill., 1999. Typus: *Petignat* 671 (HEID).

×*Bayerara* D. M. Cumming, *Haworthiad* 13(1): 20, 1999. [= *Aloe* × *Gasteria* × *Haworthia*.]

×*Cummingara* G. D. Rowley, *Haworthiad* 13(3): 115, 1999. [*Nom. nov. pro* ×*Smithara* D. M. Cumming 1999 (nom. illeg.). = *Gasteria* × *Haworthia* × *Poellnitzia*.]

*Haworthia* Subgen. *Longifolia* M. Hayashi, *Haworthiad* 13(1): 20, 1999. Typus: *Haworthia graminifolia*.

*Haworthia* Subgen. *Oligonodes* M. Hayashi, *Haworthiad* 13(1): 20, 1999. Typus: *Haworthia attenuata*.

*Haworthia angustifolia* var. *altissima* M. B. Bayer, *Haworthia Revisited*, 26, ill. (p. 27), 1999. Typus: *Smith* 5220 (NBG).

*Haworthia angustifolia* var. *baylissii* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 27, ill., 1999. Basionym: *Haworthia baylissii*.

*Haworthia arachnoidea* var. *aranea* (A. Berger) M. B. Bayer, *Haworthia Revisited*, 30, ill. (p. 31), 1999. Basionym: *Haworthia bolusii* var. *aranea*.

*Haworthia arachnoidea* var. *namaquensis* M. B. Bayer, *Haworthia Revisited*, 31, ill., 1999. Typus: *Bayer* 1674 (NBG).

*Haworthia arachnoidea* var. *nigricans* (Haworth) M. B. Bayer, *Haworthia Revisited*, 32, ill., 1999. Basionym: *Haworthia setata* var. *nigricans*.

*Haworthia arachnoidea* var. *scabrispina* M. B. Bayer, *Haworthia Revisited*, 34, ill., 1999. Typus: *Bayer* 2105 (NBG).

*Haworthia arachnoidea* var. *setata* (Haworth) M. B. Bayer, *Haworthia Revisited*, 34, ill. (p. 35), 1999. Basionym: *Haworthia setata*.

*Haworthia attenuata* var. *radula* (Jacquin) M. B. Bayer, *Haworthia Revisited*, 167, ill., 1999. Basionym: *Aloe radula*.

*Haworthia blackburniae* var. *derustensis* M. B. Bayer, *Haworthia Revisited*, 41, ill., 1999. Typus: *Vlok* s.n. in *Venter* 93/24 (NBG).

*Haworthia blackburniae* var. *graminifolia* (G. G. Smith) M. B. Bayer, *Haworthia Revisited*, 42, ill., 1999. Basionym: *Haworthia graminifolia*.

*Haworthia coarctata* fa. *greenii* (Baker) M. B. Bayer, *Haworthia Revisited*, 172, ill., 1999. Basionym: *Haworthia greenii*.

- Haworthia coarctata* var. *adelaidensis* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 172, ills., 1999. Basionym: *Haworthia reinwardtii* var. *adelaidensis*.
- Haworthia cooperi* var. *dielsiana* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 51, ill., 1999. Basionym: *Haworthia dielsiana*.
- Haworthia cooperi* var. *gordoniana* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 52, ills., 1999. Basionym: *Haworthia gordoniana*.
- Haworthia cooperi* var. *pilifera* (Baker) M. B. Bayer, *Haworthia Revisited*, 54, ills., 1999. Basionym: *Haworthia pilifera*.
- Haworthia cooperi* var. *truncata* (H. Jacobsen) M. B. Bayer, *Haworthia Revisited*, 55, ill. (p. 56), 1999. Basionym: *Haworthia obtusa* f. *truncata*.
- Haworthia cooperi* var. *venusta* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 56, ills., 1999. Basionym: *Haworthia venusta*.
- Haworthia cymbiformis* var. *ramosa* (G. G. Smith) M. B. Bayer, *Haworthia Revisited*, 60, ill., 1999. Basionym: *Haworthia ramosa*.
- Haworthia cymbiformis* var. *reddii* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 61, ills., 1999. Basionym: *Haworthia reddii*. [Name first used in *Haworthiad* 12(2): 48, 1998.]
- Haworthia cymbiformis* var. *setulifera* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 62, ills., 1999. Basionym: *Haworthia planifolia* var. *setulifera*.
- Haworthia decipiens* var. *cyanea* M. B. Bayer, *Haworthia Revisited*, 65, ills. (pp. 65-66), 1999. Typus: *Bayer* 4180 (NBG).
- Haworthia decipiens* var. *minor* M. B. Bayer, *Haworthia Revisited*, 66, ills., 1999. Typus: *Smith* 3588 (NBG).
- Haworthia decipiens* var. *pringlei* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 67, ill., 1999. Basionym: *Haworthia pringlei*.
- Haworthia floribunda* var. *dentata* M. B. Bayer, *Haworthia Revisited*, 73, ills., 1999. Typus: *Dekenah* 90 in *Smith* 5502 (NBG).
- Haworthia floribunda* var. *major* M. B. Bayer, *Haworthia Revisited*, 74, ill., 1999. Typus: *De Kok* s.n. (NBG).
- Haworthia gracilis* var. *isabellae* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 77, ills., 1999. Basionym: *Haworthia isabellae*.
- Haworthia gracilis* var. *picturata* M. B. Bayer, *Haworthia Revisited*, 78, ills. (pp. 78-79), 1999. Typus: *Thode* 21507 (NBG).
- Haworthia gracilis* var. *tenera* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 77, ill. (p. 78), 1999. Basionym: *Haworthia tenera*.
- Haworthia gracilis* var. *viridis* M. B. Bayer, *Haworthia Revisited*, 79, ills., 1999. Typus: *Smith* 6867 (NBG).
- Haworthia heidelbergensis* var. *minor* M. B. Bayer, *Haworthia Revisited*, 82, ill., 1999. Typus: *Bayer* s.n. in *Karoo Garden* 36/70 (NBG).
- Haworthia heidelbergensis* var. *scabra* M. B. Bayer, *Haworthia Revisited*, 82, ills., 1999. Typus: *Bayer* 1700 (NBG).
- Haworthia heidelbergensis* var. *toonensis* M. B. Bayer, *Haworthia Revisited*, 83, ill., 1999. Typus: *Smith* 6797 (NBG).
- Haworthia herbacea* var. *flaccida* M. B. Bayer, *Haworthia Revisited*, 86, ills., 1999. Typus: *Bruyns* 7114 (NBG).
- Haworthia herbacea* var. *lupula* M. B. Bayer, *Haworthia Revisited*, 86, ills. (pp. 86-87), 1999. Typus: *Esterhuysen* s.n. (NBG).
- Haworthia herbacea* var. *paynei* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 87, ill., 1999. Basionym: *Haworthia paynei*.
- Haworthia koelmaniorum* var. *mcmurtryi* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 181, ills., 1999. Basionym: *Haworthia mcmurtryi*.
- Haworthia maculata* var. *intermedia* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 91, ills., 1999. Incorrect name (Art. 11.5), based on *Haworthia intermedia*. [*H. maculata* dates from 1976 at species rank, and the basionym of the variety thus has priority.]
- Haworthia marumiana* var. *archeri* (W. F. Barker ex M. B. Bayer) M. B. Bayer, *Haworthia Revisited*, 104, ills. (pp. 104-105), 1999. Basionym: *Haworthia archeri*.
- Haworthia marumiana* var. *batesiana* (Uitewaal) M. B. Bayer, *Haworthia Revisited*, 105, ill. (p. 106), 1999. Basionym: *Haworthia batesiana*.
- Haworthia marumiana* var. *dimorpha* (M. B. Bayer) M. B. Bayer, *Haworthia Revisited*, 106, ills., 1999. Basionym: *Haworthia archeri* var. *dimorpha*.
- Haworthia marumiana* var. *viridis* M. B. Bayer, *Haworthia Revisited*, 107, ills., 1999. Typus: *Bayer* 3620 (NBG).
- Haworthia minima* var. *poellnitziana* (Uitewaal) M. B. Bayer, *Haworthia Revisited*, 213, ills., 1999. Basionym: *Haworthia poellnitziana*.
- Haworthia mirabilis* ssp. *mundula* 'Batwings' Trager, *Cact. Succ. J. (US)* 71(2): 98, 1999.
- Haworthia mirabilis* var. *badia* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 109, ills., 1999. Basionym: *Haworthia badia*.
- Haworthia mirabilis* var. *beukmannii* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 110, ills., 1999. Basionym: *Haworthia emelyea* var. *beukmannii*.
- Haworthia mirabilis* var. *calcareae* M. B. Bayer, *Haworthia Revisited*, 110, ill. (p. 111), 1999. Typus: *Burgers* 1648 (NBG).
- Haworthia mirabilis* var. *consanguinea* M. B. Bayer, *Haworthia Revisited*, 111, ills., 1999. Typus: *Bayer* s.n. (NBG).
- Haworthia mirabilis* var. *sublineata* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 113, ills., 1999. Basionym: *Haworthia triebneriana* var. *sublineata*.
- Haworthia mirabilis* var. *triebneriana* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 113, ills. (p. 114), 1999. Basionym: *Haworthia triebneriana*.
- Haworthia monticola* var. *asema* M. B. Bayer, *Haworthia Revisited*, 117, ills., 1999. Typus: *Venter et de Vries* 12(85/83) (NBG).
- Haworthia mucronata* var. *habdomadis* (von



- Poellnitz) M. B. Bayer, *Haworthia Revisited*, 120, ills., 1999. Basionym: *Haworthia habdomadis*.
- Haworthia mucronata* var. *inconfluens* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 121, ills. (p. 122), 1999. Basionym: *Haworthia altilinea* f. *inconfluens*.
- Haworthia mucronata* var. *rooibergensis* J. Esterhuizen & Battista, *Haworthiad* 13(1): 5-7, ills., 1999. Typus: *Esterhuizen 7/97* (PRE).
- Haworthia mucronata* var. *rycroftiana* (M. B. Bayer) M. B. Bayer, *Haworthia Revisited*, 124, ills., 1999. Basionym: *Haworthia rycroftiana*. [Not clearly identified as new combination.]
- Haworthia mutica* var. *nigra* M. B. Bayer, *Haworthia Revisited*, 126, ills., 1999. Typus: *Smith 5753* (NBG).
- Haworthia nortieri* var. *pehlemanniae* (C. L. Scott) M. B. Bayer, *Haworthia Revisited*, 130, ills., 1999. Basionym: *Haworthia pehlemanniae*.
- Haworthia outeniquensis* M. B. Bayer, *Haworthia Revisited*, 130-131, ills., 1999. Typus: *Venter et al. 94/61* (NBG).
- Haworthia pubescens* var. *livida* M. B. Bayer, *Haworthia Revisited*, 134, ills., 1999. Typus: *Bayer 1128* (NBG).
- Haworthia pulchella* var. *globifera* M. B. Bayer, *Haworthia Revisited*, 136, ills., 1999. Typus: *Bruyns 7338* (BOL).
- Haworthia pungens* M. B. Bayer, *Haworthia Revisited*, 188-189, ills., 1999. Typus: *Bruyns 7090* (BOL).
- Haworthia reticulata* var. *attenuata* M. B. Bayer, *Haworthia Revisited*, 140, ills., 1999. Typus: *Smith 3979* (NBG).
- Haworthia scabra* var. *lateganiae* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 195, ills., 1999. Basionym: *Haworthia lateganiae*.
- Haworthia scabra* var. *starkiana* (von Poellnitz) M. B. Bayer, *Haworthia Revisited*, 197, ills., 1999. Basionym: *Haworthia starkiana*.
- Haworthia translucens* ssp. *tenera* 'Anemone' Trager, *Cact. Succ. J. (US)* 71(2): 98, 1999.
- Haworthia turgida* var. *longibracteata* (G. G. Smith) M. B. Bayer, *Haworthia Revisited*, 154, ills. (pp. 154-155), 1999. Basionym: *Haworthia longibracteata*.
- Haworthia variegata* var. *hemicrypta* M. B. Bayer, *Haworthia Revisited*, 158, ills., 1999. Typus: *Burgers 2582* (NBG).
- Haworthia variegata* var. *modesta* M. B. Bayer, *Haworthia Revisited*, 159, ills., 1999. Typus: *Bayer 2551* (NBG).
- Haworthia variegata* var. *petrophila* M. B. Bayer, *Haworthia Revisited*, 159, ills. (pp. 159-160), 1999. Typus: *Burgers 2158* (NBG).
- Haworthia vlokii* M. B. Bayer, *Haworthia Revisited*, 160-161, ills., 1999. Typus: *Vlok s.n. in Venter 91/2* (NBG).
- Haworthia zantneriana* var. *minor* M. B. Bayer, *Haworthia Revisited*, 164, ills., 1999. Typus: *Bayer 1702* (NBG).
- ×Maysara D. M. Cumming, *Haworthiad* 13(3): 115, 1999. [Nom. nov. pro ×Rowleyara D. M.

- Cumming 1999 (*nom. illeg.*) = *Astroloba* × *Gasteria* × *Haworthia*.]
- ×Rowleyara D. M. Cumming, *Haworthiad* 13(1): 20, 1999. *Nom. illeg.* (Art. 53.1). [= *Astroloba* × *Gasteria* × *Haworthia*. Non ×Rowleyara P. V. Heath 1992 (*Cactaceae*). Renamed ×Maysara D. M. Cumming, 1999.]
- ×Smithara D. M. Cumming, *Haworthiad* 13(1): 20, 1999. *Nom. illeg.* (Art. 53.1). [= *Gasteria* × *Haworthia* × *Poellnitzia*. Non Smithara 1966 for a 4-generic hybrid in *Orchidaceae* (fide G. D. Rowley, *I.c.* 13(3): 115, 1999).]

APOCYNACEAE

- Adenium obesum* cv. *Snowbell* G. D. Rowley, *Adenium* & *Pachypodium*, 26-27, ills., 1999. [A selection from Kenya with pure white flowers.]
- Pachypodium* cv. *Florid Lands* G. D. Rowley, *Adenium* & *Pachypodium*, 70, ills., 1999. [A selection from *Pachypodium* 'Arid Lands'.]
- Pachypodium gracilius* (H. Perrier) Rapanarivo, *Pachypodium Taxon. Habitats & Cultiv.*, 35-37, ills., 1999. Basionym: *Pachypodium rosulatum* var. *gracilius*.
- Pachypodium lamerei* cv. *Curlycrest* G. D. Rowley, *Adenium* & *Pachypodium*, 49, ills., 1999. [Crested *Pachypodium lamerei*.]
- Pachypodium lamerei* cv. *Particolour* G. D. Rowley, *Adenium* & *Pachypodium*, 49, ills., 1999. [Variegated *Pachypodium lamerei*.]

ASCLEPIADACEAE

- Ceropegia keniensis* Masinde, *Kew Bull.* 54(2): 477-481, ills., 1999. Typus: *Harvey 1374* (EA, K).
- Ceropegia konasiti* Masinde, *Cact. Succ. J. (US)* 71(3): 146-149, ills., 1999. Typus: *Masinde 819* (EA, K, MSUN).
- Fockea edulis* var. *capensis* (Endlicher) G. D. Rowley, *Asklepios* No. 75: 17, 1998. Basionym: *Fockea capensis*. [Dated Dec. 1998, received 25. Jan. 1999.]
- Hoya bicknellii* Kloppenburg, *Fraterna* 12(4): 12-15, ills., 1999. Typus: *Bicknell 1470* (UC).
- Hoya blashernaezii* Kloppenburg, *Fraterna* 12(1): 9-12, ills., 1999. Typus: *Hernaez s.n.* (BISH 97093) [Ex cult. T. Green, Hawaii].
- Hoya pimenteliana* Kloppenburg, *Fraterna* 12(3): 7-8, ills. (pp. 8-12), 1999. Typus: *Blas Hernaez s.n.* (UC 96034).
- Isehnolepis graminifolia* (Costantin & Gallaud) Klackenber, *Candollea* 54(2): 332, 1999. Basionym: *Pentopetia graminifolia*.
- Lavrania* Sect. *Cactoidea* Bruyns, *South Afr. J. Bot.* 65(4): 305, 1999. Typus: *Stapelia cactiformis* Hooker. First used as a combination for *Trichocaulon* Sect. *Cactoidea* A. C. White & B. Sloane 1937 (*nom. inval.*) by Bruyns in *Bot.*

- Jahr. Syst. 115(2): 245, 1993, and erroneously listed as correct in RPS 44.
- Ophionella arcuata** ssp. *mirkinii* (Pillans) Bruyns, Bot. J. Linn. Soc. 131(4): 395-396, ills., 1999. Basionym: *Pectinaria mirkinii*.
- Ophionella willowmorensis** Bruyns, Bot. J. Linn. Soc. 131(4): 396-397, ills., 1999. Typus: *Bruyns* 4966 (BOL).
- Piранthus атrosanguineus** (N. E. Brown) Bruyns, Syst. Bot. 24(3): 396, ills. (p. 395), 1999. Basionym: *Stapelia атrosanguinea*.
- Piранthus decipiens** (N. E. Brown) Bruyns, Syst. Bot. 24(3): 396, ills. (p. 395), 1999. Basionym: *Huertiopsis decipiens*.
- Quaqua** Sect. *Pauciflora* Bruyns, Bot. Jahrb. Syst. 121(3): 336, 1999. Typus: *Caralluma acutiloba* N. E. Brown.
- Quaqua** Sect. *Pseudorhytidocaulon* Bruyns, Bot. Jahrb. Syst. 121(3): 336, 1999. Typus: *Stapelia pruinosa* Masson.
- Quaqua arenicola** ssp. *pilifera* (Bruyns) Bruyns, Bot. Jahrb. Syst. 121(3): 383, 1999. Basionym: *Quaqua armata* ssp. *pilifera*.
- Quaqua incarnata** ssp. *hottentotorum* (N. E. Brown) Bruyns, Bot. Jahrb. Syst. 121(3): 370, ills. (p. 371), 1999. Basionym: *Quaqua hottentotorum*.
- Quaqua incarnata** ssp. *tentaculata* (Bruyns) Bruyns, Bot. Jahrb. Syst. 121(3): 369, 1999. Basionym: *Quaqua incarnata* var. *tentaculata*.
- Quaqua pallens** Bruyns, Bot. Jahrb. Syst. 121(3): 355-356, ills., 1999. Typus: *Bruyns* 6767 (BOL).
- Quaqua parviflora** ssp. *confusa* (Plowes) Bruyns, Bot. Jahrb. Syst. 121(3): 354, 1999. Basionym: *Quaqua confusa*.
- Rhytidocaulon macrolobum** ssp. *minimum* Meve & Collenette, Edinburgh J. Bot. 56(1): 80-83, ills., 1999. Typus: *Collenette* 7565 (K).
- Schlechterella abyssinica** (Chiovenda) Venter & Verhoeven, South Afr. J. Bot. 64(6): 353, ills., 1999. Basionym: *Raphionacme abyssinica*.
- Tavaresia thompsonii** van Jaarsveld & Nagel, Asklepios No. 76: 9-10, ills., 1999. Typus: *Bell* s.n. (NBI).
- Tromotriche** Sect. *Caruncularia* (Haworth) Bruyns, South Afr. J. Bot. 65(4): 306, 1999. Basionym: *Caruncularia*. [First invalidly published (Art. 33.2) by Bruyns, l.c. 61(4): 207, 1995 (cf. RPS 46).]
- Rowley, Succ. Compositae, 83: fig. 118, 1994. [Given as "comb. nov." for *Senecio articulatus* 'Candlelight' and at the same time provided with a Latin diagnosis.]
- Curio crassulifolius** (De Candolle) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Kleinia crassulifolia*.
- Curio cuneifolius** (Linné) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Cacalia cuneifolia*.
- Curio ficoides** (Linné) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Cacalia ficoides*.
- Curio hallianus** (G. D. Rowley) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Senecio hallianus*.
- Curio hanburianus** (Dinter) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Senecio hanburianus*. [Specific epithet corrected to 'hanburyanus'.]
- Curio herreanus** (Dinter) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Senecio herreanus*.
- Curio humbertii** (Guillaumin) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Kleinia humbertii*.
- Curio xperegrinus** (G. Kunkel) P. V. Heath, Calyx 6(2): 54, 1999. Basionym: *Kleinia xperegrina*.
- Curio pinguifolius** (De Candolle) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Kleinia pinguifolia*.
- Curio radicans** (Linné) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Cacalia radicans*.
- Curio rowleyanus** (H. Jacobsen) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Senecio rowleyanus*. [Specific epithet erroneously corrected to 'roeleanus'.]
- Curio rowleyanus** fa. *marmoratus* P. V. Heath, Calyx 6(2): 55, 1999. Typus: [icono]: G. D. Rowley, Succ. Compositae, 138: fig. 199, 1994. [Given as *nom. nov. pro Senecio rowleyanus* 'String of Pearls' G. D. Rowley.]
- Curio sulcicalyx** (Baker) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Senecio sulcicalyx*.
- Curio talinoides** (De Candolle) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Kleinia talinoides*.
- Curio talinoides** var. *aizoides* (De Candolle) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Kleinia aizoides*.
- Curio talinoides** var. *chordifolius* (Hooker fil.) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Senecio chordifolius*.
- Curio talinoides** var. *mandraliscae* (Tineo) P. V. Heath, Calyx 6(2): 55, 1999. Basionym: *Kleinia mandraliscae*.
- Senecio botijae** C. Ehrhart, Sendtnera 5: 30-33, ills., 1998. Typus: *Ehrhart et Sonderegger* 96/992 (MSB, CONC, SGO).

ASPHODELACEAE

- Bulbine mesembryanthoides** ssp. *namaquensis* G. Williamson, Aloe 36(1): 14-15, ills., 1999. Typus: *Le Roux* 3116 (STE in NBG).

ASTERACEAE

- Curio articulatus** fa. *variegatus* P. V. Heath, Calyx 6(2): 54, 1999. Typus: [icono]: G. D.

BASELLACEAE

- Anredera cordifolia** ssp. *gracilis* (Miers) Xifreda & Argimón, in Zuloaga & Morrone, Cat. Pl. Vasc. Rep. Argent. 1245, 1999. Basionym: *Boussingaultia gracilis*.

## CACTACEAE

- Ancistrocactus mathssonii* (Berge ex K. Schumann) Doweld, *Sukkulenty* 1999(1): 29, 1999. Basionym: *Echinocactus mathssonii*.
- Ancistrocactus scheeri* ssp. *tobuschii* (W. T. Marshall) Doweld, *Sukkulenty* 1999(1): 29, 1999. Basionym: *Mammillaria tobuschii*.
- Ariocarpus fissuratus* ssp. *bravoanus* (H. M. Hernández & E. F. Anderson) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Ariocarpus bravoanus*.
- Ariocarpus fissuratus* ssp. *pailanus* Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 184, 1998. Typus: *Halda* 8511324 (PR).
- Ariocarpus kotschoubeyanus* ssp. *elephantidens* Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 185, 1998. Typus: *Halda* 8511006 (PR). [Based on *Ariocarpus kotschoubeyanus* var. *elephantidens* Skarupke 1973 (*nom. inval.*, Art. 37.1).]
- Ariocarpus kotschoubeyanus* ssp. *macdowellii* (Backeberg) Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 184, 1998. Basionym: *Roseocactus kotschoubeyanus* ssp. *macdowellii*. [Bracket author given as "W. T. Marshall ex H. Krainz", and basionym incorrectly given as having been published at the varietal level (treated as correctable bibliographical error).]
- Ariocarpus kotschoubeyanus* ssp. *sladkovskiyi* Halda & Horáček, *Acta Mus. Richnov. Sect. Nat.* 5(5): 185, 1998. Typus: *Sladkovsky* 851133 (PR).
- Ariocarpus retusus* ssp. *confusus* (Halda & Horáček) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Ariocarpus confusus*.
- Arrojadoa heimenii* van Heek & W. Strecker, *Kakt. and. Sukk.* 50(6): 136-138, *ills.*, SEM-*ills.*, 1999. Typus: *Braun* 20528 (UFG).
- ×*Astromelocactus* *Gapon*, *Kaktus Klub* 1999(2): 20-21, *ill.*, 1999. [*Nomen nugax*, = *Astrophytum* × *Melocactus*.]
- Austrocyllindropuntia atroviridis* (Werdermann & Backeberg) Gilmer & H.-P. Thomas, *Kakt. and. Sukk.* 50(2): 46, *ills.*, 1999. *Nom. inval.* (Art. 33.1), based on *Opuntia atroviridis*.
- Austrocyllindropuntia hirschii* (Backeberg) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus hirschii*.
- Austrocyllindropuntia punta-caillan* (Rauh & Backeberg) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus punta-caillan*.
- Austrocyllindropuntia yanganucensis* (Rauh & Backeberg) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus yanganucensis*.
- Bisnaga haematacantha* (Monville ex Salm-Dyck) Doweld, *Sukkulenty* 1999(1): 28, 1999. *Nom. illeg.* (Art. 53.1), based on *Echinocactus electracanthus* var. *haematacanthus*. [*Nom. illeg.* vs. *Bisnaga hamatacantha* (Mühlenpfordt) Orcutt 1926. Validly named *Bisnaga puablensis* Doweld 1999.]
- Bisnaga hamatacantha* ssp. *sinuata* (Dietrich) Doweld, *Sukkulenty* 1999(1): 28, 1999. Basionym: *Echinocactus sinuatus*.
- Bisnaga histrix* (De Candolle) Doweld, *Sukkulenty* 1999(1): 28, 1999. Basionym: *Echinocactus histrix*.
- Bisnaga macrodisca* (Martius) Doweld, *Sukkulenty* 1999(1): 29, 1999. Basionym: *Echinocactus macrodiscus*.
- Bisnaga macrodisca* ssp. *septentrionalis* (Meyrán) Doweld, *Sukkulenty* 1999(1): 29, 1999. Basionym: *Ferocactus macrodiscus* var. *septentrionalis*.
- Bisnaga puablensis* Doweld, *Sukkulenty* 1999(2): 43, 1999. Neotypus: *Sanchez Mejorada* 10786 (MEXU [neo]) [Neotype designated (for the replaced name) by N. P. Taylor, 1984.]. [*Nom. nov. pro Echinocactus electracanthus* var. *haematacanthus* Monville ex Salm-Dyck 1850 (≡ *Bisnaga haematacantha*) non *Echinocactus hamatacanthus* Mühlenpfordt 1846 (≡ *Bisnaga hamatacantha*).]
- Bisnaga recurva* ssp. *latispina* (Haworth) Doweld, *Sukkulenty* 1999(1): 29, 1999. Basionym: *Cactus latispinus*.
- Brasilicactus alacriportanus* (Backeberg & Voll) Doweld, *Sukkulenty* 1999(2): 24, 1999. Basionym: *Parodia alacriportana*.
- Brasilicactus brevihamatus* (W. Haage ex Backeberg) Doweld, *Sukkulenty* 1999(2): 24, 1999. Basionym: *Parodia brevihamata*.
- Brasilicactus buenekerii* (Buining) Doweld, *Sukkulenty* 1999(2): 24, 1999. Basionym: *Parodia buenekerii*.
- Brasilicactus catarinensis* Doweld, *Sukkulenty* 1999(2): 24, 1999. Typus: *Ritter* 1401a (U). [Based on *Brasiliparodia catarinensis* F. Ritter 1979, which is regarded as *nom. inval.* under Art. 9.1. Ritter's name appears valid, however, since the order in which the specimens are cited makes it clear (by reference to other entries in the book), which collection is the type.]
- Brasilicactus rechensis* (Buining) Doweld, *Sukkulenty* 1999(2): 24, 1999. Basionym: *Notoctactus rechensis*.
- Consolia microcarpa* E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. *Nom. illeg.* (Art. 52.1). [*Nom. nov. pro Opuntia microcarpa* K. Schumann (non Engelmann 1848), cf. Art. 58.3, Ex. 2, but invalid vs. *Opuntia picardae* Urban 1919. See *O. microcarpa* for a comment on the typification.]
- Corryocactus chachapoyensis* Ochoa & Backeberg ex D. R. Hunt, *Cact. Consensus Init. No.* 7: 32, 1999. Typus: [icon]: Backeberg, *Die Cact.* 2: fig. 774, 1959. [First published invalidly (Art. 34.1, 37.1) as '*Cereus* (*Corryocactus*?) *chachapoyensis*' by Backeberg, *Die Cact.* 2: 859, 1959.]
- Coryphantha glassii* Dicht & A. Lüthy, *Kakt. and. Sukk.* 51(1): 2-5, *ills.*, 1999. Typus: *Arredondo* 527 (SLPM 28287). [Dated Jan. 2000, publ. late Dec. 1999.]
- Coryphantha panarottii* Halda & Horáček, *Acta*

- Mus. Richnov. Sect. Nat. 6(3): 235, 1999. Typus: *Halda* 85080433 (PR).
- Cumulopuntia chichensis** (Cárdenas) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus chichensis*.
- Cumulopuntia corotilla** (K. Schumann ex Vaupe) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Opuntia corotilla*.
- Cumulopuntia dactylifera** (Vaupe) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Opuntia dactylifera*.
- Cumulopuntia fulvicoma** (Rauh & Backeberg) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus fulvicomus*.
- Cumulopuntia mistiensi** (Backeberg) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Tephrocactus mistiensi*.
- Cumulopuntia sphaerica** (Förster) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 324, 1999. Basionym: *Opuntia sphaerica*.
- Cylindropuntia acanthocarpa** var. *coloradensis* (L. D. Benson) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 42, 1999. Basionym: *Opuntia acanthocarpa* var. *coloradensis*.
- Cylindropuntia acanthocarpa** var. *major* (Engelmann) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 42, 1999. Basionym: *Opuntia echinocarpa* var. *major*.
- Cylindropuntia xdeserta** (Griffiths) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 42, 1999. Basionym: *Opuntia xdeserta*. [= *Cylindropuntia acanthocarpa* × *C. echinocarpa*.]
- Cylindropuntiae** Doweld, *Sukkulenty* 1999(1): 25, 1999. Typus: *Cylindropuntia*.
- Echinocereus kroenleinii** (A. Cartier) W. Blum & Waldeis, *Echinocereenfreund* 12(4): 102, 1999. Basionym: *Wilcoxia kroenleinii*.
- Echinocereus milleri** W. Blum & al., *Echinocereenfreund* 12(3): 69-76, ill., 1999. Neotypus: *Kuenzler* 370 (HBG [neo]) [Neotype designated by W. Blum & T. Oldach, *Echinocereenfreund* 12(4): 94, 1999.]. [Original holotype (Leuck 229) at OKL lost.]
- Echinocereus salm-dyckianus** fa. *obscuriensis* (A. B. Lau) Rischer & Trocha, *Echinocereenfreund Sonderausgabe* 1999: 10, 1999. Basionym: *Echinocereus scheeri* var. *obscuriensis*.
- Echinocereus santaritensis** W. Blum & Rutow, *Echinocereenfreund* 93, 1999. Typus: *Rutow* 52 (ASU). [First published invalidly (Art. 37.5, cf. RPS 49) in W. Blum & al., *Echinocereus* [preprint], [9] and in W. Blum & al., *Echinocereus*, 369, 1998.]
- Echinocereus topiensis** Rischer & Trocha, *Echinocereenfreund* 12(1): 6-11, ill., SEM-ills., 1999. Typus: *Anonymus* 1992/292 (HBG 1118).
- Echinopsis** cv. *Thornwood Grandee* M. Holmes, *Cact. Succ. J. (Woollahra)* 22(1): 11-12, ill., 1999. [Of complex ancestry.]
- Echinopsis** cv. *Thornwood Impulse* M. Holmes, *Cact. Succ. J. (Woollahra)* 22(1): 11-12, ill., 1999. [Of complex ancestry.]
- Escobaria sneedii** ssp. *albicolumnaria* (Hester) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Escobaria albicolumnaria*.
- Escobaria sneedii** ssp. *orcuttii* (Bödeker) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Escobaria orcuttii*.
- Escobaria sneedii** ssp. *organensis* (D. A. Zimmerman) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Coryphantha organensis*.
- Escobaria sneedii** ssp. *sandbergii* (Castetter & al.) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Escobaria sandbergii*.
- Escobaria sneedii** ssp. *villardii* (Castetter & al.) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Escobaria villardii*.
- Escobaria tuberculosa** ssp. *varicolor* (Tiegel) J. Lüthy, *Kakt. and. Sukk.* 50(10): 257, ill., 1999. Basionym: *Coryphantha varicolor*.
- Escocoryphantha** Doweld, *Sukkulenty* 1999(1): 10, 1999. Typus: *Escobaria henricksonii* Glass & Foster. [Republished in *Novost. Sist. Vyssh. Rast.* 32: 122, 2000.]
- Escocoryphantha chihuahuenensis** (Britton & Rose) Doweld, *Sukkulenty* 1999(1): 10, 1999. Basionym: *Escobaria chihuahuenensis*. [Republished in *Novost. Sist. Vyssh. Rast.* 32: 123, 2000.]
- Escocoryphantha henricksonii** (Glass & Foster) Doweld, *Sukkulenty* 1999(1): 10, 1999. Basionym: *Escobaria henricksonii*. [Republished in *Novost. Sist. Vyssh. Rast.* 32: 122, 2000.]
- Ferocactus** Subgen. *Ferocarpus* Doweld, *Sukkulenty* 1999(2): 38, 1999. Typus: *Echinocactus emoryi* Engelmann.
- Grusonia aggeria** (Ralston & Hilsenbeck) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia aggeria*.
- Grusonia agglomerata** (A. Berger) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia agglomerata*.
- Grusonia dumetorum** (A. Berger) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia dumetorum*.
- Grusonia emoryi** (Engelmann) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 50, 1999. Basionym: *Opuntia emoryi*.
- Grusonia invicta** (Brandege) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1996. Basionym: *Opuntia invicta*.
- Grusonia kunzei** (Rose) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 50, 1999. Basionym: *Opuntia kunzei*.
- Grusonia marenae** (S. H. Parsons) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia marenae*.
- Grusonia moelleri** (A. Berger) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia moelleri*.
- Grusonia parishii** (Orcutt) Pinkava, *J. Arizona-Nevada Acad. Sci.* 32(1): 50, 1999. Basionym: *Opuntia parishii*.
- Grusonia reflexispina** (Wiggins & Rollins) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia reflexispina*.
- Gymnocalycium cardenasianum** fa. *armatum* (F. Ritter) H. Till & Amerhauser, *Gymnocaly-*



- cium 12(4): 308, ills., 1999. Basionym: *Gymnocalycium armatum*.
- Gymnocalycium carminanthum** var. **montanum** Slaba, *Kaktusy* 35(1): 3-9, ills., 1999. Typus: *Anonymus* s.n. (PRC 4696).
- Gymnocalycium chacoense** Amerhauser, *Gymnocalycium* 12(4): 302-304, ills., 1999. Typus: *Amerhauser* 990-4 (LPB, WU).
- Gymnocalycium xheidiae** Neuhuber, *Gymnocalycium* 12(1): 279-281, ills., 1999. Typus: *Neuhuber* 93-714/2080 (BA, WU). [= *Gymnocalycium* sp. × *G. rosae*.]
- Gymnocalycium monvillei** ssp. **gertrudae** (Neuhuber) Neuhuber, *Gymnocalycium* 12(2): 286, 1999. Basionym: *Gymnocalycium monvillei* var. *gertrudae*.
- Gymnocalycium monvillei** var. **coloratum** Neuhuber, *Gymnocalycium* 12(2): 284-285, ills., 1999. Typus: *Neuhuber* 93-318 (BA, WU).
- Gymnocalycium monvillei** var. **confusa** Neuhuber, *Gymnocalycium* 12(2): 286, 1999, 1999. Typus: *Neuhuber* 91-77/1183 (WU). [Based on *Echinocactus brachyanthus* sensu H. Till pro neotypo, non Gürke 1907.]
- Gymnocalycium poeschlii** Neuhuber, *Gymnocalycium* 12(3): 296-300, ills., 1999. Typus: *Neuhuber* 88-24/35 (BA, WU (?)) [Status of the cited isotype at WU questionable, specimen has a different collection number.]
- Gymnocalycium prochazkianum** Sorma, *Gymnofil* 28(1-2): 2-6, ills., 1999. Typus: *Prochazka* 95-184/562A (WU). [See also *Cactaceae* etc. 10(1): 7-9, 2000, for additional information.]
- Gymnocalycium spagazzinii** ssp. **bayrianum** (H. Till) Halda, *Cactaceae* etc. 9(3): 84, 1999. Basionym: *Gymnocalycium bayrianum*.
- Islaya laui* (J. Lüthy) Ferryman, *Chileans* 17(56): 95, 1999. *Nom. inval.* (Art. 33.2), based on *Eriosyce laui*. [Dated 1998, received Feb. 1999.]
- Lepidocoryphantha macromeris** ssp. **runyonii** (Britton & Rose) Doweld, *Sukkulenty* 1999(1): 28, 1999. Basionym: *Coryphantha runyonii*.
- Lobivia bonnieae** Halda & al., *Acta Mus. Richnov. Sect. Nat.* 6(3): 235-236, ill. (p. 238), 1999. Typus: *Janeba* 99061503 (PR). [See also *Cactaceae* etc. 9(4): 157-159, ills., 1999.]
- Lobivia gonjianii** (R. Kiesling) R. Kiesling, in *Zuloaga & Morrone, Cat. Pl. Vasc. Rep. Argent.* 2: 454, 1245, 1999. Basionym: *Rebutia gonjianii*.
- Maihueniae** Doweld, *Sukkulenty* 1999(1): 25, 1999. Typus: *Maihuenia*.
- Maihueniopsis bonnieae** (D. J. Ferguson & R. Kiesling) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Puna bonnieae*.
- Maihueniopsis clavarioides** (Otto ex Pfeiffer) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia clavarioides*.
- Maihueniopsis subterranea** (R. E. Fries) E. F. Anderson, *Cact. Succ. J. (US)* 71(6): 325, 1999. Basionym: *Opuntia subterranea*.
- Mammillaria elongata** cv. **Ann's Shiner** Trager, *Cact. Succ. J. (US)* 71(2): 91, 1999. [A dark red-spined selection.]
- Mammillaria phantasma** Sotomayor & al., *Cact. Suc. Mex.* 44(2): 34-36, ills. (p. 44), 1999. Typus: *Anonymus* s.n. (SLPM 27484).
- Meyerocactus horizontalionius** ssp. **nicholii** (L. Benson) Doweld, *Sukkulenty* 1999(1): 27, 1999. Basionym: *Echinocactus horizontalionius* var. *nicholii*.
- Miqueliopuntia miquelii** fa. **flava** P. V. Heath, *Calyx* 6(2): 41, 1999. [Sphalm. 'Michaelopuntia michaelis'. *Nom. nov. pro Austrocyliodropuntia miquelii* var. *jilesii* Backeberg 1956.]
- Navajoa peeblesiana** fa. **maia** Hochstätter, *Cactaceae Rev.* 2(2): 11, ill., 1999. Based on *Hochstätter* 500. Incorrect name (Art. 11.4). [First mentioned in *Gen. Pediocactus, Navajoa, Toumeya Rev.*, 105, ill., in caption, 1995 (cf. RPS 46).]
- Navajoa peeblesiana** fa. **menzelii** Hochstätter, *Cactaceae Rev.* 2(2): 10-11, ill., 1999. Based on *Hochstätter* 500.0. Incorrect name (Art. 11.4). [First mentioned in *Gen. Pediocactus, Navajoa, Toumeya Rev.*, 104-105, ills., in caption, 1995 (cf. RPS 46).]
- Neolloydia subterranea** ssp. **zaragozae** (Glass & Foster) Doweld, *Cact. Consensus Init. No.* 7: 12, 1999. Basionym: *Gymnocactus subterraneus* var. *zaragozae*.
- Neonavajoa** Doweld, *Sukkulenty* 1999(2): 43, 1999. Typus: *Navajoa peeblesiana* Croizat. [*Nom. nov. pro Navajoa* Croizat 1943, non *Navajoa* Wieland 1928 (fossil cycad).]
- Neonavajoa peeblesiana** (Croizat) Doweld, *Sukkulenty* 1999(2): 43, 1999. Basionym: *Navajoa peeblesiana*.
- Neonavajoa peeblesiana** ssp. **fickeisenii** (Hochstätter) Doweld, *Sukkulenty* 1999(2): 43, 1999. Basionym: *Navajoa peeblesiana* var. *fickeisenii*. [Sphalm. 'fickeiseniae'.]
- Notocactus** Ser. **Pampocactus** Doweld, *Sukkulenty* 1999(2): 23, 1999. Typus: *Eriocactus warasii* F. Ritter.
- Notocactus** Subgen. **Eonotocactus** Doweld, *Sukkulenty* 1999(2): 23, 1999. Typus: *Eriocactus magnificus* F. Ritter.
- Notocactus langsdorfii** fa. **multiceps** (Hofacker & Herm) Neduchal, *Minimus* 30(4): 92, 1999. Basionym: *Parodia langsdorfii* ssp. *multiceps*.
- Notocactus langsdorfii** var. **pulvinatus** (van Vliet) Neduchal, *Minimus* 30(2): 28, 1999. Basionym: *Notocactus pulvinatus*.
- Notocactus neoarechvaletae** fa. **kovarikii** (Fric) Neduchal, *Minimus* 30(2): 29, 1999. Basionym: *Malacocarpus kovarikii*.
- Notocactus schumannianus** ssp. **claviceps** (F. Ritter) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Eriocactus claviceps*.
- Notocactus sellowii** fa. **centrispinus** (Fric) Neduchal, *Minimus* 30(2): 31, 1999. Basionym: *Malacocarpus bezrucii* var. *centrispinus*. [Basionym cited erroneously and here corrected, see also l.c. (4): 92, 1999.]
- Notocactus sellowii** fa. **cornifer** (Fric) Neduchal, *Minimus* 30(2): 32, 1999. Basionym: *Malacocarpus bezrucii* var. *cornifer*.

- Notocactus sellowii* fa. *tephraanthus* (Link & Otto) Neduchal, *Minimus* 30(2): 32, 1999. Basionym: *Echinocactus tephraanthus*.
- Notocactus sellowii* var. *beltranii* (Fric) Neduchal, *Minimus* 30(2): 30, 1999. *Nom. inval.*, based on *Malacocarpus beltranii*, *nom. inval.* (Art. 32.1c).
- Notocactus sellowii* var. *bezrucii* (Fric) Neduchal, *Minimus* 30(2): 30, 1999. Basionym: *Malacocarpus bezrucii*.
- Notocactus sessiliflorus* fa. *tetracanthus* (Lemaire) Neduchal, *Minimus* 30(2): 33, 1999. Basionym: *Echinocactus tetracanthus*.
- Notocactus sessiliflorus* fa. *vorwerkianus* (Werdermann) Neduchal, *Minimus* 30(2): 34, 1999. Basionym: *Echinocactus vorwerkianus*.
- Notocactus submammulosus* var. *turecekianus* (R. Kiesling) Lodé, *Fichier Encycl. Cact. autres Succ.* 23: 2151, ill., 1999. *Nom. inval.* (Art. 33.2), based on *Parodia turecekiana*.
- Notocactus turbinatus* fa. *schaeferianus* (Abraham & Theunissen) Neduchal, *Minimus* 30(2): 35, 1999. Basionym: *Wigginsia schaeferiana*.
- Opuntia albicarpa* Scheinvar, *Revista Jard. Bot. Nac. Univ. Habana* 20: 167-169, 1999. Typus: *Scheinvar* 6077 (MEXU, UACHAP). [First mentioned (*nom. inval.*, Art. 36.1) in Barbera, G. & al. (eds.): *Agro-ecology, cultivation and use of cactus pear*, 22, pl. 5, 1995 (cf. RPS 47).]
- Opuntia bonnieae* (D. J. Ferguson & R. Kiesling) Halda & Janeba, *Cactaceae etc.* 9(4): 160 (excl. ill.), 1999. Basionym: *Puna bonnieae*.
- Opuntia* × *campii* M. A. Baker & Pinkava, *Cact. Succ. J. (US)* 71(6): 320-322, ills., 1999. Typus: *Baker* 11661 (ASU [3 sheets], MO, SD). [= *Opuntia acanthocarpa* × *O. bigelovii*.]
- Opuntia inaequilateralis* var. *angustior* (F. Ritter) R. Crook & Mottram, *Bradleya* 17: 113, 1999. Basionym: *Platyopuntia inaequilateralis* var. *angustior*.
- Opuntia kleiniae* cv. *Cristata* (Darrah) R. Crook & Mottram, *Bradleya* 17: 119, 1999. Basionym: *Opuntia kleiniae* var. *cristata*.
- Opuntia sanfelipensis* Rebman, *Haseltonia* 6: 17-19, ills., 1999. Typus: *Rebman* 2540 (ASU 195789, BCMEX, SD). [Dated 1998, publ. June 1999.]
- Parodia langsdorfii* ssp. *multiceps* Hofacker & Herm, *Kakt. and. Sukk.* 50(3): 62-64, ills., 1999. Typus: *Hofacker* 169 (ZSS, MVM).
- Parodia langsdorfii* ssp. *pulvinata* (van Vliet) Hofacker & Herm, *Kakt. and. Sukk.* 50(3): 62, ill., 1999. Basionym: *Notocactus pulvinatus*.
- Pediocactinae* Doweld, *Sukkulenty* 1999(1): 4, 24, 1999. Typus: *Pediocactus Britton & Rose*.
- Pediocactus* Sect. *Rhytidospermae* Hochstätter, *Cactaceae Rev.* 2(2): 14, 1999. Typus: *Pediocactus sileri* (Engelmann) L. Benson.
- Pediocactus* Subgen. *Strombocactus* (Britton & Rose) Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 185, 1998. Basionym: *Strombocactus*.
- Pediocactus disciformis* (De Candolle) Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 186, 1998. Basionym: *Mammillaria disciformis*.
- Pediocactus jarmilae* (Halda) Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 186, 1998. Basionym: *Strombocactus jarmilae*.
- Pediocactus peeblesianus* ssp. *fickeisenii* (Hochstätter) J. Lüthy, *Kakt. and. Sukk.* 50(11): 278, 1999. Basionym: *Navajoa peeblesiana* var. *fickeisenii*.
- Pediocactus pulcherrimus* (Halda) Halda, *Acta Mus. Richnov. Sect. Nat.* 5(5): 186, 1998. Basionym: *Strombocactus pulcherrimus*.
- Pereskioideae* Doweld, *Sukkulenty* 1999(1): 26, 1999. Typus: *Pereskopsis*.
- Peronocactus* Doweld, *Sukkulenty* 1999(2): 20, 1999. Typus: *Cactus ottonis* Lehmann. [Status depending on the disputed typification of *Notocactus* and becoming illegitimate (Art. 52.1) if *Cactus ottonis* should be selected as the type of *Notocactus*.]
- Peronocactus carambeiensis* (Buining & Brederoo) Doweld, *Sukkulenty* 1999(2): 20, 1999. Basionym: *Notocactus carambeiensis*.
- Peronocactus concinnus* (Monville) Doweld, *Sukkulenty* 1999(2): 20, 1999. Basionym: *Echinocactus concinnus*.
- Peronocactus concinnus* ssp. *agnetae* (van Vliet) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus agnetae*.
- Peronocactus concinnus* ssp. *multicostatus* (Buining & Brederoo) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus multicostatus*.
- Peronocactus fuscus* (F. Ritter) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus fuscus*.
- Peronocactus horstii* (F. Ritter) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus horstii*.
- Peronocactus linkii* (Lehmann) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Cactus linkii*.
- Peronocactus minimus* (Fric & Kreuzinger ex Buining) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus minimus*.
- Peronocactus minusculus* (Hofacker & Herm) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus minusculus*.
- Peronocactus muricatus* (Otto ex Pfeiffer) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Echinocactus muricatus*.
- Peronocactus neohorstii* (Theunissen) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus neohorstii*.
- Peronocactus ottonis* (Lehmann) Doweld, *Sukkulenty* 1999(2): 20, 1999. Basionym: *Cactus ottonis*.
- Peronocactus ottonis* ssp. *horstii* (F. Ritter) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus archavaletae* var. *horstii*.
- Peronocactus oxycostatus* (Buining & Brederoo) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus oxycostatus*.
- Peronocactus oxycostatus* ssp. *gracilis* (F. Ritter) Doweld, *Sukkulenty* 1999(2): 21, 1999. Basionym: *Notocactus glaucinus* var. *gracilis*.
- Peronocactus rudibuenekeri* (Abraham) Doweld,

- Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus rudibuenekeri*.
- Peronocactus rudibuenekeri* ssp. *glomeratus* (Gerloff) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus glomeratus*.
- Peronocactus scopa* (Sprengel) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Cactus scopa*.
- Peronocactus scopa* ssp. *marchesii* (Abraham) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus scopa* var. *marchesii*.
- Peronocactus scopa* ssp. *neobuenekeri* (F. Ritter) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus neobuenekeri*.
- Peronocactus scopa* ssp. *succineus* (F. Ritter) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus succineus*.
- Peronocactus stockingeri* (Prestlé) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Notocactus stockingeri*.
- Peronocactus tabularis* (Cels ex Rümpler) Doweld, Sukkulenty 1999(2): 21, 1999. Basionym: *Echinocactus concinnus* var. *tabularis*.
- Peronocactus tabularis* ssp. *muricatus* Doweld, Sukkulenty 1999(2): 21-22, 1999. Typus: [icono:] K. Schumann in Martius, Fl. Brasil. 4(2): pl. 50: fig. 2, 1894. [Nom. nov. pro *Echinocactus muricatus* K. Schumann 1898 quoad diag. Lat. non *Echinocactus muricatus* Otto ex Pfeiffer 1837.]
- Peronocactus werdermannianus* (Herter) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus werdermannianus*.
- Pierrebraunia brauniorum* E. Esteves Pereira, Kakt. and. Sukk. 50(12): 312-314, ill., 1999. Typus: *Esteves Pereira* 515 (UFG 22.435).
- Pilosocereus chrysolepis* ssp. *cearensis* P. J. Braun & E. Esteves P., Brit. Cact. Succ. J. 17(1): 26-27, ill. (p. 23, 25-26), 1999. Typus: *Esteves-Pereira* 163 (UFG 13.005).
- Pilosocereus densiareolatus* ssp. *brunneolanatus* P. J. Braun & E. Esteves Pereira, Kakt. and. Sukk. 50(11): 286-289, ill., 1999. Typus: *Esteves Pereira* 224 (UFG 12.381, B, K, KOELN, ZSS).
- Pilosocereus estevesii* P. J. Braun, Cact. Succ. J. (US) 71(2): 74-77, ill., SEM-ills., 1999. Typus: *Esteves-Pereira* 142 (UFG 20529).
- Pilosocereus occultiflorus* P. J. Braun & E. Esteves Pereira, Cact. Succ. J. (US) 71(6): 310-315, ill., 1999. Typus: *Esteves Pereira* 223 (UFG, BONN, ZSS).
- Plutonopuntia* P. V. Heath, Calyx 6(2): 41, 1999. Typus: *Opuntia chaffeyi* Britton & Rose. [Nom. nov. pro *Opuntia* subSer. *Chaffeyanae* Britton & Rose 1919.]
- Plutonopuntia chaffeyi* (Britton & Rose) P. V. Heath, Calyx 6(2): 41, 1999. Basionym: *Opuntia chaffeyi*.
- Pterocactae Doweld, Sukkulenty 1999(1): 26, 1999. Typus: *Pterocactus*.
- Pterocactus tuberosus* fa. *lelongii* (Ruiz Leal ex R. Kiesling) R. Kiesling, in Zuloaga & Morrone, Cat. Pl. Vasc. Rep. Argent. 2: 476, 1246, 1999. Basionym: *Pterocactus kuntzei* fa. *lelongii*.
- Puebloa* Doweld, Sukkulenty 1999(1): 20, 1999. Typus: *Pediocactus bradyi* L. Benson.
- Puebloa bradyi* (L. Benson) Doweld, Sukkulenty 1999(1): 22, 1999. Basionym: *Pediocactus bradyi*.
- Puebloa bradyi* ssp. *winkleri* (K. D. Heil) Doweld, Sukkulenty 1999(1): 22, 1999. Basionym: *Pediocactus winkleri*.
- Puebloa bradyi* var. *despainii* (S. L. Welsh & Goodrich) Doweld, Sukkulenty 1999(1): 22, 1999. Basionym: *Pediocactus despainii*.
- Pyrrhocactus kattermannii* R. Kiesling, in Zuloaga & Morrone, Cat. Pl. Vasc. Rep. Argent. 2: 477, 1246, 1999. Typus: *Kattermann* 593 (DBG). [Nom. nov. pro *Eriosyce andreaeana* Kattermann 1994.]
- Rebutia amblypetala* (F. Ritter) Mosti, Cactus & Co. 3(4): 196, ill., SEM-ills., 1999. Basionym: *Rebutia rosalbiflora* var. *amblypetala*.
- Rebutia atrovirens* var. *pseudoritteri* (Rausch) Mosti, Cactus & Co. 3(4): 198, ill., 1999. Basionym: *Lobivia atrovirens* var. *pseudoritteri*.
- Rebutia diersiana* ssp. *atrovirens* (Rausch) Mosti, Cactus & Co. 3(4): 205, ill., SEM-ills., 1999. Basionym: *Rebutia diersiana* var. *atrovirens*.
- Rebutia gavazzii* Mosti, Cactus & Co. 3(4): 207-209, ill., SEM-ills., 1999. Typus: *Rausch* 493 (Fl) [Ex cult. S. Mosti.].
- Rhipsalis boliviana* cv. *Innes Kimmach*, Cact. Succ. J. (US) 71(2): 91, 1999. [A white-flowered selection.]
- Ritterocactus Doweld*, Sukkulenty 1999(2): 22, 1999. Typus: *Echinocactus mammulosus* Lemaire.
- Ritterocactus allosiphon* (Marchesi) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus allosiphon*.
- Ritterocactus arnostianus* (Lisal & Kolarik) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus arnostianus*.
- Ritterocactus buiningii* (Buxbaum) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus buiningii*.
- Ritterocactus crassigibbus* (F. Ritter) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus crassigibbus*.
- Ritterocactus curvispinus* (F. Ritter) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus curvispinus*.
- Ritterocactus xerubescens* (Osten) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Echinocactus xerubescens*.
- Ritterocactus herteri* (Werdermann) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Echinocactus herteri*.
- Ritterocactus mammulosus* (Lemaire) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Echinocactus mammulosus*.
- Ritterocactus mammulosus* ssp. *brasiliensis* (Havlicek) Doweld, Sukkulenty 1999(2): 22, 1999. Basionym: *Notocactus mammulosus* var. *brasiliensis*.
- Ritterocactus mammulosus* ssp. *erythracanthus*

- (Schlosser & Brederoo) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Notocactus erythracanthus*.
- Ritterocactus *mammulosus* ssp. *eugeniae* (van Vliet) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Notocactus eugeniae*.
- Ritterocactus *mammulosus* ssp. *submammulosus* (Lemaire) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Echinocactus submammulosus*.
- Ritterocactus *megalanthus* (Schlosser & Brederoo) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Notocactus megalanthus*.
- Ritterocactus *meonacanthus* (Prestlé) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Notocactus meonacanthus*.
- Ritterocactus *mueller-melchersii* (Fric ex Backeberg) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus mueller-melchersii*.
- Ritterocactus *mueller-melchersii* ssp. *gutierrezii* (Abraham) Doweld, *Sukkulenty* 1999(2): 22, 1999. Basionym: *Notocactus gutierrezii*.
- Ritterocactus *mueller-melchersii* ssp. *winkleri* (van Vliet) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus winkleri*.
- Ritterocactus *permutatus* (F. Ritter) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus permutatus*.
- Ritterocactus *rauschii* (van Vliet) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus rauschii*.
- Ritterocactus *rutilans* (Däniker & Krainz) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus rutilans*.
- Ritterocactus *rutilans* ssp. *veenianus* (van Vliet) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus veenianus*.
- Ritterocactus *uebelmannianus* (Buining) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus uebelmannianus*.
- Ritterocactus *uebelmannianus* ssp. *pleiocephalus* (Gerloff & Königs) Doweld, *Sukkulenty* 1999(2): 23, 1999. Basionym: *Notocactus uebelmannianus* var. *pleiocephalus*.
- Salmonopuntia P. V. Heath, *Calyx* 6(2): 41, 1999. Typus: *Opuntia salmiana* Pfeiffer 1837.
- Salmonopuntia *salmiana* (Parmentier ex Pfeiffer) P. V. Heath, *Calyx* 6(2): 41, 1999. Basionym: *Opuntia salmiana*. [Specific epithet unnecessarily corrected to 'salmonana' (Rec. 60C1).]
- Salmonopuntia *salmiana* fa. *alba* P. V. Heath, *Calyx* 6(2): 41, 1999. [Nom. nov. pro *Opuntia albiflora* K. Schumann 1903. Specific epithet unnecessarily corrected to 'salmonana' (Rec. 60C1).]
- Salmonopuntia *salmiana* fa. *glauca* P. V. Heath, *Calyx* 6(2): 41, 1999. [Nom. nov. pro *Opuntia spagazzinii* F. A. C. Weber 1898. Specific epithet unnecessarily corrected to 'salmonana' (Rec. 60C1).]
- Salmonopuntia *salmiana* fa. *rosea* P. V. Heath, *Calyx* 6(2): 41, 1999. [Nom. nov. pro *Opuntia ipatiana* Cárdenas 1952. Specific epithet unnecessarily corrected to 'salmonana' (Rec. 60C1).]
- Sclerocactus Sect. *Coloradoa* (Boissevain & Davidson) Doweld, *Sukkulenty* 1999(1): 27, 1999. Basionym: *Coloradoa*.
- Sclerocactus Sect. *Mesae-Verdae* Hochstätter, *Piante Grasse* 19(1): 18, 1999. Typus: *Coloradoa mesae-verdae*.
- Sclerocactus Sect. *Parviflori* Hochstätter, *Piante Grasse* 19(1): 17-18, 1999. Typus: *Sclerocactus parviflorus*.
- Sulcorebutia *langeri* J. Falkenberg & K. Neumann ex Augustin & al., *Kakt. and. Sukk.* 50(8): 201-204, ills., 1999. Typus: *Swoboda* 240 (ZSS, LPB). [First published invalidly (Art. 34.1b) as provisional name by J. Falkenberg & K. Neumann, *Kakt. and. Sukk.* 32(2): 34-35, ills., 1981, based on *Langer* s.n.]
- Sulcorebutia purpurea* var. *minor* Donald ms. ex Fritz, *Kakt. and. Sukk.* 50(7): 163-165, 1999. *Nom. inval.* (Art. 34.1a, 36.1). [Provisional name, based on an unpublished manuscript name by Donald.]
- Sulcorebutia *tiraquensis* var. *aguilarii* Augustin & Gertel, *Cactus & Co.* 3(3): 117-118, 120-121, ills., 1999. Typus: *Swoboda* 220 (ZSS, LPB).
- Sulcorebutia *tiraquensis* var. *renatae* Hentzschel & S. Beck, *Cactus & Co.* 3(3): 119, 122-123, ills., 1999. Typus: *Gertel* 109 (ZSS, LPB).
- Tephrocactae Doweld, *Sukkulenty* 1999(1): 26, 1999. Typus: *Tephrocactus*.
- Thelocactus Ser. *Ancistrocactoides* Doweld, *Sukkulenty* 1999(1): 31, 1999. Typus: *Echinocactus macdowellii* Rebut ex Quehl.
- Thelocactus Ser. *Bicolores* (Kladiwa) Doweld, *Sukkulenty* 1999(1): 30, 1999. Basionym: *Thelocactus* Sect. *Bicolores*.
- Thelocactus *bicolor* ssp. *bolaensis* (Runge) Doweld, *Sukkulenty* 1999(1): 30, 1999. Basionym: *Echinocactus bolaensis*.
- Thelocactus *bicolor* ssp. *commodus* (R. Haas) Doweld, *Sukkulenty* 1999(1): 30, 1999. Basionym: *Thelocactus bicolor* var. *commodus*.
- Thelocactus *flavus* Mosco & Zanovello, *Cactus & Co.* 3(1): 20-23, ills., 1999. Typus: *Kuenzler* 362 (PAD) [Ex cult. A. Mosco.].
- Thelocactus *leucacanthus* ssp. *schmollii* (Weingart) Mosco & Zanovello, *Cact. Consensus Init. No. 7*: 18, 1999. Basionym: *Thelocactus leucacanthus* var. *schmollii*.
- Thelocactus *rinconensis* ssp. *freudenbergeri* (R. Haas) Mosco & Zanovello, *Cact. Consensus Init. No. 7*: 18, 1999. Basionym: *Thelocactus rinconensis* var. *freudenbergeri*.
- Thelocactus *rinconensis* ssp. *multicephalus* (Halda & Panarotto ex Halda) J. Lüthy, *Kakt. and. Sukk.* 50(4): 80, 1999. Basionym: *Thelocactus multicephalus*.
- Turbincarpus Sect. *Normanbokea* (Kladiwa & Buxbaum) Doweld, *Sukkulenty* 1999(1): 27, 1999. Basionym: *Normanbokea*.
- Turbincarpus *gracilis* ssp. *dickisoniae* (Glass & Foster) Panarotto, *Piante Grasse* 18(3): 120, 1999. Basionym: *Turbincarpus schmiedickeanus* var. *dickisoniae*. [Dated 1998, received Feb. 1999.]



- Turbincarpus mandragora* ssp. *beguinii* (N. P. Taylor) J. Lüthy, *Kakt. and. Sukk.* 50(11): 279, 1999. Basionym: *Thelocactus beguinii*.
- Turbincarpus mandragora* ssp. *booleanus* (G. S. Hinton) J. Lüthy, *Kakt. and. Sukk.* 50(11): 279, 1999. Basionym: *Turbincarpus booleanus*.
- Turbincarpus mandragora* ssp. *pailanus* (Halda & Panarotto) J. Lüthy, *Kakt. and. Sukk.* 50(11): 279, 1999. Basionym: *Turbincarpus pailanus*.
- Turbincarpus mandragora* ssp. *subterraneus* (Backeberg) J. Lüthy, *Kakt. and. Sukk.* 50(11): 279, 1999. Basionym: *Echinocactus subterraneus*.
- Turbincarpus mandragora* ssp. *zaragozae* (Glass & Foster) J. Lüthy, *Kakt. and. Sukk.* 50(11): 279, 1999. Basionym: *Gymnocactus subterraneus* var. *zaragozae*.
- Turbincarpus pseudomacroechele* fa. *lausseri* (Diers & G. Frank) Panarotto, *Piante Grasse* 18(3): 120, 1999. Basionym: *Turbincarpus pseudomacroechele* var. *lausseri*. [Dated 1998, received Feb. 1999.]
- Turbincarpus pseudomacroechele* ssp. *minimus* (G. Frank) J. Lüthy & A. Hofer, *Kakt. and. Sukk.* 50(11): 280, 1999. Basionym: *Turbincarpus kraincianus* fa. *minimus*.
- Turbincarpus saueri* ssp. *ysabelae* (Schlange) J. Lüthy, *Kakt. and. Sukk.* 50(11): 280, 1999. Basionym: *Thelocactus ysabelae*.
- Turbincarpus schmiedickeanus* fa. *schwarzii* (Shurly) Panarotto, *Piante Grasse* 18(3): 120, 1999. Basionym: *Strombocactus schwarzii*. [Dated 1998, received Feb. 1999.]
- Turbincarpus schmiedickeanus* ssp. *andersonii* Mosco, *Cact. Consensus Init. No. 7*: 18, 1999. Typus: *Anderson* 4932 (US).
- Turbincarpus schmiedickeanus* ssp. *bonatzii* (G. Frank) Panarotto, *Piante Grasse* 18(3): 120, 1999. Basionym: *Turbincarpus bonatzii*. [Dated 1998, received Feb. 1999.]
- Turbincarpus schmiedickeanus* ssp. *panarottoi* (Rřha) J. Lüthy, *Kakt. and. Sukk.* 50(11): 280, 1999. Basionym: *Turbincarpus schmiedickeanus* var. *panarottoi*. [Appears to be antedated by *T. schmiedickeanus* ssp. *andersonii* Mosco 1999, for which *T. schmiedickeanus* var. *panarottoi* (treated as invalid by Mosco l.c.) is given as a synonym.]
- Turbincarpus schmiedickeanus* ssp. *rioverdensis* (G. Frank) J. Lüthy, *Kakt. and. Sukk.* 50(11): 280, 1999. Basionym: *Turbincarpus rioverdensis*.
- Turbincarpus schmiedickeanus* ssp. *rubriflorus* (G. Frank) Panarotto, *Piante Grasse* 18(3): 120, 1999. Basionym: *Turbincarpus schwarzii* var. *rubriflorus*. [Dated 1998, received Feb. 1999.]
- Ursopuntia* P. V. Heath, *Calyx* 6(2): 41, 1999. Typus: *Opuntia weberi* Spegazzini. [Nom. nov. pro *Opuntia* Ser. *Weberianae* Britton & Rose 1919.]
- Ursopuntia textoris* P. V. Heath, *Calyx* 6(2): 41, 1999. Nom. illeg. (Art. 52.1). [Nom. nov. illeg. pro *Opuntia weberi* Spegazzini 1898.]
- Ursopuntia textoris* var. *deminuta* (Rausch) P. V. Heath, *Calyx* 6(2): 42, 1999. Incorrect name (Art. 11.4), based on *Tephrocactus weberi* var. *deminutus*.
- Ursopuntia textoris* var. *dispar* (Castellanos & Lelong) P. V. Heath, *Calyx* 6(2): 42, 1999. Incorrect name (Art. 11.4), based on *Opuntia weberi* var. *dispar*.
- Ursopuntia textoris* var. *setiger* (Backeberg & F. M. Knuth) P. V. Heath, *Calyx* 6(2): 42, 1999. Incorrect name (Art. 11.4), based on *Tephrocactus setiger*.
- Weingartia neumanniana* ssp. *kargliana* (Rausch) Slaba, *Kaktusy* 35(3): 68, ill., 1999. Basionym: *Weingartia kargliana*.
- Wigginsia langsdorffii* ssp. *multiceps* (Hofacker & Herm) Doweld, *Sukkulenty* 1999(2): 25, 1999. Basionym: *Parodia langsdorffii* ssp. *multiceps*.
- Wigginsia langsdorffii* ssp. *pulvinatus* (van Vliet) Doweld, *Sukkulenty* 1999(2): 25, 1999. Basionym: *Notocactus pulvinatus*.
- Wigginsia pauciareolata* (Arechavaleta) R. Kiesling, in Zuloaga & Morrone, *Cat. Pl. Vasc. Rep. Argent.* 488, 1246, 1999. Basionym: *Echinocactus pauciareolatus*.

CRASSULACEAE

- Aeonium appendiculatum* Bařares, *Willdenowia* 29(1): 98-101, ills., 1999. Typus: *Bařares et Marrero* 39570 (TFC, B).
- Aeonium urbicum* var. *meridionale* Bařares, *Willdenowia* 29(1): 98, ill. (p. 97), 1999. Typus: *Bermúdez et Bařares* 39569 (TFC, B).
- Aizopsis* Sect. *Villosae* (Borissova) S. Gontcharova, *Bull. Nation. Sci. Mus. Tokyo, Ser. B*, 25(2): 55, 1999. Basionym: *Sedum* Ser. *Villosa*.
- Aizopsis kurilensis* (Voroschilov) S. Gontcharova, *Bull. Nation. Sci. Mus. Tokyo, Ser. B*, 25(2): 54, 1999. Basionym: *Sedum kurilense*.
- Aizopsis maximowiczii* (Regel) S. Gontcharova, *Bull. Nation. Sci. Mus. Tokyo, Ser. B*, 25(2): 54, 1999. Basionym: *Sedum maximowiczii*.
- Aizopsis middendorffiana* ssp. *sichotensis* (Voroschilov) S. Gontcharova, *Bull. Nation. Sci. Mus. Tokyo, Ser. B*, 25(2): 54-55, 1999. Basionym: *Sedum sichotense*.
- Combesia muscosa* var. *variegata* P. V. Heath, *Calyx* 6(2): 61, 1999. Typus: [icono]: *Gard. Chron., Ser. 3*, 117: 167, fig. 80 (right). [Based on *Crassula lycopodioides variegata* Lamb 1945 and first published (l.c. 3(4): 122, 1993) as a combination for this name.]
- Crassula* cv. *Amulet* M. Holmes, *Cact. Succ. J. (Woollahra)* 22(3): 53-54, ill., 1999. [= *C. ausensis*  $\times$  *C. mesembrianthemopsis*.]
- Crassula* cv. *Talisman* M. Holmes, *Cact. Succ. J. (Woollahra)* 21(7): 131-132, ill., 1999. [Dated Dec. 1998, received 10. 3. 1999. = *Crassula perfoliata* var. *falcata*  $\times$  *C. elegans* (*C. schoenlandii* form).]
- Crassula* cv. *Tinkerbell* M. Holmes, *Cact. Succ.*

- J. (Woollahra) 21(8): 144-145, ill., 1999. [= *Crassula* 'Springtime' × *C. karasana*.]
- × *Graptoveria* cv. *Cherry Princess* H. Shimizu, *Cact. Succ. J. Japan* 12(11): 4, ill., 1999. [= *Graptopetalum* (*Tacitus*) *bellum* × *Echeveria laui*.]
- × *Graptoveria* cv. *Madonna* H. Shimizu, *Cact. Succ. J. Japan* 12(11): 5, ill., 1999. [= *Graptopetalum* (*Tacitus*) *bellum* × *Echeveria laui*.]
- Hylotelephium angustum* var. *longipedunculum* J. M. Shang & K. T. Fu, *Guihaia* 19(3): 207, 1999. Typus: *Exploration of Resources in Tsiang* XXX:491 (UKG).
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- Ohbaea* Byalt & I. V. Sokolova, *Kew Bull.* 54: 476, 1999. Typus: *Sedum balfourii* Hamet. [*Nom. nov. pro Balfouria* (H. Ohba) H. Ohba 1995 (non *Balfouria* R. Brown 1810).]
- Ohbaea balfourii* (Hamet) Byalt & I. V. Sokolova, *Kew Bull.* 54: 476, 1999. Basionym: *Sedum balfourii*.
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- Orostachys ramosissimus* (Maximowicz) Byalt, *Problemi Botaniki n rubeshe 20/21 vekov* [Botanical Problems at the change 20. / 21. Century; Abstracts of Papers at the Congress of the Russian Botanical Society May 1998 in St. Petersburg], 167, 1998. Basionym: *Umbilicus ramosissimus*.
- Orostachys vyschinii* Bezdeleva, in S. S. Kharkevich (ed.), *Vasc. Pl. Russian Far East* 7: 232, 1995.
- Pachyphytum garciae* Pérez-Calix & Glass, *Acta Bot. Mex.* 48: 4,6-7, ills., 1999. Typus: *Pérez-Calix et Zamudio* 3574 (IEB).
- Pachyphytum machucaae* I. García & al., *Acta Bot. Mex.* 47: 10-11, ill., 1999. Typus: *García Ruiz* 4497 (IEB, CIMI, ENCB, MEXU).
- Prometheum muratdaghense* (Kit Tan) 't Hart, *Succulenta* 78(5): 236, 1999. Basionym: *Rosularia muratdaghensis*.
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- Pseudosedum ferganense* ssp. *parvum* Kamelin & Byalt, *Komarovia* 1: 39-40, 1999. Typus: *Kamelin et al.* 969 (LE).
- Rhodiola integrifolia* ssp. *neomexicana* (Britton) H. Ohba, *J. Jap. Bot.* 74(1): 61, 1999. Basionym: *Rhodiola neomexicana*.
- Rhodiola integrifolia* ssp. *procerata* (R. T. Clausen) H. Ohba, *J. Jap. Bot.* 74(1): 61, 1999. Basionym: *Sedum integrifolium* ssp. *procerum*.
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- Rhodiola rosea* ssp. *sachalinensis* (Borissova) S. Gontcharova, *Bull. Nation. Sci. Mus. Tokyo, Ser. B*, 25(2): 56, 1999. Basionym: *Rhodiola sachalinensis*.
- Sedum dasyphyllum* fa. *donatianum* (Vis. & Sacc.) Tavormina, *Piante Grasse* 18(4): 131, 1999. *Nom. inval.* (Art. 33.2). [Dated 1998, publ. May 1999. Basionym not traced.]
- Sedum dasyphyllum* fa. *glaucum* (Lit.) Tavormina, *Piante Grasse* 18(4): 131, 1999. *Nom. inval.* (Art. 33.2), based on *Sedum dasyphyllum* var. *glaucum*. [Dated 1998, publ. May 1999.]
- Sedum dasyphyllum* var. *elisae* Tavormina, *Piante Grasse* 18(4): 134, ill. (p. 132, fig. 7), 1999. Based on *Tavormina* 38. *Nom. inval.* (Art. 36.1, 37.5). [Dated 1998, publ. May 1999.]
- Sedum decipiens* (Baker) Thiede & 't Hart, *Novon* 9: 124, 1999. Basionym: *Cotyledon decipiens*.
- Sedum ince* 't Hart & Alpiner, *Edinburgh J. Bot.* 56(2): 182, 1999. Typus: *Alpinar et 't Hart* 24 (ISTE 72678, U) [Ex cult. BG Utrecht (HRT 32001).]
- Sedum kinnachii* Byalt, *Kew Bull.* 54: 458, 1999. Typus: CU [Ex cult. Hort. Clausen 44-119, 1952.]. [*Nom. nov. pro Sedum decumbens* R. T. Clausen 1975 (non *Sedum decumbens* Lucé 1823). First illegitimately named *S. clausenii* Byalt 1998.]
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- Sedum plicatum* Thiede & 't Hart, *Novon* 9: 124, 1999. Typus: *Weberbauer* 3000 (B). [*Nom. nov. pro Cotyledon stricta* Diels 1906 (= *Villadia dielsii* Baehni & Macbride 1937) (non *Sedum strictum* K. Koch 1847, non *Sedum dielsii* Hamet 1913).]
- Sedum reniforme* (H. Jacobsen) Thiede & 't Hart, *Novon* 9: 125, 1999. Basionym: *Villadia reniformis*.
- Sedum sarmentosum* cv. *Iijima* R. Stephenson, *Sedum Soc. Newslett.* No. 48: 29, 1999.
- Sedum wannanense* X. H. Guo & al., *Acta Bot. Yunnan.* 21(1): 25, 1999. Typus: *Guo et al.* 970504 (ANUB, KUN).
- Sedum wannanense* var. *incarnatum* X. H. Guo & al., *Acta Bot. Yunnan.* 21(1): 26, 1999. Typus: *Guo* 970505 (ANUB, KUN).
- Sedum weberbaueri* (Diels) Thiede & 't Hart, *Novon* 9: 125, 1999. Basionym: *Cotyledon weberbaueri*.
- Sedum yildizianum* Sümütül, *Doga Turk Bot. Derg.* 14(1): 55-57, ills., 1990. Typus: *Sümütül* 2231 (HUB, ANK).
- Sempervivum globiferum* ssp. *allionii* (Jordan & Fourreau) 't Hart & Bleij, *Succulenta* 78(1): 40, 1999. Basionym: *Diopogon allionii*.
- Sempervivum globiferum* ssp. *arenarium* (W. D. J. Koch) 't Hart & Bleij, *Succulenta* 78(1): 40, 1999. Basionym: *Sempervivum arenarium*.
- Sempervivum globiferum* ssp. *hirtum* (Linné) 't Hart & Bleij, *Succulenta* 78(1): 40, 1999. Basionym: *Sempervivum hirtum*.

- Sempervivum marmoreum* ssp. *ballsii* (Wale) Zonneveld, *Succulenta* 78(2): 92, 1999. Basionym: *Sempervivum ballsii*.
- Sempervivum marmoreum* ssp. *erythraeum* (Velenovsky) Zonneveld, *Succulenta* 78(2): 92, 1998. Basionym: *Sempervivum erythraeum*. [Sphalm. 'erythreum'.]
- Sempervivum marmoreum* ssp. *reginae-amaliae* (Heldreich & Sartori ex Boissier) Zonneveld, *Succulenta* 78(2): 92, 1999. Basionym: *Sempervivum reginae-amaliae*.
- Sempervivum tectorum* var. *arvernense* (Lecoq & Lamotte) Zonneveld, *Succulenta* 78(2): 92, 1999. Basionym: *Sempervivum arvernense*.
- Sempervivum transcaucasicum* ssp. *aghricum* (Kit Tan & Sorger) Byalt, *Novosti Sist. Vyssh. Rast.* 31: 121, 1998. Basionym: *Sempervivum globiferum* ssp. *aghricum*.
- Sinocrassula indica* var. *maculosa* H. Chuang ex Thiede, *Cact. Succ. J. (US)* 71(3): 160, 1999. Typus: *Wang* 81964 (KUN). [Nom. nov. pro *Sinocrassula luteorubra* var. *maculosa* H. Chuang 1997 (nom. inval., Art. 43.1).]

EUPHORBIACEAE

- Euphorbia adenopoda* var. *obtusifolia* Rauh, *Trop. subtrop. Pfl.-welt* 100: 17, 1999. *Nom. illeg.* (Art. 36.1, 37.1).
- Euphorbia ambarivatoensis* Rauh & Bardot-Vaucoulon, *Succulentes* 22(3): 4-7, ills., 1999. Typus: *Bardot-Vaucoulon et Andrianantoanina* 1006 (P).
- Euphorbia beharensis* var. *adpressifolia* Rauh, *Trop. subtrop. Pfl.-welt* 100: 13-14, ills. (p. 28), 1999. Typus: *Rauh* 74672 (HEID).
- Euphorbia beharensis* var. *guillemetii* (Ursch & Léandri) Rauh, *Trop. subtrop. Pfl.-welt* 100: 10, ills. (p. 25), 1999. Basionym: *Euphorbia guillemetii*.
- Euphorbia beharensis* var. *squarrosa* Rauh, *Trop. subtrop. Pfl.-welt* 100: 14-15, ills. (p. 29), 1999. Typus: *Rauh* 74989 (HEID).
- Euphorbia beharensis* var. *truncata* Rauh, *Trop. subtrop. Pfl.-welt* 100: 11-12, ills. (pp. 26-27), 1999. Typus: *Rauh* 68567 (HEID).
- Euphorbia bemarahaensis* Rauh & R. Mangelsdorff, *Succulentes* 22(1): 7-12, ills., 1999. Typus: *Mangelsdorff* s.n. in *HEID* 75054 (HEID). [Epithet probably correctable to 'bemarahaensis' (as usually used)?]
- Euphorbia gamkensis* Marx, *Cact. Succ. J. (US)* 71(1): 37-40, ills., 1999. Typus: *Marx* 225 (GRA).
- Euphorbia gradyi* V. W. Steinmann & Ramírez-Roa, *Haseltonia* 6: 102-104, ills., 1999. Typus: *Steinmann* 784 (MEX, ARIZ, BM, DAV, ENCB, HUMO, IBUG, LSU, MICH, NY, RSA). [Dated 1998 on the cover, publ. 1999.]
- Euphorbia labatii* Rauh & Bardot-Vaucoulon, *Succulentes* 22(4): 3-7, ills., 1999. Typus: *Labat et Andrianantoanina* 2838 (P, TAN).
- Euphorbia maritae* Rauh, *Brit. Cact. Succ. J.*

- 17(4): 217-220, ills., 1999. Typus: *Specks* 1076 (HEID).
- Euphorbia martinae* Rauh, *Succulentes* 22(3): 8-12, ills., 1999. Typus: *Bardot-Vaucoulon et Andrianantoanina* 1012 (P, TAN).
- Euphorbia meloformis* fa. *falsa* (N. E. Brown) Marx, *Euphorbiaceae Study Group Bull.* 12(1): 32, 1999. Basionym: *Euphorbia falsa*.
- Euphorbia meloformis* fa. *magna* R. A. Dyer ex Marx, *Euphorbiaceae Study Group Bull.* 12(1): 13, ill. (p. 15), 1999. Typus: *Marx* 550 (GRA). [Based on a manuscript name of R. A. Dyer.]
- Euphorbia neobosseri* var. *itampolensis* Rauh, *Trop. subtrop. Pfl.-welt* 100: 8, ills. (p. 22), 1999. Typus: *Bana* s.n. in *HEID* 73303 (HEID).
- Euphorbia neohumbertii* cv. *Rubrifolia* Rauh ex Trager, *Cact. Succ. J. (US)* 71(2): 97, 1999.
- Euphorbia seibaniae* Lavranos & Al-Gifri, *Cact. Succ. J. (US)* 71(3): 135-139, ills., 1999. Typus: *Lavranos et Meintjes* 1936 (K).
- Euphorbia suppressa* Marx, *Cact. Succ. J. (US)* 71(1): 33-36, ills., 1999. Typus: *Marx* 227 (GRA).

GERANIACEAE

- Pelargonium angustipetalum* E. M. Marais, *South Afr. J. Bot.* 65(1): 51-52, ills., 1999. Typus: *Drijfhout* 1371 (NBG, BOL, K, MO, PRE, S).
- Pelargonium parvipetalum* E. M. Marais, *South Afr. J. Bot.* 65(1): 53-54, ills., 1999. Typus: *Bruyns* 1519 (NBG, BOL, K, MO, PRE, S).
- Pelargonium rubiginosum* E. M. Marais, *South Afr. J. Bot.* 65(1): 54-57, ills., 1999. Typus: *van Jaarsveld* 4100 (NBG, BOL, K, MO, PRE, S).

HYACINTHACEAE

- Lachenalia doleritica* G. D. Duncan, *Bothalia* 28(2): 134-135, ill., 1998. Typus: *Thomas* s.n. in *NBG* 140212 (NBG).
- Ledebouria atrobrunnea* S. Venter, *Bothalia* 28(1): 15-16, ills., 1998. Typus: *Venter* 13460 (PRE, NU, UNIN).
- Ledebouria crispa* S. Venter, *Bothalia* 28(2): 179, ills., 1998. Typus: *Venter* 11202 (PRE, NU, UNIN).
- Ledebouria dolomiticola* S. Venter, *Bothalia* 28(1): 16-17, ills., 1998. Typus: *Venter* 13089a (PRE, NU, UNIN).
- Ledebouria macowanii* (Baker) S. Venter, *Bothalia* 28(2): 181, 1998. Basionym: *Scilla macowanii*.
- Ledebouria parvifolia* S. Venter, *Bothalia* 28(2): 180, ills., 1998. Typus: *Venter* 12609a (PRE).
- Ornithogalum toxicarium* C. & R. H. Archer, *South Afr. J. Bot.* 65(5-6): 431-433, 1999. Ty-

pus: *Retief et Reid* 299 (PRE).

LAMIACEAE

*Plectranthus fasciculatus* P. I. Forster, *Haseltonia* 6: 14-16, ill., 1999. Typus: *Forster et al.* 13709 (BRI, QRS). [Dated 1998, publ. June 1999.]

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*Pinguicula elizabethiae* Zamudio, *Acta Bot. Mex.* 47: 16-18, ills., 1999. Typus: *Zamudio et Pérez* 10029 (IEB).

*Pinguicula moranensis* var. *neovolcanica* Zamudio, *Acta Bot. Mex.* 47: 16-18, 1999. Typus: *Zamudio* 9144 (IEB).

MELASTOMATACEAE

*Miconia amplinodis* Umaña & Almeda, *Novon* 5(1): 110-113, ills., 1995. Typus: *Umaña et al.* 495 (CR, CAS, COL, F, MEXU, MO, US, USJ).

*Sonerila nagyana* Cellinese, *Novon* 7(2): 104-105, ills., 1997. Typus: *Cellinese* 66 (BO, FLAS, K, L).

PEDALIACEAE

*Uncarina turicana* Lavranos, *Kakt. and Sukk.* 50(12): 317-319, ills., 1999. Typus: *Rössli et Hoffmann* 47/96 (P, HBG, ZSS).

PORTULACACEAE

*Portulaca yecorensis* Henrickson & van Devender, *Sida* 18(4): 1002, 1999. Typus: *van Devender et al.* 98-1942 (ARIZ, CAS, MEXU, TEX).



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