

# PLETHORA OF PLANTS - COLLECTIONS OF THE BOTANICAL GARDEN, FACULTY OF SCIENCE, UNIVERSITY OF ZAGREB (2): GLASSHOUSE SUCCULENTS

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In this paper, the plant lists of glasshouse succulents grown in the Botanical Garden from 1895 to 2017 are studied. Synonymy, nomenclature and origin of plant material were sorted. The lists of species grown in the last 122 years are constructed in such a way as to show that throughout that period at least 1423 taxa of succulent plants from 254 genera and 17 families inhabited the Garden's cold glasshouse collection.

**Key words:** Zagreb Botanical Garden, Faculty of Science, historic plant collections, succulent collection

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U ovom članku sastavljeni su popisi stakleničkih mesnatice uzgajanih u Botaničkom vrtu zagrebačkog Prirodoslovno-matematičkoga fakulteta između 1895. i 2017. Uređena je sinonimka i nomenklatura te istraženo podrijetlo biljnog materijala. Rezultati pokazuju kako je tijekom 122 godine kroz zbirku mesnatice hladnog staklenika prošlo najmanje 1423 svojiti iz 254 rodova i 17 porodica.

**Ključne riječi:** Botanički vrt PMF-a u Zagrebu, povijesne zbirke biljaka, zbirka mesnatice

## INTRODUCTION

Following the comprehensive investigation of the plant collections in the Botanical Garden of the Faculty of Science, University of Zagreb (in further text "Botanical Garden" or "the Garden") initiated in 2012, we are continuing with the inventories of glasshouse succulent plants that went through our collections from the Botanical Garden's foundation until 2017. General facts about the Garden, its collections and glasshouses were published in our previous papers (cp. SANDEV *et al.*, 2013; KOVAČIĆ *et al.*, 2014; KOVAČIĆ 2015).

Following the principles established in KOVAČIĆ (2015), we made an inventory of all existing and once-existing species of exotic succulent plants, including cacti, crassulas, aloes, agaves and other species within several families with similar physiologies, morp-

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\* Supplementary Material: Tab. 2 and 3 are available only in the electronic version of this article.  
Dodatni materijal: Tabl. 2 i 3 dostupne su samo u elektroničkoj verziji ovoga članka.

hologies and ecological needs (Fig. 1), grown together in the Garden's cold glasshouse collection since its foundation.

As succulent plants are very popular ornamentals all over the world, the interest in their cultivation and – nowadays – protection is vast. For example, it is noted that 68 % of all threatened species of cacti (Cactaceae family) are recorded in botanic garden collections, while the most commonly recorded globally threatened cactus in botanic garden collections is *Echinocactus grusonii* Hildm. (OLDFIELD & HUNT, 2010). In general, the natural distribution of succulent plants is global, but three continents are richer than the others: Africa, North and South America. Over the years, we grew in our collection more than 500 succulent species from the African Cape Floristic Region, and 30 from the Canaries and from Madagascar, respectively. From South America we had more than 300 species, mostly from Argentina. From North America we grew more than 250 species throughout the years, almost all of them from Mexico.

### The cold glasshouse collection

History and living conditions of the Botanical Garden glasshouses were depicted in the paper KOVAČIĆ (2015). Non-native succulent species grown in the Botanical Garden collections overwinter or live permanently indoors. The Exhibition Glasshouse, built in 1891, has housed many species of succulent plants since its establishment; they were regularly exhibited in the open during the summer seasons (Fig. 2abcd) – a practice that is still kept up (Fig. 3ab). Within the Exhibition Glasshouse, the Cold Glasshouse (*frigidarium*) intended for the overwintering of succulents maintains a winter temperature of above 5 °C (max. 12 °C), so light heating is required. The amount of humidity is constantly kept very low, while regular ventilation is essential. Unfortunately, due to the complete reconstruction of the Exhibition Glasshouse, which started in 2015 and is not yet finished, the collection of succulents was temporarily rehoused in rather unsuitable premises, where it is much harder to obtain the needed winter conditions – consequently, some of the species withered over the last few years. As the glasshouses have been closed to the public for a century now, most of the indoor plants grown in larger pots are placed in the open during the summertime, so as to be accessible to our visitors. In future, when the old Exhibition Glasshouse is fully reconstructed, part of the succulent collection will gain a cold glasshouse-space of its own (“hladna kuća” – “cold house”) and will be open to the general public.

During 2017 we thoroughly examined the published works, the Garden database and our own inventory records to establish the lists of exotic succulents living in the cold glasshouse collection between 1895 and 2017.

## MATERIAL & METHOD

Three main sources are used for constructing the lists of non-native succulents growing in the Botanical Garden's collections from its establishment until May 2017. As explained in KOVAČIĆ (2015), three data-sources are available: (i) published records on the historic collection of the early days (1891-1896), (ii) a passive database of plants cultivated in the Garden since 1948 but *not* living today, and (iii) a active database of plants recently (2017) living in the cold glasshouse succulent collection, compiled from the attending gardener's glasshouse inventories.

The initial part of this study is based on a booklet written by the founder of the Botanical Garden, Professor Antun Heinz (HEINZ, 1895-1896), which was constructed according

to the classification of Plant Kingdom valid at that time, and was not precise in stating the details of the Garden's inventory. In most of the cases, only plant families and genera are named, as "containing a lot/many species", without any further details (origin, acquisition, living conditions, etc.). Accordingly, Tab. 1 lists the genera and families of glasshouse succulents grown in 1895, with very little explanation of the actual taxa. After the booklet of HEINZ (1895-1896), there is a gap of more than 50 years throughout which the data on the glasshouse collections are missing.

Recent Garden records were founded in 1948 and ever since then we have been able to track our plant material with certainty. This database holds approx. 28 000 cards divided in two parts: a **passive database** (plants not present in the Garden, but grown during the years) and an **active database** (plants recently grown in the Garden), which was digitalized in 2002 as a part of the *Flora Croatica Database* with restricted access (<http://hirc.botanic.hr/fcd/crofloradb/>). The details on the collection's database and inventories after 1948 until today are explained in KOVAČIĆ (2015).

For most of the species already living in the glasshouses when this database was launched, the oldest cards state just "plant found growing in the Garden", without any further data on its origin, which was obviously unknown. One specimen of *Cephalocereus senilis* (Haw.) Pfeiff. and one of *Mammillaria elongata* DC. var. *stella-aurata* (Mart.) K. Schum. were the first succulent plants inventoried in the new database in 1947, followed by *Crassula ericoides* Haw., *Gasteria brevifolia* Haw., *Harrisia bonplandii* (Parm.) Britton & Rose, *H. pomaniensis* (F.A.C. Weber ex K. Schum.) Britton & Rose, *Rebutia minuscula* K. Schum., *Sedum hultenii* Fröd., *Senecio articulatus* (L. f.) Sch. Bip. and *Thelocactus setispinus* (Engelm.) E.F. Anderson, all inventoried in 1949.

For most of the newcomers after 1948, the place of origin or the botanic garden of origin was noted, together with a year when the material was acquired: the oldest plant in the cold glasshouse succulent collection recorded in this manner was a *Cylindrophyllum comptonii* L. Bolus, obtained from Palermo (Italy) in 1950.

It is interesting to see that via *Delectus (Index) Seminum* publications the Garden obtained some native succulent seeds collected in the parts of the world with a high rate of endemism (South Africa, Central and Southern America) where collecting in the wild is nowadays strictly forbidden. Even today (Tab. 3) we hold some species listed in CITES (<http://checklist.cites.org/#/en>), as well as invasive for example acc. to EASIN (<http://alien.jrc.ec.europa.eu/SpeciesMapper>), which were freely distributed among botanic gardens before modern legislation was established.

Tab. 2 (with Tab. 3 available in the Supplement of the electronic version of this article) comprises the details extracted from the "passive" Garden-database, contained in the cards of individual taxa grown in the cold glasshouse conditions since 1948, but now missing in the recent collection (in Tabs. 2 and 3, "nn" stands for "unknown origin"). Again, as specified in KOVAČIĆ (2015), examination of this part of the database inevitably led to the extraction of many synonyms, and double (even triple or more) entries for the same plant sample or species, as well as identification of several larger plant die-offs during the decades. Even during the last few years we have witnessed one of the succulent die-offs, since the Exhibition Glasshouse is under reconstruction and the collection was rehoused in other, less suitable, facilities.

The final part of this study is based on our active Garden database and recent records on the non-native succulents growing in the cold glasshouse collection. Tab. 3 depicts glasshouse succulents living in the Garden collections as of May, 2017. The basis of that list is the register of inventories, which is assembled biannually by the attending gardeners. While the active Garden database was thoroughly examined, many cards were replaced in the passive part of the records, while the plants perished in the meantime.

Most of the plants in the recent cold glasshouse collection are represented by three to five clay-potted specimens, which are rejuvenated (vegetatively or germinatively), when and if possible. New plants for this collection are obtained through the *Delectus Seminum* network of inter-botanic-garden seed exchange, and grown in the Garden quarantine facilities. Occasionally, some cultivars are purchased from nurseries, garden centres or private collectors.

The general nomenclature of taxa follows the Plant List (<http://www.theplantlist.org/>) and Tropicos (<http://www.tropicos.org/>) databases. For African species the African Plant Database was consulted (<http://www.ville-ge.ch/musinfo/bd/cjb/africa/>). For specific cases (for example hybrids, cultivars) we used the specialized book-series “Illustrated Handbook of Succulent Plants” (ALBERS & MEVE, 2002; EGGLI, 2001, 2002, 2003; HARTMANN, 2001ab; IRISH & IRISH, 2000).

## RESULTS & DISCUSSION

It is well known to any garden curator how difficult it is to compare plant data from various ages, due to the extensive synonymy and immense changes in the taxonomic and systematic relationships of plants, following ongoing research results over the years (further explained in KOVAČIĆ, 2015). Therefore, for the simple “gardener-friendly” purpose we assembled the plants of interest here within “Dicotyledons” (“dicots”, “Magnoliopsida”) and “Monocotyledons” (“monocots”, “Liliopsida”), and within them in families, genera and species. Here follow some explanations and clarifications of the data listed in Tabs. 1, 2 and 3, arranged by families of exotic succulents grown in the cold glasshouse collection of the Garden.

**Tab. 1.** Estimated collection of the cold glasshouse in 1895 (HEINZ, 1895-1896).

Family (acc. to Heinz' notes)	Family (acc. to Plant List or Tropicos databases)	Scientific name (acc. to Heinz' notes)	Scientific name (acc. to Plant List or Tropicos databases)	Notes
Dicotyledons				
Aizoaceae (Mesembrianthemaceae)	Aizoaceae	<i>Mesembrianthemum</i>	<i>Mesembryanthemum</i> L.	mostly from Cape Province (south Africa)
Aizoaceae (Mesembrianthemaceae)	Aizoaceae	<i>Tetragonia expansa</i>	<i>Tetragonia tetragonioides</i> (Pall.) Kuntze	
Asclepiadaceae	Apocynaceae	<i>Stapelia</i>	<i>Stapelia</i> L.	different species from Cape Province
Cactaceae	Cactaceae	<i>Cereus</i>	<i>Cereus</i> Mill.	
Cactaceae	Cactaceae	<i>Echinocactus</i>	<i>Echinocactus</i> Link & Otto	
Cactaceae	Cactaceae	<i>Epiphyllum</i>	<i>Epiphyllum</i> Haw.	
Cactaceae	Cactaceae	<i>Mammillaria</i>	<i>Mammillaria</i> Haw.	
Cactaceae	Cactaceae	<i>Melocactus</i>	<i>Melocactus</i> Link & Otto	
Cactaceae	Cactaceae	<i>Opuntia</i>	<i>Opuntia</i> Mill.	lot of species, mostly from temperate and tropical America
Cactaceae	Cactaceae	<i>Opuntia Ficus indica</i>	<i>Opuntia ficus-indica</i> (L.) Mill.	
Cactaceae	Cactaceae	<i>Opuntia missouriensis</i>	<i>Opuntia polyacantha</i> Haw.	
Cactaceae	Cactaceae	<i>Peireskia</i>	<i>Peireskia</i> Mill.	
Cactaceae	Cactaceae	<i>Phyllocactus</i>	<i>Epiphyllum</i> Haw.	



Family (acc. to Heinz' notes)	Family (acc. to Plant List or Tropicos databases)	Scientific name (acc. to Heinz' notes)	Scientific name (acc. to Plant List or Tropicos databases)	Notes
Cactaceae	Cactaceae	<i>Rhipsalis</i>	<i>Rhipsalis</i> Gaertn.	
Compositae	Asteraceae	<i>Kleinia</i>	<i>Kleinia</i> Mill.	
Compositae	Asteraceae	<i>Othona</i>	<i>Othonna</i> L.	
Compositae	Asteraceae	<i>Senecio</i>	<i>Senecio</i> L.	
Crassulaceae	Crassulaceae	<i>Bryophyllum calycinum</i>	<i>Bryophyllum pinnatum</i> (Lam.) Oken	
Crassulaceae	Crassulaceae	<i>Cotyledon</i>	<i>Cotyledon</i> L.	lot of species, mostly from Mexico and Cape Province
Crassulaceae	Crassulaceae	<i>Crassula</i>	<i>Crassula</i> L.	lot of species, mostly from Mexico and Cape Province
Crassulaceae	Crassulaceae	<i>Echeveria</i>	<i>Echeveria</i> DC.	lot of species, mostly from Mexico and Cape Province
Crassulaceae	Crassulaceae	<i>Rochea</i>	<i>Rochea</i> DC.	lot of species, mostly from Mexico and Cape Province
Crassulaceae	Crassulaceae	<i>Sedum</i>	<i>Sedum</i> L.	
Crassulaceae	Crassulaceae	<i>Semperivum</i>	<i>Semperivum</i> L.	
Dioscoreaceae	Dioscoreaceae	<i>Testudinaria elephantipes</i>	<i>Dioscorea elephantipes</i> (L'Hér.) Engl.	Heinz depicts as "already withered"
Euphorbiaceae	Euphorbiaceae	<i>Euphorbia resinifera</i>	<i>Euphorbia resinifera</i> O.Berg	
Euphorbiaceae	Euphorbiaceae	<i>Euphorbia</i>	<i>Euphorbia</i> L.	different species
Euphorbiaceae	Phyllanthaceae	<i>Phyllanthus</i>	<i>Phyllanthus</i> L.	
Geraniaceae	Geraniaceae	<i>Pelargonium</i>	<i>Pelargonium</i> L'Hér.	from Cape Province
Monocotyledons				
Amaryllidaceae	Agavaceae	<i>Agave americana</i>	<i>Agave americana</i> L.	
Amaryllidaceae	Agavaceae	<i>Agave</i>	<i>Agave</i> L.	
Amaryllidaceae	Asparagaceae	<i>Beschorneria yuccoides</i>	<i>Beschorneria yuccoides</i> K.Koch	
Amaryllidaceae	Agavaceae	<i>Fourcroya gigantea</i>	<i>Furcraea foetida</i> (L.) Haw.	
Bromeliaceae	Bromeliaceae	<i>Dyckia</i>	<i>Dyckia</i> Schult. & Schult. f.	
Liliaceae	Aloaceae	<i>Aloe ferrox</i>	<i>Aloe ferrox</i> Mill.	
Liliaceae	Aloaceae	<i>Aloe</i>	<i>Aloe</i> L.	mostly from Cape Province (south Africa)
Liliaceae	Aloaceae	<i>Aloe succotrina</i>	<i>Aloe succotrina</i> Lam.	
Liliaceae	Aloaceae	<i>Yucca</i>	<i>Yucca</i> L.	

### "Dicotyledons" ("dicots", "Magnoliopsida")

Most of the former and recent exotic plants of the Garden collections belong to the large and (also disputed) angiosperm group of "dicotyledons" or "magnoliopsida".

As seen in Tab. 1 (HEINZ, 1895-1896), in the late 19<sup>th</sup> century out of the total of 32 genera and 11 families, 26 "dicot"-genera from 8 families lived in the succulent glasshouse collection (Tab. 4). Compared to the other collections depicted in HEINZ (1895-1896), where an astonishing amount of both indoor and outdoor plants contained in the collections soon after the Garden was formally established (1889) was described, Heinz's data on succulent

plants are surprisingly humble. As described in KOVAČIĆ (2015), in his work of 1895-1896, Heinz listed up to (estimated) 250 plant taxa of the temperate glasshouse alone (possibly many more), approximately one hundred of them by name. Surprisingly, out of the cold glasshouse succulent collection Heinz listed only 6 “dicot” species by name, of which we still have in our collection only “*Opuntia Ficus indica*”, while “*Opuntia missouriensis*” and *Euphorbia resinifera* existed in our collections also after 1947, but today are missing. We have never had “*Bryophyllum calycinum*”, “*Testudinaria elephantipes*” and “*Tetragonia expansa*” after Heinz’s times. Further 21 “dicot” genera are mentioned, but without much explanation (“lot of species...”, “different species...” etc., as seen in Tab. 1). For example, the genera *Melocactus*, *Rhypsalis*, *Kleinia*, *Othona*, *Cotyledon* and *Rochea* are missing from the subsequent lists (Tab. 3). However, as emphasized in KOVAČIĆ (2015), this “lack” of representatives of certain genera – as well as sometimes of whole families – is highly relative, due to the taxonomic and nomenclatural variances: even today, different botanical sources classify plants in different ways. For example, the extremely diverse genus *Phyllanthus* of the current Phyllanthaceae family contains approx. 60 genus synonyms alone, and was in Heinz’s times classified within Euphorbiaceae. Since then, succulents of Phyllanthaceae and Dioscoreaceae families have never been grown in the succulent collection.

According to our calculations (Tab. 2 & 4), during the last 70 years, 1040 taxa passed through the cold glasshouse collection in addition to 151 genera of “dicot” succulent taxa, which are now missing, while we lack representatives of the Oxalidaceae family. Most abundant (Tab. 3) were the families of Cactaceae, Crassulaceae, Aizoaceae and Asclepiadaceae, as they are today. It should be emphasized that many scientific names are difficult to track, especially from the Cactaceae family (genera *Cereus*, *Mammillaria*, *Parodia* etc.) due to the immense synonymy. The Cactaceae family was in the past (Tab. 2) far more abundant than today (Tab. 3), with 83 genera and 537 taxa inventoried in the garden database since 1948. Many interesting species were ordered repeatedly from different botanical gardens during the years, among which an absolute “winner” is *Mammillaria polythele* Mart. subsp. *polythele*: it was ordered more than 40 times and under 8 different synonyms (Tab. 2); *Astrophytum myriostigma* Lem. was ordered 28 times under 7 different synonyms; *Rebutia minuscula* 23 times under 9 different synonyms since 1949, etc. Also, it is obvious that *Delecti Semini* of some botanical gardens were more popular than others: specifically, Berlin (300 orders), Barcelona (145), Wageningen (131), Gent (130) and Linz (107). However, for as much as 349 samples the source is unknown (“nn” in Tab. 2). Today, most of our recent succulents originate from Wageningen (19), Cluj-Napoca (14) and Monaco (13), while for as many as 39 species the source is unknown (“nn”). Some of those plants were in the 1950s and 1960s received from the Garden staff and visitors, and some were purchased, but without a known origin (acc. to Dr. Ljerka Regula – pers. cont.).

As of May 2017, we grew 220 “dicot”-succulent species from 82 genera and 11 families (Tab. 3 & 4). The most abundant families are Cactaceae (66 taxa in 31 genera; Fig. 5ab) and Crassulaceae (55 taxa in 13 genera; Fig. 6abcdefg), followed by Aizoaceae (46 taxa in 24 genera; Fig. 7abc) and Euphorbiaceae (22 taxa of *Euphorbia* genus, Fig. 8). During the years, we lost 48 species from the family Asclepiadaceae, so today we grow 17 taxa in 5 genera (Fig. 1, 9ab). Some families are represented by only a few succulent members, and are thus scarcely represented in our collection (for example Apocynaceae with 5 taxa during the years, Fig. 10).

In total (Tab. 3; Figs. 4, 6abcdef, 11), 50 % of “dicot”-succulents grown today in our collection are placed in the CITES-lists (<http://checklist.cites.org/#/en>). Furthermore, 13.64 % of our recent “dicot”-succulents are listed as invasive in EASIN (<http://alien.jrc.ec.europa.eu/SpeciesMapper>; Fig. 5b). It is worth mentioning that some taxa are

listed in both CITES- and EASIN-lists (Tab. 3; for example *Euphorbia millii* Desmoul., *Opuntia ficus-indica* (L.) Mill., *O. maxima* Mill).

The oldest "dicot"-succulent grown in the Garden today is 64 years old *Mammillaria compressa* DC., followed by 60-year-old specimens of *Ferocactus glaucescens* (DC.) Britton & Rose (Fig. 6d) and *Graptopetalum paraguayense* (N. E. Brown) E. Walther.

### "Monocotyledons" ("monocots", "Liliopsida")

A smaller part of the succulent plants once grown in the cold glasshouse collection belongs to the angiosperm group of "monocotyledons" or "liliopsida".

At the end of the 19<sup>th</sup> century, Heinz (1895-1896) depicted the representatives of at least 6 "monocot"-genera in 3 families at the time (Tab. 1 & 4) held in the succulent collection: Amaryllidaceae (today Agavaceae), Liliaceae (today Aloaceae) and Bromeliaceae. Again, surprisingly, Heinz listed only 5 "monocot" species of his time by name, of which we still have in our collection *Agave americana* (cultivar 'Variegata'), "*Aloe ferrox*" (Fig. 4), and *A. succotrina*. "*Fourcroya gigantea*" existed in the succulent collection after 1947, but today is missing, while *Beschorneria yuccoides* have not been present since Heinz's time. The genera *Dyckia* and *Yucca* are mentioned, but without much explanation ("lot of species...", "different species..." etc., as seen in Tab. 1).

**Tab. 4.** Compilation of numbers of families, genera and taxa for Dicotyledons and Monocotyledons, extracted from three sources: 1895 – the booklet written by HEINZ (1895-1896); 1948 - 2017 – the passive Garden database on the plants grown during that period, but recently non-existing in the succulent glasshouse collection; May, 2017 – the active Garden database on the succulents recently grown in the cold glasshouse collection. Asterisk (\*) depicts the estimated number, due to the lack of precise data.

Plant Group	Year(s)	Families	Genera	Taxa
Dicots	1895	8	26	150*
	1947-2016	1	151	<b>1040</b>
	2017	11	82	220
Monocots	1895	3	6	20*
	1947-2016	0	5	<b>104</b>
	2017	5	13	55
In total	1895	11	32	170*
	1947-2016	1	156	<b>1144</b>
	2017	16	95	275

According to our calculations (Tab. 2 & 4), in the cold glasshouse succulent collection after 1947, 104 "monocot" taxa and 5 genera grew but are now missing. Out of that number, as many as 73 species belonged to the Aloaceae family, which is also the most numerous family within our "monocot"-succulents today (32 taxa in 4 genera; Figs. 4, 12ab), followed by Agavaceae (18 taxa in 5 genera; Fig. 13ab).

The recent glasshouse succulent collection holds in total 55 "monocot" taxa from 13 genera and 5 families, out of which 45.5 % are listed in CITES and 25.5 % as invasive in EASIN (Tab. 3 & 4; Figs. 4, 13a). Again, some taxa are placed in both lists (for example, *Aloe vera* (L.) Burm.f., *A. ferrox* Mill. – Fig. 4), as seen in Tab. 3.

The oldest succulent plant grown in the Garden today is the 66-year-old "monocot" *Gasteria bicolor* Haworth var. *bicolor*, followed by the 64-year-old *Gasteria acinacifolia* (Jacquin) Haworth, the 59-year-old *Haworthia attenuata* (Haworth) Haworth var. *radula* (Jacquin) M.B. Bayer, etc.

Finally, Tab. 4 depicts the relations in estimated numbers of families, genera and taxa of non-native succulents living in the cold glasshouse collection of the Botanical Garden (Faculty of Science, University of Zagreb) during the last 122 years.

## CONCLUSIONS

According to a thorough examination of the available sources, we found that during the last 122 years, 1423 taxa of succulent plants (including cacti) from 254 genera and 17 families were cultivated in the cold glasshouse collection of the Botanical Garden, Faculty of Science, University of Zagreb.

HEINZ (1895-1896) published 32 genera from 11 families inhabiting this collection in 1895: comparing with the data of other collections from the same source, we roughly estimated the number of succulent taxa of that time at 170. After that, until the end of the WWII, there are no data on the glasshouse collections.

The passive part of the recent Garden-database, keeping the details on the plants that are today missing, shows that between 1948 and 2017 1144 taxa, 156 genera and 1 family non-existing today have passed through the cold glasshouse succulent collection.

The active part of the recent database holds the information on the plants cultivated in the Garden until May, 2017: accordingly, the cold glasshouse succulent plant collection contains 275 taxa from 95 genera and 16 families. Out of that number, 49.1 % of taxa are listed in CITES and 16 % in EASIN as invasive. In total, 91 species are new for the Garden collections and were not inventoried before 2017.

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## SAŽETAK

### *Obilje bilja - zbirke Botaničkoga vrta Prirodoslovno-matematičkoga fakulteta Sveučilišta u Zagrebu (2): Stakleničke mesnatice*

D. Sandev, D. Mihelj i S. Kovačić

Prema propisima Europske unije koji se odnose na muzejsku djelatnost, potrebno je službeno registrirati i sve žive zbirke biljaka u botaničkim vrtovima, kako bi se moglo pratiti njihovo podrijetlo i put od sjemenke do odrasle biljke te spriječilo neovlašteno korištenje i moguća zlorabna materijala.

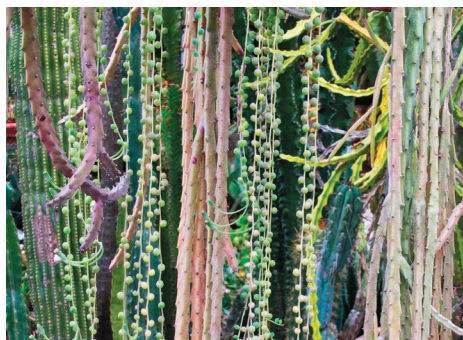
Nakon analize zbirke toplog staklenika (KOVAČIĆ, 2015) načinili smo analizu zbirke mesnatice (uključujući kaktuse) hladnog staklenika, koja je osim postojeće kartoteke obuhvatila i jedini sačuvani povijesni opis zbirki iz 19. stoljeća, objavljen u knjižici osnivača Botaničkoga vrta, profesora Antuna Heinza („Kr. Botanički vrt u Zagrebu“, 1895-1896). Iako vrlo šturo, iz knjižice doznajemo kako su do 1896. u staklenicima rasli pripadnici 32 roda mesnatice iz 11 porodica, broj kojih smo (usporedbom s podacima istog izvora o drugim zbirkama iz toga vremena) procijenili na mogućih 170 svojti.

Kartoteka osnovana 1948. danas se sastoji od „pasivnog“ dijela, s odloženim karticama biljnih vrsta i nižih sistematskih kategorija (uključujući kultivare) koje su tijekom desetljeća uzgajane u Vrtu, a danas nedostaju; te „aktivnog“ dijela, s karticama biljnih vrsta i nižih sistematskih kategorija koje se trenutačno uzgajaju u Vrtu. Analizom rijetko korištenog, pasivnog dijela kartoteke utvrdili smo da je kroz zbirku mesnatice hladnog staklenika od 1948. do danas prošlo najmanje 1144 svojti koje nam danas nedostaju, te 156 rodova i jedna porodica.

S krajem svibnja 2017. u zbirci mesnatice hladnog staklenika obitavalo je 275 svojti iz 95 rodova i 16 porodica.

Usporedbom triju tablica s podacima iz 1895/96. te iz današnje kartoteke, nalazimo kako je do danas kroz zbirku mesnatice hladnog staklenika prošlo **barem 1423 biljnih svojti iz 254 rodova i 17 porodica**. Međutim, potrebno je na kraju naglasiti da podatci o stakleničkim zbirkama između 1895. i 1948. godine ne postoje pa su ti brojevi zasiurno i veći.





**Fig. 1.** Part of the recent “hanging” cold glasshouse succulent collection: *Senecio rowleyanus* H. Jacobsen, *Caralluma europaea* (Guss.) N.E.Br., *C. joannis* Maire, *Orbea variegata* (L.) Haw.

**Sl. 1.** Djelić današnjeg „visećeg” dijela zbirke stakleničkih mesnatica: *Senecio rowleyanus* H. Jacobsen, *Caralluma europaea* (Guss.) N.E.Br., *C. joannis* Maire, *Orbea variegata* (L.) Haw.



**Fig. 2b.** Part of the cold glasshouse succulent collection, displayed during summertime by the Exhibition Glasshouse (around 1910).

**Sl. 2b.** Dio zbirke stakleničkih mesnatica ljeti izložen uz izložbeni staklenik (oko 1910.).



**Fig. 2a.** „The Big Wheel”: part of the cold glasshouse succulent collection, displayed during summertime in front of the Gardener’s House (nowadays Garden management; probably late 1890s).

**Sl. 2a.** Veliki kotač, krug ili kolo: dio zbirke stakleničkih mesnatica ljeti izložen ispred Vrtlarske kuće (danas uprava Vrta; vjerojatno krajem 1890-ih).



**Fig. 2c.** Garden bed with ornamental eaves, holding a part of the cold glasshouse succulent collection, displayed during summertime by the Exhibition Glasshouse (probably between 1920 and 1930).

**Sl. 2c.** Gredica s ukrasnom strehom i zbirkom stakleničkih mesnatica ljeti izloženom uz izložbeni staklenik (vjerojatno između 1920. i 1930.).





**Fig. 2d.** Part of the cold glasshouse succulent collection, displayed during summertime in front of the Gardener's House (nowadays Garden management; probably 1930-ies).

**Sl. 2d.** Zbirka stakleničkih mesnatica ljeti izložena ispred Vrtlarske kuće (danas uprava Vrta; 1930-ih).



**Fig. 4ab.** The popular ornamental plant, bitter aloe (*Aloe ferox* Mill.), has lived in the Garden cold glasshouse collection since its foundation; it is placed in both CITES and EASIN lists.

**Sl. 4ab.** Popularna uresna mesnatica gorki aloj (*Aloe ferox* Mill.) nalazi se u našoj zbirci od samoga osnutka, a danas je na CITES i EASIN-listama.



**Fig. 3.** Due to the lack of permanent display premises, large portions of the cold glasshouse succulent collection are still placed in the open during summertime: a) Large plants with pots are placed along the northern part of the wrought-iron fence (Marko Marulić Square)... b) ...while the smaller individuals are placed by the flower *parterre* in the middle part of the Garden.

**Sl. 3.** Zbog nedostatka prostora za trajni smještaj biljaka, dostupnog posjetiteljima, zbirka stakleničkih mesnatica i danas se ljeti iznosi na otvoreno: a) Velike biljke u posudama ukapaju se uz sjevernu ogradu Vrta, duž Marulićevog trga... b) ...dok se manje biljke smještaju uz cvjetni parter u središnjem dijelu Vrta.







**Fig. 5.** Representatives of Crassulaceae family: a) *Crassula muscosa* L. var. *muscosa*, b) representatives of genus *Aeonium* (with many species listed in EASIN and other invasive-plants databases)

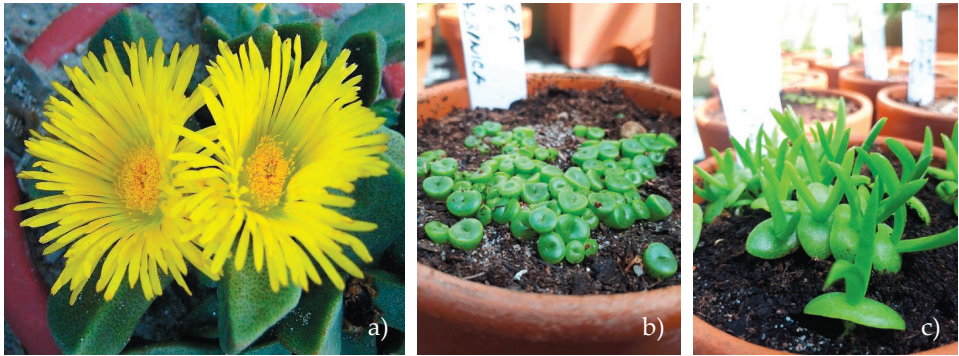
**Sl. 5.** Predstavnicu porodice tustika (Crassulaceae): a) *Crassula muscosa* L. var. *muscosa*, b) predstavnici roda *Aeonium* (mnoge vrste također i na popisima invazivnih vrsta poput EASIN-a)



**Fig. 6.** Representatives of Cactaceae family: a) *Astrophytum ornatum* (DC.) Britton & Rose, b) *Cereus repandus* (L.) Mill., c) *Espostoa lanata* (Kunth) Britton & Rose, d) *Ferocactus glaucescens* (DC.) Britton & Rose, e) *Gymnocalycium saglionis* (Cels) Britton & Rose subsp. *tilcarensis* (Backeb.) H.Till & W.Till, f) *Parodia mutabilis* Backeb, g) *Weingartia neocumingii* Backeb." – all listed in CITES.

**Sl. 6.** Predstavnicu porodice kaktusa (Cactaceae): a) *Astrophytum ornatum* (DC.) Britton & Rose, b) *Cereus repandus* (L.) Mill., c) *Espostoa lanata* (Kunth) Britton & Rose, d) *Ferocactus glaucescens* (DC.) Britton & Rose, e) *Gymnocalycium saglionis* (Cels) Britton & Rose subsp. *tilcarensis* (Backeb.) H.Till & W.Till, f) *Parodia mutabilis* Backeb, g) *Weingartia neocumingii* Backeb." – sve prikazane vrste nalaze se na CITES-popisu.





**Fig. 7.** Representatives of Aizoaceae family: a) *Pleiospilos compactus* Schwantes subsp. *canus* H.E.K. Hartmann & Liede, b) *Lithops lesliei* (N.E. Br.) N.E.Br. subsp. *lesliei* (seedlings – new species in collection), c) *Glotiphyllum longum* (Haw.) N.E.Br. (seedlings – new species in collection).

**Sl. 7.** Predstavnici porodice čupavica (Aizoaceae): a) *Pleiospilos compactus* Schwantes subsp. *canus* H.E.K. Hartmann & Liede, b) *Lithops lesliei* (N.E. Br.) N.E.Br. subsp. *lesliei* (seedlings – new species in collection), c) *Glotiphyllum longum* (Haw.) N.E.Br. (klijanci – nova vrsta u zbirci).



**Fig. 8/8-1.** *Euphorbia virosa* Willd. is listed in CITES

**Sl. 8/8-1.** *Euphorbia virosa* Willd. nalazi se na CITES-popisu



**Fig. 9.** Representatives of Asclepiadaceae family: a) *Orbea variegata* (L.) Haw., b) *Stapelia grandiflora* Masson.

**Sl. 9.** Predstavnici porodice svilenica (Asclepiadaceae): a) *Orbea variegata* (L.) Haw., b) *Stapelia grandiflora* Masson.





Fig. 10. Representative of the Apocynaceae family: *Plumeria obtusa* L. cult.

Sl. 10. Predstavnik porodice zimzelena (Apocynaceae): *Plumeria obtusa* L. cult.



Fig. 11. Representative of the Portulacaceae family: *Anacampseros rufescens* (Haw.) Sweet, listed in CITES.

Sl. 11. Predstavnik porodice tušakovica (Portulacaceae): *Anacampseros rufescens* (Haw.) Sweet, na CITES-popisu.



Fig. 12. Representatives of the Aloaceae family: a) all 18 species of the genus *Aloe*, held today in our cold glasshouse collection, are listed in CITES, b) *Haworthia fasciata* (Willd.) Haw.

Sl. 12. Predstavnici porodice aloja (Aloaceae): a) svih 18 vrsta tipičnog roda (*Aloe*), koje danas imamo u zbirci, nalaze se na CITES-popisu, b) *Haworthia fasciata* (Willd.) Haw.



Fig. 13. Representatives of the Agavaceae family: a) *Agave victoriae-reginae* T. Moore, listed in CITES, b) *Agave striata* Zucc.

Sl. 13. Predstavnice porodice agava (Agavaceae), a) *Agave victoriae-reginae* T. Moore, nalazi se na CITES-popisu, b) *Agave striata* Zucc.

Tab. 2. Collection of the cold glasshouse between 1948 and 2017: recently non-existing plants.

Scientific name	City of plant material origin	Year of ordering/purchasing	Year when plant was last recorded in collection	Notes and remarks
DICOTYLEDONS				
<b>Aizoaceae</b>				
<i>Aloinopsis malherbei</i> (L. Bolus) L. Bolus	Kirstenbosch	1961	1963	arrived as <i>Nananthus malherbei</i>
<i>Aloinopsis schooneesii</i> L. Bolus	Kirstenbosch	1961	1966	arrived as <i>Nananthus schooneesii</i> ; one of 3 synonyms
<i>Antegibbaeum fissoides</i> (Haw.) C.Weber	Barcelona	1963	1977	2 synonyms
	nn	unknown	1975	
<i>Antimima piscodora</i> (L. Bolus) H. E. K. Hartmann	Gent	1970	1971	arrived as <i>Ruschia piscodora</i> ; one of 2 synonyms
<i>Aptenia cordifolia</i> (L.f.) Schwantes	nn	1952	1961	4 synonyms
	Barcelona	1971	2000	
	Karlsruhe	1985	1990	
	Basel	1986	1990	
	Prostejov	1987	1990	
<i>Argyroderma delaetii</i> C.A.Maass	Hamburg	1976 & 1979	1983 & 1982	arrived as <i>A. roseum</i> ; one of 20+ synonyms
<i>Argyroderma fissum</i> (Haw.) L.Bolus	Kirstenbosch	1961	1972	arrived as <i>A. brevipes</i> ; one of 8 synonyms
<i>Argyroderma framesii</i> L.Bolus	Kirstenbosch	1957	1961	2 synonyms
	Barcelona	1957	1966	
<i>Argyroderma pearsonii</i> (N.E.Br.) Schwantes	Hamburg	1976	1982	6 synonyms
<i>Argyroderma testiculare</i> (Aiton) N.E.Br.	Muenchen	1953	1961	2 synonyms
	Kirstenbosch	1961	1977	
<i>Astridia velutina</i> (L.Bolus) Dinter	Barcelona	1959	1963	4 synonyms
<i>Bergeranthus addoensis</i> L.Bolus	Kirstenbosch	1970	1978	
<i>Bergeranthus multiceps</i> (Salm-Dyck) Schwantes	nn	1952	1990	4 synonyms
	Barcelona	1971	2000	
	Kirstenbosch	1970	1980	
<i>Bergeranthus scapiger</i> (Haw.) Schwantes	Koeln	1953	1961	syn. <i>Mesembryanthemum scapiger</i>
	Vienna	1967	1970	
	nn	1952 & in collection in 1968	1977 & 1970	
<i>Bergeranthus vespertinus</i> (A. Berger) Schwantes	Gent	1972 & 1976	1978 & 1983	2 synonyms
	nn	1952	no dana	
	Gent	1966 & 1972	1980 & 1972	
	Berlin	1979	1993	
	Basel	1986	2000	
<i>Braunsia apiculata</i> (Kensit) A.E. Murray	Kirstenbosch	1961	1963	arrived as <i>B. jamesii</i> arrived as <i>Echinus apiculatus</i> ; one more synonym
	Barcelona	1963	1968	
<i>Braunsia geminata</i> (Haw.) L.Bolus	Barcelona	1963	1968	arrived as <i>Echinus geminatus</i> ; one more synonym
<i>Calamophyllum cylindricum</i> (Haw.) Schwantes	Adelaide	1968	1978	
<i>Carpanthea pomeridiana</i> (L.) N.E. Br.	Wroclaw	1955	no dana	
	Basel	1985	1985	
<i>Carpobrotus edulis</i> (L.) N.E.Br.	Vis	1963	1964	3 synonyms
<i>Carpobrotus muiirii</i> (L.Bolus) L.Bolus	Kirstenbosch	1961	1966	
<i>Carruanthus ringens</i> (L.) Boom	Barcelona	1956 & 1960	1961 & 1978	arrived as <i>C. caninus</i> & arrived as <i>Tischleria peersii</i> arrived as <i>Tischleria peersii</i> & arrived as <i>C. caninus</i> arrived as <i>Tischleria peersii</i>
	Berlin	1960 & 1973	1983 & 1980	
	Palermo	1959	1963	
<i>Cephalophyllum alstonii</i> Marloth ex L.Bolus	Kirstenbosch	1957 & 1961	1969 & 1969	syn. <i>C. franciscii</i>
<i>Cephalophyllum caespitosum</i> H.Hartmann	Kiel	1962	1968	arrived as <i>Cheiridopsis cuprea</i> ; one of 2 synonyms
<i>Cephalophyllum loreum</i> (L.) Schwantes	Barcelona	1962	1975	

Scientific name	City of plant material origin	Year of ordering/purchasing	Year when plant was last recorded in collection	Notes and remarks
<i>Cephalophyllum parviflorum</i> L.Bolus	Barcelona	1960 & 1962	1961 & 1980	
<i>Cephalophyllum pillansii</i> L.Bolus	Kirstenbosch	1971	1977	arrived as <i>C. pillansii</i> var. <i>grandiflorum</i>
<i>Cephalophyllum purpureo-album</i> (Haw.) Schwantes	Gent	1962	1972	arrived as <i>C. gracile</i>
	Adelaide	1972	1977	
<i>Cephalophyllum regale</i> L.Bolus	Palermo	1962	1964	syn. <i>C. vanheerdei</i>
<i>Cephalophyllum rigidum</i> L.Bolus.	Kirstenbosch	1970 & 1971	1977 & 1976	arrived as <i>C. aureorubrum</i>
<i>Cephalophyllum tricolorum</i> (Haw.) Schwantes	Barcelona	1959	1978	
	Adelaide	1968	1978	
<i>Cerochlamys pachyphylla</i> (L.Bolus) L.Bolus	Barcelona	1959	1961	
	Gent	1965	1972	
<i>Chasmatochyllum nelii</i> Schwantes	Gent	1970 1976	1988 & 1981	
<i>Chasmatochyllum willowmoreense</i> L.Bolus	Gent	1962 & 1963 & 1970	1966 & 1970 & 1972	
	Kirstenbosch	1961	1968	
	Wageningen	1963	1969	
<i>Cheiridopsis denticulata</i> (Haw.) N.E.Br.	Kirstenbosch	1961	1972	arrived as <i>C. candidissima</i>
	Kiel	1972	1973	
<i>Cheiridopsis namaquensis</i> (Sond.) H.E.K.Hartmann	Barcelona	1972	1982	arrived as <i>C. difformis</i>
	Kiel	1972	1977	arrived as <i>C. marlothii</i>
	Muenchen-Nymphenburg	1991	1993	
<i>Cheiridopsis pillansii</i> L.Bolus	Kiel	1962	1966	2 synonyms
	Barcelona	1964	1966	
	Palermo	1964	1970	
<i>Cheiridopsis purpurea</i> L.Bolus	Barcelona	1964	1970	syn. <i>C. splendens</i>
<i>Cheiridopsis rostrata</i> (L.) N.E.Br.	Palermo	1962	1980	arrived as <i>C. carnea</i> ; one of 15+ synonyms
	Adelaide	1968	1980	
	Barcelona	1964	1983	arrived as <i>C. dispersa</i>
	Barcelona	1962	1966	arrived as <i>C. bifida</i>
<i>Cheiridopsis speciosa</i> L.Bolus	Barcelona	1962	1980	arrived as <i>C. comptonii</i>
<i>Cleretum bellidiforme</i> (Burm. f.) G.D. Rowley	Rotterdam	1964	1964	arrived as <i>Dorotheanthus bellidiformis</i> ; one of 10+ synonyms
	Muenchen	1972	1975	
	Essen	1992	1993	
	Muenchen-Nymphenburg	1992	1993	
<i>Conicosia pugioniformis</i> (L.) N.E. Br. subsp. <i>pugioniformis</i>	Kiel	1996	1996	arrived as <i>C. pugioniformis</i> ; one of 20+ synonyms
	Karlsruhe	1963	1968	
	Barcelona	1962	1963	arrived as <i>C. communis</i>
	Berlin	1967	1968	
	Kiel	1996 & 1998	1996 & 1998	
<i>Conophytum bilobum</i> (Marloth) N.E. Br.	Monaco	1992 & 1993	1993	one of 20+ synonyms
	Berlin	1966	1968	arrived as <i>C. muscosipapillatum</i>
<i>Conophytum ficiforme</i> (Haw.) N.E.Br.	Vienna	1964	1964	arrived as <i>C. wiggettae</i> ; from cuttings; syn. <i>C. assimile</i>
<i>Conophytum lydiae</i> (H. Jacobsen) G.D. Rowley	nn	1951	no data	arrived as <i>Ophthalmophyllum lydiae</i> ; one of 3 synonyms
	Gent	1971	1974	
	Kiel	1996	1997	
<i>Conophytum maughanii</i> N.E. Br. subsp. <i>maughanii</i>	Nantes	1992	2003	arrived as <i>Ophthalmophyllum maughanii</i> ; one of 5 synonyms
<i>Conophytum taylorianum</i> (Dinter & Schwantes) N.E. Br.	Monaco	2000	2003	5 synonyms
<i>Conophytum taylorianum</i> subsp. <i>ernianum</i> (Loesch & Tischer) de Boer ex S.A.Hammer	Muenster	1968	1975	arrived as <i>C. ernianum</i>
<i>Corpuscularia lehmannii</i> (Eckl. & Zeyh.) Schwantes	nn	1951	1980	2 synonyms
	Napulj	1960	1966	



Scientific name	City of plant material origin	Year of ordering/ purchasing	Year when plant was last recorded in collection	Notes and remarks
<i>Cryophytum guerichianum</i> Schwantes	Muenchen	1978	1980	arrived as <i>Amoebophyllum gurichianum</i> ; unresolved name (The Plant List)
<i>Cylindrophyllum comptonii</i> L.Bolus	Palermo	1950 & 1959	1968 & 1972	
<i>Cylindrophyllum tugwelliae</i> L.Bolus	Kirstenbosch	1970	1972	
<i>Delosperma aberdeenense</i> (L.Bolus) L.Bolus	Cantonspark	1954	1961	
	nn	in collection in 1963	1968	
	Berlin	1972 & 1974 & 1978	1978 & 1979 & 1982	
<i>Delosperma abyssinicum</i> Schwantes	nn	unknown	1968	
<i>Delosperma brunnthaleri</i> (A. Berger) Schwantes ex H. Jacobsen	Vienna	1961	1962	syn. <i>Mesembryanthemum brunnthaleri</i>
	nn	unknown	1963	
	Gent	1978	1979	
	Innsbruck	2000	2003	
<i>Delosperma caespitosum</i> L.Bolus	nn	1952	1971	
	Gent	1970	1979	
	Berlin	1972 & 1976	1979 & 1979	
<i>Delosperma carolinense</i> N.E.Br.	Gent	1970	1979	
<i>Delosperma cooperi</i> (Hook.f.) L. Bolus	Gent	1960 & 1970	1968 & 1980	2 synonyms
	Berlin	1974 & 1979	1978 & 2000	
	Kiel	2003	2006	
<i>Delosperma crassuloides</i> (Haw.) L.Bolus	Berlin	1972 1978 & 1979	1979 & 1990 & 1990	
<i>Delosperma davyi</i> N.E. Br.	Berlin	1952 & 1972 & 1979	1961 & 1979 & 1979	
<i>Delosperma echinatum</i> (Lam.) Schwantes	Szeged	1960	1975	5 synonyms; unresolved name (the Plant List)
<i>Delosperma ecklonis</i> (Salm-Dyck) Schwantes	Lyon	1953	no data	2 synonyms
	Vienna	1961	1966	
<i>Delosperma framesii</i> L.Bolus	Berlin	1979	1983	
<i>Delosperma hirtum</i> (N.E.Br.) Schwantes	Gent	1970	1979	
	Berlin	1978	1979	
<i>Delosperma lavisiae</i> L.Bolus	Gent	1970	1979	
<i>Delosperma macellum</i> N.E. Br.	Gent	1970	1972	
	Berlin	1973 & 1974	1983 & 1982	
<i>Delosperma mahonii</i> N.E. Br.	Essen	1970	1979	
	Gent	1970	1979	
	Berlin	1979	1983	
<i>Delosperma multiflora</i> L. Bolus	Gent	1976	1980	arrived as false species; never determined-sold
<i>Delosperma nakurense</i> (Engl.) Herre	Muenchen	1966	1968	
	Berlin	1973	1982	
<i>Delosperma prasinum</i> L. Bolus	Berlin	1973	1975	
<i>Delosperma robustum</i> L. Bolus	Gent	1970	2000	
	Berlin	1972 & 1978	1978 & 1990	
<i>Delosperma rogersii</i> L. Bolus	Berlin	1979	1979	
<i>Delosperma steytlerae</i> L. Bolus	Karlsruhe	1961	1961	
	Vienna	1961	1963	
	nn	unknown	1966	
	Berlin	1972 & 1979	1972 & 1983	
<i>Delosperma sutherlandii</i> (Hook. f.) N.E. Br.	Monaco	2002	2008	syn. <i>Mesembryanthemum sutherlandii</i>
<i>Delosperma tradescantioides</i> L. Bolus	Nancy	1971	1978	
<i>Delosperma wethamae</i> L. Bolus	Gent	1970	1972	
<i>Delosperma zocae</i> L. Bolus	Muenchen	1968	1973	
	Berlin	1968 & 1978 & 1979	1972 & 1979 & 1979	
<i>Dicrocaulon spissum</i> N.E. Br.	Nantes	1996	2003	
	Potsdam	1996	2000	
<i>Diplosoma retroversum</i> (Kensit) Schwantes	Barcelona	1958 & 1959	1983 & 1982	4 synonyms
	Kirstenbosch	1962	1963	arrived as <i>Maughania luckhoffii</i>

Scientific name	City of plant material origin	Year of ordering/ purchasing	Year when plant was last recorded in collection	Notes and remarks
<i>Disphyma crassifolium</i> (L.) L. Bolus	Berlin	1972	1979	syn. <i>Mesembryanthemum crassifolium</i>
	Barcelona	1971	1975	
<i>Dorotheanthus bellidifformis</i> (Burm.f.) N.E.Br. subsp. <i>bellidifformis</i> N.E. Br.	Kirstenbosch	1961	1961	arrived as <i>D. bellidifformis</i> var. <i>taldanensis</i>
<i>Dorotheanthus oculatus</i> N.E. Br.	Leipzig	1993	1993	3 synonyms
<i>Drosanthemum candens</i> (Haw.) Schwantes	Berlin	1979	1990	syn. <i>Mesembryanthemum candens</i>
<i>Drosanthemum floribundum</i> (Haw.) Schwantes	Muenchen	1985	2000	4 synonyms
<i>Drosanthemum framesii</i> L. Bolus	Berlin	1979	1993	
<i>Drosanthemum hispidum</i> (L.) Schwantes	Basel	1985	1985	syn. <i>Mesembryanthemum hispidum</i>
<i>Drosanthemum latipetalum</i> L. Bolus	nn	1952	1961	
<i>Drosanthemum pulchellum</i> L. Bolus	Berlin	1966 & 1974 & 1979	1978 & 1978 & 1990	
<i>Drosanthemum schoenlandianum</i> L. Bolus	Gent	1966	1972	syn. <i>Mesembryanthemum schoenlandianum</i>
	nn	unknown	1972	
<i>Ebracteola derenbergiana</i> (Dinter) Dinter & Schwantes	Kirstenbosch	1964	1968	arrived as <i>Ruschia derenbergiana</i> ; one of 10+ synonyms
<i>Ebracteola montis-moltkei</i> (Dinter) Dinter & Schwantes	Kiel	1955	1963	2 synonyms
<i>Erepsia heteropetala</i> (Haw.) Schwantes	Berlin	1965	1971	syn. <i>Mesembryanthemum heteropetalum</i>
<i>Erepsia inclaudens</i> (Haw.) Schwantes	Pecs	2005	2010	
<i>Faucaria bosscheana</i> (A.Berger) Schwantes	Basel	1953 & 1961	1961 & 1968	8 synonyms
	Palermo	1962	1978	
	Berlin	1971	1980	
	Duisburg	1990 & 1993	1993 & 1995	
	Innsbruck	2008	2016	
	Berlin	1971	1973	arrived as <i>F. paucidens</i>
<i>Faucaria britteniae</i> L. Bolus	Berlin	1971 & 1973	1980 & 1980	arrived as <i>F. grandis</i> ; one of 5 synonyms
	Duisburg	1990	1990	
	Innsbruck	2008	2016	
<i>Faucaria felina</i> (L.) Schwantes	Nantes	1966	1983	arrived as <i>F. lupina</i> ; one of 6 synonyms
	Berlin	1971 & 1973	2000 & 1980	
	Basel	1986	1990	
<i>Faucaria tigrina</i> (Haw.) Schwantes	Innsbruck	2004	2016	3 synonyms
<i>Faucaria tuberculosa</i> (Rolfe) Schwantes	Gent	1961 & 1970	no data & 1978	2 synonyms
	Basel	1961	1961	
	Palermo	1961 & 1964	1968 & 1978	
	Berlin	1961	1971	
	Muenchen-Nymphenburg	1991	2000	
	Innsbruck	2004	2006	
<i>Fenestraria rhopalophylla</i> (Schltdl. & Diels) N.E.Br. subsp. <i>aurantiaca</i> (N.E. Br.) H. E. K. Hartmann	Dresden	1996 & 2000	1997 & 2001	arrived as <i>F. aurantiaca</i>
<i>Gibbaeum angulipes</i> (L. Bolus) N.E. Br.	Basel	1994	2000	syn. <i>Mesembryanthemum angulipes</i>
<i>Gibbaeum dispar</i> N.E.Br.	Barcelona	1962	1968	
<i>Gibbaeum gibbosum</i> (Haw.) N.E.Br.	Kirstenbosch	1964	1975	2 synonyms
<i>Gibbaeum pachypodium</i> L. Bolus	Gent	1964	1969	
	Kirstenbosch	1964	1968	
<i>Gibbaeum petrense</i> (N.E. Br.) Tischler	Kirstenbosch	1964	1970	2 synonyms
	Nantes	1996.	1997	
	Kirstenbosch	1961 & 1964 & 1966	1966 & 1968 & 1967	arrived as <i>G. haagei</i>
	Barcelona	1963	1968	
	Gent	1970	1983	
<i>Gibbaeum velutinum</i> (L. Bolus) Schwantes	Kiel	1955 & 1962 & 1964	no data & 1966 & 1978	arrived as <i>G. schwantesii</i> ; one of 2 synonyms

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	Frankfurt	1955	1961	
	Nantes	1995	2000	
	Groningen	1961	1983	
	Kirstenbosch	1961 & 1966	1978 & 1971	
	Gent	1963	1966	
	Kiel	1964 & 1966	1967 & 1970	
	Barcelona	1972	1974	
	Graz	1991	2000	
<i>Glottiphyllum album</i> L. Bolus ex Jacobsen	Berlin	1961	1979	
<i>Glottiphyllum cruciatum</i> (Haw.) N.E.Br.	nn	1951	1968	arrived as <i>G. praepingue</i> ; one of 10+ synonyms
	nn	1952	1961	
	Gent	1970	1979	
<i>Glottiphyllum depressum</i> (Haw.) N.E. Br.	Genova	1960	1966	arrived as <i>G. fragrans</i> ; one of 20+ synonyms
	nn	1951 & in collection in 1968 & in collection in 1982	no data & 1981 & 2002	
	Berlin	1973	1979	
	Gent	1979	1980	
	nn	1952 & in collection in 1963	1961 & 1989	arrived as <i>G. marlothii</i>
	Muenchen- Nymphenburg	1991	1993	
	Palermo	1993 & 1994	2002 & 2000	
	nn	1951 & in collection in 1980	1993 & 1989	arrived as <i>G. depressum</i>
<i>Glottiphyllum difforme</i> (L.) N.E.Br.	Vienna	1957	1978	arrived as <i>G. semicylindri- cum</i>
	nn	1952 in collection in 1963	1961 & 1979	
	Berlin	1971	1979	
<i>Glottiphyllum linguiforme</i> (L.) N.E. Br.	Kirstenbosch	1957	1979	6 synonyms
	nn	in collection in 1973	1979	
	Latte	1990	2000	
	Dijon	1991	1995	
	Groningen	1960	1961	arrived as <i>G. latifolium</i>
	nn	in collection in 1963	1979	
	Gent	1979	1980	
<i>Glottiphyllum longum</i> (Haw.) N.E.Br.	nn	1952 & in collection in 1961	no data & 1966	arrived as <i>G. latum</i> ; one of 15+ synonyms
	nn	1950	1961	arrived as <i>G. longum</i>
	Kirstenbosch	1957	1979	
	Berlin	1971	1979	
	Muenchen	1970	1980	
	Essen	2006	2010	
<i>Glottiphyllum neilii</i> N.E. Br.	nn	1951 & 1952 & in collection in 1961	no data & no data & 1979	
	Berlin	1979	1979	
	Debrecen	1980	no data	
<i>Glottiphyllum regium</i> N.E.Br.	Kirstenbosch	1967	1980	syn. <i>G. compressum</i>
	nn	unknown	no data	
<i>Glottiphyllum suave</i> N.E.Br.	nn	1951	no data	arrived as <i>G. herrei</i>
	Kiel	1958	1961	
<i>Glottiphyllum surrectum</i> (Haw.) L.Bolus	Kirstenbosch	1964	1979	syn. <i>Mesembryanthemum surrectum</i>

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	Berlin	1971	1979	
<i>Hereroa acuminata</i> L. Bolus	Berlin	1967	1968	
<i>Hereroa calycina</i> L. Bolus	Bochum	2003	2010	
<i>Hereroa granulata</i> (N.E. Br.) Dinter & Schwantes	Muenchen	1966	1971	syn. <i>Mesembryanthemum granulatum</i>
	Gent	1970	1983	
<i>Hereroa hesperantha</i> (Dinter & A. Berger) Dinter & Schwantes	nn	in collection in 1961	1971	2 synonyms
	Berlin	1967	1971	
<i>Hereroa incurva</i> L. Bolus	nn	1951 & in collection in 1968	1968 & 1975	
	Gent	1976	1980	
<i>Hereroa muiirii</i> L. Bolus	nn	1951 & 1964	1961 & 1980	
	Barcelona	1964	1968	
	Prostejov	1987	2000	
<i>Hereroa nelii</i> Schwantes	nn	1953	1961	
	Berlin	1973 & 1979	1980 & 1983	
<i>Hereroa puttkameriana</i> (Dinter & A. Berger) Dinter & Schwantes	Muenchen	1970	1977	syn. <i>Mesembryanthemum puttkamerianum</i>
	Berlin	1971 & 1979	1971 & 1993	
<i>Hereroa rehmeliana</i> (A. Berger) Dinter & Schwantes	nn	1952	1971	syn. <i>Mesembryanthemum rehmelianum</i>
	Berlin	1958	1968	
	nn	unknown	1968	
<i>Hereroa stanfordiae</i> L. Bolus	Berlin	1967	1971	
<i>Hereroa wilmaniae</i> L. Bolus	Gent	1970	1975	3 synonyms
<i>Ihlenfeldtia vanzylii</i> (L. Bolus) H. E. K. Hartmann	Lisbon	1954 & 1955	1961 & 1961	arrived as <i>Cheiridopsis vanzylii</i> ; one of 3 synonyms
<i>Jacobsenia kolbei</i> (L. Bolus) L. Bolus & Schwantes	Kirstenbosch	1958 & 1961 & 1976	1968 & 1968 & 1978	syn. <i>Mesembryanthemum kolbei</i>
<i>Jordaniella cuprea</i> H.E.K. Hartm.	Barcelona	1969	1973	arrived as <i>Cephalophyllum cupreum</i>
<i>Juttadinteria ausensis</i> Schwantes	Dresden	1997	2006	arrived as <i>J. suavissima</i>
<i>Juttadinteria deserticola</i> (Marloth) Schwantes	Kiel	1955	no data	syn. <i>Mesembryanthemum deserticola</i>
<i>Juttadinteria simpsonii</i> (Dinter) Schwantes	Barcelona	in collection in 1967	1968	2 synonyms
<i>Kewa bowkeriana</i> (Sond.) Christenh.	Mozambique	1973	1977	arrived as <i>Hypertelis bowkeriana</i> ; one of 2 synonyms; from natural habitat
<i>Khadia acutipetala</i> (N.E. Br.) N.E. Br.	Barcelona	1963 & 1964	no data & 1980	syn. <i>Mesembryanthemum acutipetalum</i>
<i>Lampranthus amoenus</i> N.E. Br.	Marburg	1953	1966	syn. <i>Mesembryanthemum amoenum</i>
<i>Lampranthus aureus</i> (L.) N.E. Br.	Halle	1956	1963	syn. <i>Mesembryanthemum aureum</i>
<i>Lampranthus bicolor</i> (L.) N.E. Br.	Berlin	1973	1979	syn. <i>Mesembryanthemum bicolor</i>
<i>Lampranthus blandus</i> (Haw.) Schwantes	Gent	1966	1968	syn. <i>Mesembryanthemum blandum</i>
<i>Lampranthus brownii</i> (Hook. f.) N.E. Br.	nn	unknown	1966	syn. <i>Mesembryanthemum brownii</i>
<i>Lampranthus conspicuus</i> (Haw.) N.E. Br.	Stockholm	unknown	1961	syn. <i>Mesembryanthemum conspicuum</i>
<i>Lampranthus falcatus</i> (L.) N.E. Br.	Berlin	1971	1972	2 synonyms
	Barcelona	1981	1990	
<i>Lampranthus glomeratus</i> (L.) N.E. Br.	Barcelona	1968	1979	syn. <i>Mesembryanthemum glomeratum</i>
<i>Lampranthus haworthii</i> N.E. Br.	Wageningen	1959	1966	arrived as <i>Erepsia haworthii</i> ; one of 2 synonyms

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<i>Lampranthus inaequalis</i> (Haw.) N.E. Br.	Berlin	1966 & 1967	1968 & 1968	2 synonyms
	nn	1973	1977	
<i>Lampranthus productus</i> (Haw.) N.E. Br.	Muenchen	1973	1978	syn. <i>Mesembryanthemum productum</i>
<i>Lampranthus roseus</i> (Willd.) Schwantes	Vienna	1961	1961	syn. <i>Mesembryanthemum roseum</i>
	Kirstenbosch	1970	1978	
	Muenchen	1970 & 1972	1978 & 1978	
<i>Lampranthus sociorum</i> (L. Bolus) N.E. Br.	Berlin	1971	1971	syn. <i>Mesembryanthemum sociorum</i>
<i>Lampranthus variabilis</i> (Haw.) N.E. Br.	Berlin	1979	1989	syn. <i>Mesembryanthemum variabile</i>
<i>Lampranthus watermeyeri</i> (L. Bolus) N.E. Br.	Gent	1966 & 1967 & 1970	1968 & 1971 & 1979	syn. <i>Mesembryanthemum watermeyeri</i>
	nn	unknown	1968	
<i>Lampranthus zeyheri</i> (Salm-Dyck) N.E. Br.	Berlin	1966	1968	syn. <i>Mesembryanthemum zeyheri</i>
	nn	unknown	1968	
<i>Lapidaria margaretae</i> (Schwantes) Dinter & Schwantes	Dresden	1996 & 1998	1997 & 2000	2 synonyms
	Innsbruck	1998	no data	
<i>Leipoldtia schultzei</i> (Schltr. & Diels) Friedrich	Barcelona	1959	1966	arrived as <i>L. nelii</i> ; one of 3 synonyms
<i>Lithops aucampiae</i> L. Bolus	Muenchen	1953	no data	syn. <i>L. koelemanii</i>
	Muenster	1968	1971	
	Gent	1967	1971	
<i>Lithops bella</i> N.E. Br.	Kiel	1958	1961	2 synonyms
	Gent	1965	1968	
	Muenster	1968	1971	
	Graz	1991	no data	
<i>Lithops bromfieldii</i> L. Bolus	Kirstenbosch	1964	1968	4 synonyms
	Innsbruck	2000	2003	
	Gent	1965	1970	arrived as <i>L. bromfieldii</i> var. <i>insularis</i>
	Muenster	1968	1971	
	Nantes	1993	2000	
<i>Lithops comptonii</i> L. Bolus	Kirstenbosch	1957	1961	arrived as <i>L. weberi</i>
<i>Lithops dorotheae</i> Nel	Nantes	1992	1997	syn. <i>L. eksteeniae</i>
<i>Lithops gesineae</i> de Boer	Nantes	1996	2000	arrived as <i>L. annae</i> ; one of 2 synonyms
	Gent	1976	1982	arrived as <i>L. francisci</i> var. <i>annae</i>
<i>Lithops gracilidelineata</i> Dinter	Monaco	1991	1997	2 synonyms
<i>Lithops hallii</i> de Boer	Kirstenbosch	1964	1968	2 synonyms
<i>Lithops hookeri</i> (A. Berger) Schwantes	Kirstenbosch	1957	1961	arrived as <i>L. turbiniformis</i> ; 20+ synonyms
	Gent	1979	1982	
	Nantes	1993	1995	
	Dresden	1993	2000	
	Gent	1967	1971	arrived as <i>L. turbiniformis</i> var. <i>marginata</i>
	Nantes	1999	2000	
<i>Lithops julii</i> (Dinter & Schwantes) N.E. Br.	Gent	1967	1971	arrived as <i>L. julii</i> subsp. <i>julii</i> ; one of 2 synonyms
<i>Lithops julii</i> subsp. <i>fulleri</i> (N.E. Br.) B. Fearn	Kirstenbosch	1964	1971	arrived as <i>L. fulleri</i>
	Gent	1967	1971	arrived as <i>L. fulleri</i> v. <i>fulleri</i>
<i>Lithops karasmontana</i> (Dinter & Schwantes) N.E. Br.	Gent	1967	1971	arrived as <i>L. karasmontana</i> subsp. <i>karasmontana</i> ; one of 20+ synonyms
	Muenster	1966 & 1967	1968 & 1977	
	Monaco	1991	2000	

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	Gent	1979	1980	arrived as <i>L. karasmontana</i> var. <i>mickbergensis</i>
	Muenster	1968	1971	arrived as <i>L. lateritia</i>
	Antwerpen	unknown	1961	arrived as <i>L. lericheana</i>
	Gent	1963 & 1964 & 1965	1971 & 1968 & 1971	
	Muenster	1968	1971	
	Muenster	1968	1971	arrived as <i>L. mickbergensis</i>
	Muenster	1966	1968	arrived as <i>L. opalina</i>
<i>Lithops karasmontana</i> subsp. <i>eberlanzii</i> (Dinter & Schwantes) D. T. Cole	Gent	1979	1982	arrived as <i>L. bella</i> var. <i>eberlanzii</i> ; one of 6 synonyms
	Kirstenbosch	1964	1968	arrived as <i>L. erniana</i>
	Chemnitz	1995	2000	
<i>Lithops lesliei</i> (N.E. Br.) N.E. Br. subsp. <i>lesliei</i>	Gent	1979	1983	arrived as <i>L. lesliei</i> var. <i>minor</i>
	Muenster	1968	1977	arrived as <i>L. venterii</i>
<i>Lithops localis</i> (N.E. Br.) Schwantes	Pecs	1984	1985	5 synonyms
	Potsdam	1985	1993	
	Basel	1986	1990	
	Innsbruck	2008	2014	
	Bordeaux	1984	1990	arrived as <i>L. localis</i> var. <i>peersii</i>
	Monaco	1999	2000	arrived as <i>L. terricolor</i>
<i>Lithops marmorata</i> (N.E. Br.) N.E. Br.	Kiel	1968	1961	arrived as <i>L. marmorata</i> var. <i>elisae</i> ; one of 5 synonyms
	Muenster	1967 & 1968	1971 & 1971	
	Nantes	1999	2000	
<i>Lithops 'Mezcla'</i>	Barcelona	1963	1968	unknown cultivar; esp. <i>mezcla</i> - eng. mixing
<i>Lithops olivacea</i> L. Bolus	Chemnitz	1993	1993-2000	syn. <i>L. olivacea</i> var. <i>nebrowii</i>
<i>Lithops optica</i> (Marloth) N.E. Br.	Gent	1967	1971	arrived as <i>L. elevata</i> ; one of 2 synonyms
<i>Lithops otzeniana</i> Nel	Dresden	1996	2000	
<i>Lithops pseudotruncatella</i> (A. Berger) N.E. Br.	Kiel	1955	no data	15+ synonyms
	Kirstenbosch	1957	1975	
	Gent	1964 & 1965	1968 & 1968	
	Berlin	1964	1968	
	Pecs	1984	no data	
	Monaco	1991	2000	
	Kiel	1955 & 1958	no data & 1963	arrived as <i>L. alpina</i>
	Muenster	1968	1971	
	Gent	1976	1982	arrived as <i>L. pseudotruncatella</i> var. <i>alpina</i>
<i>Lithops pseudotruncatella</i> subsp. <i>dendritica</i> (Nel) D. T. Cole	Kiel	1958	1963	arrived as <i>L. dendritica</i> ; one of 2 synonyms
	Gent	1963 & 1964	1968 & 1968	
<i>Lithops ruschiorum</i> (Dinter & Schwantes) N.E. Br.	Groningen	1962	1966	syn. <i>Mesembryanthemum ruschiorum</i>
	Gent	1979	1982	
	Dresden	1996	1997	
<i>Lithops salicola</i> L. Bolus	Berlin	1958	1968	
	Tuebingen	1963 & 1973	1971 & 1978	
	Marburg	1962	1970	
	Muenster	1961 & 1967	1977 & 1978	
	Vienna	1971	no data	
	Potsdam	1985	no data	
	Dronten	1984	no data	
	Nantes	2000	2016	
<i>Lithops schwantesii</i> Dinter	Gent	1963 & 1964 & 1965 & 1966	1977 & 1968 & 1968 & 1968	10+ synonyms
	Pecs	1984	2000	



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	Monaco	1996	1997	
	Chemnitz	1997	2000	
	Nantes	1999 & 2000	2001 & 2001	
	Muenster	1966 & 1967	1970 & 1971	arrived as <i>L. kuibisensis</i>
	Gent	1966 & 1967	1970 & 1971	
	Nantes	1996	1997	arrived as <i>L. marthae</i>
	Gent	1962	1968	arrived as <i>L. rugosa</i>
	Muenster	1968	1971	
	Basel	1984	1985	
	Muenster	1967	1971	arrived as <i>L. triebneri</i>
	Gent	1965	1968	arrived as <i>L. kunjasensis</i>
	Graz	1991	2000	
<i>Lithops vallis-mariae</i> (Dinter & Schwantes) N.E. Br.	Kiel	1958	1963	syn. <i>Mesembryanthemum vallis-mariae</i>
<i>Lithops verruculosa</i> Nel	Nantes	1996	2000	arrived as <i>L. inae</i> ; one of 3 synonyms
<i>Lithops villetii</i> L. Bolus	Kiel	1955	1961	syn. <i>L. villetii</i> subsp. <i>villetii</i>
	Kirstenbosch	1961	1962	
	Gent	1970 & 1976	1977 & 1983	
	Dresden	1986	no data	
<i>Lithops weneri</i> Schwantes & H. Jacobsen	Muenchen	1993	1997	
<i>Machairophyllum albidum</i> (L.) Schwantes	Gent	1960 & 1961 & 1962	1968 & 2010 & 1979	3 synonyms
	Vienna	1971	2010	
	Pecs	1996	2003	
<i>Mesembryanthemum aitonis</i> Jacq.	Muenchen	1978	1980	5 synonyms
<i>Mesembryanthemum vanrensborgii</i> (L. Bolus) Klak	Barcelona	unknown	1961	arrived as <i>Prenia vanrensborgii</i> ; one of 2 synonyms
<i>Mestoklema tuberosum</i> (L.) N.E. Br. ex Glen	Kiel	1998	2003	4 synonyms
	nn	in collection in 1963	1975	
<i>Mitrophyllum clivorum</i> Schwantes	Kirstenbosch	1961	1968	
<i>Monilaria moniliformis</i> Ihlenf. & Joergens.	Hamburg	1976	1979	
<i>Monilaria scutata</i> Schwantes subsp. <i>obovata</i> Ihlenf. & Joergens.	Hamburg	1976	1979	
<i>Nananthus aloides</i> (Haw.) Schwantes	Cantonspark	1955	1961	4 synonyms
<i>Nananthus vittatus</i> (N.E. Br.) Schwantes	Kiel	1958	1961	4 synonyms
<i>Orthopterum waltoniae</i> L. Bolus	Barcelona	1958 & 1963	1968 & 1968	
	Gent	1970	1981	
	Berlin	1972 & 1973	1981 & 1981	
	Innsbruck	1997	2000	
	Muenchen	2000	2002	
<i>Oscularia caulescens</i> (Mill.) Schwantes	Bochum	1998	2003	3 synonyms
<i>Oscularia deltoides</i> (L.) Schwantes	nn	1961	1971	2 synonyms
	Berlin	1967 & 1974	1968 & 1980	
<i>Oscularia lunata</i> (Willd.) H. E. K. Hartmann	Berlin	1979	2000	arrived as <i>Lampranthus lunatus</i> ; one of 2 synonyms
<i>Peersia frithii</i> (L. Bolus) L. Bolus	Gent	1964	1968	arrived as <i>Rhinephyllum frithii</i> ; one of 2 synonyms
<i>Phyllobolus prasinus</i> (L. Bolus) Gerbaulet	Muenchen	1970	1972	arrived as <i>Aridaria prasina</i>
<i>Phyllobolus splendens</i> (L.) Gerbaulet	nn	unknown	1961	arrived as <i>Aridaria flexuosa</i> ; one of 20+ synonyms
	Kirstenbosch	1961	1961	arrived as <i>Aridaria primulina</i>
	nn	unknown	1963	arrived as <i>Aridaria splendens</i>
<i>Pleiospilos bolusii</i> (Hook. f.) N.E. Br.	Vienna	1955	unknown	
	Berlin	1955 & 1961	unknown & 1961	
	Lisbon	1955	unknown	
	Palermo	1961 & 1964	1971 & 1968	

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	Barcelona	1964	1968	
	Muenchen	1967	unknown	
	Karlsruhe	1969	1977	
	Nantes	1970	1977	
	Wuppertal	1985	1989	
<i>Pleiospilos compactus</i> (Aiton) Schwantes	nn	1952	1975	arrived as <i>P. longibracteatus</i> ; one of 7 synonyms
	Palermo	1964	1971	
<i>Pleiospilos compactus</i> subsp. <i>canus</i> (Haw.) H. E. K. Hartmann & Liede	Berlin	1962 & 1965	1969 & 1971	arrived as <i>P. borealis</i> ; one of 20+ synonyms
	nn	1951	1983	arrived as <i>P. brevisepalus</i>
	Berlin	1962 & 1967	1968 & 1968	
	Muenster	1967	1968	
	Gent	1962 & 1964	1975 & 1968	arrived as <i>P. dekenahi</i>
	Palermo	1964	1968	
	Berlin	1962	1971	arrived as <i>P. framesii</i>
	nn	1951	1963	arrived as <i>P. grandiflorus</i>
	Palermo	1964	1971	
	Frankfurt	unknown	1961	arrived as <i>P. latipetalus</i>
	Nantes	1996	1997	arrived as <i>P. leipoldtii</i>
	nn	1951	1961	arrived as <i>P. magnipunctatus</i>
	Palermo	1961	1961	
	Kirstenbosch	1971	1978	
	Pretoria	1975	1980	
	Berlin	1955	1961	arrived as <i>P. nobilis</i>
	Innsbruck	2000	2002	
	nn	1951	no data	arrived as <i>P. peersii</i>
	Berlin	1961	1961	
	Palermo	1964	1966	
	Gent	1962 & 1964	1968 & 1968	arrived as <i>P. willowmoresis</i>
	Basel	1962	1968	
	Kirstenbosch	1964	1971	
	Berlin	1967	1968	
<i>Pleiospilos compactus</i> subsp. <i>sororius</i> H.E.K. Hartmann & Liede	Berlin	1962 & 1967	1971 & 1973	arrived as <i>P. dimidiatus</i> ; one of 2 synonyms
	nn	unknown	1968	
	Muenchen	1993 & 1994	2000 & 1997	
	Graz	1994	2000	
<i>Pleiospilos nelii</i> Schwantes	Kirstenbosch	1961	1968	2 synonyms
<i>Prenia pallens</i> (Aiton) N.E. Br. subsp. <i>pallens</i>	nn	1950	no data	arrived as <i>P. relaxata</i>
<i>Prepodesma orpenii</i> (N.E. Br.) N.E. Br.	Barcelona	1963	1968	arrived as <i>Nananthus orpenii</i> ; one of 5 synonyms
<i>Psammophora nissenii</i> (Dinter) Dinter & Schwantes	Kiel	1958	1961	syn. <i>Mesembryanthemum nissenii</i>
<i>Psilocaulon dinteri</i> Schwantes	Berlin	1964	1971	10+ synonyms
<i>Psilocaulon subnodosum</i> (A. Berger) N.E. Br.	Barcelona	1963	1966	arrived as <i>P. clavulatum</i> ; one of 6 synonyms
<i>Rabiea albinota</i> (Haw.) N.E. Br.	Barcelona	1969	1971	3 synonyms
<i>Rabiea cibdela</i> (N.E.Br.) N.E.Br.	Vienna	1955 & 1965	1989 & 1981	syn. <i>Mesembryanthemum cibdelum</i>
	Haren	1970	1978	
	Pecs	1996	1997	
<i>Rabiea difformis</i> (L. Bolus) L. Bolus	Bochum	2003	2010	syn. <i>Nananthus difformis</i>
<i>Rhinephyllum broomii</i> L. Bolus	Berlin	1965	no data	
<i>Rhinephyllum comptonii</i> L. Bolus	Berlin	1971	1983	
<i>Rhinephyllum graniforme</i> (Haw.) L. Bolus	Berlin	1971	1979	syn. <i>Mesembryanthemum graniforme</i>
<i>Rhombophyllum dyeri</i> (L. Bolus) H. E. K. Hartmann	Muenchen	1966	1971	arrived as <i>Hereroa dyeri</i>
	Berlin	1971 & 1974	1980	

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<i>Rhombophyllum nelii</i> Schwantes	Berlin	1971 & 1973 & 1978	1978 & 1977 & 1980	
	Muenchen	1970 & 1971	1974 & 1975	
	Gent	1976 & 1979	1980 & 1989	
<i>Ruschia cymosa</i> (L. Bolus) Schwantes	Kiel	1958	1961	syn. <i>Mesembryanthemum cymosum</i>
<i>Ruschia hexamera</i> L. Bolus	Berlin	1971	1979	2 synonyms
<i>Ruschia multiflora</i> (Haw.) Schwantes	Berlin	1971 & 1973	1979 & 1982	syn. <i>Mesembryanthemum multiflorum</i>
<i>Ruschia perfoliata</i> (Mill.) Schwantes	Barcelona	1968	1979	syn. <i>Mesembryanthemum perfoliatum</i>
	Muenchen	1970	1978	
<i>Ruschia rigida</i> (Haw.) Schwantes	Lisbon	1954	1961	syn. <i>Mesembryanthemum rigidum</i>
	Berlin	1966	1968	
<i>Ruschia rubricaulis</i> (Haw.) L. Bolus	Kirstenbosch	1988	1990	syn. <i>Mesembryanthemum rubricaulis</i>
<i>Ruschia vaginata</i> Schwantes	Berlin	1973	2010	syn. <i>Mesembryanthemum vaginatum</i>
<i>Semnanthe lacera</i> (Haw.) N.E. Br.	Berlin	1955		4 synonyms
<i>Stomatium bolusiae</i> Schwantes	Nantes	1996 & 1998	1997 & no data	
<i>Stomatium duthiae</i> L. Bolus	Nantes	1998	2000	
<i>Tanquana archeri</i> (L. Bolus) H.E.K. Hartmann & Liede	Berlin	1967	1971	arrived as <i>Pleiospilos archeri</i> ; one of 7 synonyms
	Nantes	1970 & 1996	1975 & 1997	
<i>Tanquana hilmarii</i> (L. Bolus) H. E. K. Hartmann & Liede	Berlin	1955	1961	arrived as <i>Pleiospilos hilmarii</i>
<i>Titanopsis calcarea</i> (Marloth) Schwantes	Gent	1963	1966	2 synonyms
	Kiel	1997	1998	
<i>Trichodiadema barbatum</i> Schwantes	Muenchen	1970	no data	
	Berlin	1973 & 1978 & 1979 & 2002 & 2003	1979 & 1990 & 2000 & 2003 & 2003	
<i>Trichodiadema bulbosum</i> Schwantes	nn	1951	1966	
	Vienna	1956	no data	
<i>Trichodiadema densum</i> Schwantes	Beograd	1965	1968	
	nn	unknown	1968	
<i>Trichodiadema intonsum</i> Schwantes	nn	1952	1961	
	Gent	1966	1968	
<i>Trichodiadema mirabile</i> (N.E. Br.) Schwantes	Muenchen	1970	1978	2 synonyms
	Szeged	1970	1978	
	Berlin	1979	2000	
	Nantes	2000	2001	
<i>Trichodiadema peersii</i> L. Bolus	Gent	1970	1979	
<i>Trichodiadema rogersiae</i> L. Bolus	Berlin	1971	1980	
<i>Trichodiadema setuliferum</i> Schwantes	Berlin	1971	1978	
<i>Vanheerdea roodiae</i> (N.E. Br.) L. Bolus ex H. E. K. Hartmann	Kirstenbosch	1961	1968	arrived as <i>V. divergens</i> ; one of 5 synonyms
<b>Apocynaceae</b>				
<i>Adenium obesum</i> (Forssk.) Roem. & Schult.	Muenchen	1997	2000	10+ synonyms
<i>Pachypodium lamerei</i> Drake	Monaco	1993	2000	6 synonyms
<i>Plumeria rubra</i> L.	Bogor	1982	1982	20+ synonyms
<b>Asclepiadaceae</b>				
<i>Caralluma burchardii</i> N.E.Br. var. <i>maura</i> Maire	Antwerpen	1957	1998	2 synonyms
	nn	in collection in 1975	1980	
<i>Caralluma europaea</i> (Guss.) N.E.Br.	Basel	1956	1983	30+ synonyms
	Gent	1962	1972	
	Bologna	1971	1979	
	Lyon	1998	2000	
<i>Caralluma gracilipes</i> K.Schum.	Goettingen	1970	1979	syn. <i>Spathulopetalum gracilipes</i>

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<i>Caralluma nebrowii</i> A. Berger	Palermo	1964	1966	syn. <i>Orbeopsis lutea</i> subsp. <i>vaga</i> ; unresolved name (The Plant List)
<i>Caralluma subulata</i> (Forssk.) Decne.	nn	in collection in 1965	1972	syn. <i>Stapelia subulata</i>
	Goettingen	1970	1979	
<i>Ceropegia africana</i> R.Br.	Liberec	1961	1972	
	Vacratot	unknown & 1969	1961 & 1972	
	Gent	1962	1963	
	Strasbourg	1966 & 1969	1980 & 1984	
	Goeteborg	1970	1972	
<i>Ceropegia albisepta</i> Jum. & H.Perrier var. <i>robysiana</i> (Werderm.) H.Huber	Antwerpen	1956 & 1958 & 1962	1961 & 1966 & 1981	arrived as <i>C. robysiana</i>
	Besancon	1959	1979	
	nn	in collection in 1963	1981	
	Strasbourg	1969	1980	
<i>Ceropegia ballyana</i> Bullock	Karlsruhe	1969	1981	syn. <i>C. helicoides</i>
<i>Ceropegia bulbosa</i> Roxb.	nn	in collection in 1963	1981	from cuttings; 9 synonyms
	Besancon	1968	1988	from cuttings
<i>Ceropegia dichotoma</i> Haw.	Litva	1957	1961	syn. <i>C. aphylla</i>
<i>Ceropegia distincta</i> N.E.Br.	Besancon	1969 & 1970	1972 & 1979	syn. <i>C. brevirostris</i>
	Tuebingen	1971	1981	
<i>Ceropegia distincta</i> subsp. <i>haygarthii</i> (Schltr.) H. Huber	Debrecen	1980	1984	syn. <i>C. haygarthii</i>
<i>Ceropegia gemmifera</i> K.Schum.	Legon	1970	1972	syn. <i>C. nilotica</i>
<i>Ceropegia haygarthii</i> Schltr.	Antwerpen	1969 & 1972	1979 & 1984	syn. <i>C. distincta</i> subsp. <i>haygarthii</i>
	nn	1970	1972	
	nn	1981	1972	
	Bergen	1972	1972	
<i>Ceropegia linearis</i> E.Mey. subsp. <i>debilis</i> (N.E.Br.) H.Huber	Krakow	1970	1972	arrived as syn. <i>C. debilis</i>
<i>Ceropegia multiflora</i> Baker	Goeteborg	1977	1980	syn. <i>C. multiflora</i> subsp. <i>multiflora</i>
<i>Ceropegia sandersonii</i> Decne. ex Hook.f.	nn	1951 & unknown	1978 & 1968	2 synonyms; from cuttings (unknown)
	Strasbourg	1969	1980	
	Warsaw	1986	1988	from cuttings
	Salaspils	2000	2003	
<i>Ceropegia stapeliiformis</i> Haw.	nn	1951 & in collection in 1968	no data & 1978	syn. <i>C. stapeliiformis</i> subsp. <i>stapeliiformis</i> ; from cuttings (1951)
	Cantonspark	1953	1968	
	Strasbourg	1969	1978	
<i>Ceropegia woodii</i> Schltr.	Cluj-Napoca	1958	1961	arrived as <i>C. hastata</i> ; one of 7 synonyms
	Strasbourg	1969	1972	
	Barcelona	1970	1972	
	Kaunas	1970	1979	
	Goeteborg	1970	1982	
	nn	in collection in 1963 & in collection in 1979	1978 & 2000	from cuttings (1963)
	Krakow	1970	1982	
<i>Cynanchum viminale</i> (L.) L.	Stockholm	1955	2000	from cuttings; arrived as <i>Sarcostemma viminale</i> ; one of 10+ synonyms
	Antwerpen	1958		
	Nantes	1996	1997	
<i>Dischidia bengalensis</i> Colebr.	nn	in collection in 1963	1972	

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<i>Dischidia hirsuta</i> (Blume) Decne.	Goeteborg	1973	1975	syn. <i>Leptostemma hirsutum</i>
<i>Dischidia longinense</i>	Berlin	1960	1961	unknown species
<i>Dischidia major</i> (Vahl) Merr.	Bergen	1965 & 1966	1966 & 1981	arrived as <i>D. rafflesiana</i>
<i>Dischidia purpurea</i> Merr.	Tuebingen	1970	1972	
<i>Echidnopsis cereiformis</i> Hook.f.	nn	unknown	1961	
	nn	1960	1968	
<i>Echidnopsis cereiformis</i> var. <i>brunnea</i> (Dammann) A. Berger	Besancon	1970	1975	
<i>Echidnopsis dammanniana</i> Sprenger	Palermo	1964	1966	syn. <i>E. somalensis</i>
<i>Hoodia gordonii</i> (Masson) Sweet ex Decne.	Muenchen	1976	1978	syn. <i>Stapelia gordonii</i>
<i>Huernia erinacea</i> P.R.O. Bally	Liege	1985	1985	
	Dresden	1995	2000	
<i>Huernia hystrix</i> (Hook. f.) N.E. Br.	Stockholm	1996	2000	3 synonyms
<i>Huernia keniensis</i> R. E. Fr.	Basel	1955	no data	syn. <i>H. keniensis</i> var. <i>keniensis</i>
	Cantonspark	1955	1961	
	Rome	1957	1966	
<i>Huernia macrocarpa</i> (A. Rich.) Spreng. f. <i>macrocarpa</i>	Antwerpen	1970	1971	arrived as <i>H. macrocarpa</i> var. <i>penzigii</i> ; one of 10 synonyms
	Nancy	1971	no data	
	Aachen	1995	2016	
	Szeged	1955	1961	arrived as <i>H. penzigii</i> ; from cuttings
<i>Huernia macrocarpa</i> var. <i>schweinfurthii</i> (A. Berger) A.C. White & B. Sloane	Cantonspark	1953	no data	syn. <i>H. penzigii</i> var. <i>schweinfurthii</i>
<i>Huernia pendula</i> E. A. Bruce	Goettingen	1966	1966	
	Goeteborg	1978	1978	
<i>Huernia schneideriana</i> A. Berger	Rome	1970	1971	
<i>Luckhoffia beukumii</i> White & Sloane	Dresden	1996	2000	hybrid between <i>Hoodia gordonii</i> × <i>Stapelia arenosa</i>
<i>Orbea longidens</i> (N.E. Br.) L. C. Leach	Giessen	1961	1968	arrived as <i>Stapelia longidens</i>
	Bochum	1989	2000	
<i>Orbea variegata</i> (L.) Haw.	nn	1951	no data	arrived as <i>Stapelia lepida</i> ; one of 20+ synonyms
	Szeged	1954	no data	from cuttings
	Cantonspark	1955	no data	from cuttings
	Iasi	1958	1968	
	Duisburg	1989 & 1995	2000 & 2000	
	nn	unknown	1961	arrived as <i>Stapelia variegata</i>
	Besancon	1968	1968	
	Vacratot	1969	1971	
	Budapest	1969	1974	
	Padova	1983	2003	
	Duisburg	1995	2000	arrived as <i>Stapelia variegata</i> L. var. <i>atropurpurea</i>
<i>Orbea variegata</i> (L.) Haw. (var. <i>picta</i> )	Leipzig	1960	1961	arrived as <i>Stapelia variegata</i> (var. <i>picta</i> )
	Palermo	1958	1968	
<i>Orbea variegata</i> (L.) Haw. (var. <i>atrata</i> )	Vacratot	1969	1971	<i>Stapelia variegata</i> (var. <i>atrata</i> )
	Duisburg	1989 & 1995	1997 & 2000	
<i>Orbea variegata</i> (L.) Haw. (var. <i>curtisii</i> )	Madrid	1996	1997	arrived as <i>Stapelia variegata</i> (var. <i>curtisii</i> )
<i>Orbea variegata</i> (L.) Haw. (var. <i>marmorata</i> )	Leipzig	1960	1961	arrived as <i>Stapelia variegata</i> (var. <i>marmorata</i> )
	Vacratot	1969	1990	
	Gent	1979	1993	
<i>Orbea variegata</i> (L.) Haw. (var. <i>planiflora</i> )	Palermo	in collection in 1968	1971	arrived as <i>Stapelia variegata</i> (var. <i>planiflora</i> )
<i>Orbeopsis lutea</i> (N.E. Br.) L.C. Leach subsp. <i>lutea</i>	Pecs	1996	2003	arrived as <i>Caralluma nebrownii</i> ; 3 synonyms

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<i>Philibertia gilliesii</i> Hook. & Arn.	Besancon	1962 & 1965	1963 & 1968	arrived as <i>P. gracilis</i> ; one of 4 synonyms
<i>Piранthus geminatus</i> (Masson) N.E. Br. subsp. <i>geminatus</i>	Goeteborg	1978	1978	arrived as <i>P. foetidus</i> ; one of 4 synonyms
	nn	1969	1981	
<i>Stapelia angulata</i> Tod.	Antwerpen	1965	1968	
<i>Stapelia bella</i> A. Berger	Muenster	1968	1983	
	Duisburg	1989	2000	
<i>Stapelia discolor</i> Tod.	nn	1952	1966	
	Vacratot	1969	1979	
<i>Stapelia gigantea</i> N.E. Br.	Nancy	1964	1968	arrived as <i>S. nobilis</i> ; one of 5 synonyms
	Budapest	1969	1983	
	Goettingen	1970	1971	
	Muenster	1992	2000	
	Liege	1961	1968	arrived as <i>S. gigantea</i>
	Heidelberg	1962	1968	
	Besancon	1963	1966	
	Bucharest	1964	1966	
<i>Stapelia grandiflora</i> Masson	Bochum	1995	2000	arrived as <i>S. ambigua</i> ; one of 7 synonyms
	Leipzig	1955	no data	arrived as <i>S. grandiflora</i>
	nn	in collection in 1961	1980	
	Besancon	1965	1968	
	Goettingen	1965	2003	
	Krakov	1970	1978	
	Gent	1979	2000	
<i>Stapelia hanburyana</i> A. Berger & Ruest	Goettingen	1965	1971	
<i>Stapelia hirsuta</i> L.	Bucharest	1964	1966	10+ synonyms
	Duisburg	1989 & 1990	1993 & 1995	
	Basel	1988	1993	
<i>Stapelia leendertziae</i> N.E. Br.	Goeteborg	1978	1980	arrived as <i>S. wilmaniae</i>
<i>Stapelia lucida</i> DC.	Duisburg	1995	1997	2 synonyms
<i>Stapelia</i> × <i>luxurians</i> Dammann ex Rust	Debrecen	1956	1979	arrived as <i>S. luxuriana</i>
<i>Stapelia mutabilis</i> Jacq.	Hamburg	1961	1962	2 synonyms
<i>Stapelia mutabilis</i> Jacq. (var. <i>bicolor</i> )	Krakov	1969 & 1970	1979 & 1979	arrived as <i>S. bicolor</i> ; 1 synonym
<i>Stapelia</i> 'Penzigii'	Uppsala	1953	no data	unknown cultivar
<i>Stapelia schinzii</i> A. Berger & Schltr.	Dresden	1995 & 1998	2000 & 1998	4 synonyms
<i>Stapelia trifida</i> Tod.	Antwerpen	1967 & unknown	1971 & 1978	from cuttings
<i>Stapelianthus decaryi</i> Choux	Goettingen	1970	1970	
<i>Tridentea gemmiflora</i> (Masson) Haw.	Besancon	1968	1971	arrived as <i>Stapelia gemmiflora</i> ; one of 3 synonyms; from cuttings
<i>Tromotriche herrei</i> (Nel) Bruyns	Duisburg	1994	2000	arrived as <i>Stapelia herrei</i> ; one of 4 synonyms
<b>Asteraceae</b>				
<i>Argyranthemum gracile</i> Sch. Bip.	Oslo	2006	2006	syn. <i>Chrysanthemum gracile</i>
<i>Delairea odorata</i> Lem.	Napoli	1958	1961	arrived as <i>Senecio scandens</i> ; one of 3 synonyms
<i>Kleinia antephorbium</i> (L.) Haw.	nn	unknown	1963	4 synonyms
<i>Kleinia longiflora</i> DC.	nn	in collection in 1968	1969	arrived as <i>Senecio longiflorus</i> var. <i>violaceus</i>
<i>Kleinia neriifolia</i> Haw.	Basel	1967	1971	arrived as <i>Senecio kleinia</i> ; one of 4 synonyms
	Braunschweig	1980	1983	
	nn	unknown	1980	
	Duisburg	1993	2003	from cuttings
<i>Kleinia petraea</i> (R. E. Fr.) C. Jeffrey	Wageningen	1962 & 1963	1966 & 1971	arrived as <i>Senecio jacobsenii</i> ; one of 3 synonyms
<i>Kleinia stapeliiformis</i> (E. Phillips) Stapf	Gent	1961	1961	syn. <i>Senecio stapeliiformis</i>
	Besancon	1971	1963	



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	Besancon	1971	1971	arrived as syn. <i>Senecio stapeliiformis</i>
	Lublin	1996	2000	
	Salaspils	1997	2000	from cuttings
<i>Kleinia stapeliiformis</i> (E. Phillips) Stapf (var. <i>minor</i> )	Rome	1970	1989	arrived as syn. <i>Senecio stapeliiformis</i> (var. <i>minor</i> )
	Antwerpen	1970 & 1971	1971 & 1971	
<i>Othonna capensis</i> L.H. Bailey	Lisbon	1954	no data	syn. <i>O. crassifolia</i>
	Strassburg	1962	1968	
	Cluj-Napoca	1974	1980	
	Berlin	2001	2002	
	Caen	2002	2003	
<i>Pentacalia caracasana</i> (Klatt) Cuatrec.	Antwerpen	1967	1978	arrived as <i>Senecio cucullatus</i> ; from cuttings
<i>Senecio acaulis</i> (L. f.) Sch. Bip.	Wageningen	1966	1966	3 synonyms
<i>Senecio angulatus</i> L. f.	Strasbourg	1966	1993	syn. <i>S. macropodus</i>
<i>Senecio articulatus</i> (L. f.) Sch. Bip.	nn	1949	1971	2 synonyms
	nn	1970	1980	
	nn	1969	1971	
	Wageningen	1972	1980	
<i>Senecio citriflorus</i> G.D. Rowley	Wageningen	1963 & 1964 & 1970 & 1980	1963 & 1966 & 1971 & 1982	
	Gent	1963	1966	
<i>Senecio citrinus</i> (DC.) Voss	Besancon	1967	1968	from cuttings
<i>Senecio crassissimus</i> Humbert	Genova	1963 & 1970	1963 & 1971	
	Wageningen	1963 & 1964	1963 & 1966	
<i>Senecio cuneatus</i> Hook. f.	Goeteborg	1970	1971	2 synonyms
<i>Senecio cylindricus</i> (A.Berger) Jacobsen	Gent	1960	2000	
	Dresden	2000	2003	
<i>Senecio kleiniiformis</i> Suess.	Wageningen	1963 & 1964 & 1970	1966 & 1966 & 1979	
	Gent	1960 & 1961	1966 & 1966	
	nn	unknown	1968	
<i>Senecio macroglossus</i> DC.	Pisa	1966 & 1973	1979 & 1993	
<i>Senecio mandraliscae</i> (Tineo) H.Jacobsen	Wageningen	1960 & 1963 & 1964	1966 & 1966 & 1966	
	Genova	1970	1971	
<i>Senecio medley-woodii</i> Hutch.	Antwerpen	1966 & 1967 & 1968 & 1970	1968 & 2010 & 1971 & 1970	from cuttings (1967)
<i>Senecio oxyriifolius</i> DC.	Antwerpen	1969 & 1970	2010 & 1989	5 synonyms
<i>Senecio radicans</i> (L. f.) Sch. Bip.	Besancon	1962	1963	3 synonyms
	Wageningen	1963	1963	
<i>Senecio repens</i> (L.) H.Jacobsen	Lisbon	1954	no data	arrived as <i>Kleinia repens</i>
	Gent	1960	1966	
<i>Senecio rowleyanus</i> H.Jacobsen	Goeteborg	1970 & 1971 & 1978	1982 & 1979 & 1989	
	Dresden	1998	2000	from cuttings
<i>Senecio scaposus</i> DC.	Wageningen	1962	1966	2 synonyms
<i>Senecio serpens</i> G.D. Rowley	Rome	1970	1970	2 synonyms
<i>Senecio tropaeolifolius</i> MacOwan ex F.Muell.	Antwerpen	1970	1989	
Cactaceae				
<i>Acanthocalycium spiniflorum</i> (K. Schum.) Backeb.	Linz	1986 & 2008	2000 & 2009	arrived as <i>Echinopsis spiniflora</i> ; one of 2 synonyms
	Debrecen	1989	2000	
	Bratislava	2000	2003	
	Palermo	1962	1972	arrived as <i>Echinocactus spiniflorus</i>
	Halle	1967	1977	arrived as <i>A. violaceum</i>
	Linz	1967 & 1986	1977 & 2000	

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<i>Acanthocalycium thionanthum</i> (Speg.) Backeb.	Linz	1976	1983	arrived as <i>Echinopsis thionantha</i> ; one of 7+ synonyms
	Debrecen	1989	2000	
<i>Acanthocereus tetragonus</i> (L.) Hummelinck	nn	1955	no data	arrived as <i>Cereus pitahaya</i> ; from cuttings; one of 20+ synonyms
	nn	in collection in 1961 & in collection in 1980	1977 & 1990	from cuttings (1961)
	Barcelona	1968	1973	
	Porto	1971	1990	
<i>Acantholobivia incuiensis</i> (Rauh & Backeb.) Rauh & Backeb.	Vienna-Belvedere	1971	1978	2 synonyms; unresolved name (the Plant List)
<i>Acantholobivia tegeleriana</i> (Backeb.) Backeb.	Linz	1972	no data	2 synonyms; unresolved name (the Plant List)
	Berlin	1968	1975	
<i>Armatocereus rauhii</i> Backeb.	Liege	1973	1998	2 synonyms
<i>Astrophytum asterias</i> (Zucc.) Lem.	Tuebingen	1963	1963-1970	10+ synonyms
	Debrecen	1980 & 1992	1983 & 1993	
	Linz	1991	no data	
	Chemnitz	1992 & 1993	1993 & 2000	
	Frankfurt	1992	1993	
<i>Astrophytum capricorne</i> (A.Dietr.) Britton & Rose	Tuebingen	1963	1979	20+ synonyms
	Dresden	1970	1980	
	Linz	1987 & 2003	1990 & 2006	
	Frankfurt	1992	1993	
	Chemnitz	1992	2010	
	Debrecen	1992	2010	
	Debrecen	1992	2000	arrived as <i>A. senile</i> ; one of 20+ synonyms
<i>Astrophytum myriostigma</i> Lem.	Frankfurt	1992	2000	
	Berlin	1965	1983	arrived as <i>A. coahuilense</i> ; one of 20+ synonyms
	Vienna	1966	1968	
	Linz	1963 & 1966	1966 & 1968	<i>Astrophytum myriostigma</i> var. <i>glabrum</i>
	Dresden	1971	1982	
	Barcelona	1961	1968	
	Halle	1957	1968	
	Berlin	1958 & 1966	1968 & 1968	
	Vienna	1963	1968	
	Basel	1963	1968	
	Karlsruhe	1978	1990	
	Lokrum	1968	1983	arrived as <i>A. myriostigma</i> var. <i>columnare</i>
	Sarvar	1973	1983	arrived as <i>A. myriostigma</i> var. <i>potosinum</i>
	Basel	1973	1989	
	Linz	1976	1980	
	Berlin	1974	1980	arrived as <i>A. myriostigma</i> var. <i>quadricostatum</i>
	Lokrum	1970	1982	arrived as <i>A. myriostigma</i> var. <i>strongylogonum</i>
	Linz	1963 & 1966	1966 & 1968	arrived as <i>A. myriostigma</i> var. <i>strongylogonum</i> subv. <i>nudum</i>
	Dresden	1971	1982	
	Barcelona	1961	1968	
	Halle	1957	1968	
	Berlin	1958 & 1966	1968 & 1968	
	Vienna	1963	1968	
	Basel	1963	1968	

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	Karlsruhe	1978	1990	
	Halle	1957 & 1967	1972 & 1977	arrived as <i>A. myriostigma</i>
	Barcelona	1961 & 1984	1983 & 1990	
	Basel	1963	1979	
	Linz	1963 & 1966 & 1972 & 1976	1972 & 1990 & 1990 & 1983	
	Vienna	1966 & 1970	1972 & 1993	
	Lokrum	1970	1990	
	Gent	1968	1975	
	nn	1972	1990	
	Dresden	1971	1975	
	Muenchen	1972	1975	
	Kamani	1975	1983	
	Karlsruhe	1978	1982	
<i>Astrophytum ornatum</i> (DC.) Britton & Rose	Barcelona	1959 & 1961 & 1967 & 1971 & 1970 & 1972 & 1994	2016 & 1983 & 2016 & 1983 & 1983 & 1978 & 1996	15+ synonyms
	Palermo	1961	1962	
	Gotingen	1965 & 1971	1972 & 1978	
	Tubingen	1970	1975	
	Karlsruhe	1978	1993	
	Kiel	1991	1993	
<i>Austrocylindropuntia cylindrica</i> (Lam.) Backeb.	Barcelona	1963	1982	3 synonyms
	nn	in collection in 1972	1987	
	nn	1952	no data	arrived as <i>Opuntia cylindrica</i> ; from cuttings
	Lisbon	1954 & 1955	no data & 1975	from cuttings (1954)
	Naples	1962	1968	
<i>Austrocylindropuntia floccosa</i> (Salm-Dyck ex Winterfeld) F.Ritter	Halle	1966	1966-1974	10+ synonyms; from cuttings
<i>Austrocylindropuntia salmiana</i> (Parm. ex Pfeiff.) Backeb.	Uppsala	1958	1975	arrived as <i>A. salmiana</i> var. <i>spgazzinii</i> ; one of 5 synonyms
	Goeteborg	1986	no data	
	Liege	1986	1987	arrived as <i>A. salmiana</i> ;
<i>Austrocylindropuntia subulata</i> (Muehlenpf.) Backeb.	nn	unknown	1961	7 synonyms
	Vienna	1964	1964	from cuttings
	Barcelona	1964	1964	
	Liege	1986	1989	
<i>Austrocylindropuntia verschaffeltii</i> (Cels ex F.A.C.Weber) Backeb.	Barcelona	1961 & 1963	1982 & 1979	arrived as <i>Opuntia verschaffeltii</i> ; one of 10+ synonyms
<i>Austrocylindropuntia vestita</i> (Salm-Dyck) Backeb.	Beograd	1965	1968	5+ synonyms
	Barcelona	1971	1972	
<i>Aylostera deminuta</i> (F.A.C.Weber) Backeb.	Jibou	1998	2000	unresolved name (The Plant List); 2 synonyms
	Cluj	2000	2003	
<i>Aylostera fiebrigii</i> (Gürke) Backeb.	Sankt Peterburg	1959	1961	unresolved name (The Plant List); 2 synonyms
	Gent	1966	1978	
	Lokrum	1970	1975	
	Goettingen	1989	1990	
<i>Aylostera kupperiana</i> (Boed.) Backeb.	Berlin	1955	1966	unresolved name (The Plant List); 2 synonyms
	Gent	1963	1966	
	Karlsruhe	1964	1978	
	Sarvar	1973	1983	
	Vienna	1971	1983	
	Dresden	1986	1990	

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<i>Aylostera pseudodeminuta</i> (Backeb.) Backeb.	Halle	1961	1975	unresolved name (The Plant List); 3 synonyms
	nn	in collection in 1972	1978	
	Gent	1968	1979	
	Linz	1972	1983	
	Debrecen	1980	1989	
	Gent	1965	1972	arrived as <i>A. pseudodeminuta</i> var. <i>grandiflora</i>
	nn	unknown	1978	
	Debrecen	1980	1983	
<i>Aylostera pseudodeminuta</i> var. <i>schumanniana</i> Backeb.	Linz	1965	1978	syn. <i>Rebutia deminuta</i>
<i>Aylostera spegazziniana</i> (Backeb.) Backeb.	Halle	1964	1975	syn. <i>Rebutia spegazziniana</i> ; unresolved name (The Plant List)
	Turku	1967	1979	
<i>Aylostera spinosissima</i> (Backeb.) Backeb.	Vienna	1963	1968	syn. <i>Rebutia spinosissima</i> ; unresolved name (The Plant List)
<i>Bergerocactus emoryi</i> (Engelm.) Britton & Rose	San Marino (California)	1984	1987	2 synonyms
<i>Borzicactus aurantiacus</i> (Vaupel) Kimmach & Hutchison	Monaco	1997	2003	arrived as <i>Matucana weberbaueri</i> ; one of 20+ synonyms
<i>Borzicactus celsianus</i> (Lem. ex Salm-Dyck) Kimmach	nn	in collection in 1968	1980	arrived as <i>Oreocereus neocelsianus</i> ; 20+ synonyms
	Lokrum	1968	2010	
	Barcelona	1971	1980	
	Monaco	1996	2010	
<i>Borzicactus haynei</i> (Otto ex Salm-Dyck) Kimmach	Berlin	1973	1989	arrived as <i>Cleistocactus tupizensis</i>
	Halle	1973	1983	arrived as <i>Matucana haynei</i> ; one of 3 synonyms
	Linz	1975	1983	arrived as <i>Matucana yunganucensis</i>
<i>Brasilicactus graessneri</i> (K.Schum.) Backeb.	Berlin	1955	1980	unresolved name (The Plant List); syn. <i>Parodia haselbergii</i> subsp. <i>graessneri</i>
	Kiev	1986	1990	
<i>Brasilicactus haselbergii</i> (Haage ex Ruml.) Backeb. ex Jul.Schäff.	Berlin	1955	1966	unresolved name (The Plant List); syn. <i>Parodia haselbergii</i>
	Beograd	1965	1966	
	Barcelona	1971	1977	
	Kiev	1986	1990	
<i>Brasiliopuntia brasiliensis</i> (Willd.) A.Berger	Szeged	1960	1980	10+ synonyms
	Monaco	1989	1993	
	Barcelona	1962 & 1963 & 1964	1963 & 1972 & 1983	arrived as <i>B. bahiensis</i>
<i>Browningia candelaris</i> (Meyen) Britton & Rose	Liege	1973	1983	2 synonyms
<i>Browningia hertlingiana</i> (Backeb.) Buxb.	Berkeley	1959	1978	arrived as <i>Azureocereus hertlingianus</i> ; one of 3 synonyms
<i>Cactus glaucus</i> Kuntze	Palermo	1957 & 1959 & 1962	1983 & 1977 & 2000	arrived as <i>Mammillaria glauca</i>
<i>Cactus krameri</i> Kuntze	Palermo	1962	1993	arrived as <i>Mammillaria krameri</i>
<i>Carnegiea gigantea</i> (Engelm.) Britton & Rose	Bucharest	1964	1993	3 synonyms
	Bochum	1995	2000	
	Bucharest	1957 & 1964	1972 & 1990	arrived as <i>Cereus giganteus</i>
	Davis (California)	1980	1990	

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<i>Cephalocereus senilis</i> (Haw.) Pfeiff.	Lokrum	1967 & 1968 & 1970	1970 & 1970 & 1993	10+ synonyms; from cuttings (1967)
	nn	1947	1963	arrived as <i>Cereus senilis</i> ; arrived as planta viva
<i>Cereus acutangulus</i> Pfeiff.	Gent	1968	1988	arrived as <i>Acanthocereus acutangulus</i> ; unresolved name (the Plant List)
<i>Cereus alacriportanus</i> Pfeiff.	Vienna	1955 & 1956	1966 & 1990	unresolved name (The Plant List)
<i>Cereus azureus</i> J. Parm. ex Pfeiff.	Erlangen	1961	1990	syn. <i>C. aethiops</i>
	Barcelona	1967	1989	
<i>Cereus braunii</i> Cárdenas	Barcelona	1964	1989	
<i>Cereus chalybaeus</i> Otto ex Walp.	Karlsruhe	1965	1990	
<i>Cereus comarapanus</i> Cárdenas	Vienna-Belvedere	1971	1993	syn. <i>Piptanthocereus comarapanus</i>
<i>Cereus hildmannianus</i> K. Schum.	Barcelona	1980	1993	arrived as <i>C. xanthocarpus</i> ; one of 40+ synonyms
	nn	in collection in 1961	1972	arrived as <i>C. monstrosus</i>
<i>Cereus jamacaru</i> DC.	Vacratot	1961	1961	8 synonyms
	Barcelona	1967	1993	
	Muenchen	1977	1990	
	Wuppertal	1984	1989	
	Szeged	1985	2016	
<i>Cereus paraguayensis</i> K.Schum. ex Chodat & Hassl.	Muenchen	1959	1970	
<i>Cereus pitajaya</i> DC. "var. <i>monstrosus</i> hort."	nn	in collection in 1967	1993	syn. <i>Acanthocereus tetragonus</i>
<i>Cereus repandus</i> (L.) Mill.	nn	unknown	1961	arrived as <i>C. peruvianus</i> ; one of 20+ synonyms
	Palermo	2001	2003	
<i>Cereus repandus</i> (L.) Mill. f. <i>monstrosa</i> DC.	nn	in collection in 1961	2016	arrived as <i>C. peruvianus</i> f. <i>monstrosa</i>
	Blanes	1994	2010	
<i>Cereus validus</i> Haw.	nn	1951	1989	syn. <i>C. forbesii</i> hort.
<i>Cereus vargasianus</i> Cárdenas	Vienna-Belvedere	1971	1983	
<i>Cleistocactus acanthurus</i> (Vaupe) D.R.Hunt	Liege	1973	1982	3 synonyms
<i>Cleistocactus baumannii</i> (Lem.) Lem.	Palermo	1964	1970	2 synonyms
	Halle	1965 & 1966	1978 & 1972	
	Berlin	1987	1990	
<i>Cleistocactus baumannii</i> subsp. <i>chacoanus</i> (F.Ritter) P.J.Braun & Esteves	Wageningen	1972	1990	arrived as <i>C. margaritanus</i>
<i>Cleistocactus baumannii</i> subsp. <i>santacruzensis</i> (Backeb.) Mottram	Halle	1967	1975	arrived as <i>C. anguinus</i>
	Wageningen	1972	1993	arrived as <i>C. grossei</i>
<i>Cleistocactus candellilla</i> Cárdenas	Liege	1984	2000	6 synonyms
<i>Cleistocactus fieldianus</i> (Britton & Rose) D.R.Hunt subsp. <i>tessellatus</i> (Akers & Buining) Ostolaza	Barcelona	1980	1983	arrived as <i>Clistanthocereus tessellatus</i> ; one of 4 synonyms
<i>Cleistocactus hyalacanthus</i> (K.Schum.) Rol.-Goss.	Lokrum	1969	1977	arrived as <i>C. jujuyensis</i>
	Barcelona	1971	1993	
<i>Cleistocactus hyalacanthus</i> subsp. <i>tarijensis</i> (Cárdenas) Mottram	Linz	1965	1993	arrived as <i>C. tarijensis</i>
<i>Cleistocactus icosagonus</i> (Kunth) F.A.C. Weber	nn	1951	1982	4 synonyms
<i>Cleistocactus parviflorus</i> (K.Schum.) Rol.-Goss.	Vienna-Belvedere	1971	1993	arrived as <i>C. herzogianus</i>
<i>Cleistocactus sepium</i> (Kunth) A.Weber	Barcelona	1980	1990	arrived as <i>Borzicactus morleyanus</i>
<i>Cleistocactus smaragdiflorus</i> (F.A.C.Weber) Britton & Rose.	Palermo	1964	1989	arrived as <i>C. baumannii</i> var. <i>smaragdiflora</i> ; one of 2 synonyms
	Freiburg	1957	1982	arrived as <i>Cereus smaragdiflorus</i>

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<i>Cleistocactus straussii</i> (Heese) Backeb.	Vienna	1968 & 1995	1983 & 2003	arrived as <i>C. straussii</i> var. <i>fricii</i> ; one of 5 synonyms
	Halle	1967 & 1969	1973 & no data	arrived as <i>C. straussii</i>
	Vienna	1968	2000	
	Goettingen	1966	2000	
	Tuebingen	1963	1972	
	Erlangen	1965	1966	
	Muenchen	1964	1972	
	Linz	1964	1978	
<i>Cleistocactus tupizensis</i> (Vaupel) Backeb.	Barcelona	1955 & 1965	1968 & 1968	syn. <i>Cereus tupizensis</i>
	nn	unknown	1968	
<i>Cleistocactus winteri</i> D.R.Hunt	Cluj-Napoca	2005	2006	4 synonyms
<i>Copiapoa humilis</i> (Phil.) Hutchison	Budapest	1978	1980	4 synonyms
<i>Copiapoa hypogaea</i> F.Ritter	Debrecen	1980	1983	syn. <i>C. barquitenis</i>
<i>Corynopuntia dumetorum</i> (A.Berger) F.M.Knuth	Barcelona	1980	1983	2 synonyms
<i>Corynopuntia emoryi</i> (Engelm.) M.P.Griff.	Barcelona	1968 & 1969 & 1970	1978 & 1980 & 1980	arrived as <i>C. stanlyi</i> ; 3 synonyms
<i>Corynopuntia vilis</i> (Rose) F.M.Knuth	nn	in collection in 1963	1963	3 synonyms
<i>Coryphantha cornifera</i> (DC.) Lem.	Berlin	1958	1978	syn. <i>Mammillaria cornifera</i> ; one of 3 synonyms
	Monaco	1989	1990	
	Berlin	1968	1982	arrived as <i>C. schwarziana</i>
	Palermo	1957	1990	arrived as <i>Mammillaria cornifera</i>
	nn	1962	1964	
<i>Coryphantha echinus</i> (Engelm.) Orcutt	Gent	1963	no data	2 synonyms
<i>Coryphantha elephantidens</i> (Lem.) Lem.	Berlin	1961	1961	syn. <i>Mammillaria elephantidens</i>
	Halle	1973	1977	arrived as <i>C. sulcolanata</i>
<i>Coryphantha elephantidens</i> subsp. <i>bumamma</i> (Ehrenb.) Dicht & A.Lüthy	Budapest	1978	1979	arrived as <i>C. bumamma</i>
<i>Coryphantha erecta</i> (Lem. ex Pfeiff.) Lem.	Barcelona	1961	1983	syn. <i>Mammillaria erecta</i> arrived as <i>Mammillaria macrothelye</i> ; one of 3 synonyms
<i>Coryphantha octacantha</i> (DC.) Britton & Rose	Palermo	1957	1993	
<i>Coryphantha odorata</i> Boed.	Debrecen	1980	1983	2 synonyms
<i>Coryphantha pycnacantha</i> (Mart.) Lem.	Berlin	1960	1961	arrived as <i>C. andreae</i>
<i>Coryphantha retusa</i> (Pfeiff) Britton & Rose	Dresden	1998	2000	3 synonyms
<i>Coryphantha vivipara</i> (Nutt.) Britton & Rose	Muenster	1968	1975	arrived as <i>C. vivipara</i> var. <i>arizonica</i> ; syn. <i>Escobaria vivipara</i>
	nn	1963	1983	arrived as <i>Tephrocactus sphaerica</i> ; one of 10+ synonyms
<i>Cylindropuntia californica</i> (Torr. & A.Gray) F.M.Knuth	Barcelona	1964	1983	2 synonyms
<i>Cylindropuntia californica</i> subsp. <i>parkeri</i> (J.M.Coult.) U.Guzmán	Antwerpen	1967	1968	arrived as <i>Opuntia bernardina</i> fa. <i>cristata</i> ; one of 4 synonyms; from cuttings
<i>Cylindropuntia californica</i> subsp. <i>rosarica</i> (G.E. Linds.) U. Guzmán	Barcelona	1960	1968	3 synonyms
<i>Cylindropuntia echinocarpa</i> (Engelm. & J.M. Bigelow) F.M. Knuth	Berkeley	1994	2003	2 synonyms; arrived as <i>Opuntia echinocarpa</i>
	Barcelona	1964	1968	
<i>Cylindropuntia imbricata</i> (Haw.) F.M.Knuth	nn	unknown	1968	8 synonyms
	Bucharest	1963	1963	arrived as <i>Opuntia arborescens</i>
	Lisle (USA)	1987 & 1989	1993 & 2003	
<i>Cylindropuntia kleiniae</i> (DC.) F.M.Knuth	Barcelona	1963	1975	syn. <i>Opuntia kleiniae</i>
	Esperanca	1970	1980	
	Liege	1984	1970	



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<i>Cylindropuntia leptocaulis</i> (DC.) F.M. Knuth	Rome	1970	1982	arrived as <i>C. leptocaulis</i> var. <i>vaginata</i> ; 2 synonyms
	Barcelona	1961 & 1962	1979 & 1982	
	nn	in collection in 1968	1972	
	Rotterdam	1969	1986	
	Prague	1989	1990	
	Barcelona	1960	1962	arrived as <i>Opuntia leptocaulis</i>
<i>Cylindropuntia ramosissima</i> (Engelm.) F.M.Knuth	nn	in collection in 1963	1982	syn. <i>Opuntia ramosissima</i>
<i>Cylindropuntia rosea</i> (DC.) Backeb.	Lokrum	1967	1979	from cuttings; 2 synonyms
<i>Cylindropuntia whipplei</i> (Engelm. & J.M.Bigelow) F.M.Knuth	Barcelona	1963	1978	syn. <i>Opuntia whipplei</i>
<i>Denmoza rhodacantha</i> (Salm-Dyck) Britton & Rose	nn	unknown	1968	syn. <i>Echinocactus rhodacanthus</i>
	Bevedere	1971	1980	arrived as <i>E. erythrocephala</i> ; one of 8 synonyms
<i>Disocactus bififormis</i> (Lindl.) Lindl.	Berlin	1968 & 1973	1983 & 1977	syn. <i>Epiphyllum bifforme</i>
<i>Disocactus flagelliformis</i> (L.) Barthlott	Besancon	1955	1963	arrived as <i>Cereus flagelliformis</i> ; one of 30+ synonyms
	nn	1951	1990	
	Iasi	1963	1975	
<i>Disocactus nelsonii</i> (Britton & Rose) Linding.	Nantes	1953	1989	arrived as <i>Chiapasia nelsonii</i> ; one of 8 synonyms; from cuttings
<i>Disocactus phyllanthoides</i> (DC.) Barthlott	nn	1951	1961	arrived as <i>Phyllocactus phyllanthoides</i> ; one of 10+ synonyms; from cuttings
	Antwerpen	1968 & 1973	1989 & 1983	
<i>Echinocactus grusonii</i> Hildm.	Adelaide	1957 & 1971 & 1973	1975 & 1982 & 1980	arrived as <i>Echinopsis grusonii</i> ; 4 synonyms
	Palermo	1964	2000	arrived as <i>Echinocactus grusonii</i>
	Lokrum	1968 & 1997	1972 & 2000	from cuttings (1997)
	nn	1954	1989	
	Berlin	1955 & 1966 & 1968 & 1969	no data & 1972 & 1972 & 1972	
	Barcelona	1960 & 1961	1962 & 1978	
	Antibes	1962	1978	
	Halle	1973	1990	
	Amsterdam	1976	1978	
	Goeteborg	1976	1979	
	Blanes	1987	1990	
	Valencia	1993	1996	
<i>Echinocactus platyacanthus</i> Link & Otto	Barcelona	1961	1989	arrived as <i>E. palmeri</i> ; one of 5+ synonyms
	Berlin	1981	1981	arrived as <i>E. platyacanthus</i>
	Barcelona	1967 & 1971	1983 & 1978	arrived as <i>E. viznaga</i>
	Halle	1973	1978	
<i>Echinocereus berlandieri</i> (Engelm.) Haage	nn	in collection in 1961	1990	arrived as <i>E. blanckii</i> ; one of 2 synonyms
<i>Echinocereus cinerascens</i> (DC.) Lem.	nn	in collection in 1961	1989	syn. <i>Cereus cinerascens</i>
<i>Echinocereus coccineus</i> Engelm.	Monaco	2000	2003	20+ synonyms
<i>Echinocereus enneacanthus</i> Engelm.	Halle	1966 & 1967	1978 & 1981	syn. <i>Cereus enneacanthus</i> ; from cuttings
<i>Echinocereus longisetus</i> (Engelm.) Lem. subsp. <i>delaetii</i> (Gürke) N.P. Taylor	Lokrum	1960 & 1967 & 1970	1968 & 1980 & 1979	arrived as <i>E. delaetii</i> ; one of 2 synonyms
<i>Echinocereus maritimus</i> (M.E. Jones) K. Schum.	San Marino (California)	1984	1990	syn. <i>Cereus maritimus</i>

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<i>Echinocereus pentalophus</i> (DC.) Lem.	nn	unknown	1963	arrived as <i>Echinocactus procumbens</i> ; syn. <i>Cereus procumbens</i>
	Halle	1956 & 1957	1978 & 1993	arrived as <i>Cereus pentalophus</i>
	nn	in collection in 1961	1990	arrived as <i>E. pentalophus</i> var. <i>procumbens</i>
<i>Echinocereus pentalophus</i> subsp. <i>leonensis</i> (Mathsson) N.P. Taylor	nn	in collection in 1963	1966	arrived as <i>E. leonensis</i> ; one of 2 synonyms
	nn	in collection in 1961	1989	
<i>Echinocereus pentalophus</i> var. <i>ehrenbergii</i> (Pfeiff.) Backeb.	Halle	1961 & 1966	1993 & 1968	4 synonyms; from cuttings (1966)
	nn	in collection in 1975	2000	
<i>Echinocereus polyacanthus</i> Engelm.	Berlin	1966 & 1970	1983 & 1982	2 synonyms
<i>Echinocereus</i> × <i>roetteri</i> (Engelm.) Engelm. ex Rümpler	Halle	1953	no data	arrived as <i>Echinopsis roetteri</i> ; two synonyms; from cuttings
	Palermo	1958	1982	
	nn	1966	1978	
<i>Echinocereus scheeri</i> (Salm-Dyck) Scheer subsp. <i>scheeri</i>	Rotterdam	1969	1978	arrived as <i>E. salm-dyckianus</i> ; one of 2 synonyms
	nn	unknown	1978	
<i>Echinocereus triglochidiatus</i> Engelm.	Nantes	1999	2000	5 synonyms
<i>Echinocereus viereckii</i> Werderm.	Halle	1966	1989	syn. <i>E. viereckii</i> subsp. <i>huastecensis</i>
<i>Echinocereus viridiflorus</i> Engelm.	Lokrum	1967	1978	3 synonyms; from cuttings
<i>Echinofossulocactus gladiatus</i> (Link & Otto) Lawr.	nn	unknown	1974	2 synonyms
	Sarvar	1973	1990	
<i>Echinopsis ancistrophora</i> Speg.	Berlin	1964 & 1973	1966 & 2000	arrived as <i>Echinopsis polyancistra</i> ; one of 15+ synonyms
	Wageningen	1972 & 1980	1983 & 1983	
	Debrecen	1980	1983	
	Halle	1961 & 1963 & 1966	1975 & 1968 & 1968	arrived as <i>Pseudolobivia polyancistra</i>
	Linz	1958	1963	
	Berlin	1958	1971	
	Gent	1964 & 1965	1968 & 1968	
	Karlsruhe	1965	1977	
<i>Echinopsis ancistrophora</i> subsp. <i>arachnacantha</i> (Buining & F. Ritter) Rausch	Gent	1961 & 1962	1975 & 1975	arrived as <i>E. kratochviliana</i> ; one of 3 synonyms
	nn	1964	1965	
	Halle	1966	1975	
	Saarbruecken	1968	1975	
	Budapest	1978	1982	arrived as <i>Lobivia arachnacantha</i>
<i>Echinopsis atacamensis</i> (Phil.) Friedrich & G.D.Rowley subsp. <i>pasacana</i> (F.A.C. Weber ex Rümpler) G. Navarro	Barcelona	1980	1989	arrived as <i>Helianthocereus pasacana</i> ; one of 5 synonyms
	Berlin	1987	1990	arrived as <i>Trichocereus atacamensis</i>
	Berlin	1953	1966	arrived as <i>Trichocereus pasacana</i>
<i>Echinopsis aurea</i> Britton & Rose	Halle	1953 & 1959	1961 & 1966	arrived as <i>Lobivia aurea</i> ; one of 20+ synonyms
	Tuebingen	1957	1963	
	Erlangen	1965	1976	
	Monaco	1989	1990	
	Linz	1963	1976	arrived as <i>Lobivia famatimensis</i> var. <i>leucomalla</i>
	Halle	1961 & 1962 & 1967	1971 & 1971 & 1976	arrived as <i>Pseudolobivia aurea</i>
	Linz	1963 & 1964	1975 & 1975	

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	Prague	1989	1990	
	Linz	1972	1979	arrived as <i>Pseudolobivia aurea</i> var. <i>fallax</i>
	Halle	1959 & 1965	1966 & 1993	arrived as <i>Lobivia cylindrica</i>
	nn	in collection in 1968	1971	
	Berlin	1979	2010	
	Linz	2002 & 2003	2010 & 2010	
<i>Echinopsis aurea</i> subsp. <i>dobeana</i> (Dözl) Lodé	Linz	1972	no data	arrived as <i>Lobivia dobeana</i> ; one of 2 synonyms
<i>Echinopsis blossfeldiana</i> Robl.	Halle	1966	1972	?
<i>Echinopsis bridgesii</i> Salm-Dyck	Hamburg	1955	1989	2 synonyms
	Berlin	1968	1989	
<i>Echinopsis candicans</i> (Gillies in Salm-Dyck.) D.R. Hunt	Marburg	1953 & 1955	no data & 1968	arrived as <i>Trichocereus candicans</i> ; one of 10+ synonyms
	Graz	1957	1989	
	Adelaide	1972	1989	
	Berlin	1987	1990	
	Monaco	2003	2006	
<i>Echinopsis chamaecereus</i> H.Friedrich & Glaetzle	nn	in collection in 1961	1978	arrived as <i>Chamaecereus silvestrii</i> ; one of 4 synonyms
	Rotterdam	1969	1990	
<i>Echinopsis chiloensis</i> (Colla) Friedrich & G.D.Rowley	Lokrum	1967	1989	syn. <i>Trichocereus chiloensis</i>
	Bonn	1985	1990	
<i>Echinopsis chrysantha</i> Werderm.	Halle	1955	1961	arrived as <i>Lobivia chrysantha</i> ; one of 2 synonyms
	Erlangen	1965	1975	
	Vienna-Belvedere	1993	1993	
<i>Echinopsis cinnabarina</i> (Hook.) Labour.	Linz	1972	1982	arrived as <i>Lobivia acanthoplegma</i> ; one of 5 synonyms
	Gent	1964	1977	arrived as <i>Lobivia cinnabarina</i>
	Vienna-Belvedere	1971	1983	
	Linz	1963 & 1970	1968 & 1979	arrived as <i>Lobivia walterspielii</i>
<i>Echinopsis coronata</i> Cárdenas	Vienna	1984	1993	2 synonyms
<i>Echinopsis crassicaulis</i> (R. Kiesling) H. Friedrich & Glaetzle	Linz	1967 & 1972 & 1975 & 1978	1982 & 1993 & 1980 & 1983	arrived as <i>Helianthocereus crassicaulis</i>
<i>Echinopsis decaisneana</i> (Lem.) Walp.	Halle	1951 & 1955	1961 & 1978	syn. <i>Echinonyctanthus decaisnianus</i> ; from cuttings (1951)
<i>Echinopsis densispina</i> Werderm.	Vienna	1963 & 1985	1975 & 1985	arrived as <i>Lobivia famatimensis</i> var. <i>densispina</i> ; one of 3 synonyms
	Halle	1966	1971	from cuttings
	Erlangen	1965	1975	arrived as <i>Lobivia rebutioides</i>
	Lokrum	1970	1983	
	Dresden	1986	1993	
<i>Echinopsis densispina</i> Werderm. f. <i>chlorogona</i>	Karlsruhe	1967	1982	arrived as <i>Lobivia rebutioides</i> f. <i>chlorogona</i>
<i>Echinopsis densispina</i> Werderm. f. <i>sublimiflora</i>	Halle	1961	1971	arrived as <i>Lobivia rebutioides</i> f. <i>sublimiflora</i>
<i>Echinopsis deserticola</i> (Werderm.) Friedrich & G.D. Rowley	Barcelona	1980	1993	syn. <i>Trichocereus deserticola</i>
<i>Echinopsis duvallii</i> Wedd.	Palermo	1955	1975	

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<i>Echinopsis eyriesii</i> (Turpin) Pfeiff. & Otto var. <i>triumphans</i> Jacobi in Foerster	Halle	1957 & 1959	1989 & 1978	arrived as <i>E. triumphans</i>
<i>Echinopsis famatimensis</i> (Speg.) Werderm.	Halle	1959 & 1961 & 1965	1977 & 1961 & 1979	arrived as <i>Lobivia famatimensis</i> ; one of 3 synonyms
	Berlin	1958 & 1959 & 1973	1966 & 1978 & 1982	
	nn	in collection in 1963	1978	
	Bologna	1971	1976	
<i>Echinopsis ferox</i> (Britton & Rose) Backeb.	Vienne-Belvedere	1993	1993	arrived as <i>Lobivia ferox</i> ; one of 5+ synonyms
	Vienna-Belvedere	1971	1983	arrived as <i>Pseudolobivia potosina</i>
<i>Echinopsis fischeri</i> hort.	Palermo	1969	1979	
<i>Echinopsis glauca</i> (F.Ritter) Friedrich & G.D.Rowley	Barcelona	1980	2000	arrived as <i>Trichocereus glaucus</i> ; one of 4 synonyms
<i>Echinopsis haematantha</i> (Speg.) D.R. Hunt	Gent	1963 & 1966	1970 & 1978	arrived as <i>Pseudolobivia hamatantha</i> ; 2 synonyms
	Linz	1962 & 1965	1982 & 1980	
	Berlin	1973 & 1979	1982 & no data	arrived as <i>Lobivia haematantha</i>
<i>Echinopsis hammerschmidii</i> Cárdenas	Linz	1964 & 1969	1990 & 1990	
<i>Echinopsis hertrichiana</i> (Backeb.) D.R. Hunt	Halle	1955 & 1961 & 1964	1961 & 1966 & 1980	arrived as <i>Lobivia hertrichiana</i> ; one of 5+ synonyms
	Berlin	1962 & 1965 & 1969	1982 & 1978 & 1968	
	Linz	1964 & 1965	1971 & 1983	
	nn	1965	1982	
	Halle	1966 & 1968	1983 & 1975	arrived as <i>Lobivia huilcanota</i> ; from cuttings
	Debrecen	1980	1983	arrived as <i>Lobivia laui</i>
	Halle	1965	no data	arrived as <i>Lobivia allegraiana</i>
	Halle	1962	1968	arrived as <i>Lobivia binghamiana</i>
<i>Echinopsis huascha</i> (F.A.C. Weber) Friedrich & G.D. Rowley	Berlin	1953	1983	arrived as <i>Trichocereus huascha</i>
	Berlin	1959	1966	arrived as <i>Helianthocereus grandiflorus</i> ; one of 15+ synonyms
	Vienna-Belvedere	1953 & 1971	1983 & 1983	arrived as <i>Helianthocereus huascha</i>
	Berlin	1953	1983	arrived as <i>Trichocereus andalgalensis</i> ; from cuttings
	Barcelona	1964	2003	arrived as <i>Helianthocereus huascha</i> var. <i>auricolor</i>
	nn	unknown	1968	
<i>Echinopsis huotii</i> (Cels.) Labour.	Vienna-Belvedere	1971	1975	arrived as <i>E. cochabambensis</i>
	Linz	1965 & 1970 & 1971	1981 & 1978 & 1982	arrived as <i>E. comarapana</i>
<i>Echinopsis lagemannii</i> D. Dietr.	Palermo	1957	1993	syn. <i>E. lagemannii</i>
<i>Echinopsis lateritia</i> Gürke	Berlin	1965	1983	arrived as <i>Lobivia lateritia</i> ; one of 10+ synonyms
	Jibou	1989	2003	
<i>Echinopsis leucantha</i> (Gillies ex Salm-Dyck) Walp.	Halle	1955	1961	syn. <i>Echinocactus leucanthus</i>
	nn	in collection in 1963	1982	
	Bucharest	1985	1993	

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	Berlin	1987	1990	
<i>Echinopsis litoralis</i> (Johow) Friedrich & G.D. Rowley	Santiago	1968	1993	2 synonyms
<i>Echinopsis mamillosa</i> Gürke	Basel	1957	1982	arrived as <i>E. kermesina</i>
	Tuebingen	1963	1978	
	Halle	1965	1989	
	Karlsruhe	1971	1982	
	Vienna	1956	1966	arrived as <i>E. mamillosa</i>
	Linz	1976	1989	
	Berlin	1979	1983	
	Wageningen	1980	1983	
<i>Echinopsis marsoneri</i> Werderm.	Halle	1957 & 1965 & 1967	1978 & 1981 & 1980	arrived as <i>Lobivia jajoiana</i>
	nn	1962	1982	
	Berlin	1979	1983	
	Berlin	1959 & 1962 & 1965	1976 & 1961 & 1980	arrived as <i>Lobivia marsoneri</i>
	Halle	1965	1983	arrived as <i>Lobivia rubescens</i>
<i>Echinopsis maximiliana</i> Heyder ex A. Dietr.	Berlin	1955	1983	arrived as <i>Lobivia caespitosa</i> ; one of 3 synonyms
	Graz	1975	1989	
	Berlin	1959 & 1962	1980 & 1971	arrived as <i>Lobivia hermanniana</i>
<i>Echinopsis mirabilis</i> Speg.	Wageningen	1972	1979	4 synonyms
	Nantes	1970	1978	
	Prague	1989	1993	
	Innsbruck	2000	2006	
<i>Echinopsis multiplex</i> (Pfeiff.) Zucc.	nn	1952 & 1952 & in collection in 1963	no data & 1961 & 1972	2 synonyms; from cuttings (1952)
	Genova	1962	1990	
	Wageningen	1972 & 1986	1990 & 1990	
<i>Echinopsis multiplex</i> "var. <i>rosea</i> hort."	Berlin	1973	1977	unknown var.
<i>Echinopsis obrepanda</i> (Salm-Dyck) K. Schum.	Linz	1965	1982	arrived as <i>E. rojasii</i> ; one of 20+ synonyms
	Linz	1971 & 1972	1980 & 1982	arrived as <i>E. toralapana</i>
	Halle	1959 & 1961 & 1962 & 1965	1989 & 1968 & 1975 & 1982	arrived as <i>Pseudolobivia obrepanda</i>
	Jibou	1994	1983-2000	
<i>Echinopsis oxygona</i> (Link) Zucc.	Berlin	1979	1990	arrived as <i>E. cyriesii</i> ; one of 3 synonyms
	Halle	1957 & 1958	1990 & 1990	arrived as <i>E. paraguayensis</i>
	Muenchen	1959	1963	
<i>Echinopsis pampana</i> (Britton & Rose) D.R. Hunt	Berlin	1964 & 1965	1978 & 1977	arrived as <i>Lobivia mistiensis</i> ; one of 3 synonyms
<i>Echinopsis pelecyrhachis</i> Backeb.	Berlin	1979	1983	syn. <i>Pseudolobivia pelecyrhachis</i>
<i>Echinopsis pentlandii</i> (Hook.) Salm-Dyck ex A. Dietr.	Muenchen	1972	1983	arrived as <i>Lobivia higginsiana</i> ; one of 7 synonyms
	Debrecen	1980	1983	arrived as <i>Lobivia laeae</i>
	Berlin	1960	1977	arrived as <i>Lobivia leucorhodon</i>
	Sarvar	1973	1980	
	Jibou	1989	1993	
	Liege	1985	1989	arrived as <i>Lobivia multicosata</i>
	Halle	1961 & 1965	1979 & 1983	arrived as <i>Lobivia schneideriana</i>
	Linz	1963	1982	



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	Berlin	1965	1983	arrived as <i>Lobivia varians</i>
	Debrecen	1980	1983	arrived as <i>Lobivia argentea</i>
<i>Echinopsis pentlandii</i> var. <i>forbesii</i> (A.Dietr.) Rud. Mey.	Gent	1967	1980	syn. <i>Lobivia pentlandii</i>
<i>Echinopsis rhodotricha</i> K. Schum.	Halle	1957	1983	syn. <i>Acanthocalycium rhodotrichum</i>
	nn	in collection in 1975	1990	
<i>Echinopsis</i> × <i>rohlandii</i> K.Schum.	Berlin	1953	no data	arrived as <i>E. rohlandii</i> hort.
<i>Echinopsis sanguiflora</i> (Backeb.) D.R. Hunt	Halle	1965 & 1966	1975 & 1978	arrived as <i>Lobivia sanguiflora</i>
<i>Echinopsis schickendantzii</i> F.A.C. Weber	Barcelona	1971	1990	arrived as <i>Trichocereus schickendantzii</i> ; one of 4 synonyms
<i>Echinopsis schieliana</i> (Backeb.) D.R. Hunt	Karlsruhe	1963 & 1965	1968 & 1978	arrived as <i>Lobivia schieliana</i> ; one of 2 synonyms
<i>Echinopsis schreiteri</i> (A. Cast.) Werderm. ex Backeb.	Halle	1965 & 1967	1989 & 1990	arrived as <i>Lobivia schreiteri</i>
	Berlin	1973	1983	
<i>Echinopsis silvestrii</i> Speg.	nn	1952	no data	from cuttings
	Palermo	1957 & 1960	1978 & 1978	
	Linz	1972	1979	
<i>Echinopsis tarijensis</i> (Vaupel) Friedrich & G.D. Rowley	Berlin	1985 & 1986	1989 & 1990	arrived as <i>Helianthocereus tarijensis</i> ; one of 10+ synonyms
	Barcelona	1980	1989	arrived as <i>Trichocereus narvaecensis</i>
<i>Echinopsis terscheckii</i> (Parm. ex Pfeiff.) Friedrich & G.D. Rowley	Halle	1966	1966	arrived as <i>Trichocereus terscheckii</i> ; one of 15+ synonyms; from cuttings
	Muenchen	1960	1968	
	Berlin	1966	1989	
	Adelaide	1972	1977	arrived as <i>Trichocereus werdermannianus</i>
	Barcelona	1980	1990	
<i>Echinopsis thelegonoides</i> (Speg.) H. Friedrich & G.D. Rowley	Barcelona	1980	1989	arrived as <i>Trichocereus thelegonoides</i> ; one of 4 synonyms
	Berlin	1961 & 1963 & 1967 & 2000	1989 & 2000 & 2000 & 2003	
	Berlin	in collection in 1968	1978	
<i>Echinopsis tiegeliana</i> (Wessner) D.R. Hunt	Halle	1961 & 1963	1978 & 1979	arrived as <i>Lobivia peclardiana</i> ; one of 2 synonyms
<i>Echinopsis tubiflora</i> (Pfeiff.) Zucc. ex A. Dietr.	nn	1951	1989	3 synonyms
	Berlin	1953 & 1979	1963 & 2000	
	Halle	1951 & 1959	1977 & 1975	
	Wageningen	1972	1983	
<i>Echinopsis turbinata</i> Zucc.	Berlin	1962	1989	
	nn	in collection in 1968	1980	
<i>Echinopsis uyupampensis</i> (Backeb.) Friedrich & G.D. Rowley	Lokrum	1968 & 1969 & 1970	1978 & 1983 & 2003	arrived as <i>Trichocereus validus</i>
	Besancon	1969	1976	
<i>Epiphyllum anguliger</i> (Lem.) G. Don	Berlin	1968 & 1971	1993 & 1989	2 synonyms
	Gent	1970	1979	
	Berlin	1967	1984	arrived as <i>E. darrahi</i>
<i>Epiphyllum crenatum</i> (Lindl.) G. Don	nn	unknown	1978	2 synonyms
<i>Epiphyllum oxypetalum</i> (DC.) Haw.	Antwerpen	1967 & 1969 & 1970 & 1973	1971 & 1978 & 1979 & 1983	arrived <i>Phyllocactus latifrons</i> ; one of 10+ synonyms

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<i>Epiphyllum phyllanthus</i> (L.) Haw.	Berlin	1966	1984	10+ synonyms
	Munchen	1970 & 1977	1984 & 1984	
<i>Epithelantha micromeris</i> (Engelm.) F.A.C. Weber ex Britton & Rose	nn	in collection in 1963	1983	arrived as <i>Lophophora lewinii</i> ; one of 5+ synonyms
	Vienna	1964	1964	arrived as <i>Mammillaria micromeris</i> ; from cuttings
<i>Erioseye chilensis</i> (Hildm. ex K. Schum.) Katt.	Muenchen	1977	1983	arrived as <i>Neochilenia chilensis</i> ; one of 5+ synonyms
	Linz	1965 & 1967	1983 & 1983	arrived as <i>Neochilenia chilensis</i> var. <i>albidiflora</i>
<i>Erioseye curvispina</i> (Bertero ex Colla) Katt.	Lokrum	1969	1970	arrived as <i>Horridocactus tubersulcatus</i>
<i>Erioseye kunzei</i> (Foerster) Katt.	Berlin	1960	1966	arrived as <i>Echinocactus geissei</i> ; one of 2 synonyms
<i>Erioseye limariensis</i> (F. Ritter) Katt.	Palermo	1957	1993	arrived as <i>Horridocactus nigricans</i> ; one of 10+ synonyms
<i>Erioseye napina</i> (Phil.) Katt.	Muenchen	1977	1979	arrived as <i>Neochilenia napina</i> ; one of 5+ synonyms
	Goettingen	unknown	1993	
<i>Erioseye odieri</i> (Lem. ex Salm-Dyck) Katt. subsp. <i>odieri</i>	Wageningen	1980	1983	arrived as <i>Neochilenia odieri</i> ; one of 5 synonyms
<i>Erioseye recondita</i> (F. Ritter) Katt.	Berlin	1965	1965	arrived as <i>Neochilenia recondita</i> ; one of 3 synonyms
<i>Erioseye subgibbosa</i> (Haw.) Katt.	Santiago	1968	1977	arrived as <i>Neoporteria subgibbosa</i> ; one of 4 synonyms
<i>Erioseye taltalensis</i> (Hutchison) Katt. subsp. <i>paucicostata</i> (F. Ritter) Katt.	Vienna	1965	1983	arrived as <i>Neoporteria fusca</i> ; one of 5 synonyms
	Linz	1963	1977	arrived as <i>Neochilenia hankeana</i>
	Sarvar	1973	1983	
	nn	1966	1975	arrived as <i>Neochilenia paucicostata</i>
<i>Escobaria dasyacantha</i> (Engelm.) Britton & Rose subsp. <i>chaffeyi</i> (Britton & Rose) N.P. Taylor	Karlsruhe	1965	1968	arrived as <i>E. chaffeyi</i> ; one of 2 synonyms
<i>Escobaria tuberculosa</i> (Engelm.) Britton & Rose;	Dresden	2000	2010	5+ synonyms
	Monaco	2003	2010	
<i>Escobaria vivipara</i> (Nutt.) Buxb.	Alberta	1962	1968	arrived as <i>Mammillaria vivipara</i> ; one of 5 synonyms
<i>Espostoa x cleistocactus</i>	Barcelona	1980	1989	
<i>Espostoa lanata</i> (Kunth) Britton & Rose	Halle	1973	1978	arrived as <i>E. laticornua</i> var. <i>atroviolacea</i> ; one of 30+ synonyms
	Monaco	1997	2000	arrived as <i>E. lanata</i>
	nn	1962	1979	
	Beograd	1965	1968	
	Barcelona	1967 & 1968 & 1984 & 1993	1975 & 1993 & 1990 & 1993	
<i>Espostoa melanostele</i> (Vaupel) Borg	Lokrum	1969	1971	arrived as <i>Pseudoespostoa melanostele</i>
<i>Espostoa ritteri</i> Buining	Barcelona	1980	2000	
	Monaco	1997	2000	
<i>Espositoopsis dybowskii</i> (Rol.-Goss.) Buxb.	Muenster	1968	1983	arrived as <i>Austrocephalocereus dybowskii</i> ; one of 5 synonyms
	Amsterdam	1968	1981	
<i>Eulychmia breviflora</i> Phil.	Liege	1973	1977	arrived as <i>E. longispina</i>

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	Liege	1973	1977	arrived as <i>E. saint-pieana</i>
<i>Eulychnia procumbens</i> Backeb.	Liege	1973	1977	
<i>Ferocactus glaucescens</i> (DC.) Britton & Rose	Palermo	1957 & 1962	1980 & 1980	arrived as <i>Echinocactus pfeifferi</i>
	nn	in collection in 1968	1980	
	Muenchen	1961	1983	arrived as <i>F. glaucescens</i> var. <i>pfeifferi</i>
	Halle	1966	1966	
	nn	in collection in 1983	2000	
<i>Ferocactus hamatacanthus</i> (Muehlenpf.) Britton & Rose	Barcelona	1964	1968	arrived as <i>Hamatocactus hamatacanthus</i> ; one of 4 synonyms
	Goettingen	1971	1978	
<i>Ferocactus wislizeni</i> (Engelm.) Britton & Rose	Halle	1966	1968	15+ synonyms
	Lokrum	1969	1971	
	Liege	1973	1975	
	Monaco	1989 & 1994	1993 & 2000	
	Barcelona	1994	2016	
<i>Freilea pumila</i> (Lem.) Britton & Rose	Liege	1984	2000	arrived as <i>F. carminifilamentosa</i> ; one of 2 synonyms
	Graz	1997	2000	
<i>Gymnocalycium anisitsii</i> (K. Schum.) Britton & Rose	Linz	1965 & 1967	1979 & 1983	arrived as <i>G. damsii</i> var. <i>Torulolum</i>
	Linz	1968	1975	syn. <i>Echinocactus anisitsii</i>
<i>Gymnocalycium baldianum</i> (Speg.) Speg.	Berlin	1953 & 1955 & 1967 & 1968	1961 & 1983 & 1983 & 1983	3 synonyms; from cuttings (1953)
	Linz	1966 & 1972 & 1975 & 1976 & 1978	1981 & 1983 & 1982 & 1983 & 1982	
<i>Gymnocalycium bodenbenderianum</i> (Hosseus ex A. Berger) A. Berger subsp. <i>intertextum</i> (Backeb. ex H. Till) H. Till	Linz	1975	1982	arrived as <i>G. moserianum</i> ; syn. <i>G. intertextum</i>
<i>Gymnocalycium bruchii</i> (Speg.) Hosseus	Tuebingen	1963 & 1964	1983 & 1980	3 synonyms
	Karlsruhe	1965	1982	
	Muenchen	1975	1983	
	Goettingen	1985	1990	
<i>Gymnocalycium capillaense</i> (Schick) Hosseus	Berlin	1958 & 1962 & 1965 & 1968	1966 & 1966 & 1973 & 1980	arrived as <i>G. sigelianum</i> ; one of 2 synonyms
<i>Gymnocalycium denudatum</i> (Link & Otto) Pfeiff. ex Mittler	Berlin	1955 & 1979	1983 & 1983	9 synonyms
	Halle	1955	1971	
	Meinz	1966	1976	
	Frankfurt	1992	1993	
	Dresden	1998	2000	
<i>Gymnocalycium friedrichii</i> (Werderm.) Pazout	Muenchen	1975	1980	arrived as <i>G. mihanovichii</i> var. <i>friedrichii</i> ; one of 2 synonyms
<i>Gymnocalycium gibbosum</i> (Haw.) Pfeiff. ex Mittler	Hamburg	1957	1978	arrived as <i>G. chubutense</i> ; one of 20+ synonyms
	Nantes	1973	1975	arrived as <i>G. gibbosum</i> var. <i>gerardii</i>
	Erlangen	1965	1982	arrived as <i>G. leeanum</i>
	Berlin	1955 & 1959	1983 & 1978	arrived as <i>G. gibbosum</i>
	Halle	1964	1979	
	Muenster	1968	1983	
	Linz	1978	1982	
	Goettingen	1985	1993	
	Dresden	1998	2000	
<i>Gymnocalycium gibbosum</i> subsp. <i>ferox</i> Papsch	Berlin	1959	1968	
	Linz	1965	1982	

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<i>Gymnocalycium hossei</i> (F.Haage) A.Berger	Berlin	1958	1978	3 synonyms
	Linz	1972	1975	arrived as <i>G. mazanense</i>
	Muenchen	1972	1975	
<i>Gymnocalycium hybopleurum</i> (K.Schum.) Backeb.	Linz	1965 & 1978	1980 & no data	syn. <i>Echinocactus multiflorus</i> var. <i>hybopleurum</i>
<i>Gymnocalycium leeanum</i> (Hook.) Britton & Rose var. <i>netrelianum</i> (Monv.) Backeb.	Berlin	1973	1978	2 synonyms
<i>Gymnocalycium marsoneri</i> Frič ex Y.Itô	Linz	1971	1978	2 synonyms
	Vienna-Belvedere	1971	1980	
<i>Gymnocalycium megalothelos</i> (Sencke) Britton & Rose	Berlin	1979	1983	2 synonyms
<i>Gymnocalycium mihanovichii</i> (Frič ex Gürke) Britton & Rose	nn	1967	1971	syn. <i>Echinocactus mihanovichii</i> ; gift from Cvitanović
<i>Gymnocalycium monvillei</i> (Lem.) Pfeiff. ex Britton & Rose	Halle	1965	1975	syn. <i>Echinocactus monvillei</i>
	Muenchen	1975	1983	
	Jibou	1989	1993	
<i>Gymnocalycium mostii</i> (Gürke) Britton & Rose	Halle	1961	1962	arrived as <i>G. mostii</i> var. <i>kurtzianum</i> ; one of 2 synonyms
	Linz	1972	1982	arrived as <i>G. mostii</i>
<i>Gymnocalycium ochoterena</i> Backeb.	Linz	1967	1982	
<i>Gymnocalycium ochoterena</i> subsp. <i>vatterii</i> (Buining) Papsch	Linz	1968 & 1971	1982 & 1982	arrived as <i>G. ochoterena</i> var. <i>variispinum</i>
<i>Gymnocalycium parvulum</i> (Speg.) Speg.	Vienna	1967	1980	syn. <i>Echinocactus platensis</i> var. <i>parvulum</i>
<i>Gymnocalycium pflanzii</i> (Vaupel) Werderm.	Linz	1961	1983	arrived as <i>G. lagunillasense</i> ; one of 2 synonyms
<i>Gymnocalycium platense</i> (Speg.) Britton & Rose	Erlangen	1965	1978	2 synonyms
<i>Gymnocalycium quehlianum</i> (F.Haage ex Quehl) Vaupel ex Hosseus	Sankt Peterburg	1961	1979	5+ synonyms
	Linz	1987 & 1991	1990 & 2010	
	Monaco	2003	2010	
<i>Gymnocalycium saglionis</i> (Cels) Britton & Rose	Berlin	1953	1961	from cuttings; 3 synonyms
	Halle	1965	1983	
	Goettingen	1985	1990	
	Linz	1973	1974	
<i>Gymnocalycium saglionis</i> subsp. <i>tilcarensis</i> (Backeb.) H.Till & W.Till	Berlin	1987	1990	arrived as <i>G. saglionis</i> var. <i>tilcarensis</i> ; 3 synonyms
<i>Gymnocalycium stellatum</i> Speg.	Vienna	1967	1983	arrived as <i>G. asterium</i> ; one of 2 synonyms
	Karlsruhe	1965	1975	arrived as <i>G. stellatum</i>
<i>Gymnocalycium uebelmannianum</i> Rausch	Linz	1973	1981	
<i>Gymnocalycium uruguayense</i> (Arechav.) Britton & Rose	Linz	1975	1982	arrived as <i>G. artigas</i> ; one of 5+ synonyms
	Hamburg	1957 & 1967	1982 & 1968	arrived as <i>G. guerkeanum</i>
	Linz	1971 & 1972 & 1973 & 1987	1978 & 1982 & 1982 & 1993	
<i>Haageocereus acranthus</i> (Vaupel) Backeb.	Vienna-Belvedere	1971	1974	4 synonyms
	Barcelona	1971 & 1972	1990 & 1983	
<i>Haageocereus acranthus</i> subsp. <i>zonatus</i> (Rauh & Backeb.) Ostolaza	Liege	1973	1983	arrived as <i>H. zonatus</i> ; 2 synonyms
<i>Haageocereus australis</i> Backeb.	Liege	1973	1977	arrived as <i>H. multicolorispinus</i> ; one of 2 synonyms
<i>Haageocereus decumbens</i> (Vaupel) Backeb.	Liege	1973	1983	arrived as <i>H. ambiguus</i> var. <i>reductus</i>
<i>Haageocereus fascicularis</i> (Meyen) F. Ritter	Vienna-Belvedere	1971	1983	arrived as <i>Weberbauerocereus fascicularis</i> ; one of 3 synonyms
<i>Haageocereus fulvus</i> F. Ritter	Liege	1973	1983	arrived as <i>H. acranthus</i> var. <i>fortalezensis</i>

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<i>Haageocereus multangularis</i> (Haw.) F. Ritter	Liege	1973	1980	arrived as <i>H. pseudomelanostele</i> var. <i>carminiflorus</i> ; 20+ synonyms
	Monaco	1991	1993	arrived as <i>H. pseudomelanostele</i>
<i>Haageocereus pacalaensis</i> Backeb.	Monaco	1993	1993	arrived as <i>H. pseudoversicolor</i> ; 20+ synonyms
<i>Haageocereus seticeps</i> Rauh & Backeb.	Liege	1973	1975	
	Liege	1973	1982	arrived as <i>H. seticeps</i> var. <i>robustispinus</i>
<i>Hariota salicornioides</i> DC.	nn	1953	1971	
	Bergen	1960	1961	
<i>Harrisia adscendens</i> (Gürke) Britton & Rose	Barcelona	1960 & 1961 & 1967 & 1971	1978 & 1989 & 1968 & 1978	arrived as <i>Eriocereus adscendens</i>
<i>Harrisia balansae</i> (K. Schum.) N.P. Taylor & Zappi	Erlangen	1965	1963	
<i>Harrisia bonplandii</i> (Parm.) Britton & Rose	Erlangen	1961 & 1965	1968 & 1983	arrived as <i>Eriocereus guelichii</i> ; one of 20+ synonyms
	nn	unknown	1968	
	Friburg	1957	1983	arrived as <i>H. bonplandii</i>
	Erlangen	1965	1970	
	nn	1949 & 1950	no data & 1982	arrived as <i>Cereus bonplandii</i> ; from cuttings (1949)
	Berlin	1974 & 1979 & 1996	1983 & 1989 & 2000	
	Berlin	1974 & 1979	1983 & 1983	arrived as <i>Eriocereus bonplandii</i>
<i>Harrisia × jusbertii</i> (Rebut & K. Schum.) Frič	Vienna	1964	1990	arrived as <i>Cereus jusbertii</i> ; one of 2 synonyms; from cuttings
<i>Harrisia martinii</i> (Labour.) Britton	nn	1953 & in collection in 1968	1990 & 1972	arrived as <i>Cereus martinii</i> ; from cuttings (1953); one of 2 synonyms
	Leipzig	1995	2000	
<i>Harrisia pomianensis</i> (F.A.C. Weber ex K. Schum.) Britton & Rose	nn	1949	1961	2 synonyms, from cuttings
	Barcelona	1971	1990	
<i>Harrisia tetraacantha</i> (Labour.) D.R. Hunt	Barcelona	1980	1993	arrived as <i>Roseocereus tetraacanthus</i> ; one of 5 synonyms
<i>Harrisia tortuosa</i> (J. Forbes ex Otto & A. Dietr.) Britton & Rose	Rouen	1955 & 1957 & 1959	1990 & 1989 & 1961	2 synonyms
	Halle	1957	1963	
<i>Hatiora gaertneri</i> (Regel) Barthlott	Uppsala	1963	1972	arrived as <i>Epiphyllopsis gaertneri</i> ; one of 2 synonyms
	Nancy	1958	1964	arrived as <i>Rhipsalidopsis gaertneri</i>
<i>Hatiora salicornioides</i> Britton & Rose	Bucharest	1985	1985	2 synonyms
<i>Heliocereus speciosus</i> (Cav.) Britton & Rose	Krakow	1961	1971	3 synonyms
<i>Hylocereus setaceus</i> (Salm-Dyck ex DC.) Ralf Bauer	Erlangen	1960 & 1965 & 1968	1980 & 1989 & 1978	4 synonyms
	nn	unknown	1968	
	Goettingen	1970 & 1971	1983 & 1983	
	Jena	1967	1989	
	Wroclaw	1985 & 1988	1989 & 2000	
<i>Hylocereus triangularis</i> (L.) Britton & Rose	Liege	1985	1989	arrived as <i>H. cubensis</i>
	Antwerpen	1962 & 1971 & 1973	1983 & 1972 & 1983	arrived as <i>Cereus triangularis</i> ; one of 15+ synonyms
	Besancon	1971	1983	
	Berlin	1973	2000	
<i>Krainzia longiflora</i> (Britton & Rose) Backeb.	Goettingen	1985	1990	syn. <i>Mammillaria longiflora</i> subsp. <i>longiflora</i>



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<i>Lepismium cruciforme</i> (Vell.) Miq.	Muenster	1965	1983	3 synonyms
	nn	1954	1984	arrived as <i>Rhypsalis myosurus</i> ; from cuttings
	Szeged	1983 & 1996	2005 & 1997	arrived as <i>L. cruciforme</i>
<i>Lepismium houlettianum</i> (Lem.) Barthlott	Porto	1971	1990	arrived as <i>Rhypsalis houlettiana</i> ; one of 3 synonyms
<i>Lepismium ianthothele</i> (Monv.) Barthlott	Berlin	1964 & 1968	1978 & 1980	arrived as <i>Pfeiffera ianthothele</i> ; one of 10+ synonyms
	Erlangen	1963	1971	
	Wageningen	1972	1983	
	Prague	1989	2010	
	Cluj-Napoca	1995	2010	
<i>Lepismium lorentzianum</i> (Griseb.) Barthlott	Muenster	1964 & 1965	1993 & 1971	arrived as <i>Rhypsalis lorentziana</i>
<i>Lepismium lumbricoides</i> (Lem.) Barthlott	Goettingen	1966	1984	arrived as <i>Rhypsalis lumbricoides</i> ; one of 4 synonyms
<i>Lepismium warmingianum</i> (K. Schum.) Barthlott	nn	1954	1968	arrived as <i>Rhypsalis warmingiana</i> , from cuttings
	Bergen	1960	1962	
	Essen		1977	
<i>Leuchtenbergia principis</i> Hook.	Vienna	1964	1964	arrived as planta viva
	Halle	1966	1968	
	Dresden	1995	2016	
<i>Lobivia backebergii</i> (Werderm.) Backeb.	Meinz	1967	2000	15+ synonyms
	Vienna	1967	1978	
	Linz	1963	1982	
<i>Lobivia backebergii</i> var. <i>wrightiana</i> (Backeb.) Rausch	Halle	1963	1975	arrived as <i>L. wrightiana</i> ; one of 3 synonyms
	Jibou	1989	1990	
<i>Lobivia bruchii</i> Britton & Rose	Berlin	1953	1982	arrived as <i>Echinopsis bruchii</i> ; one of 2 synonyms
<i>Lobivia densispina</i> Werderm. ex Backeb. & F.M. Knuth f. <i>albolanata</i>	Linz	1958	1971	arrived as <i>L. pectinifera</i> f. <i>albolanata</i>
	Vienna	1985	1990	
<i>Lobivia drijoeriana</i> Backeb. (var. <i>astranthema</i> )	Halle	1966	1971	two synonyms; from cuttings
<i>Lobivia pygmaea</i> (R.E. Fr.) Backeb.	Linz	1963	1982	arrived as <i>Mediolobivia pygmaea</i> ; one of 10+ synonyms
	Gent	1968 & 1970	1982 & 1982	
	Goettingen	1989	1990	
	Poznan	1993	1993	
	Barcelona	1980	1989	3 synonyms
<i>Lophocereus schottii</i> (Engelm.) Britton & Rose	San Marino (California)	1976	1993	3 synonyms
<i>Lophophora diffusa</i> (Croizat) Bravo	Debrecen	1980	1983	arrived as <i>L. lutea</i> ; one of 2 synonyms
<i>Lophophora williamsii</i> (Lem. ex Salm-Dyck) J.M. Coult.	Debrecen	1980	1983	arrived as <i>L. jourdaniiana</i> ; one of 5 synonyms
	nn	in collection in 1961	1983	
	Lokrum	1968	1968	
	Turku	1967	1983	
	Jibou	1989	2003	
<i>Maihueniopsis darwinii</i> (Hensl.) F. Ritter	Gent	1962 & 1963	1978 & 1979	arrived as <i>Tephrocactus darwinii</i> ; one of 3 synonyms
<i>Maihueniopsis ovata</i> (Pfeiff.) F. Ritter	Beograd	1965	1978	arrived as <i>Tephrocactus ovatus</i> ; one of 4 synonyms

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<i>Mammillaria backebergiana</i> F.G. Buchenau	Berlin	1979	1989	arrived as <i>M. fertilis</i> ; one of 2 synonyms
<i>Mammillaria baumii</i> Boed.	Linz	1981	1981	arrived as <i>Dolichothele baumii</i>
	Barcelona	1968	1982	
<i>Mammillaria bocasana</i> Poselger	Berlin	1953 & 1974 & 1979	1971 & 1983 & 1982	3 synonyms
	Muenster	1967	no data	
	Sarvar	1973	1982	
	Goettingen	1985	1990	
<i>Mammillaria bocasana</i> subsp. <i>eschauzieri</i> (J.M. Coult.) Fitz Maurice & B. Fitz Maur.	Berlin	1960 & 1962	1971 & 1968	arrived as <i>M. hirsuta</i> ; one of 5+ synonyms
	Graz	1975	1990	arrived as <i>M. knebeliana</i>
	nn	1962	1966	arrived as <i>M. kunzeana</i>
	nn	1961	1971	
	nn	in collection in 1968	1971	
	Berlin	1955 & 1963	1978 & 1980	arrived as <i>M. longicoma</i>
	Nantes	1962	1976	
	Karlsruhe	1965	1975	
<i>Mammillaria carnea</i> Zucc. ex Pfeiff.	Nantes	1960 & 1962	1961 & 1968	5+ synonyms
	Karlsruhe	1965 & 1969	1968 & 1977	
	Erlangen	1965	1993	arrived as <i>M. orcuttii</i>
	Linz	1967	1980	
<i>Mammillaria cirrhifera</i> Mart.	Palermo	1959	1989	syn. <i>Cactus cirrhifer</i>
	Nantes	1961	1990	
<i>Mammillaria columbiana</i> Salm-Dyck	Halle	1966	1971	2 synonyms
	Košice	1978	1982	
	Greifswald	1989	1990	
<i>Mammillaria compressa</i> DC.	Berlin	1978	1982	arrived as <i>M. esseriana</i> ; one of 5+ synonyms
	Gent	1963	1989	arrived as <i>M. tolimensis</i>
	Coimbra	1955	no data	arrived as <i>M. compressa</i>
	Muenchen	1989	1997	
	Gent	1968	2004	
	nn	in collection in 1961	1980	
	Muenchen	1967	1989	arrived as <i>M. seitziana</i>
	Muenster	1968	1989	
<i>Mammillaria coronaria</i> (Willd.) Haw.	Berlin	1967	1982	arrived as <i>M. neocoronaria</i> ; one of 3 synonyms
	Tuebingen	1967 & 1970	1972 & 1976	
	Wageningen	1972	1982	
	Nantes	1962	1974	
	Palermo	1957 & 1959 & 1961 & 1962 & 1964	1989 & 1966 & 1989 & 1977 & 1968	arrived as <i>M. coronata</i>
	Košice	1978 & 1980	1983 & 1989	
<i>Mammillaria crebrispinia</i> DC.	Nantes	1962	1993	syn. <i>Cactus crebrispinus</i>
	Palermo	1962 & 1964 & 1965	1989 & 1968 & 1980	
	Berlin	1965	1989	
<i>Mammillaria crinita</i> DC.	nn	1962	1975	arrived as <i>M. schelhasei</i> ; one of 3 synonyms
	Berlin	1965	1978	
	Vienna	1965	1978	
<i>Mammillaria crinita</i> subsp. <i>leucantha</i> (Boed.) D.R. Hunt	Nantes	1961 & 1962	1971 & 1968	arrived as <i>M. aurihamata</i> ; one of 4 synonyms
	Nantes	1962	1975	arrived as <i>M. erectohamata</i>
	Gent	1962	1975	
	nn	unknown	1968	
	Nantes	1965	1978	arrived as <i>M. leucantha</i>

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	nn	in collection in 1968	1971	
<i>Mammillaria crinita</i> subsp. <i>wildii</i> (A. Dietr.) D.R. Hunt	nn	in collection in 1961	1980	arrived as <i>M. wildii</i>
	Debrecen	1980	1993	
<i>Mammillaria crucigera</i> Mart.	Berlin	1964	1977	syn. <i>Cactus cruciger</i>
	Jibou	1989	1990	
<i>Mammillaria decipiens</i> Scheidw. subsp. <i>camptotricha</i> (Dams) D.R. Hunt	Gent	1963 & 1967	1977 & 1972	arrived as <i>Dolichothele camptotricha</i> ; one of 3 synonyms
	Karlsruhe	1971	1975	
	nn	in collection in 1961	1968	arrived as <i>M. camptotricha</i>
	Gent	1963	1968	
	Gent	1963	1968	arrived as <i>Pseudomammillaria camptotricha</i>
<i>Mammillaria densispina</i> (J.M. Coult.) Orcutt	Nantes	1962	1976	4 synonyms
<i>Mammillaria discolor</i> Haw.	Berlin	1979	1982	arrived as <i>M. amoena</i> ; one of 2 synonyms
	Monaco	1989	1990	
<i>Mammillaria elongata</i> DC.	Debrecen	1980	2003	6 synonyms
<i>Mammillaria elongata</i> var. <i>stella-aurata</i> (Mart.) K. Schum.	nn	1947 & in collection in 1961	1971 & 1961	from cuttings (1961); 2 synonyms
	Besancon	1967 & 1969	1977 & 1971	
<i>Mammillaria erythrosperma</i> Boed.	Berlin	1965	1968	2 synonyms
	Beograd	1965	1968	
<i>Mammillaria formosa</i> Galeotti ex Scheidw. subsp. <i>chionocephala</i> (J.A. Purpus) D.R. Hunt	Karlsruhe	1964 & 1965	1975 & 1977	arrived as <i>M. chionocephala</i> ; one of 3 synonyms
	Linz	1964 & 1965	1977 & 1983	arrived as <i>M. ritteriana</i>
	Halle	1973	1975	
<i>Mammillaria formosa</i> subsp. <i>pseudocrucigera</i> (R.T. Craig) D.R. Hunt	Linz	1965 & 1970	1976 & 1976	arrived as <i>M. sempervivi</i> ; one of 5 synonyms
	Muenchen	1967	1975	
	nn	unknown	1975	
<i>Mammillaria geminispina</i> Haw.	nn	1951 & in collection in 1963 & 1963	1961 & 2003 & 1977	arrived as <i>M. nivea</i> ; one of 3 synonyms
<i>Mammillaria gracilis</i> Pfeiff.	Lisbon	1955 & 1963	1995 & 2003	4 synonyms
	nn	in collection in 1961	2010	
	nn	1963	1971	
	Liege	1984	1989	
	nn	1993	no data	
<i>Mammillaria grahamii</i> Engelm.	San Marino (California)	1992	1993	arrived as <i>M. microcarpa</i> ; one of 10+ synonyms
	Berlin	1962	1978	arrived as <i>M. sheldonii</i>
	Halle	1966	1989	
<i>Mammillaria haageana</i> Pfeiff.	Palermo	1959	1989	arrived as <i>M. donatii</i> ; one of 5 synonyms
	Debrecen	1980	1983	arrived as <i>M. haageana</i>
	Berlin	1979	1983	arrived as <i>M. kunthii</i>
	Nantes	1986	1993	
<i>Mammillaria haageana</i> subsp. <i>elegans</i> D.R. Hunt	Hann. Muenden	1975	1982	arrived as <i>M. elegans</i> ; one of 4 synonyms
	Linz	1978	1982	
	Barcelona	1991	1993	
<i>Mammillaria hahniana</i> Werderm.	Sarvar	1973	1993	arrived as <i>M. bravoae</i> ; one of 4 synonyms
	Debrecen	1980	1981	arrived as <i>M. hahniana</i> var. <i>giselana</i>
	Lokrum	1970	1979	arrived as <i>M. hahniana</i>
	Linz	1967	1971	
	Vienna	1967	1980	

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	Berlin	1967	1975	
	Košice	1978	1990	
	Halle	1998 & 1999	2003 & 2003	
<i>Mammillaria hahniana</i> subsp. <i>mendeliana</i> (Bravo) D.R. Hunt	Karlsruhe	1963 & 1964	1968 & 1975	arrived as <i>M. mendeliana</i> ; one of 3 synonyms
	Muenchen	1967	2003	
	Turku	1967	1975	
<i>Mammillaria hahniana</i> subsp. <i>woodsii</i> (R.T. Craig) D.R. Hunt	Karlsruhe	1964	1990	arrived as <i>M. woodsii</i>
	Gent	1965 & 1968	1968 & 1977	
	Muenchen	1966	1983	
<i>Mammillaria hamata</i> Lehm.	Berlin	1965 & 1979	1973 & 1983	3 synonyms
	nn	unknown	1961	
	Essen	1968	1971	
<i>Mammillaria heeriana</i>	Nantes	1962	1975	
	Karlsruhe	1965	1975	
<i>Mammillaria karwinskiana</i> Mart.	Palermo	1962	1989	5 synonyms
	Muenchen	1967 & 1970	1989 & 1971	
	Basel	1970	1975	
	Gent	1968	1993	arrived as <i>M. neomystax</i>
	Berlin	1965	2003	arrived as <i>M. ebenacantha</i>
	Muenster	1968	1977	arrived as <i>M. confusa</i>
	Berlin	1959	1963	arrived as <i>M. fischeri</i>
<i>Mammillaria karwinskiana</i> subsp. <i>collinsii</i> (Britton & Rose) D.R. Hunt	Košice	1978	1983	arrived as <i>M. collinsii</i> ; one of 3 synonyms
<i>Mammillaria karwinskiana</i> subsp. <i>nejapensis</i> (R.T. Craig & E.Y. Dawson) D.R. Hunt	Halle	1979	1990	arrived as <i>M. nejapensis</i> ; one of 2 synonyms
	Cluj-Napoca	2005	2010	
<i>Mammillaria klissingiana</i> Boed.	Berlin	1965	1977	arrived as <i>M. brauneana</i>
	Vienna	1965	1978	
	Halle	1979	1983	syn. <i>M. brauneana</i>
<i>Mammillaria lloydii</i> (Britton & Rose) Orcutt	Basel	1959 & 1970 & 1975	1975 & 1979 & 1989	syn. <i>Neomammillaria lloydii</i>
	Turku	1967	1976	
<i>Mammillaria longimamma</i> DC.	Halle	1965	1978	arrived as <i>Dolichothele longimamma</i>
	Barcelona	1968	1990	
	nn	1958	1978	
	Debrecen	1980	1990	
<i>Mammillaria magnimamma</i> Haw.	Muenster	1968	1975	arrived as <i>M. bicornata</i> , one of 10+ synonyms
	nn	1951	1990	arrived as <i>M. centricirrha</i>
	Palermo	1963	1989	
	Berlin	1965	2000	arrived as <i>M. centricirrha</i> var. <i>bockii</i>
	Palermo	1952 & 1957 & 1961 & 1962	1982 & 1981 & 1993 & 1981	arrived as <i>M. gladiata</i>
	nn	in collection in 1973	1979	
	Genova	1960	1983	arrived as <i>M. magnimamma</i>
	Linz	1964	1989	
	Berlin	1965 & 1973	1975 & 1983	
	Muenchen	1964	1971	
	nn	unknown	1968	
	Basel	1986	1989	
	Karlsruhe	1965	1989	arrived as <i>M. pentacantha</i>
	nn	unknown	1968	
	Erlangen	1965	1993	arrived as <i>M. phymatothele</i>
	Muenster	1968	2000	arrived as <i>M. vagaspina</i>
	Palermo	1964	1980	arrived as <i>M. centricirrha</i> var. <i>krameri</i> hort.

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	nn	in collection in 1968	1989	arrived as <i>M. centricirrho reflexa</i>
	Palermo	1962 & 1964	1989 & 1989	arrived as <i>M. centricirrho</i> var. <i>schmidtii</i>
<i>Mammillaria magninamma</i> Haw. var. <i>divergens</i>	Berlin	1973	1989	
<i>Mammillaria mammillaris</i> (L.) H. Karst.	Linz	1964	1983	arrived as <i>M. simplex</i> ; one of 3 synonyms
	Muenchen	1966	1968	
	Turku	1967	1975	
	Jibou	1989	1993	
	Gent	1962 & 1963	1978 & 1989	arrived as <i>M. caracassana</i>
	Muenster	1968	1975	arrived as <i>M. fuliginosa</i>
<i>Mammillaria matudae</i> Bravo	Debrecen	1980	1983	syn. <i>M. compacticaulis</i>
<i>Mammillaria mazatlanensis</i> K. Schum.	Nantes	1970	1982	4 synonyms
	San Marino (California)	1984	1990	arrived as <i>M. occidentalis</i>
<i>Mammillaria melanocentra</i> Poselger	Linz	1965	1978	
<i>Mammillaria microhelix</i> Werderm.	Linz	1964	1975	3 synonyms
	Gent	1967	1979	
	Berlin	1971	1977	
<i>Mammillaria moelleriana</i> Boed.	Linz	1964 & 1965	1976 & 1968	2 synonyms
<i>Mammillaria muehlenpfordtii</i> C.F. Först.	Berlin	1965 & 1968	1978 & 1976	3 synonyms
	Sarvar	1973	1978	arrived as <i>M. celsiana</i>
	nn	1975	1980	
<i>Mammillaria muehlenpfordtii</i> C.F. Först. var. <i>nealeana</i>	Turku	1967	1975	
<i>Mammillaria nigra</i> Ehrenb.	Berlin	1971	1983	syn. <i>Cactus niger</i>
<i>Mammillaria nunezii</i> (Britton & Rose) Orcutt	Linz	1965	1971	6 synonyms
	Nantes	1965	1977	
<i>Mammillaria nunezii</i> subsp. <i>bella</i> (Backeb.) D.R. Hunt	Sarvar	1973	1977	arrived as <i>M. bella</i>
	Goettingen	1985	1989	
<i>Mammillaria obscura</i> Scheidw. ex Foerster	Vienna	1960 & 1965	1975 & 1975	arrived as <i>Neomammillaria obscura</i>
<i>Mammillaria parkinsonii</i> Ehrenb.	Liege	1973	1978	arrived as <i>M. parkinsonii</i> var. <i>brevispina</i> ; one of 5+ synonyms
	Porrentruy	1985	1990	
	Muenchen	1961	1983	arrived as <i>M. parkinsonii</i>
	Vienna	1972	1982	
	Jibou	1989	2003	
<i>Mammillaria perbella</i> Hildm. ex K. Schum.	nn	unknown	1974	arrived as <i>M. cadereytensis</i>
	Berlin	1973	1982	
	Berlin	1958	1961	arrived as <i>Neomammillaria perbella</i>
	Košice	1989	1990	
	Dresden	1998	2000	
<i>Mammillaria petterssonii</i> Hildm.	Berlin	1979	1989	arrived as <i>M. pilensis</i>
<i>Mammillaria pilispina</i> J.A. Purpus	Berlin	1965 & 1966	1975 & 1976	arrived as <i>M. sanluisensis</i>
	Linz	1966	1975	
	Turku	1967 & 1968	1975 & 1977	
	Graz	1989	1993	
<i>Mammillaria plumosa</i> F.A.C. Weber	Beograd	1965	1982	syn. <i>Neomammillaria plumosa</i>
<i>Mammillaria polythele</i> Mart. subsp. <i>durispina</i> (Boed.) D.R. Hunt	Turku	1967	1975	arrived as <i>M. durispina</i>
	Karlsruhe	1967	1978	
	Jibou	1989	1993	
	Linz	1964 & 1965 & 1970	1975 & 1975 & 1975	arrived as <i>M. kelleriana</i>
	Meinz	1967	1977	
	Palermo	1966	1975	arrived as <i>M. subdurispina</i>



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<i>Mammillaria polythele</i> subsp. <i>obconella</i> (Scheidw.) D.R. Hunt	Linz	1965	1976	arrived as <i>M. ingens</i> ; one of 4 synonyms
	Nantes	1973	1980	
	Berlin	1978	1982	
	Berlin	1968 & 1973 & 1979	1971 & 1980 & 1982	arrived as <i>M. obconella</i> var. <i>galeottii</i>
	Karlsruhe	1969	1975	
	Nancy	1971 & 1989	1975 & 1993	
	Muenster	1968	1975	arrived as <i>M. obconella</i>
	Mainz	1967	1975	
<i>Mammillaria polythele</i> subsp. <i>polythele</i>	Basel	1970 & 1971	1975 & 2000	
	Gent	1962	1966	arrived as <i>M. tetracantha</i> ; one of 5+ synonyms
	Vienna	1958 & 1960	1968 & 1968	
	Karlsruhe	1964 & 1965	1968 & 1983	
	Halle	1966	1977	
	Palermo	1964	1975	
	Rouen	1965	1975	
	nn	unknown	1968	
	Palermo	1957 & 1962 & 1967	1989 & 1968 & 1968	arrived as <i>M. crocidata</i>
	Berlin	1964 & 1965 & 1967	1983 & 1968 & 1983	
	Berlin	1958 & 1959	1966 & 1971	arrived as <i>M. galeottii</i>
	Berlin	1959 & 1974	1968 & 1982	arrived as <i>M. hidalgensis</i>
	Palermo	1964	1975	
	Gent	1963 & 1976	1966 & 1982	
	Muenchen	1964	1966	
	Besancon	1964	1971	
	Erlangen	1965	1968	
	Karlsruhe	1965	1982	
	Meinz	1967	1978	
	Cluj-Napoca	1973	1979	
	Joensuu	1991	2003	
	Rouen	1960 & 1964	1975 & 1978	arrived as <i>M. kewensis</i>
	Berlin	1959	1968	
	Gent	1962	1982	
	Nancy	1989	1990	
	Jibou	1989	1993	
		Berlin	1960 & 1966	1976 & 1976
Nantes		1965	1978	arrived as <i>M. polythele</i>
Tuebingen		1970	1978	
Basel		1971	2003	arrived as <i>M. obconella</i>
<i>Mammillaria poselgeri</i> Hildm.	Berlin	1959	1972	arrived as <i>Cochemia poselgeri</i>
<i>Mammillaria prolifera</i> (Mill.) Haw.	Litva (no other data)	1959	1983	arrived as <i>M. pusilla</i> ; one of 2 synonyms
	Muenchen	1964	1978	arrived as <i>M. prolifera</i>
	Litva	1959	1989	
	nn	in collection in 1980	2010	
<i>Mammillaria prolifera</i> subsp. <i>multiceps</i> (Salm-Dyck) U. Guzmán	Budapest	1978	1989	arrived as <i>M. multiceps</i> var. <i>perpusilla</i> ; one of 5+ synonyms
	Berlin	1973	2010	arrived as <i>M. prolifera</i> var. <i>texana</i>
	nn	1951 & in collection in 1963	1961 & 2000	arrived as <i>M. multiceps</i>
<i>Mammillaria prolifera</i> var. <i>multiceps</i> (Salm-Dyck) U. Guzmán	Litva (no other data)	1959	1963	arrived as <i>M. pusilla</i> var. <i>multiceps</i> ; one of 3 synonyms
<i>Mammillaria pulchella</i> Otto ex Linke	Linz	1955 & 1969	2003 & 2003	

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	nn	1961 & in collection in 1975	1961 & 1980	from cuttings (1961)
<i>Mammillaria rhodantha</i> Link & Otto	Berlin	1960 & 1962 & 1974	1975 & 1971 & 1982	arrived as <i>M. fuscata</i> ; one of 5+ synonyms
	Basel	1973	1975	
	Greifswald	1989	1990	
	Basel	1959 & 1962 & 1963	1975 & 1975 & 1975	
	Berlin	1959 & 1960	1978 & 1966	
	Palermo	1959	1963	
	Linz	1965	1968	
<i>Mammillaria rhodantha</i> subsp. <i>aureiceps</i> (Lem.) D.R. Hunt	Linz	1964 & 1965	1977 & 1977	arrived as <i>M. aureiceps</i> ; one of 5+synonyms
	Berlin	1968	1977	
	Muenster	1967	1975	
	Turku	1968	1971	
	Graz	1975	1982	
<i>Mammillaria rhodantha</i> subsp. <i>mollendorffiana</i> (Shurly) D.R. Hunt	Berlin	1958 & 1960 & 1962 & 1964 & 1965 & 1966 & 1974	1966 & 1971 & 1976 & 1975 & 1968 & 1968 & 1982	arrived as syn. <i>M. mollendorffiana</i>
	Palermo	1962	1964	
	Karlsruhe	1964	1978	
	Muenster	1967 & 1968	1975 & 1972	
	Jibou-Salaj	1989	1993	
<i>Mammillaria rhodantha</i> var. <i>crassispina</i> K.Schum.	Berlin	1976	1982	syn. <i>M. crassispina</i>
<i>Mammillaria rhodantha</i> var. <i>rubra</i> K.Schum.	Basel	1971	1982	
<i>Mammillaria rhodantha</i> var. <i>sulphurea</i> (Sancke) backbg.	Basel	1971 & 1973	1975 & 1976	arrived as <i>M. fuscata</i> var. <i>sulphurea</i> ; one of 2 synonyms
<i>Mammillaria rosealba</i> Boed.	Berlin	1965	1989	
<i>Mammillaria saetigera</i> Boed. & Tiegel	Berlin	1960 & 1966	1978 & 1977	syn. <i>Neomammillaria saetigera</i>
	Halle	1957 & 1964	1989 & 1971	
<i>Mammillaria sartorii</i> J.A. Purpus	Erlangen	1965	1989	2 synonyms
	nn	in collection in 1968	1971	
	Esperance	1970	1989	
<i>Mammillaria schiedeana</i> Ehrenb. ex Schltdl.	Berlin	1959	1968	2 synonyms
	Linz	1964	1990	
<i>Mammillaria schiedeana</i> subsp. <i>dumetorum</i> (J.A. Purpus) D.R. Hunt	Linz	1965	1990	arrived as <i>M. dumetorum</i>
<i>Mammillaria sinistrohamata</i> Boed.	Nantes	1960	1968	
	Palermo	1966	1971	
	Karlsruhe	1969	1975	
	Debrecen	1980	1983	
<i>Mammillaria sonorensis</i> R.T. Craig	Berlin	1973	1979	arrived as <i>M. tesopacensis</i> ; one of 2 synonyms
<i>Mammillaria sphacelata</i> Mart.	Košice	1978	1993	3 synonyms
<i>Mammillaria spinosissima</i> Lem.	Muenchen	1967	1971	4 synonyms
	Turku	1967	1979	
	Liege	1973	1976	
	Karlsruhe	1971	1978	
<i>Mammillaria spinosissima</i> var. <i>sanguinea</i> (F.Haage) F.Haage ex Brandege	Nantes	1965	1975	syn. <i>M. sanguinea</i>
<i>Mammillaria stella-de-tacubaya</i> Heese	Karlsruhe	1965	1982	arrived as <i>M. viereckii</i> ; 2 synonyms
<i>Mammillaria supertexta</i> Mart. ex Pfeiff.	Karlsruhe	1963	1979	arrived as <i>M. lanata</i> ; one of 2 synonyms
	Essen	1968	1976	
	Muenchen	1977	1990	
	Halle	1979	1989	arrived as <i>M. supertexta</i>

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<i>Mammillaria surculosa</i> Boed.	Gent	1968	1978	arrived as <i>Dolichothele surculosa</i>
<i>Mammillaria tiegeliana</i> Backeb.	Berlin	1979	1982	
<i>Mammillaria umbrina</i> Ehrenb.	Berlin	1962 & 1976	1975 & 1982	2 synonyms
	Linz	1961 & 1964 & 1966 & 1972	1961 & 1971 & 1968 & 1982	
	Gent	1968	1976	
<i>Mammillaria webbiana</i> Lem.	Berlin	1966	1990	syn. <i>Cactus webbianus</i>
	Nantes	1970	1989	
<i>Mammillaria wiesingeri</i> Boed.	Linz	1962 & 1964	1966 & 1975	2 synonyms
	Palermo	1963	1975	
	Halle	1966	1966	
	Nantes	1965	1989	
	nn	in collection in 1971	1975	
	Liege	1973	1978	
<i>Mammilloidya candida</i> (Scheidw.) Buxb.	Pisa	1966	1971	arrived as <i>Mammillaria candida</i> ; one of 2 synonyms
<i>Matucana madisoniorum</i> (Hutchison) G.D. Rowley	Dresden	2000	2003	4 synonyms
<i>Mediolobivia haagii</i> Backeb. ex Krainz	Halle	1957 & 1961	1980 & 1983	
	Gent	1962	1968	
	nn	in collection in 1971	1980	
<i>Melocactus bahiensis</i> (Britton & Rose) Luetzelb.	Sarvar	1973	1982	5 synonyms
	Havana	1986	1990	
	Reading	1985	1990	
	Dresden	1998	2003	
	Jibou	1998	2003	
	Linz	2002	2010	
<i>Melocactus neryi</i> K. Schum.	Halle	1966	1968	from cuttings; 3 synonyms
	Linz	1962 & 1966 & 1971 & 1987	1977 & 1977 & 1978 & 1990	
	Vienna	1964 & 1965	1968 & 1977	
	Dresden	1997 & 1998	2000 & 2000	
<i>Mesembryanthemum nodiflorum</i> L.	Tel Aviv	1981		2 synonyms
<i>Myrtillocactus geometrizans</i> (Mart. ex Pfeiff.) Console	Barcelona	1980 & 1995	2003 & 2003	3 synonyms
<i>Neobuxbaumia euphorbioides</i> (Haw.) Buxb.	Muenchen	1967	2000	arrived as <i>Rooksbya euphorbioides</i> ; one of 5+ synonyms
	Barcelona	1968	2000	
	Erlangen	1996	2000	
<i>Neobuxbaumia polylopha</i> (DC.) Backeb.	Barcelona	1959 & 1963	1989 & 2003	5 synonyms
	Lyon	2001	2003	
<i>Neomammillaria graessneriana</i> (Boed.) Britton & Rose	Berlin	1971 & 1978	1980 & 1982	arrived as <i>Mammillaria graessneriana</i>
	Graz	1975	1982	
<i>Neomammillaria hahniana</i> (Werderm.) Y.Itô	Vienna	1958 & 1963 & 1965 & 1967	1968 & 1971 & 1975 & 1978	
	Linz	1958	1980	
	Lokrum	1970	1978	
	Berlin	1967	1978	
	Košice	1978	1983	
	Barcelona	1980	1983	
<i>Neomammillaria polythele</i> (Mart.) Britton & Rose	Vienna	1958	1963	
	Tuebingen	1963	1982	
<i>Neomammillaria seideliana</i> (Quehl) Britton & Rose	Mainz	1966 & 1967	1977 & 1972	arrived as <i>Mammillaria seideliana</i>
	Berlin	1978	1995	
	Gent	1993	1993	

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<i>Neoporteria rapifera</i> F. Ritter	Linz	1963	1982	
<i>Neoraimondia herzogiana</i> (Backeb.) Buxb. & Krainz	Vienna-Belvedere	1971	1989	arrived as <i>Neocardenasia herzogiana</i>
	San Marino (California)	1992	1993	
<i>Notocactus globularis</i> F.Ritter	Goettingen	1985	1985-1990	
<i>Notocactus ottonis</i> A. Berger var. <i>villa-velhensis</i> Backeb. & Voll	Košice	1978	1989	2 synonyms
<i>Opuntia articulata</i> (Pfeiff.) D.R. Hunt	Lokrum	1970	1989	arrived as <i>Tephrocactus articulatus</i> (v. <i>intermis</i> )
<i>Opuntia aurantiaca</i> Lindl.	Montavideo	1968	1977	
<i>Opuntia beckeriana</i> K.Schum.	Antwerpen	1973	1979	
<i>Opuntia boldinghii</i> Britton & Rose	Antwerpen	1966 & 1969	1978 & 1982	
<i>Opuntia cochenillifera</i> (L.) Mill.	Nantes	1953	no data	arrived as <i>Nopalea cochenillifera</i> ; one of 3 synonyms; from cuttings
	Nancy	1989	1993	
<i>Opuntia crassa</i> Haw.	Barcelona	1971	1982	
<i>Opuntia cubensis</i> Britton & Rose	Antwerpen	1971	1982	arrived as <i>O. antillana</i> ; one of 2 synonyms
<i>Opuntia durangensis</i> Britton & Rose	Barcelona	1964	1990	
	nn	in collection in 1968	1989	
<i>Opuntia elata</i> Link & Otto ex Salm-Dyck	Antwerpen	1973	1980	5 synonyms
<i>Opuntia engelmannii</i> Salm-Dyck ex Engelm.	Genova	1965	1971	arrived as <i>O. cantabrigiensis</i> ; one of 4 synonyms
<i>Opuntia engelmannii</i> subsp. <i>aciculata</i> (Griffiths) U. Guzmán & Mandujano	Barcelona	1968	1980	arrived as <i>O. aciculata</i> ; one of 2 synonyms
<i>Opuntia engelmannii</i> subsp. <i>lindheimeri</i> (Engelm.) U. Guzmán & Mandujano	nn	1951	1961	arrived as <i>O. lindheimeri</i> ; one of 4 synonyms
<i>Opuntia ficus-indica</i> (L.) Mill.	Berlin	1979	1982	arrived as <i>O. paraguayensis</i> ; one of 4 synonyms
<i>Opuntia fragilis</i> (Nutt.) Haw.	Lokrum	1967	1978	from cuttings; 4 synonyms
<i>Opuntia glaucophylla</i> H.L.Wendl. ex Pfeiff.	Palermo	1953 & 1962	no data & 1982	
	Antibes	in collection in 1961	1963	
	Halle	1962	1968	
<i>Opuntia gosseliniana</i> F.A.C. Weber var. <i>santarita</i> (Griffiths & Hare) L.D. Benson	Haren	1970	1980	3 synonyms
<i>Opuntia haematocarpa</i> A.Berger	nn	1951	1961	
	Lyon	1986	2003	
<i>Opuntia howeyi</i> J.A. Purpus	Tuebingen	1952	1961	from cuttings
	Nancy	1989	2003	
<i>Opuntia humifusa</i> (Raf.) Raf.	nn	in collection in 1961	2003	4 synonyms
	Antwerpen	1971	1981	
	Basel	1986	1993	
	Liege	1986	1993	
	East Lansing	1990	1990	
	Genova	1988	1993	
	Michigan	1999	2003	
	Genova	1988	2003	arrived as <i>O. rafinosavii</i>
<i>Opuntia inaequilaterlis</i> A. Berger	Antwerpen	1961 & 1966 & 1969 & 1973	1971 & 1979 & 1980 & 1979	2 synonyms
<i>Opuntia leucotricha</i> DC.	Barcelona	1960 & 1961 & 1963 & 1967	1962 & 1968 & 1968 & 1978	
	Esperance	1970	1978	
	Antwerpen	1970	1978	
<i>Opuntia longispina</i> Haw.	Gent	1962	1963	
<i>Opuntia longispina</i> var. <i>corrugata</i> (Salm-Dyck) Backeb.	Gent	1961 & 1962	1982 & 1982	

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<i>Opuntia microdasys</i> (Lehm.) Pfeiff.	Haren	1971	1971	arrived as <i>O. macrocalyx</i> ; one of 7 synonyms
	Gent	1962	1962	arrived as <i>O. microdasys</i> var. <i>laevior</i>
	Barcelona	1971	2003	
	nn	1955	1961	arrived as <i>O. microdasys</i> ; from cuttings
	Barcelona	1960 & 1961 & 1995	1962 & 1980 & 2003	
	nn	in collection in 1968	1980	
	Liege	1984	2003	
<i>Opuntia microdasys</i> subsp. <i>rufida</i> (Engelm.) U. Guzmán & Mandujano	Bucharest	1994	1995	arrived as <i>O. microdasys</i> var. <i>albispina</i>
	nn	unknown	1961	5+ synonyms
	Barcelona	1956	1963	
	nn	in collection in 1968	1982	
	nn	in collection in 1968	1971	arrived as <i>O. microdasys</i> var. <i>rufida</i> f. <i>minima</i> hort.
	Barcelona	1959 & 1967	1961 & 1980	arrived as <i>O. rufida</i>
	nn	in collection in 1965	1980	
<i>Opuntia orbiculata</i> Salm-Dyck ex Pfeiff.	Besancon	1959	1978	
	Barcelona	1964	1982	
	Nancy	1989	2003	
<i>Opuntia phaeacantha</i> Engelm.	Barcelona	1980	1981	arrived as <i>O. laevis</i> v. <i>canada</i> ; one of 20+ synonyms
	Bonn	1965 & 1992 & 1994	1977 & 1997 & 2003	arrived as <i>O. phaeacantha</i>
	Barcelona	1964	1975	
	Barcelona	1964	1968	15+ synonyms
<i>Opuntia phaeacantha</i> "var. <i>albispina</i> hort."	Barcelona	1964	1968	15+ synonyms
<i>Opuntia phaeacantha</i> var. <i>camanchica</i> (Engelm. & J.M. Bigelow) L.D. Benson	Halle	1964	1968	syn. <i>O. camanchica</i>
	Barcelona	1964	1976	
	Fronnleiten	1964	1990	
<i>Opuntia piccolomini</i> auct.	Antwerpen	1966	1968	unresolved name (The Plant List)
<i>Opuntia pilifera</i> F.A.C. Weber	Barcelona	1964	1971	
<i>Opuntia polyacantha</i> Haw.	Edmonton	1968 & 1969 & 1972	1989 & 1975 & 1979	6 synonyms
	nn	in collection in 1968	1975	arrived as <i>O. rhodantha</i>
<i>Opuntia pseudo-tuna</i> Salm-Dyck	Jalta	1958 & 1961	1961 & 1963	
	Jalta	in collection in 1963	1979	
<i>Opuntia robusta</i> J.C. Wendl.	nn	unknown	1963	4 synonyms
<i>Opuntia scheeri</i> F.A.C. Weber	Barcelona	1961	1961	
<i>Opuntia spirocentra</i> Engelm. & J.M. Bigelow ex Haage	Tuebingen	1953	1977	
<i>Opuntia stenopetala</i> Engelm.	nn	1952	1961	arrived as <i>O. grandis</i> ; from cuttings
<i>Opuntia stricta</i> (Haw.) Haw.	Lausanne	1954	no data	arrived as <i>O. macrarthra</i> ; one of 5+ synonyms
	Besancon	1959	1959	
	nn	1951	1961	arrived as <i>O. inermis</i> ; from cuttings
	Bonn	1981	1982	arrived as <i>O. dillemii</i>
	Berlin	1985	2003	
<i>Opuntia sulphurea</i> Gillies ex Salm-Dyck	Barcelona	1964	1993	2 synonyms
	Berlin	1987	2003	
<i>Opuntia tomentosa</i> Salm-Dyck	Barcelona	1968	1981	arrived as <i>O. macdougaliana</i> ; one of 6 synonyms

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	nn	unknown	1963	arrived as <i>O. tomentosa</i>
	Mexico	1990	2003	
<i>Opuntia tuna</i> (L.) Mill.	Genova	1960	1968	6 synonyms
<i>Opuntia winteriana</i> A.Berger	Barcelona	1964	1989	
<i>Opuntia zacuapanensis</i> A.Berger	Antwerpen	1971	1982	
<i>Oreocereus doelzianus</i> (Backeb.) Borg	Halle	1973	1978	arrived as <i>Morawetzia doelziana</i> ; one of 6 synonyms
	Esperance	1970	1977	
	Vienna-Belvedere	1971	1990	
	Barcelona	1980	2006	
<i>Oreocereus hempelianus</i> (Gürke) D.R. Hunt	Liege	1973	1990	arrived as <i>Arequipa erectocylindrica</i> ; 15+ synonyms
<i>Oreocereus pseudofossulatus</i> D.R. Hunt	Barcelona	1971 & 1980	1993 & 1989	arrived as <i>O. fossulatus</i> ; one of 4 synonyms
<i>Oreocereus trollii</i> (Kupper) Backeb.	Rouen	1956	1990	5 synonyms
	nn	unknown	1968	
	Vienna-Belvedere	1971	1983	
	Halle	1973	1983	
	nn	in collection in 1961	1961	arrived as <i>Cereus trollii</i>
<i>Oreocereus varicolor</i> Backeb.	Barcelona	1980	1983	4 synonyms
<i>Oroya peruviana</i> (K. Schum.) Britton & Rose	Vienna-Belvedere	1971	1983	arrived as <i>O. gibbosa</i> ; one of 5+ synonyms
<i>Pachycereus marginatus</i> (DC.) Britton & Rose	Beograd	1965	1982	arrived as <i>Marginatocereus marginatus</i> ; one of 5 synonyms
<i>Parodia aureicentra</i> Backeb.	Monaco	2003	2010	arrived as <i>P. rauschii</i>
<i>Parodia ayopayana</i> Cárdenas	Linz	1968	1972	4 synonyms
	Muenchen	1972	1977	
	Monaco	1998	no data	
	Berlin	1968	1978	arrived as <i>P. comosa</i>
	Goettingen	1985	1985	arrived as <i>P. echinus</i>
<i>Parodia comarapana</i> Cárdenas	Linz	1965	2000	arrived as <i>P. mairanana</i> ; one of 2 synonyms
<i>Parodia concinna</i> (Monv.) N.P. Taylor	Hamburg	1955 & 1957	1968 & 1961	arrived as <i>Notocactus apricus</i> ; one of 5+ synonyms
	Copenhagen	1961	1962	
	Berlin	1965	1978	
	Meinz	1966	1983	
	Linz	1972 & 1973	1983 & 1977	
	Berlin	in collection in 1975	1979	
	Goettingen	1985	1990	
	Berlin	1964 & 1968	1968 & 1982	arrived as <i>Notocactus caespitosus</i>
	Erlangen	1965	1982	arrived as <i>Notocactus concinnus</i>
	Meinz	1965	1971	
	Graz	1972	1977	
	Gent	1970	1983	
<i>Parodia crassigibba</i> (F. Ritter) N.P. Taylor	Linz	1975	1982	arrived as <i>Notocactus crassigibbus</i>
<i>Parodia erinacea</i> (Haw.) N.P. Taylor	Berlin	1955 & 1958	1975 & 1961	arrived as <i>Wigginsia erinacea</i> ; one of 10+ synonyms
<i>Parodia leninghausii</i> (K. Schum.) F.H. Brandt	Gent	1965	1975	arrived as <i>Eriocactus leninghausii</i>
	Vienna	1965 & 1968	1993 & 1982	
	Karlsruhe	1965	1977	



Scientific name	City of plant material origin	Year of ordering/purchasing	Year when plant was last recorded in collection	Notes and remarks
	nn	1990	1993	gift from prof. Štimac
<i>Parodia maassii</i> (Heese) A. Berger	Berlin	1965	1983 & 1989	10+ synonyms
<i>Parodia magnifica</i> (F. Ritter) F.H. Brandt	Linz	1972	1980	arrived as <i>Eriocactus magnificus</i>
<i>Parodia mammulosa</i> (Lem.) N.P. Taylor	Linz	1958 & 1970	1977 & 1982	arrived as <i>Notocactus floricomus</i> ; on of 5+ synonyms
	Berlin	1965	1978	
	Nantes	1975	1983	
	Debrecen	1980	1983	
	Hamburg	1955	1968	arrived as <i>Notocactus mammulosus</i>
	Berlin	1962 & 1974	1977 & 1982	
	Meinz	1964	1982	
	Delft	1962	1971	
	Blanes	1987	1990	
	Linz	1972 & 1987	1983 & 2003	
	Jibou	1989	2003	
	Cluj-Napoca	2000	2003	
	Monaco	2000	2003	
	Nantes	2000	2003	
<i>Parodia mammulosa</i> subsp. <i>eugeniae</i> (Vliet) Hofacker	Goettingen	1985	1990	arrived as <i>Notocactus eugeniae</i> ; one of 2 synonyms
<i>Parodia mammulosa</i> subsp. <i>submammulosus</i> (Lem.) Hofacker	Berlin	1965	1982	arrived as <i>Notocactus submammulosus</i> ; one of 4 synonyms
	Linz	1973	1974	
	Wageningen	1972	1979	
	Utrecht	1952 & 1954 & 1964	1961 & 1975 & no data	arrived as <i>Echinocactus submammulosus</i>
	Berlin	1979	1983	arrived as <i>Notocactus submammulosus</i> var. <i>pampeanus</i>
	Berlin	1955	unknown	arrived as <i>Notocactus pampeanus</i> ; one of 4 synonyms
	Zagreb	1966	1983	
	Wageningen	1972	1982	
<i>Parodia mueller-melchersii</i> (Frič ex Backeb.) N.P. Taylor	Berlin	1965 & 1968	1978 & 1978	arrived as <i>Notocactus rutilans</i> ; one of 6 synonyms
	Linz	1966	1982	
	Hamburg	1968	1982	
	Nantes	1965	1975	
	Goettingen	1985	1990	
	Vienna	1987	1990	
	Jibou	1996	2000	
	Linz	1971 & 1972 & 1973 & 1975	1982 & 1980 & 1983 & 1982	arrived as <i>Notocactus mueller-melchersii</i> ; one of 4 synonyms
	Berlin	1971	1975	
	Nantes	1970	1982	
	Gent	1967	1982	
	nn	1962	1982	arrived as <i>P. mueller-melchersii</i> subsp. <i>mueller-melchersii</i> var. <i>gracilispina</i>
	Nantes	1973	1979	
	Linz	1973	1974	
<i>Parodia muricata</i> (Otto) Hofacker	Berlin	1965 & 1968	1989 & 1983	arrived as <i>Notocactus muricatus</i> ; one of 3 synonyms
<i>Parodia mutabilis</i> Backeb.	Vienna	1953	1961	unresolved name (The Plant List); 2 synonyms
	Berlin	1964	1966	

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	Lokrum	1967 & 1969	1982 & 1975	
<i>Parodia nothorauschii</i> D.R. Hunt	Wageningen	1974	1982	arrived as <i>Notocactus rauschii</i> ; one of 2 synonyms
<i>Parodia ocampoii</i> Cárdenas	Debrecen	1980	1990	arrived as <i>P. punae</i>
<i>Parodia ottomis</i> (Lehm.) N.P. Taylor	Linz	1972	1978	arrived as <i>Notocactus acutus</i> ; one of 10+ synonyms
	Jibou	1989	1993	
	nn	1952	1979	arrived as <i>Notocactus ottomis</i> , from cuttings
	Meinz	1964	1971	
	Nantes	1966	1975	
	Berlin	1971	1979	
	Budapest	1978	1990	
	Cluj-Napoca	1979	no data	
	Liege	1984	2003	
	Linz	1967	1983	arrived as <i>P. ottomis rubrispinus</i>
	Berlin	1979	1981	arrived as <i>P. ottomis</i> v. <i>tortuosus</i>
	Budapest	1978	1983	arrived as <i>P. ottomis</i> var. <i>paraguayensis</i>
<i>Parodia procera</i> F. Ritter	Debrecen	1980	1983	arrived <i>P. gracilis</i>
<i>Parodia ritteri</i> Buining	Linz	1966	1968	arrived as <i>P. carrerana</i>
<i>Parodia sanagasta</i> Frič ex Weing.	Linz	1965	1978	syn. <i>P. microsperma</i> var. <i>sanagasta</i>
<i>Parodia schumanniana</i> (Nicolai) F.H. Brandt	Meinz	1967	1980	arrived as <i>Eriocactus schumannianus</i> ; one of 5+ synonyms
	Linz	1987	2000	
<i>Parodia scopa</i> (Spreng.) N.P. Taylor subsp. <i>scopa</i>	Berlin	1955	no data	arrived as <i>Notocactus scopa</i> , one of 4 synonyms
<i>Parodia sellowii</i> (Link & Otto) D.R. Hunt	Berlin	1979	1983	arrived as <i>Notocactus corynodes</i> ; one of 10+ synonyms
	Berlin	1979	1981	arrived as <i>Notocactus fricii</i>
	Berlin	1965	1968	arrived as <i>Wigginsia fricii</i>
	Nantes	1970	1980	
	Linz	1967 & 1970	1980 & 1979	arrived as <i>Wigginsia sessiliflora</i>
	Linz	1969	1983	arrived as <i>Wigginsia tephacantha</i> var. <i>courantii</i>
	Berlin	1965 & 1967	1971 & 1979	arrived as <i>Wigginsia vorwerkiana</i>
	Berlin	1968	1983	arrived as <i>Wigginsia corynodes</i>
	Linz	1971	1983	
	Monaco	1986	1993	
	Dresden	1975	1983	arrived as <i>Wigginsia tephacantha</i>
	Saarbrücken	1981	1993	
<i>Parodia tabularis</i> (F. Cels ex Rümpler) D.R. Hunt	Frankfurt	1959	1989	arrived as <i>Notocactus tabularis</i> ; one of 5 synonyms
	München	1964	1989	
	Berlin	1965	1989	
	Linz	1972	1990	
	Halle	1979	1983	
<i>Parodia tenuicylindrica</i> (F. Ritter) D.R. Hunt	Debrecen	1980	1981	arrived as <i>Notocactus minimus</i>
<i>Parodia tilcarensis</i> (Werderm. & Backeb.) Backeb.	Berlin	1965	1990	arrived as <i>P. carminata</i>
<i>Parodia werdermanniana</i> (Herter) N.P. Taylor	Linz	1972 & 1973	1983 & 1974	arrived as <i>Notocactus vanolietii</i>
	Berlin	1979	1983	

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<i>Parodia wernerii</i> Hofacker	Goettingen	1985	1990	arrived as <i>Notocactus arachnites</i>
<i>Pereskiaopsis diguetii</i> (F.A.C. Weber) Britton & Rose	Krakow	1970	1983	arrived as <i>P. spathulata</i> ; one of 3 synonyms
<i>Phyllocactus</i> × <i>hybridus</i> Voss	nn	in collection in 1961	1961	arrived as <i>Phyllocactus hybridus</i> hort.
<i>Pilosocereus arrabidaei</i> (Lem.) Byles & G.D. Rowley	Adelaide	1971 & 1972	1980 & 1974	4 synonyms
<i>Pilosocereus brasiliensis</i> (Britton & Rose) Backeb.	nn	1953	no data	arrived as <i>P. sublanatus</i>
	Lisbon	1954	1961	
<i>Pilosocereus coeruleus</i> (Lem.) F.Ritter	Halle	1956 & 1958	1977 & 1993	arrived as <i>Cereus coeruleus</i> ; 6 synonyms; unresolved name (The Plant List)
	Berlin	1987	1990	
<i>Pilosocereus leucocephalus</i> (Poselg.) Byles & G.D. Rowley	Barcelona	1964	1968	arrived as <i>Cereus cometes</i> ; one of 5+ synonyms
	Nancy	1966	1971	arrived as <i>P. leucocephalus</i>
	Freiburg	1956	1975	arrived as <i>P. sartorianus</i>
	Cluj-Napoca	1993	1997	
	nn	unknown	1971	arrived as <i>P. palmeri</i>
	Vienna- Belvedere	1993	2000	
	Muenchen	1993	1993	
<i>Polaskia chichipe</i> (Gosselin) Backeb.	Halle	1973	2000	5 synonyms
	Monaco	1997	2000	
<i>Pyrrhocactus robustus</i> F. Ritter var. <i>vegansanus</i> F.Ritter	Linz	1964	1967	
<i>Rebutia aureiflora</i> Backeb.	Berlin	1965	1990	arrived as <i>Mediolobivia euanthema</i> var. <i>fričii</i>
	Karlsruhe	1963 & 1969	1990 & no data	arrived as <i>Mediolobivia aureiflora</i>
<i>Rebutia diminuta</i> (F.A.C. Weber) Britton & Rose	Halle	1955	unknown	arrived as <i>R. pseudodiminuta</i> ; one of 10+ synonyms
	Basel	1957 & 1965	1971 & 1979	
	Basel	1957 & 1965	1972 & 1979	arrived as <i>Aylosteria diminuta</i>
	nn	in collection in 1970	1981	
	Kiev	1989	1993	
<i>Rebutia einsteinii</i> Frič	Gent	1965	1975	arrived as <i>Mediolobivia neopygmaea</i>
<i>Rebutia marsoneri</i> Werderm.	Linz	1964	1983	arrived as <i>R. hyalacantha</i> ; one of 3 synonyms
	Gent	1967	1978	
	Košice	1978	1983	
	Goettingen	1989	1990	
	Halle	1965 & 1967 & 1968	1979 & 1990 & 1989	arrived as <i>R. krainziana</i>
	Gent	1968	1989	
	Dresden	1986	1990	
	Halle	1961 & 1963 & 1965	1968 & 1966 & 1983	arrived as <i>R. marsoneri</i>
	Nantes	1965	1982	
	Gent	1965	1981	
	nn	unknown	1968	
	Wageningen	1980	1983	
<i>Rebutia minuscula</i> K. Schum.	Gent	1964	1983	arrived as <i>R. chrysacantha</i> ; one of 20+ synonyms
	Nantes	1966	1971	
	Turku	1967	1978	
	Rouen	1962	1971	arrived as <i>R. grandiflora</i>
	Gent	1966	1979	
	Budapest	1970	1979	

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	Goettingen	1985		
	Leipzig	1958	1966	arrived as <i>R. violaciflora</i>
	Basel	1961 & 1967	1978 & 1975	
	Cluj-Napoca	1979	1983	
	Vienna	1992	1997	
	Bratislava	2000	2003	
	Graz	1975	1983	arrived as <i>R. senilis</i> (var. <i>kesselringiana</i> )
	Rouen	1955	1982	arrived as <i>R. xanthocarpa</i> var. <i>citricarpa</i>
	Linz	1970	1979	arrived as <i>R. xanthocarpa</i> var. <i>dasyphrissa</i>
	Rouen	1966	1975	
	Berlin	1971	1979	
	nn	1949	no data	arrived as <i>R. xanthocarpa</i> var. <i>salmonea</i>
	nn	in collection in 1961	1968	
	Wageningen	1974	1978	arrived as <i>R. senilis</i> var. <i>lilacinorosa</i>
	nn	1975	1982	arrived as <i>R. minuscula</i>
	Dresden	1975	1989	
	Berlin	1958 & 1971	1978 & 1982	arrived as <i>R. senilis</i>
	Linz	1970	1983	
	Wageningen	1972 & 1974 & 1980	1978 & 1983 & 1981	
	Jibou	1984	1990	
	Liege	1984	1989	
	Goettingen	1985	1990	
	Bratislava	2000	2003	
	Gent	1962	1975	arrived as <i>R. minuscula</i> var. <i>grandiflora</i>
<i>Rebutia minuscula</i> var. <i>wessneriana</i> (Bewer.) Eb.Scholz	Madrid	1997	2000	arrived as <i>R. wessneriana</i> ; one of 4 synonyms
<i>Rebutia pygmaea</i> (R.E. Fr.) Britton & Rose	Debrecen	1980	1989	arrived as <i>Mediolobivia haefneriana</i>
<i>Rebutia ritteri</i> (Wessner) F. Ritter	Vienna	1972	1982	arrived as <i>Mediolobivia ritteri</i> ; one of 3 synonyms
<i>Rebutia steinmannii</i> (Solms) Britton & Rose	Saarbrücken	1968	1982	arrived as <i>Mediolobivia brachyantha</i>
<i>Rebutia violaciflora</i> Backeb. var. <i>knuthiana</i> (Backeb.) Donald	Debrecen	1980	1983	
	Essen	1985	1990	
<i>Rebutia wessneriana</i> Bewer.	Karlsruhe	1967	1990	arrived as <i>R. calliantha</i> ; one of 2 synonyms
<i>Rhipsalis baccifera</i> (Sol.) Stearn	Koeln	1960	1963	arrived as <i>R. cereuscula</i> ; one of 5+ synonyms
	Muenster	1964	1964	
	Goettingen	1966	1971	
	Essen	1960	1978	arrived as <i>R. fasciculata</i>
	Muenster	1964	1964	
	Stocholm	1960	1971	arrived as <i>R. prismatica</i>
	Antwerpen	1965 & 1971	1975 & 1975	
	Goettingen	1966	1966	
	nn	1954	1980	arrived as <i>R. suareziana</i> ; from cuttings
<i>Rhipsalis baccifera</i> subsp. <i>shaferi</i> (Britton & Rose) Barthlott & N.P.Taylor	Goettingen	1966	1980	arrived as <i>R. shaferi</i>
<i>Rhipsalis campos-portoana</i> Loefgr.	Bergen	1960	1968	syn. <i>Erythrorhipsalis campos-portoana</i>
	Antwerpen	1960 & 1961	1968 & 1971	
<i>Rhipsalis clavata</i> F.A.C. Weber	Goettingen	1966	1990	arrived as <i>Hatiora clavata</i>
<i>Rhipsalis dissimilis</i> (G. Lindb.) K. Schum.	Muenster	1965	1975	arrived as <i>Lepismium chrysanthum</i> ; one of 4 synonyms

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	Muenster	1964	1984	arrived as <i>Lepismium dissimile</i>
	nn	1954	1977	from cuttings
<i>Rhopsalis elliptica</i> G.Lindb. ex K.Schum.	Goettingen	1966	1977	
	Szeged	1970	1971	
<i>Rhopsalis floccosa</i> Salm-Dyck ex Pfeiff. subsp. <i>pulvinigera</i> (G. Lindb.) Barthlott & N.P. Taylor	nn	in collection in 1961	1981	arrived as <i>R. pulvinigera</i> ; one of 4 synonyms; from cuttings
	Duisburg	1961	1981	arrived as <i>R. gibberula</i>
<i>Rhopsalis grandiflora</i> Haw.	Vacratot	1961 & 1965	2000 & no data	5 synonyms
	nn	in collection in 1974	1989	
	Antwerpen	1971	1979	
	Dresden	1956	1977	arrived as <i>R. hadrosoma</i> ; one of 2 synonyms
<i>Rhopsalis mesembryanthemoides</i> Haw.	Antwerpen	1955 & 1961	1966 & 1978	
	Muenster	1964	1971	
	Szeged	1983	unknown	
<i>Rhopsalis micrantha</i> (Kunth) DC.	Antwerpen	1965	1979	5 synonyms
<i>Rhopsalis neves-armondii</i> K. Schum.	Muenster	1964 & 1968	1964 & 1978	arrived as <i>Lepismium neves-armondii</i>
<i>Rhopsalis pachyptera</i> Pfeiff.	Vacratot	1961	1975	2 synonyms
<i>Rhopsalis paradoxa</i> (Salm-Dyck ex Pfeiff.) Salm-Dyck	nn	1953 & 1954	no data	3 synonyms
	nn	in collection in 1963	1991	
	Antwerpen	1971	1981	
<i>Rhopsalis pentaptera</i> Pfeiff. ex A. Dietr.	nn	1954	1961	syn. <i>Hatiara pentaptera</i> ; from cuttings
	nn	in collection in 1963	1980	
<i>Rhopsalis pilocarpa</i> Loefgr.	Karlsruhe	1962	1971	arrived as <i>Erythrorhopsalis pilocarpa</i>
	Muenster	1964	1966	
	Goettingen	1966	1977	
<i>Rhopsalis pittieri</i> Britton & Rose	Goettingen	1966	1980	arrived as <i>Lepismium pittieri</i> ; one of 2 synonyms
<i>Rhopsalis puniceodiscus</i> G.Lindb.	Gent	1962	1966	arrived as <i>Lepismium punicea-discus</i> ; one of 2 synonyms
<i>Rhopsalis rhombea</i> (Salm-Dyck) Pfeiff.	nn	1954	1961	syn. <i>Cereus rhombeus</i> ; from cuttings
<i>Rhopsalis teres</i> (Vell.) Steud.	nn	1954	1961	arrived as <i>R. capilliformis</i> ; 20+ synonyms
	nn	in collection in 1963	1978	
	Krakow	1971	1990	
	Kirstenbosch	1963	1973	
	Antwerpen	1970	1978	
	nn	unknown & in collection in 1963	1961 & 1977	arrived as <i>R. heteroclada</i> ; from cuttings (unknown)
	Antwerpen	1971	1977	
	Antwerpen	1955	1963	arrived as <i>R. teres</i> ; from cuttings
	Tuebingen	1971	1975	
	Krakow	1970	1979	
	Bucharest	1985	1990	
<i>Rhopsalis trigona</i> Pfeiff.	Uppsala	1964	1966	arrived as <i>Lepismium trigonum</i> ; one of 2 synonyms
	Gent	1962 & 1963	1964 & 1966	
	Tuebingen	1971	1980	

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<i>Rhipsalis tucumanensis</i> F.A.C. Weber	Muenster	1964 & 1965 & 1968	1993 & 1968 & 1968	arrived as <i>Lepismium tucumanense</i> ; one of 4 synonyms
	Goettingen	1966	1968	from cuttings
<i>Rhipsalis zanzibarica</i> F.A.C. Weber	Muenster	1964	1966	
<i>Ritterocereus hystrix</i> (Haw.) Backeb.	Nantes	1958	1989	arrived as <i>Cactus hystrix</i> ; one of 3 synonyms
<i>Schlumbergera russelliana</i> (Hook.) Britton & Rose	Bergen	1955	1961	syn. <i>Epiphyllum russellianum</i>
	Vacratot	1966	1971	
<i>Selenicereus boeckmannii</i> (Otto ex Salm-Dyck) Britton & Rose	Antwerpen	1950 & 1954	1983 & 1954	arrived as <i>Cereus boeckmannii</i> ; from cuttings (1950)
<i>Selenicereus coniflorus</i> (Weing.) Britton & Rose	Basel	1972	1993	arrived as <i>S. pringlei</i> ; one of 2 synonyms
<i>Selenicereus grandiflorus</i> (L.) Britton & Rose	nn	in collection in 1961 & in collection in 1990	no data & 2016	20+ synonyms
	Gent	1964 & 1966	2000 & 1967	
	Hamburg	1966	1967	
	Barcelona	1971	1983	
	Liege	1984	1989	
	Bukurešt	1985	1989	
	Wroclaw	1986	1989	
	nn	in collection in 1961	1980	arrived as <i>Cereus grandiflorus</i>
	Poznan	1966	1983	
	Gent	1964	2000	
<i>Selenicereus grandiflorus</i> subsp. <i>donkelaarii</i> (Salm-Dyck) Ralf Bauer	Basel	1973	2000	arrived as <i>S. donkelaarii</i> ; one of 2 synonyms
<i>Selenicereus macdonaldiae</i> (Hook.) Britton & Rose	Harkov	1957	1989	5 synonyms
	Krakow	1971	1975	
<i>Selenicereus nelsonii</i> (Weing.) Britton & Rose	Berlin	1963 & 1965 & 1969	1971 & 1993 & 1989	syn. <i>Cereus nelsonii</i>
<i>Selenicereus vagans</i> (K. Brandege) Britton & Rose	Berlin	1967	2000	5 synonyms
	nn	in collection in 1975	2000	
<i>Stenocactus crispatus</i> (DC.) A. Berger ex A.W. Hill	Halle	1966	1990	arrived as <i>Echinofossulocactus crispatus</i> ; one of 2 synonyms
	Nantes	1970	1980	arrived as <i>Echinofossulocactus kellerianus</i>
	Bordeaux	1992	1993	
<i>Stenocereus dumortieri</i> (Scheidw.) Buxb.	Beograd	1964	1993	5 synonyms
<i>Stenocereus pruinosus</i> (Otto ex Pfeiff.) Buxb.	Copenhagen	1964	1978	arrived as <i>Lemaireocereus longispinus</i> ; one of 3 synonyms
<i>Stenocereus pruinosus</i> (Otto ex Pfeiff.) Buxb.	Linz	1966	1993	arrived as <i>Ritterocereus laevigatus</i> ; one of 10+ synonyms
<i>Stenocereus queretaroensis</i> (F.A.C. Weber) Buxb.	San Marino (California)	1976	1989	arrived as <i>Ritterocereus queretaroensis</i> ; one of 10+ synonyms
	Esperance	1970	1989	
	Esperance	1970	1983	arrived as <i>Lemaireocereus queretaroensis</i>
<i>Stenocereus stellatus</i> (Pfeiff.) Riccob.	Debrecen	1980	1993	4 synonyms
<i>Stephanocereus leucostele</i> (Gürke) A. Berger	Barcelona	1980	1993	2 synonyms
<i>Stetsonia coryne</i> (Salm-Dyck) Britton & Rose	Berlin	1987	1990	arrived as <i>Cereus coryne</i> ; 2 synonyms
<i>Stetsonia coryne</i> var. <i>procera</i> F. Ritter	Monaco	2000	2003	arrived as <i>C. coryne</i> var. <i>procera</i>



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<i>Sulcorebutia steinbachii</i> (Werderm.) Backeb.	Halle	1973	1977	arrived as <i>Rebutia steinbachii</i> subsp. <i>Steinbachii</i> ; one of 20+ synonyms
	Innsbruck	2002	2010	
<i>Tacinga palmadora</i> (Britton & Rose) N.P. Taylor & Stuppy	Antibes	1955	1963	arrived as <i>Opuntia palmadora</i>
<i>Tephrocactus articulatus</i> (Pfeiff.) Backeb.	Lokrum	1969	1978	arrived as <i>T. syringacanthus</i> ; one of 3 synonyms
<i>Tephrocactus diademata</i> (Lem.) Lem.	Vienna	1964	1990	syn. <i>Opuntia diademata</i>
<i>Tephrocactus inermis</i> (Speg.) Backeb.	Lokrum	1969	1977	syn. <i>T. glomeratus</i> var. <i>inermis</i>
<i>Tephrocactus muellerianus</i> Backeb.	Lokrum	1970	1990	syn. <i>Opuntia muelleriana</i>
<i>Tephrocactus turpinii</i> Lem.	Vienna	1964 & 1968 & 1974	1989 & no data & 1982	syn. <i>Opuntia turpinii</i>
<i>Thelocactus setispinus</i> (Engelm.) E.F. Anderson	nn	1949	no data	4 synonyms
	nn	1960	1972	
	Gent	1961	no data	
	Vienna	1960	1963	
	nn	in collection in 1968	1975	
	Vienna	1961	1968	arrived as <i>Hamatocactus setispinus</i>
	Erlangen	1965	1968	
	Halle	1964	1989	
	Goettingen	1985	1990	
<i>Trichocereus bridgesii</i> (Salm-Dyck) Britton & Rose	Barcelona	1968	1989	syn. <i>Echinopsis lageniformis</i>
<i>Trichocereus macrogonus</i> (Salm-Dyck) Riccob.	nn	unknown	1961	arrived as <i>Cereus macrogonus</i> ; one of 5+ synonyms
	nn	in collection in 1963	1972	
	Liege	1973	1990	arrived as <i>Echinopsis peruviana</i>
	Barcelona	1980	2000	
	Barcelona	1967 & 1971 & 1980	1989 & 1989 & 2000	arrived as <i>T. pachanoi</i>
<i>Trichocereus spachianus</i> (Lem.) Riccob.	Liege	1973	1989	2 synonyms
<i>Trichocereus strigosus</i> (Salm-Dyck) Britton & Rose	Berlin	1953	1989	2 synonyms
<i>Trichocereus thelegonoides</i> (Speg.) Britton & Rose	Berlin	1961 & 1963 & 1967 & 2000	1989 & 2000 & 2000 & 2003	4 synonyms
	Berlin	in collection in 1968	1978	
<i>Trichocereus vollianus</i> Backeb.	Barcelona	1980	1993	syn. <i>Echinopsis volliana</i>
<i>Turbincarpus schmiedickeanus</i> (Boed.) Buxb. & Backeb. subsp. <i>schwarzii</i> (Shurly) N.P. Taylor	Halle	1979	1981	arrived as <i>T. schwarzii</i>
<i>Weberbauerocereus johnsonii</i> F. Ritter	Beograd	1965	1978	20+ synonyms
<i>Weberbauerocereus winterianus</i> F. Ritter	Liege	1973	1990	2 synonyms
<i>Weberocereus tunilla</i> (F.A.C. Weber) Britton & Rose subsp. <i>biolleyi</i> (F.A.C. Weber) Ralf Bauer	Gent	1968 & 1970	1980 & 1980	arrived as <i>W. panamensis</i> ; one of 2 synonyms
<i>Weingartia lanata</i> F. Ritter	nn	unknown	1974	arrived as <i>W. platygona</i> ; one of 5 synonyms
	Linz	1972	1977	
<i>Weingartia neocumingii</i> Backeb.	Linz	1972	1980	arrived as <i>W. hediniiana</i> ; one of 20+ synonyms
	Linz	1972 & 2003	1983 & 2010	arrived as <i>W. neocumingii</i>
	Chemnitz	2007	2010	
	Chemnitz	1997	2003	arrived as <i>W. neocumingii</i> var. <i>corraana</i>
<b>Crassulaceae</b>				
<i>Adromischus cooperi</i> (Baker) A. Berger	Uppsala	1958	1977	7 synonyms
	Berlin	1996 & 1998	2000 & 2000	

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<i>Adromischus cristatus</i> (Haw.) Lem. var. <i>clavifolius</i> (Haw.) Toelken	Wageningen	1967	1970	arrived as <i>A. poelnitzianus</i> ; one of 5 synonyms
<i>Adromischus roaneanus</i> Uitewaal	Wageningen	1967	1968	2 synonyms
<i>Adromischus rotundifolius</i> (Haw.) C.A.Sm.	Wageningen	1963 & 1965	1972 & 1979	unresolved name (The Plant List)
<i>Aeonium arboreum</i> Webb & Berthel.	Lisbon	1970	1974	9 synonyms
	Barcelona	1971	1974	
	Bristol	1977	1982	
	Wuppertal	1986	2000	
	Marburg	1986	2016	
<i>Aeonium arboreum</i> var. <i>atropurpureum</i> (W.A. Nicholson) A.Berger	Beograd	1965	1965	3 synonyms
	Berlin	1965 & 1968 & 1970	1968 & 1977 & 1972	
	Wageningen	1966	1968	
<i>Aeonium arboreum</i> var. <i>holochrysum</i> H.Y.Liu	Amsterdam	1971	1977	arrived as <i>A. holochrysum</i> ; one of 4 synonyms
	Tenerife	1984	1993	
	Bochum	1987	1993	
<i>Aeonium aureum</i> (C.Sm. ex Hornem.) T.H.M.Mes	Brno	1963	1966	arrived as <i>Greenovia aurea</i> , one of 5 synonyms
	Braunschweig	1979	1979	
	Basel	1986 & 1988	1990 & 2000	
	Duesseldorf	1995 & 2005	2010 & 2010	
<i>Aeonium balsamiferum</i> Webb & Berthel.	nn	1952	1961	2 synonyms
	Bristol	1977	1990	
<i>Aeonium burchardii</i> (Praeger) Praeger	Berlin	1965 & 1970	1972 & 1978	syn. <i>Sempervivum burchardii</i>
	nn	unknown	1968	
	Muenchen	1970	1983	
<i>Aeonium canariense</i> (L.) Webb & Berthel.	Berlin	1962 & 1965 & 1968 & 1970	1968 & 1972 & 1978 & 1972	syn. <i>Sempervivum canariense</i>
	Lisbon	1970	1978	
	Adelaide	1971	1972	
	Barcelona	1971	1978	
	nn	1976	1983	
	Basel	1981 & 1988	1983 & no data	
	Marburg	1986	1990	syn. <i>Sempervivum ciliatum</i>
<i>Aeonium canariense</i> var. <i>subplanum</i> (Praeger) H.Y.Liu	Basel	1995	2000	arrived as <i>A. subplanum</i> ; one of 3 synonyms
<i>Aeonium castello-paivae</i> Bolle	Berlin	1978 & 1979	1978 & 1990	syn. <i>A. gomeraeum</i>
	Marnier (France)	1977	1988	
	Bristol	1977	1988	
<i>Aeonium ciliatum</i> (Willd.) Webb & Berthel.	Bristol	1977	no data	
	Basel	1989	1993	
	Caen	1993	1996	
<i>Aeonium decorum</i> Webb ex Bolle	nn	in collection in 1961	1983	
	Tenerife	1981	2000	
	Kiev	1985	1988	
<i>Aeonium diplocyclum</i> (Webb ex Bolle) T.H.M.Mes	Berlin	1970	1977	arrived as <i>Greenovia diplocycla</i>
	Saarbrucken	1989	1993	
<i>Aeonium dodrantale</i> (Willd.) T. Mes	Berlin	1961 & 1964 & 1979	1968 & 1971 & 1988	arrived as <i>Greenovia dodrantalis</i> ; one of 4 synonyms
	Gent	1963	1968	
	Basel	1986 & 1994	1988 & 2000	
<i>Aeonium gomerense</i> (Praeger) Praeger	Amsterdam	1955	1961	syn. <i>Sempervivum gomerense</i>
	Berlin	1968 & 1970	1983 & 1983	
<i>Aeonium gorgoneum</i> J.A.Schmidt	Vienna	1967	1978	arrived as syn. <i>A. webbii</i>

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<i>Aeonium haworthii</i> Webb & Berthel.	nn	in collection in 1961	1979	syn. <i>Sempervivum haworthii</i>
	Bristol	1977	1983	
<i>Aeonium hierrense</i> (R.P.Murray) Pit. & Proust.	Amsterdam	1955	no data	
	Vienna	1961	1961	
	Marnier (France)	1977	1980	
<i>Aeonium x hybridum</i> (Haw.) Rowley	nn	in collection in 1961	2000	arrived as <i>A. floribundum</i> ; <i>Aeonium simsii</i> × <i>A. spathulatum</i>
<i>Aeonium</i> × <i>hybridum</i> (Haw.) G.D.Rowley 'Blue Moon'	Budapest	1984	1985	arrived as <i>Sempervivum hybridum</i> 'Blue Moon'; hybrid between <i>A. simsii</i> × <i>A. spathulatum</i>
<i>Aeonium lindleyi</i> Webb & Berthel.	Utrecht	1958	1972	syn. <i>Sempervivum lindleyi</i>
	nn	in collection in 1968	1982	
	Bologna	1971	1990	
<i>Aeonium nobile</i> (Praeger) Praeger	Bristol	1972	2000	
	Kiel	1964	1968	2 synonyms
<i>Aeonium percarneum</i> (R.P.Murray) Pit. & Proust.	Marburg	1989	1993	
	Berlin	1967 & 1978	1977 & 1980	4 synonyms
<i>Aeonium sedifolium</i> (Webb ex Bolle) Pit. & Proust.	nn	in collection in 1970	1970	
	Berlin	1968 & 1971	1972 & 1972	2 synonyms
	Wageningen	1969 & 1980	1972 & 1983	
	Duisburg	1989	1990	
<i>Aeonium simsii</i> (Sweet) Stearn	Berlin	1967 & 1968	1972 & 1974	syn. <i>Sempervivum simsii</i>
	Gran Canaria	1994	2000	
<i>Aeonium spathulatum</i> (Hornem.) Praeger	Berlin	1965 & 1976	1966 & 1982	5 synonyms
	Besancon	1965	1970	
	Braunschweig	1980	1983	
	Gran Canaria	1994	2000	
<i>Aeonium tabuliforme</i> (Haw.) Webb & Berthel.	Wuppertal	1998	2000	5 synonyms
	Bochum	1998	2000	
	Kiel	1997	2000	
	Innsbruck	1999	2003	
<i>Aeonium urbicum</i> (C. Sm. ex Hornem.) Webb & Berthel.	Marburg	1953	1961	syn. <i>Sempervivum urbicum</i>
	Madrid	1980	1983	
	Duisburg	1986	1990	
	Gran Canaria	1994	2000	
<i>Aeonium valverdense</i> (Praeger) Praeger	Gran Canaria	1994	2000	
<i>Aeonium viscatum</i> D.A. Webb	Bristol	1977	2000	syn. <i>A. lindleyi</i> var. <i>viscatum</i>
<i>Aichryson x aizoides</i> (Lamarck) E. C. Nelson	nn	in collection in 1963	1966	arrived as <i>Aeonium domesticum</i> ; most probably <i>Aichryson punctatum</i> (or <i>divaricatum</i> ) × <i>A. tortuosum</i>
	Kijev	1986	1990	
<i>Aichryson laxum</i> (Haw.) Bramwell	Berlin	1968	1972	arrived as <i>A. dichotomum</i> ; one of 5+ synonyms
	Basel	1971	1972	
	Coimbra	1962	1963	
<i>Aichryson punctatum</i> (C. Sm. ex Link) Webb & Berthel.	Muenchen	1970	1972	5 synonyms
	Tenerife	1987	2000	
	Tuebingen	1988	2000	
<i>Aichryson tortuosum</i> (Aiton) Webb & Berthel.	nn	in collection in 1966	1972	2 synonyms
	Kijev	1985	1990	
	Duisburg	1989	2004	
<i>Altamiranoa elongata</i> Rose	Wageningen	1955	1961	from cuttings; 2 synonyms

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<i>Bryophyllum delagoense</i> (Eckl. & Zeyh.) Druce	nn	1949	1966	arrived as <i>B. tubiflorum</i> ; one of 7 synonyms; from cuttings
<i>Bryophyllum fedtschenkoi</i> (Raym.-Hamet & H.Perrier) Lauz.-March.	Genova	1967	1981	arrived as <i>Kalanchoe fedtschenkoi</i> ; one of 2 synonyms
<i>Bryophyllum laxiflorum</i> (Baker) Govaerts	nn	1952	1961	arrived as <i>B. crenatum</i> ; from cuttings
<i>Bryophyllum pinnatum</i> (Lam.) Oken	nn	1952	1963	arrived as <i>B. calycium</i> ; from cuttings
<i>Chiastophyllum oppositifolium</i> (Ledeb.) A.Berger	Lausanne	1962	1963	arrived as <i>Cotyledon oppositifolius</i> ; one of 2 synonyms
	Berlin	1973	1974	
<i>Cotyledon orbiculata</i> L.	Rotterdam	1960	1961	
	Barcelona	1971	1978	
	Muenchen	1976	1982	
<i>Cotyledon orbiculata</i> var. <i>oblonga</i> (Haw.) DC.	Harrogate	1991	2000	arrived as <i>C. macrantha</i> ; one of 20+ synonyms
<i>Crassula alba</i> Forssk.	Muenchen	1966 & 1970	1968 & 1971	
<i>Crassula arborescens</i> (Mill.) Willd.	nn	1952	1961	syn. <i>C. arborescens</i> subsp. <i>arborescens</i> ; from cuttings
	Besancon	1971	1990	
<i>Crassula atropurpurea</i> (Haw.) D.Dietr. var. <i>watermeyeri</i> (Compton) Toelken	Wageningen	1962 & 1963	2000 & 1980	arrived as <i>C. sericea</i> auct.; one of 3 synonyms
	nn	in collection in 1968	1972	
<i>Crassula barbata</i> Thunb.	Kirstenbosch	1954	1961	
<i>Crassula brevifolia</i> Harv.	Wageningen	1967	1978	from cuttings
	Berlin	1989	1993	
<i>Crassula capitella</i> Thunb. subsp. <i>nodulosa</i> (Schönl.) Toelken	Berlin	1968	1972	arrived as <i>C. nodulosa</i>
<i>Crassula capitella</i> subsp. <i>thyrsiflora</i> (Thunb.) Toelken	Wageningen	unknown & 1972	1961 & 1972	arrived as <i>C. corymbulosa</i>
	Berlin	1979	1982	arrived as <i>C. triebneri</i>
	Gent	1979	1982	
<i>Crassula ciliata</i> L.	Kirstenbosch	1954	no data	
<i>Crassula coccinea</i> L.	Kirstenbosch	1976	1980	arrived as <i>Rochea coccinea</i> ; one of 10+ synonyms
	Innsbruck	2000	2003	
<i>Crassula corallina</i> L.f. subsp. <i>macrorrhiza</i> Toelken	Dresden	2002	2003	arrived as <i>C. corallina</i>
<i>Crassula cordata</i> Thunb.	Wageningen	1955	1961	from cuttings
<i>Crassula cotyledonis</i> Thunb.	Wageningen	1955 & in collection in 1965	1961 & 1978	arrived as <i>C. dubia</i> ; from cuttings (1955)
<i>Crassula crenulata</i> Thunb.	Berlin	1968	1972	
<i>Crassula cultrata</i> L.	Wageningen	1955	1963	from cuttings; syn. <i>Globulea cultrata</i>
<i>Crassula dejecta</i> Jacq.	Wageningen	1955 & 1967	1961 & 2003	20+ synonyms; from cuttings (1967)
<i>Crassula elegans</i> Schönland & Baker f.	Berlin	1979	1982	arrived as <i>C. humilis</i> ; syn. <i>Crassula elegans</i> ssp. <i>elegans</i>
<i>Crassula ericoides</i> Haw.	nn	1949	1979	
<i>Crassula exilis</i> Harv. subsp. <i>schmidtii</i> (Regel) G.D.Rowley	nn	1951	no data	arrived as <i>C. schmidtii</i> ; from cuttings
	Berlin	1973	1982	
<i>Crassula exilis</i> subsp. <i>sedifolia</i> (N.E.Br.) Toelken	Gent	1963	1978	arrived as <i>C. picturata</i>
	Berlin	1968	1990	
	nn	in collection in 1975	1988	
	nn	1952	1961	arrived as <i>C. cooperi</i>

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<i>Crassula fascicularis</i> Lam.	nn	1952	1961	arrived as <i>Rochea odoratissima</i> ; one of 10+ synonyms
	Graz	1970	1971	
	Berlin	1968	1971	arrived as <i>Rochea versicolor</i>
<i>Crassula</i> 'Justus Corderoy'	Uppsala	1958	1980	known cultivar ( <i>Crassula exilis</i> ssp. <i>cooperi</i> x <i>C. perfoliata</i> var. <i>minor</i> )
	Kijev	1985	1990	
<i>Crassula lactea</i> Aiton	nn	in collection in 1963	1970	
<i>Crassula lanceolata</i> (Eckl. & Zeyh.) Endl. ex Walp. subsp. <i>lanceolata</i>	nn	in collection in 1961	2000	arrived as <i>C. lycopodioides</i> ; 5 synonyms
	Besancon	1971	1971	
	Berlin	1998	2000	
<i>Crassula lanuginosa</i> Harv.	Berlin	1968	2000	2 synonyms
<i>Crassula lanuginosa</i> var. <i>pachystemon</i> (Schönl. & Baker f.) Toelken	Berlin	1970	1978	arrived as <i>C. ernestii</i>
	Giessen	1989	1990	
<i>Crassula lycopodioides</i> Lam. var. <i>variegata</i> E. Lamb	Wageningen	1971	1980	
<i>Crassula lycopodioides</i> var. <i>pseudolycopodioides</i> (Dinter) Walther ex Jacobsen	nn	1955	1961	arrived as <i>C. pseudolycopodioides</i> ; from cuttings
	Wageningen	1971 & 1972	1972 & 1972	arrived as <i>C. lycopodioides</i> var. <i>pseudolycopodioides</i>
<i>Crassula multicava</i> Lem. subsp. <i>floribunda</i> Friedrich ex Toelken	Rome	1955	1963	arrived as <i>C. multicava</i> ; from cuttings
<i>Crassula multiflora</i> Schönland & Baker f.	Berlin	1968 & 1979	1983 & 1983	syn. <i>C. multiflora</i> subsp. <i>multiflora</i>
<i>Crassula muricata</i> Thunb.	nn	1955	no data	arrived as <i>C. divaricata</i> ; from cuttings
<i>Crassula muscosa</i> L. var. <i>muscosa</i>	nn	in collection in 1963	1968	arrived as <i>C. lycopodioides</i> var. <i>pseudolycopodioides</i> ; one of 10+ synonyms
	nn	unknown	1968	arrived as <i>C. lycopodioides</i> var. <i>monstrosa</i> hort.
	Szeged	1999	2000	
	nn	1955	1961	arrived as <i>C. pseudolycopodioides</i> ; from cuttings
	Besancon	1971	1972	arrived as <i>C. lycopodioides</i> var. <i>purpusii</i>
	Wageningen	1974	1981	
	Berlin	2001	2016	from cuttings
<i>Crassula nudicaulis</i> L.	Wageningen	1955 & 1963	1963 & 1972	arrived as <i>C. cephalophora</i> ; from cuttings (1955)
	Berlin	1955	1980	arrived as <i>C. obvallata</i>
	nn	in collection in 1963	1968	
	Muenchen	1972	1972	
<i>Crassula obovata</i> Haw.	Wageningen	1955	1961	arrived as <i>C. reversisetos</i> ; from cuttings
	Muenchen	1966	1968	arrived as <i>C. ramuliflora</i> ; from cuttings; syn. <i>Sedum ramuliflorum</i>
<i>Crassula orbicularis</i> L.	Wageningen	1955 & 1964 & 1965	1961 & 1968 & 1988	syn. <i>C. rosularis</i> ; from cuttings
<i>Crassula ovata</i> (Mill.) Druce	nn	in collection in 1972	2000	8 synonyms
	Vienna	1958	1961	arrived as <i>C. portulacea</i>
	Roma	1960	1966	
	Roma	1960	1961	arrived as <i>C. obliqua</i>
	nn	in collection in 1963	1972	
<i>Crassula pellucida</i> L. subsp. <i>marginalis</i> (Sol. ex Aiton) Toelken	nn	unknown	1961	arrived as <i>C. marginalis</i>
	nn	unknown	1963	

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	Wageningen	1971	1977	
<i>Crassula perfoliata</i> L. var. <i>falcata</i> (J.C.Wendl.) Toelken	nn	in collection in 1963	1975	arrived as <i>C. falcata</i>
	Besancon	1971	1972	
	Ferrara	1970	1972	
	Cluj-Napoca	1972	1972	
<i>Crassula perfoliata</i> var. <i>coccinea</i> (Sweet) G.D. Rowley	nn	1952	1961	arrived as <i>C. perfoliata</i>
	Muenchen	1977	1978	
<i>Crassula perforata</i> Thunb.	Wageningen	1959 & 1962 & 1963 & 1964 & 1971	1978 & 1990 & 1990 & 1968 & 1990	arrived as <i>C. nealeana</i> ; 10 synonyms
	Wageningen	1965	1970	arrived as <i>C. conjuncta</i>
	Muenchen	1977	1978	
	Wageningen	1959	1968	arrived as <i>C. perfoliata</i> Lam.
<i>Crassula perforata</i> Thunb. 'Giant Pagoda'	Wageningen	1969 & 1971	1972 & 1983	unknown cultivar
<i>Crassula pubescens</i> Thunb. subsp. <i>radicans</i> (Haw.) Toelken	Wageningen	1955	1961	arrived as <i>C. radicans</i>
<i>Crassula rupestris</i> L. f. subsp. <i>marnieriana</i> (H. E. Huber & Jacobsen) Toelken	nn	unknown	1963	arrived as <i>C. marnieriana</i>
	Lokrum	1970	1972	
<i>Crassula sarcocaulis</i> Eckl. & Zeyh.	Wageningen	1955	1972	syn. <i>C. sarcocaulis</i> subsp. <i>rupicola</i> ; from cuttings
<i>Crassula sarmentosa</i> Harv.	nn	unknown	1963	2 synonyms
	Duisburg	1990	2000	
<i>Crassula schimperi</i> Fisch. & C.A.Mey. subsp. <i>phyturus</i> (Mildbr.) R.Fern.	Wageningen	1955	1961	arrived as <i>C. phyturus</i>
	nn	in collection in 1963	1980	
	Duisburg	1989	1990	
<i>Crassula setulosa</i> Harv. var. <i>rubra</i> (N.E. Br.) G.D. Rowley	Berlin	1979	1989	arrived as <i>C. curta</i> ; syn. <i>C. curta</i> var. <i>rubra</i>
<i>Crassula socialis</i> Schönland	nn	1952	1978	
	Wageningen	1970 & 1974 & 1980	1978 & 1978 & 1982	
<i>Crassula spathulata</i> Thunb.	Wageningen	1956	1963	4 synonyms
	Szeged	1970	2000	
<i>Crassula subaphylla</i> (Eckl. & Zeyh.) Harv.	Wageningen	1958	1963	
<i>Crassula subaphylla</i> var. <i>subaphylla</i>	Goeteborg	1978	1980	arrived as <i>C. remota</i> ; one of 2 synonyms
<i>Crassula tabularis</i> Dinter	Berlin	1973	1978	
<i>Crassula tecta</i> Thunb.	Muenchen	1977	1979	syn. <i>Purgosea tecta</i>
<i>Crassula tetragona</i> L.	nn	1956 & unknown	1961 & 1963	from cuttings (1956)
	Szeged	1970	1980	
	Wageningen	1971 & 1980	1988 & 1981	
<i>Crassula</i> 'Tom Thumb'	Wageningen	1962 & 1963 & 1974	1980 & 1968 & 1978	hybrid between <i>C. rupestris</i> x <i>C. rupestris</i> subsp. <i>Marnieriana</i>
	Berlin	1973	1975	
<i>Crassula tomentosa</i> Thunb. var. <i>glabrifolia</i> (Harv.) G.D. Rowley	Berlin	1968	1972	arrived as <i>C. interrupta</i> ; syn. <i>C. tomentosa</i> var. <i>interrupta</i>
<i>Dudleya candelabrum</i> Rose	Graz	1972	1988	2 synonyms
<i>Dudleya cymosa</i> (Lem.) Britton & Rose	nn	in collection in 1963	1968	arrived as <i>D. pursii</i> ; one of 3 synonyms
	Cantonspark	1953	no data	
<i>Dudleya greenii</i> Rose	Berlin	1978	1983	2 synonyms
<i>Dudleya ingens</i> Rose	Gent	1964	1980	arrived as <i>D. viridicata</i> ; one of 2 synonyms
<i>Dudleya virens</i> (Rose) Moran	San Marino (California)	1984	1990	2 synonyms
<i>Echeveria affinis</i> E.Walther	Wageningen	1969	1972	



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<i>Echeveria agavoides</i> Lem.	nn	in collection in 1961	1966	5 synonyms
	Wageningen	1967	1968	
	Barcelona	1971	1975	
<i>Echeveria agavoides</i> Lem. 'Cristata'	nn	1950	1963	
<i>Echeveria albicans</i> Walther	Wageningen	1959	1966	arrived as <i>E. elegans</i> var. <i>kesselringiana</i>
<i>Echeveria amoena</i> De Smet ex E.Morren	Wageningen	1958	1981	syn. <i>E. pusilla</i>
	nn	in collection in 1968	2000	
	Liege	1984	2016	
<i>Echeveria coccinea</i> (Cav.) DC.	nn	in collection in 1961	1972	arrived as <i>E. pubescens</i>
	Basel	1995	2000	syn. <i>Cotyledon coccinea</i>
<i>Echeveria elegans</i> Rose	Berlin	1955	1961	4 synonyms
	Cantonspark	1955	1966	
	Caen	2002	2003	
	Berlin	1968	1972	arrived as <i>E. harmsii</i>
	Caen	2002	2016	
<i>Echeveria fulgens</i> Lem.	Berlin	1981	1988	2 synonyms
<i>Echeveria x gilva</i> E. Walther	Wageningen	1965 & 1967 & 1971	1972 & 1979 & 1983	<i>E. agavoides</i> x <i>E. elegans</i>
<i>Echeveria grandifolia</i> Haw.	Amsterdam	1967	1972	arrived as <i>E. campanulata</i>
<i>Echeveria multicaulis</i> Rose	nn	1953 & in collection in 1963	no data & 2003	from cuttings (1953)
	Bern	1953	no data	
	Giessen	1985	1993	
<i>Echeveria nodulosa</i> (Baker) Otto	Debrecen	1956	1961	arrived as <i>Cotyledon nodulosa</i>
<i>Echeveria puchella</i> Berger	Wageningen	1963 & 1964 & 1965	2000 & 1966 & 1966	
	nn	unknown	1968	
<i>Echeveria quitensis</i> (Kunth) Lindl.	Bruxelles	1961 & 1964	1962 & 1966	syn. <i>Sedum quitense</i>
<i>Echeveria rosea</i> Lindl.	Napulj	1960	1961	3 synonyms
	nn	unknown	1963 & 1974	
	Berlin	1968	1971	
<i>Echeveria scaphophylla</i> hort.	Uppsala	1958	1963	<i>Echeveria agavoides</i> x <i>Cremnophila linguifolia</i>
<i>Echeveria secunda</i> Booth ex Lindl.	nn	unknown	1961 & 1963 & 1970	arrived as <i>E. glauca</i> ; one of 2 synonyms
	Wageningen	1980	1988	
<i>Echeveria secunda</i> Booth ex Lindl. 'Cristata'	Wageningen	1963 & 1965	1980 & 1988	arrived as <i>E. glauca cristata</i>
	nn	unknown	1962	
<i>Echeveria sedoides</i> E.Walther	Liege	1984	1988	syn. <i>E. macdougalii</i>
<i>Echeveria setosa</i> Rose & Purpus	nn	in collection in 1961	2000	
<i>Graptopetalum macdougalii</i> Alexander	Wageningen	1963 & 1967 & 1971 & 1972 & 1980	1983 & 1968 & 1983 & 1975 & 1983	from cuttings (1967)
	Goeteborg	1978	1979	
<i>Graptopetalum pachyphyllum</i> Rose	Wageningen	1972	1978	2 synonyms
<i>Graptopetalum paraguayense</i> (N.E.Br.) E.Walther	nn	1954 & 1955	no data	arrived as <i>Echeveria weinbergii</i> ; one of 5+ synonyms
	Szeged	1970	1980	
	Bologna	1971	1971	
	Wageningen	1955 & 1964	1961 & 1968	arrived as <i>G. paraguayense</i> ; from cuttings (1955)
	nn	in collection in 1968	1978	

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× <i>Graptoveria</i> Rowley cv. <i>acaulis</i>	Wageningen	1967	1968	from cuttings; ( <i>Graptopetalum</i> × <i>Echeveria</i> = hybrids common in cultivation and difficult to identify)
<i>Hylotelephium erythrostictum</i> (Miq.) H. Ohba	Paris	1970	1990	arrived as <i>Sedum alboroseum</i> ; one of 4 synonyms
	Vladivostok	1971	1972	
	Budapest	1975	1978	
<i>Hylotelephium spectabile</i> (Boreau) H. Ohba 'Roseolum'	Budapest	1971	1971	arrived as <i>Sedum spectabile</i> 'Roseolum'
<i>Kalanchoe beauverdii</i> Raym.-Hamet	Antwerpen	1965 & 1972 & 1975	1966 & 2000 & 1983	10+ synonyms
	Nantes	1996	2000	
<i>Kalanchoe blossfeldiana</i> Poelln.	nn	1952	1961	2 synonyms
	Nancy	1971	1971	
	Košice	1978	2000	
<i>Kalanchoe blossfeldiana</i> Poelln. 'Alfred Graser'	Nancy	1971	1990	syn. <i>K. globulifera</i> var. <i>coccinea</i>
<i>Kalanchoe blossfeldiana</i> Poelln. 'Brilliant Star'	Nancy	1971	1988	syn. <i>K. globulifera</i> var. <i>coccinea</i>
	Košice	1978	1982	
<i>Kalanchoe blossfeldiana</i> Poelln. 'Ernst Thiede'	nn	1951	1971	syn. <i>K. globulifera</i> var. <i>coccinea</i>
	Gent	1970 & 1974	1988 & 1978	
<i>Kalanchoe blossfeldiana</i> Poelln. 'Feuerblute'	Gent	1970	1974	syn. <i>K. globulifera</i> var. <i>coccinea</i>
	Nancy	1971	1993	
<i>Kalanchoe campanulata</i> (Baker) Baill.	Antwerpen	1966 & 1967 & 1970	1977 & 1971 & 1970	syn. <i>Kitchingia campanulata</i> ; from cuttings (1967)
	Meise	1986	1988	
<i>Kalanchoe citrina</i> Schweinf.	Geneve	1978	1988	syn. <i>K. citrina</i> var. <i>erythraea</i>
	Muenchen	1977 & 1995	1988 & 2000	
	Reading	1997	2000	
<i>Kalanchoe crenata</i> (Andrews) Haw.	Alberta-Edmonton	1960 & 1961	1960 & 1961	arrived as <i>K. brasiliensis</i>
<i>Kalanchoe daigremontiana</i> Raym.-Hamet & H. Perrier	Ferrara	1970	1970	syn. <i>Bryophyllum daigremontianum</i>
	Bergen	1972 & 1977	1979 & 1978	
	nn	in collection in 1961 & 1974	1966 & 1979	from cuttings (1961)
<i>Kalanchoe delagoensis</i> Eckl. & Zeyh.	Berlin	1995	2000	arrived as <i>K. tubiflora</i> ; one of 5+ synonyms
	nn	2001	2001	
<i>Kalanchoe dixoniana</i> Raym.-Hamet	Muenchen	1977	1980	
<i>Kalanchoe faustii</i> Font Quer	Thorn	1960	1966	2 synonyms
	Duisburg	1989	2000	
	Nice	1997	2000	
	Essen	2006	no data	
<i>Kalanchoe glaucescens</i> Britten	nn	unknown	1961	arrived as <i>K. flammea</i> ; one of 5 synonyms
	Palermo	1995	2000	
	Antwerpen	1966	1968	arrived as <i>K. laciniata</i> ; 5 synonyms
<i>Kalanchoe globulifera</i> H. Perrier	Amsterdam	1967	1980	
	nn	1965	1983	
	Berlin	1991	2000	
	Essen	2006	2006	
	nn	1952	no data	
	Linz	1954	1961	
<i>Kalanchoe globulifera</i> H. Perrier	Berlin	1971	1971	
	Basel	1989	2000	

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<i>Kalanchoe gracilipes</i> (Baker) Baill.	Stockholm	1964	1966	2 synonyms
<i>Kalanchoe hildebrandtii</i> Baill.	Wageningen	1965 & 1970	1971 & 1970	3 synonyms
<i>Kalanchoe hybrida</i> Desf. ex Steud. X hort.	Nancy	1971	1971	
<i>Kalanchoe x kewensis</i> Dyer	Antwerpen	1965 & 1966 & 1967	1971 & 1968 & 1971	from cuttings (1967); <i>K. flammea</i> x <i>K. bentii</i>
	Gent	1967	1979	
<i>Kalanchoe lanceolata</i> (Forssk.) Pers.	Gent	1966	1971	2 synonyms
	Basel	1989	1990	
<i>Kalanchoe lateritia</i> Engl.	Berlin	1965	1981	arrived as <i>K. zimbabwensis</i> ; 15+ synonyms
	Antwerpen	1967	1971	from cuttings
	nn	1974	1982	
	Berlin	1965 & 1970	2000 & 1970	
	Basel	1986	1990	
<i>Kalanchoe laxiflora</i> Baker	nn	unknown	1961	2 synonyms
	Muenchen	1977	1980	
	Meise	1986	1988	
<i>Kalanchoe lindmanii</i> Raym.-Hamet	Antwerpen	1967	1975	arrived as <i>K. humbertii</i> ; from cuttings
<i>Kalanchoe longiflora</i> Schltr. ex J. M. Wood	Antwerpen	1960 & 1965 & 1966	1989 & 1971 & 2003	
	nn	in collection in 1968	1971	
	nn	1967	1970	
<i>Kalanchoe manginii</i> Raym.-Hamet & H. Perrier	Wageningen	1965 & 1966 & 1967	1965 & 1967 & 1968	syn. <i>K. manginii</i> var. <i>triploidea</i> ; from cuttings (1967)
	Antwerpen	1967 & 1968	1976 & 1968	
	Borgin	1973	2010	
	nn	1974	2010	
<i>Kalanchoe marnieriana</i> H. Jacobsen	Wageningen	1965	1966	2 synonyms
	nn	in collection in 1968	1979	
<i>Kalanchoe orgyalis</i> Baker	Antwerpen	1965 & 1966 & 1967	1966 & 1968 & 1968	syn. <i>K. antanosiana</i>
<i>Kalanchoe peteri</i> Werderm.	Antwerpen	1965	1966	
<i>Kalanchoe pinnata</i> (Lam.) Pers.	Genova	1967	1980	4 synonyms; from cuttings
	Rotterdam	1969	1976	
<i>Kalanchoe prittwitzii</i> Engl.	Duisburg	1995	2002	arrived as <i>K. lugardii</i> ; one of 3 synonyms
<i>Kalanchoe pubescens</i> Baker	Antwerpen	1965 & 1967 & 1970	1971 & 1971 & 1979	syn. <i>Bryophyllum pubescens</i>
<i>Kalanchoe pumila</i> Baker	Wageningen	1965 & 1968 & 1970	1966 & 2010 & 2010	3 synonyms
	nn	1968	1982	
	Genova	1967	1971	
	nn	unknown	1971	
	Caen	1993	2004	
<i>Kalanchoe rhombopilosa</i> Mannoni & Boiteau	Wageningen	1965	1971	syn. <i>K. rhombopilosa</i> var. <i>argentea</i>
	Bologna	1966	1966	
<i>Kalanchoe rotundifolia</i> (Haw.) Haw.	Nancy	1971	1979	arrived as <i>K. guillauminii</i> ; one of 3 synonyms
	nn	1974	1978	
	Basel	1989	1990	
	Amsterdam	1965	1965	arrived as <i>K. rotundifolia</i>
	Brno	1963	1966	
	nn	in collection in 1968	1980	
<i>Kalanchoe schimperiana</i> A. Rich.	Antwerpen	1965 & 1970 & 1972	1988 & 1970 & 1972	2 synonyms
<i>Kalanchoe schizophylla</i> (Baker) Baill.	Antwerpen	1965 & 1971	1966 & 1971	2 synonyms
	Szeged	1970	1971	
<i>Kalanchoe schumacheri</i> Koord.	Antwerpen	1965	1971	
	nn	1974	1978	

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	Gent	1979	1988	
<i>Kalanchoe somaliensis</i> Hook. f.	Muenchen	1977	2000	
<i>Kalanchoe tetraphylla</i> H. Perrier	Antwerpen	1965	1965	
	Edmonton	1969	1971	
	nn	unknown	1968	
<i>Kalanchoe thyrsoflora</i> Harv.	Muenchen-Nymphenburg	1997	2000	syn. <i>K. alternans</i> auct.
<i>Kalanchoe tomentosa</i> Baker	Antwerpen	1964 & 1965 & 1967 & 1972	1981 & 1966 & 1968 & 1972	from cuttings (1967)
	Wageningen	1964 & 1965 & 1966 & 1972	1982 & 1966 & 1966 & 1972	
	Brno	1963	1981	
<i>Kalanchoe uniflora</i> (Stapf) Raym.-Hamet	Uppsala	1970	1971	2 synonyms
	Stockholm	1989	1993	
<i>Kalanchoe velutina</i> Welw. ex Britten	Coimbra	1984	1993	3 synonyms
<i>Lenophyllum pusillum</i> Rose	Wageningen	1955 & 1980	1961 & 1980	from cuttings (1955)
	nn	in connection in 1963	1968	
	Szeged	2000	2000	
<i>Lenophyllum texanum</i> (J.G. Sm.) Rose	Uppsala	1955	1961	2 synonyms
<i>Monanthes atlantica</i> J. Ball	Uppsala		1961	arrived as <i>M. muralis</i> ; one of 5+ synonyms
	Wageningen	1967 & 1968 & 1970 & in coll. in 1974	2010 & 2010 & 1990 & 1979	from cuttings (1967)
<i>Monanthes laxiflora</i> (DC.) Bolle ex Bornmuller	nn	in collection in 1963	1990	3 synonyms
	Wageningen	1967 & 1970	1982 & 1982	from cuttings (1967)
<i>Monanthes polyphylla</i> (Aiton) Haw.	Wageningen	1968 & 1970 & 1971 & 1972	1971 & 1970 & 1971 & 1972	3 synonyms
	Besancon	1971	1971	
<i>Orostachys japonica</i> (Maxim.) A. Berger	Lokrum	1970	1978	syn. <i>Cotyledon japonica</i>
<i>Orostachys malacophylla</i> (Pall.) Fisch. var. <i>iwarenge</i> (Makino) H. Ohba	Wageningen	1964 & 1965	1969 & 1968	arrived as <i>O. iwarenge</i>
	nn	1964	1968	
<i>Orostachys spinosa</i> (L.) Sweet	Prague	1964	1964	from cuttings; 4 synonyms
<i>Pachyphytum bracteosum</i> Klotzsch	Besancon	1964	1977	
<i>Pachyphytum brevifolium</i> Rose	Berlin	1958	1968	
	nn	in collection in 1966	1979	
	Besancon	1963	1980	
	Barcelona	1965	1968	
<i>Pachyphytum compactum</i> Rose	nn	unknown	1964	arrived as <i>P. compactum</i> var. <i>weinbergii</i>
<i>Pachyphytum compactum</i> Rose 'Cristatum'	Besancon	1963	1975	unknown cultivar, probably <i>P. compactum</i> f. <i>cristatus</i> hort.
<i>Pachyphytum hookeri</i> (Salm-Dyck) A. Berger	Prague	1963	1988	syn. <i>Diotostemon hookeri</i>
	nn	in collection in 1968	1988	
<i>Pachyveria x glossoides</i> Gossot.	Antwerpen	1969	1978	unresolved name (The Plant List)
<i>Pachyveria x pachyphytoides</i> (De Smet) E. Walther	nn	in collection in 1963	1980	<i>Pachyphytum bracteosum</i> x <i>Echeveria gibbiflora</i> var. <i>metallica</i>
<i>Phedimus spurius</i> (M. Bieb.) 't Hart	Kaunas	1970	1971	arrived as <i>Sedum involucratum</i>
<i>Phedimus spurius</i> (M. Bieb.) 't Hart 'Splendens'	Budapest	1971	1971	4 synonyms
<i>Rhodiola algida</i> Fisch. & C.A. Mey.	Muenchen	1966	no data	arrived as <i>Sedum euphorboides</i> ; one of 2 synonyms
	Paris	1970	1973	

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	Amsterdam	1971	1973	
<i>Rhodiola wallichiana</i> (Hook.) S.H. Fu	Lausanne	1953	1961	arrived as <i>Sedum crassipes</i> ; one of 4 synonyms
<i>Rosularia pallida</i> (Schott & Kotschy) Stapf	Wageningen	1965 & 1980	1968 & 1980	syn. <i>Umbilicus pallidus</i>
<i>Rosularia pilosa</i> (Fischer ex M. Bieberstein) Boriss.	Meinz	1955	1961	arrived as <i>Sedum pilosum</i> ; one of 2 synonyms
<i>Rosularia sedoides</i> (Decne.) H. Ohba	nn	in collection in 1963	1978	arrived as <i>Sempervivella alba</i> ; one of 5 synonyms
	Vienna-Belvedere	1978	1982	
	Caen	1993	2000	from cuttings
<i>Rosularia sempervivum</i> (M. Bieb.) A. Berger subsp. <i>sempervivum</i>	Geneve	1956	1961	arrived as <i>Cotyledon libanotica</i> ; 4 synonyms
<i>Sedum adolphii</i> Raym.-Hamet	Debrecen	1955	1961	from cuttings
<i>Sedum allantoides</i> Rose	Wageningen	1971	1975	
<i>Sedum amecamecanum</i> Praeger	Antwerpen	1953	1961	from cuttings
	nn	in collection in 1963	1980	
<i>Sedum batesii</i> Hemsl.	Berlin	1968	1968	arrived as <i>Altamiranoa batesii</i> ; syn <i>Altamiranoa hemsleyana</i>
<i>Sedum brevifolium</i> DC.	Budapest	1970 & 1971 & 1978	1970 & 1971 & 1978	3 synonyms
<i>Sedum compactum</i> Rose	Wageningen	1965	1971	from cuttings
<i>Sedum compressum</i> Rose	Wageningen	1955	1961	
<i>Sedum confusum</i> Hemsl.	Wageningen	1969	2010	
<i>Sedum dendroideum</i> Moc. & Sessé ex DC.	nn	in collection in 1963	1966	syn. <i>Sedum dendroideum</i> subsp. <i>dendroideum</i>
<i>Sedum dendroideum</i> subsp. <i>praealtum</i> (A. DC.) R.T. Clausen	Debrecen	1955	no data	arrived as <i>S. praealtum</i>
	nn	unknown	1968	
	Wageningen	1969	1971	
	Antwerpen	1971	1971	
	Duisburg	1989	1990	
	Wageningen	1963 & 1965 & 1966	1970 & 1972 & 1974	arrived as <i>Aeonium praealtum cristatum</i>
<i>Sedum ebracteatum</i> Moc. & Sessé ex DC.	Wageningen	1970 & 1972	1979 & 1973	10 + synonyms
<i>Sedum furfuraceum</i> Moran	Goeteborg	1978	1978	
<i>Sedum goldmanii</i> (Rose) Moran	Wageningen	1964 & 1967 & 1968	1988 & 1978 & 1968	arrived as <i>Villadia batesii</i> ; one of 2 synonyms, from cuttings (1964, 1967, 1968)
	Salaspils	1999 & 2000	2000 & 2001	from cuttings (1999, 2000)
<i>Sedum greggii</i> Hemsl.	Wageningen	1980	1988	syn. <i>S. diversifolium</i>
<i>Sedum griseum</i> Praeger	Wageningen	1967 & 1968 & 1970	1968 & 1971 & 1982	from cuttings
<i>Sedum guatemalense</i> Hemsl.	Antwerpen	1954	no data	
	nn	in collection in 1963	1966	
	Besancon	1971	1979	
	Berlin	1989	2000	
<i>Sedum hulthenii</i> Fröd.	nn	1949	no data	syn. <i>S. incertum</i> ; from cuttings
	Wageningen	1969	1990	
<i>Sedum humifusum</i> Rose	nn	unknown	1961	
<i>Sedum lineare</i> fa. <i>variegatum</i> Praeger	Budapest	1971	1971	
<i>Sedum lucidum</i> R.T. Clausen	Wageningen	1969	1978	
<i>Sedum mexicanum</i> Britton	Wageningen	1955 & in collection in 1963	1961 & 1993	syn. <i>S. obtusolineare</i> ; from cuttings (1955)
<i>Sedum moranense</i> Kunth	Antwerpen	1955	no data	arrived as <i>S. arboreum</i> ; one of 3 synonyms
	Amsterdam	1955	1961	
	nn	1961	1963	arrived as <i>S. moranense</i>

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<i>Sedum moranense</i> subsp. <i>grandiflorum</i> R.T. Clausen	Wageningen	1971	1971	arrived as <i>S. moranense</i> 'Grandiflorum'
<i>Sedum morganianum</i> E.Walther	nn	in collection in 1963	1968	
	nn	in collection in 2000	2003	
<i>Sedum nussbaumerianum</i> Bitter	Wageningen	1962	1966	
	Genova	1963	1966	
<i>Sedum oaxacanum</i> Rose	Wageningen	1955	no data	
	Wageningen	in collection in 1963	1980	
<i>Sedum oxypetalum</i> Kunth	nn	in collection in 1963	1966	2 synonyms
<i>Sedum pachyphyllum</i> Rose	Wageningen	1955 & 1971	1966 & 1975	
<i>Sedum palmeri</i> S. Watson	Lausanne	1953	1961	
	Besancon	1968 & 1976	1979 & 1979	
	Kiel	1989	1993	
<i>Sedum potosinum</i> Rose	nn	1952	1968	
<i>Sedum pulvinatum</i> R.T. Clausen	Wageningen	1969	1977	
<i>Sedum retusum</i> Hemsl.	Uppsala	1958	1975	
<i>Sedum rhodicarpum</i> Rose	Uppsala	1958	1971	
<i>Sedum rubrotinctum</i> R.T. Clausen	nn	in collection in 1961	1966	
	Ferara	1970	1971	
	Wageningen	1970	1971	
<i>Sedum rubrotinctum</i> R. T. Clausen cv. 'Aurora'	nn	in collection in 1968	1971	
<i>Sedum spathulifolium</i> Hook.	nn	1952	no data	syn. <i>Gormania spathulifolia</i>
	Vancouver (Oregon)	1968	1970	
<i>Sedum spathulifolium</i> var. <i>pruinosum</i> (Britton) B. Boivin	Essen	1970	1970	arrived as <i>S. spathulifolium</i> var. <i>purpureum</i>
<i>Sedum stahliae</i> Solms	nn	in collection in 1963	1978	
<i>Sedum treleasei</i> Rose	Rome	1970	1983	
	Wageningen	1969 & 1971	1979 & 1981	
	nn	in collection in 1975	1979	
<i>Sedum urvillei</i> DC.	Budapest	1971	1961	arrived as <i>S. ponticum</i> ; one of 4 synonyms
<i>Sempervivum</i> × <i>funckii</i> F.Braun ex W.D.J.Koch	Wageningen	1956	1961	hybrid between <i>S. arachnoideum</i> × <i>S. montanum</i> × <i>S. tectorum</i>
<i>Sempervivum montanum</i> L. subsp. <i>stiriacum</i> (Wettst. ex Hayek) Wettst. ex Hayek	Rotterdam	1955	1961	arrived as <i>S. montanum</i> var. <i>braunii</i> ; one of 2 synonyms
<i>Sinocrassula densirosulata</i> (Praeger) A. Berger	nn	1971	1977	syn. <i>Sedum indicum</i> var. <i>densirosulatum</i>
<i>Sinocrassula yunnanensis</i> (Franch.) A. Berger	Centonspark	1954	1980	syn. <i>Sedum indicum</i> var. <i>yunnanense</i>
<i>Umbilicus intermedius</i> Boiss.	Berlin	1978	1979	5 synonyms
<i>Umbilicus luteus</i> (Huds.) Webb & Berthel.	Genova	1975	1976	arrived as <i>U. erectus</i> ; one of 10 synonyms
<i>Umbilicus rupestris</i> (Salisb.) Dandy	Coimbra	1970	1980	15+ synonyms
	Meyrin	1976	1983	
	Antwerpen	1955	no data	arrived as <i>Cotyledon umbilicus</i>
	Porto	1963	1964	
	Paris	1963	1965	
<i>Villadia batesii</i> (Hemsl.) Baehni & Macbride	Wageningen	1964 & 1967 & 1968	1988 & 1978 & 1968	2 synonyms, from cuttings (1964, 1967, 1968)
	Salaspils	1999 & 2000	2000 & 2001	from cuttings (1999, 2000)
<i>Villadia imbricata</i> Rose	Wageningen	1957	1978	2 synonyms
	Berlin	1970	1977	



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<b>Euphorbiaceae</b>				
<i>Euphorbia abyssinica</i> J.F.Gmel.	Palermo	1966 & 1978	1978 & 1980	arrived as <i>E. erythraeae</i> ; syn. <i>E. abyssinica</i> var. <i>erythraeae</i>
<i>Euphorbia aggregata</i> A.Berger	Vienna	1964	1993	
<i>Euphorbia alcornis</i> Baker	nn	in collection in 1961	2010	
<i>Euphorbia altissima</i> Boiss.	Coimbra	1973	1978	syn. <i>Tithymalus altissimus</i>
<i>Euphorbia amygdaloides</i> L. subsp. <i>robbiae</i> (Turrill) Stace	Linz	1974	1977	arrived as <i>E. robbiae</i> ; one of 2 synonyms
<i>Euphorbia antiquorum</i> L.	Sofija	1973	1993	syn. <i>Tithymalus antiquorum</i>
<i>Euphorbia aphylla</i> Brouss. ex Willd.	Berlin	1953 & 1961	1961 & 1966	2 synonyms; from cuttings (1953)
	Amsterdam	1961	1968	
	Vacratot	1971	1978	
	Antwerpen	1973	1978	
<i>Euphorbia balsamifera</i> Aiton	Gent	1961 & 1962	1961 & 1963	8 synonyms
	Lisbon	1960	1963	
	nn	in collection in 1968	1976	
<i>Euphorbia</i> × <i>bothae</i> Lotsy & Goddijn	Barcelona	1970	1979	extremely variable - 6 possible parents ( <i>E. caerulescens</i> , <i>E. curvirama</i> , <i>E. frankiana</i> , <i>E. ledienii</i> , <i>E. tetragona</i> and <i>E. triangularis</i> )
<i>Euphorbia bubalina</i> Boiss.	nn	1953 & 1980	1961 & 1988	syn. <i>E. laxiflora</i>
<i>Euphorbia bupleurifolia</i> Jacq.	Lokrum	1967	1968	2 synonyms
<i>Euphorbia canariensis</i> L.	nn	1951 & in collection in 1961 & 1978	no data & 1978 & 1993	5 synonyms
	Barcelona	1970 & 1984	1978 & 1993	
	Cordoba	1984	2000	
<i>Euphorbia candelabrum</i> Trémaux ex Kotschy	Amsterdam	1993	1993	5 synonyms; from cuttings gift from Orepić
	Monaco	1996	2000	
<i>Euphorbia caput-medusae</i> L.	nn	1950	1979	
	nn	1972	1990	
	Barcelona	1970 & 1971	1993 & 1988	arrived as <i>E. caput-medusae</i> var. <i>cristata</i>
<i>Euphorbia caput-medusae</i> L. 'Cristata'	Gent	1960	1962	
<i>Euphorbia ceratocarpa</i> Ten.	Palermo	1966 & 1969 & 1973	no data & 1971 & 1988	syn. <i>Tithymalus ceratocarpus</i>
<i>Euphorbia cereiformis</i> L.	Szeged	1958	1968	3 synonyms
<i>Euphorbia clandestina</i> Jacq.	nn	1952	no data	
<i>Euphorbia caerulescens</i> Haw.	Besancon	1964	1966	
	Barcelona	1971	1993	
<i>Euphorbia cotinifolia</i> L.	Muenchen	1977	1988	3 synonyms
<i>Euphorbia dregeana</i> E.Mey. ex Boiss.	Kiel	1968 & 1972	1968 & 1975	syn. <i>Tirucalia dregeana</i>
<i>Euphorbia fimbriata</i> Scop.	Vienna	1964	1968	4 synonyms; planta viva
<i>Euphorbia forsskalii</i> J.Gay	Kirstenbosch	1957	1968	arrived as <i>E. burmanniana</i> ; one of 2 synonyms
<i>Euphorbia frankiana</i> A.Berger	Barcelona	1967 & 1970 & 1971 & 1972 & 1973	1970 & 1978 & 1988 & 1993 & 1974	
<i>Euphorbia globosa</i> (Haw.) Sims	Kiev	1984	2000	2 synonyms
	Szeged	1994	2016	
	Utrecht	1954	no data	from cuttings
	nn	1952	1978	
	Genova	1959	1961	
	Gent	1962	1968	
	Bukurešt	1963	1970	
	Bologna	1973	1980	
	Bergen	1975 & 1977	1980 & 1982	
	Jibou	1996	2000	

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<i>Euphorbia grandidens</i> Haw.	nn	in collection in 1961	1993	2 synonyms; from cuttings
<i>Euphorbia heptagona</i> L. var. <i>dentata</i> N.E. Br.	nn	1964	1968	syn. <i>E. enopla</i> var. <i>dentata</i>
<i>Euphorbia heterophylla</i> L.	Antwerpen	unknown	1961	syn. <i>E. cyathophora</i>
	Legan	1969 & 1970	1970 & 1970	
<i>Euphorbia ledienii</i> A.Berger	nn	in collection in 1984	1990	syn. <i>E. ledienii</i> var. <i>ledienii</i>
	Helsinki	1958	1961	
	Bergen	unknown	1970	
	Besancon	1971	1978	
<i>Euphorbia lignosa</i> Marloth	Muenchen	1978	1980	syn. <i>Tirucalia lignosa</i>
<i>Euphorbia lophogona</i> Lam.	Koeln	1960	1961	2 synonyms
	Uppsala	1959	1963	
<i>Euphorbia mamillaris</i> L.	Rouen	1958	1961	
<i>Euphorbia mauritanica</i> L.	nn	1952	1961	2 synonyms
	Dijon	1957	no data	
	Coimbra	1961	1968	
	Szeged	1971	1971	
	Besancon	1971	1979	
	Kirstenbosch	1986	1988	
<i>Euphorbia meloformis</i> Aiton	nn	1951	no data	from cuttings; 5 synonyms
	Vienna	1964	1968	from cuttings
	Muenchen	1992	2000	
	Reading	1994	2000	
	Chemnitz	1996	2000	
<i>Euphorbia millii</i> Des Moul.	Genova	1967	1968	10+ synonyms
	Haren	unknown	1988	arrived as <i>E. splendens</i> var. <i>bojeri</i>
<i>Euphorbia nerifolia</i> L.	nn	in collection in 1961	2000	2 synonyms
	nn	1969	1978	
<i>Euphorbia obesa</i> Hook.f.	Vienna	1962 & 1963	1968 & 1968	syn. <i>E. obesa</i> subsp. <i>obesa</i>
	Goettingen	1970	1975	
	Marburg	1991 & 1998	no data & 2000	
	Palermo	1993	1995	
	Kiel	1995	2010	
	Reading	2002	2006	
	nn	unknown	1968	
<i>Euphorbia obtusifolia</i> Lam. subsp. <i>regis-jubae</i> (Webb & Berthel.) Maire	Palermo	1953 & 1966	1961 & 1975	arrived as <i>E. regis-jubae</i> ; one of 4 synonyms
	nn	in collection in 1968	2000	
	Tuebingen	1972	1975	
	Cordoba	1985	1988	
<i>Euphorbia officinarum</i> L. subsp. <i>echinus</i> (Hook. f. & Coss.) Vindt	Barcelona	1972 & 1980	1993 & 1993	arrived as <i>E. echinus</i>
<i>Euphorbia oxyphylla</i> Boiss.	Coimbra	1973	1975	arrived as <i>E. broteroi</i> ; one of 2 synonyms
<i>Euphorbia pentagona</i> Haw.	Palermo	1966	1968	from cuttings, 2 synonyms
	Tuebingen	1971	1978	
	Besancon	1971	no data	
<i>Euphorbia polycephala</i> Marloth	Tuebingen	1971	1978	
<i>Euphorbia procumbens</i> Mill. 'Cristata'	Gent	1961	1968	possible <i>E. pugniformis</i> 'Cristata'
<i>Euphorbia pseudoglobosa</i> Marloth	Budapest	1978	1980	syn. <i>E. frickiana</i>
<i>Euphorbia pteroneura</i> A.Berger	Hengchun	1971 & 1976	2003 & 2000	3 synonyms
	Muenchen	1967	2003	
	Dresden	2000	2003	
	Monaco	2000	2003	
	Nantes	1998	2000	
	Cuba	1986	2000	
	Trontheim	1996	2000	
<i>Euphorbia pubescens</i> Vahl var. <i>crispata</i> Boiss.	Cantonspark	1955	1968	

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<i>Euphorbia pubiglans</i> N.E.Br.	Kirstenbosch	1970	1975	
<i>Euphorbia pulvinata</i> Marloth	nn	unknown	1979	
<i>Euphorbia resinifera</i> O.Berg	nn	1951 & 1969	1961 & 1988	syn. <i>Tithymalus resiniferus</i> ; from cuttings (1951)
	Bologna	1973	1988	
	Kijev	1984 & 1985	1993 & 1993	
<i>Euphorbia royleana</i> Boiss.	Palermo	1966	1978	syn. <i>E. pentagona</i>
<i>Euphorbia splendens</i> Bojer ex Hook.	Haren	1970	1977	arrived as <i>E. millii</i> var. <i>splendens</i> ; one of 2 synonyms
<i>Euphorbia succulenta</i> (Schweick.) Bruyns	Haren	1974	1975	arrived as <i>Monadenium stapelioides</i> ; one of 2 synonyms
<i>Euphorbia terracina</i> L.	Berlin	1962 & 1966 & 1967 & 1972 & 1973 & 1974 & 1976	1963 & 1966 & 1968 & 1975 & 1978 & 1982 & 1988	arrived as <i>E. obtusifolia</i>
	nn	in collection in 1968	1993	
<i>Euphorbia tirucalli</i> L.	nn	1953	1961	15+ synonyms; from cuttings
<i>Euphorbia tithymaloides</i> L. subsp. <i>smallii</i> (Millsp.) V.W.Steinm.	Szeged	1970	1984	arrived as <i>Pedilanthus smallii</i> ; one of 3 synonyms
	Strasbourg	1969	1988	
<i>Euphorbia umbellata</i> (Pax) Bruyns	nn	unknown	2003	arrived as <i>Synadenium grantii</i> ; one of 4 synonyms
<i>Euphorbia virosa</i> Willd.	Antwerpen	1959	1966	4 synonyms
	Cagliari	1964	1966	
	nn	in collection in 1968	1981	
	Linz	1978	1988	
<i>Euphorbia wildii</i> L. C. Leach	nn	unknown	1966	arrived as <i>E. monteiri</i>
	Erlangen	1965	1968	
	Muenchen	1968	1970	
	Angola	1971	1982	
	Muenchen	1972 & 1974 & 1977 & 2000	1993 & 1979 & 1993 & 1993 & 2000	
<b>Geraniaceae</b>				
<i>Pelargonium echinatum</i> Curtis	Meinz	1955	no data	
	Bucharest	1971	no data	
<i>Pelargonium gibbosum</i> (L.) L'Hér.	Cantonspark	1954	1961	syn. <i>Geranium gibbosum</i> ; from cuttings
<i>Pelargonium xerophyton</i> Schltr. ex R. Knuth	Vienna	1964	1964	from cuttings
<b>Oxalidaceae</b>				
<i>Oxalis megalorrhiza</i> Jacq.	Wageningen	1962	1971	2 synonyms
<b>Portulacaceae</b>				
<i>Anacampseros arachnoides</i> (Haw.) Sims	Wageningen	1958	1961	3 synonyms
	nn	1955	1966	
	Berlin	1976	1990	
	Amsterdam	1984	1990	
<i>Anacampseros densifolia</i> Dinter ex Poelln.	Berlin	1976	1980	arrived as <i>A. densiflora</i> , unknown name
<i>Ancampseros filamentosa</i> Haw. Sims.	Koeln	1956	1978	
	Berlin	1976	1980	
<i>Anacampseros lanceolata</i> (Haw.) Sweet	Nancy	1956	1966	syn. <i>A. lanceolata</i> var. <i>albiflora</i>
<i>Anacampseros rufescens</i> (Haw.) Sweet	Coimbra	1956 & 1965	1978 & 1972	syn. <i>A. arachnoides</i> var. <i>grandiflora</i>
	Beograd	1965	1968	
	Wageningen	1974	1983	
	Berlin	1979	1993	
	Dresden	1980	no data	

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	Duisburg	1986	1993	
	Jibou	1998	2016	
<i>Anacampseros telephiastrum</i> DC.	Frankfurt	1956	1981	5+ synonyms
	Berlin	1976	1993	
<i>Portulacaria afra</i> Jacq.	nn	1949	2000	6 synonyms
<b>Vitaceae</b>				
<i>Cissus cactiformis</i> Gilg	Cluj-Napoca	1961 & 1957 & 1958	1961 & 1968 & 1970	
	Antwerpen	1966 & 1972	1968 & 1972	
	Duisburg	1969	1990	
	Lublin	1993	1996	
	Antwerpen	1966 & 1972 & 1970	1966 & 1972 & 1978	arrived as <i>Vitis cactiformis</i> (unknown species)
<i>Cissus quadrangularis</i> L.	Duisburg	1969	2000	5 synonyms
	Lublin	1993	2000	
	Bucharest	1972	1975	
<i>Cyphostemma currorii</i> (Hook.f.) Desc.	Kiel	1966	1970	arrived as <i>Cissus cramerianum</i> ; one of 8 synonyms
<b>MONOCOTYLEDONS</b>				
<b>Agavaceae</b>				
<i>Agave americana</i> L.	nn	in collection in 1961	1978	10+ synonyms
	nn	in collection in 1961	1993	arrived as <i>A. americana</i> var. <i>marginata aurea</i>
<i>Agave americana</i> var. <i>medio-picta</i> Trel. f. <i>alba</i>	nn	1995	2000	gift
<i>Agave attenuata</i> Salm-Dyck	Palermo	1962 & 1968 & 1969	1993 & 1990 & 1993	5+ synonyms
	nn	1951 & 1984	1993 & 1993	arrived as <i>A. cernua</i>
<i>Agave aurea</i> Brandegee	San Marino (California)	1976 & 1978 & in collection in 1988	1990 & 1990 & 1998	
<i>Agave bracteosa</i> S. Watson ex Engelm.	Padova	1983	2016	
<i>Agave dasylirioides</i> Jacobi & Bouch.	Amsterdam	1971	1980	3 synonyms
<i>Agave ellemeetiana</i> Jacobi	Browning	1953	1975	homonym <i>A. ellemeetiana</i> K. Koch
<i>Agave fignemontii</i>	Vienna	1964	1990	unknown species
<i>Agave filifera</i> Salm-Dyck	Reading	1962	1988	6 synonyms
	Barcelona	1969	1980	
	nn	in collection in 1988	1993	
	nn	in collection in 1974	1990	arrived as <i>A. filifera</i> var. <i>filamentosa</i>
<i>Agave horrida</i> Lem. ex Jacobi	Barcelona	1956 & 1969	1972 & 1980	arrived as <i>A. grandidentata</i> ; 8 synonyms
	Vienna	1964	1977	
	Barcelona	1958	1961	arrived as <i>A. horrida</i>
<i>Agave kerchovei</i> Lem.	Nantes	1953	1966	from cuttings; 7 synonyms
	nn	unknown	1968	
<i>Agave macroacantha</i> Zucc. var. <i>integrifolia</i> Trel.	Palermo	1969	1980	
<i>Agave mitis</i> Mart.	Tuebingen	1963	1968	arrived as <i>A. micrantha</i> ; one of 10+ synonyms
	nn	unknown	no data	
<i>Agave mitis</i> var. <i>albidior</i> (Salm-Dyck) B.Ullrich	Nancy	1962	1988	arrived as <i>A. albicans</i> ; one of 10+ synonyms
	Barcelona	1962	1988	
<i>Agave obscura</i> Schiede ex Schldtl.	Lyon	1953 & 1955	1988 & nn	arrived as <i>A. densiflora</i> ; from cuttings (1953)
	nn	in collection in 1968	1972	
<i>Agave pendula</i> Schnittsp.	Palermo	1968 & 1969	1988 & 1983	arrived as <i>A. sartori</i> ; one of 7 synonyms

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<i>Agave salmiana</i> Otto ex Salm-Dyck	old plant from S3, probably 80 years old	1919.?	1999	10+ synonyms
<i>Agave salmiana</i> var. <i>ferox</i> (K.Koch) Gentry	nn	1951	1972	arrived as <i>A. ferox</i> ; one of 3 synonyms; from cuttings
<i>Agave schidigera</i> Lem.	San Marino (California)	1976	2000	5+ synonyms
<i>Agave shawii</i> Engelm.	nn	1951	1980	4 synonyms
	nn	in collection in 1975	1980	
<i>Agave sisalana</i> Perrine	nn	1951	1988	5 synonyms
	Barcelona	1963	1980	
	Palermo	1964 & 1966 & 1969	1978 & 1993 & 1980	
<i>Agave striata</i> Zucc.	Lokum	1968	1998	arrived as <i>A. echinoides</i> ; one of 10+ synonyms
<i>Agave stricta</i> Salm-Dyck	Berlin	1979 & 1981	1983 & 2000	5 synonyms
	Barcelona	1986	1993	
<i>Agave univittata</i> Haw.	Lyon	1953	1990	arrived as <i>A. heteracantha</i> ; 20+ synonyms
	nn	1951	1978	
<i>Agave vandervoemenii</i> Lem.	Palermo	1969	1988	unresolved name (The Plant List)
<i>Agave vera-cruz</i> Mill.	Barcelona	1968	2000	arrived as <i>A. lurida</i> ; one of 10+ synonyms
	Palermo	1969	1972	
<i>Agave victoriae-reginae</i> T.Moore	Berlin	1960	1980	arrived as <i>A. ferdinandiregis</i> ; one of 5+ synonyms
	Olomouc	1989	1990	
	Amsterdam	1989	1990	
	nn	1952	1968	arrived as <i>A. victoriae-reginae</i>
	Barcelona	1959 & 1967 & 1968 & 1969 & 1972	1961 & 1978 & 2010 & 1998 & 2000	
	Erlangen-Nürnberg	1996	2010	
	Kiel	2000	2010	
<i>Agave viridissima</i> Baker	nn	in collection in 1963	1963	unresolved name (The Plant List)
<i>Agave vivipara</i> L.	Nantes	1953	no dana	arrived as <i>A. zapupe</i> ; from cuttings; one of 30+ synonyms
	Palermo	1957 & 1969	1993 & 1978	
<i>Agave xylonacantha</i> Salm-Dyck	Zuerich	1955	1961	10 synonyms
<i>Furcraea foetida</i> (L.) Haw.	Palermo	1953 & 1964	1961 & 1978	from cuttings (1953), 10+ synonyms
	Szeged	1964	1975	
	Cagliari	1964	1978	
	nn	in collection in 1968	1968	
	Tuebingen	1972	2000	
<i>Furcraea parmentieri</i> (Roez l ex Ortgies) Garcia-Mend.	nn	1951	1961	arrived as <i>F. beddinghausii</i> ; from bulbs; 4 synonyms
	Palermo	1966	1974	
	nn	in collection in 1968	1968	
	Lokrum	1976	1989	
	Aechen	1990	1993	
<i>Furcraea stricta</i> Jacobi	nn	in collection in 1961	1961	arrived as <i>F. elegans</i>
	Montreal	1966 & 1989	1983 & 2000	
<i>Manfreda maculosa</i> (Hook.) Rose	Adelaide	1959 & 1964 & 1976	2003 & 1984 & 1977	7 synonyms
<i>Yucca aloifolia</i> L.	Antibes	1961	1969	20+ synonyms

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	Barcelona	1964	2000	
	Palermo	1964 & 2002	2001 & 2003	arrived as <i>Y. aloifolia</i> cv. <i>tricolor</i>
	nn	in collection in 1978	2000	
	Antibes	1962	2003	arrived as <i>Y. aloifolia</i> var. <i>variegata</i>
	Potsdam	1994	2003	
	Monaco	1994	2000	
<i>Yucca desmetiana</i> Baker	nn	in collection in 1961	1968	
<i>Yucca flaccida</i> Haw.	Lisle (Bienville)	1978	1989	arrived as <i>Y. louisianensis</i> , one of 2 synonyms
<i>Yucca glauca</i> Nutt.	Halle	1996	2010	5 synonyms
<i>Yucca gloriosa</i> L. var. <i>recurvifolia</i> (Salisb.) Engelm.	nn	in collection in 1961	1961	arrived as <i>Y. recurvifolia</i>
<i>Yucca guatemalensis</i> Baker	Barcelona	1968 & 1970	1980 & 1970	arrived as <i>Y. elephantipes</i> , one of 2 synonyms
<b>Aloaceae</b>				
<i>Aloe africana</i> Mill.	Kirstenbosch	1970 & 1971	1982 & 1984	8 synonyms
<i>Aloe arborescens</i> Mill.	nn	1961	1990	15+ synonyms
	Coimbra	1970	1978	
	Barcelona	1971	1978	
	Bucharest	1972 & 1973	1980 & 1978	
<i>Aloe aristata</i> Haw.	nn	1974	1989	4 synonyms
<i>Aloe camperi</i> Schweinf. f. <i>maculata</i> hort.	Barcelona	1970	1980	arrived as <i>A. eru</i> f. <i>maculata</i> hort.
<i>Aloe capitata</i> Baker	Barcelona	1969	1981	2 synonyms
<i>Aloe ciliaris</i> Haw.	nn	in collection in 1968	1972	2 synonyms
	Barcelona	1962 & 1983	2016 & 1989	
	Caen	1993	2000	
<i>Aloe citrea</i> (Guillaumin) L.E. Newton & G.D. Rowley	Kiel	1996 (1997)	2003	arrived as <i>Lomatophyllum citreum</i>
<i>Aloe comosa</i> Marloth & A.Berger	Kirstenbosch	1970	1980	
<i>Aloe ferox</i> Mill.	Monaco	1996	2000	arrived as <i>A. candelabrum</i> ; one of 10+ synonyms
	Barcelona	1962 & 1963 & 1967 & 1986	1978 & 1972 & 1984 & 2000	arrived as <i>A. ferox</i>
<i>Aloe gariensis</i> Pillans	Kirstenbosch	1984	1990	
<i>Aloe grandidentata</i> Salm-Dyck	nn	in collection in 1968	1978	
	Kirstenbosch	1982	1990	
<i>Aloe greatheadii</i> Schönland var. <i>davyana</i> (Schönland) Glen & D.S.Hardy	Barkley	1973	1980	arrived as <i>A. davyana</i> ; one of 7 synonyms
<i>Aloe harlana</i> Reynolds	Barcelona	1980	1989	
<i>Aloe hexapetala</i> Salm-Dyck	Muenchen	1976	1993	arrived as <i>A. speciosa</i> ; one of 6 synonyms
	nn	unknown	1990	
	Latte	1990	2003	
<i>Aloe lateritia</i> Engl.	Uppsala	1985	2003	4 synonyms
<i>Aloe lateritia</i> var. <i>graminicola</i> (Reynolds) S.Carter	Berlin	1971	1990	arrived as <i>A. graminicola</i> ; one of 2 synonyms
<i>Aloe littoralis</i> Baker	Potsdam	1966	1978	arrived as <i>A. rubrolutea</i> ; one of 3 synonyms
<i>Aloe longibracteata</i> Pole-Evans	Blanes	1984	1990	
<i>Aloe longistyla</i> Baker	Heidelberg	1962	1978	
	nn	1969	1980	
	Barcelona	1970	1983	
<i>Aloe macrocarpa</i> Tod.	nn	1962	1978	3 synonyms
	nn	in collection in 1976	1978	



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<i>Aloe maculata</i> All.	nn	in collection in 1962	1993	arrived as <i>A. saponaria</i> ; 15+ synonyms
	Barcelona	1986	2002	
	Kiel	1989	1993	
	Krakow	1961 & 1962	1971 & 2000	arrived as <i>Aloe obscura</i>
	nn	1969	1990	
	Kirstenbosch	1971	1993	
<i>Aloe marlothii</i> A.Berger	Heidelberg	1962	1978	syn. <i>A. marlothii</i> subsp. <i>marlothii</i>
<i>Aloe microstigma</i> Salm-Dyck	Kirstenbosch	1957 & 1961 & 1971	1978 & 1978 & 1982	4 synonyms
	Heidelberg	1962	1978	
	Adelaide	1955	1978	
	nn	1969	1978	
<i>Aloe peglerae</i> Schönland	Pretoria	1975	1980	
<i>Aloe percrassa</i> Tod.	Lisbon	1954	1961	arrived as <i>A. schimperi</i> ; one of 4 synonyms
<i>Aloe perfoliata</i> L.	Barkeley	1973	1993	arrived as <i>A. mitriformis</i> ; one of 20+ synonyms
	Muenchen	1995	1996	
	Budapest	1970	1970	arrived as <i>A. nobilis</i>
<i>Aloe plicatilis</i> (L.) Mill.	Barcelona	1970	1982	5+ synonyms
	Kirstenbosch	1986	1993	
<i>Aloe rauhii</i> Reynolds	Wageningen	1967 & 1969 & 1972	1972 & 1978 & 2000	syn. <i>Guillauminia rauhii</i>
<i>Aloe reitzii</i> Reynolds	Barcelona	1967 & 1971	1978 & 1990	syn. <i>A. reitzii</i> var. <i>reitzii</i>
<i>Aloe × runcinata</i> A.Berger	Lisbon	1954	1961	arrived as <i>A. runcinata</i>
<i>Aloe spectabilis</i> Reynolds	Latte	1990	2000	
<i>Aloe straussii</i> A.Berger	Adelaide	1959	1978	unresolved name (The Plant List)
<i>Aloe striata</i> Haw.	Kirstenbosch	1961	2003	5 synonyms
	Antibes	1962	1978	
	nn	in collection in 1968	1972	
<i>Aloe succotrina</i> Lam.	Antibes	1962	1978	arrived as <i>A. purpurascens</i> ; one of 5+ synonyms
<i>Aloe tenuior</i> Haw.	Barcelona	1980	1983	5 synonyms
<i>Aloe thraskii</i> Baker+B202	Kiel	1958	1963	
<i>Aloe × todari</i> Borzi	Barcelona	1971	2003	<i>A. humilis</i> × <i>A. sp.</i>
<i>Aloe vaombe</i> Decorse & Poisson	Essen	2006	2010	syn. <i>A. vaombe</i> var. <i>vaombe</i>
<i>Aloe variegata</i> L.	Vienna	1964	1968	3 synonyms
	Brisbane	1963	1978	
	Barcelona	1987	2000	
	Tartu	1993	2000	
	Montreal	1995	2000	
	Monaco	1996	2002	
<i>Aloe vera</i> (L.) Burm. f.	Palermo	1998	2016	15+ synonyms
	nn	1969	1979	
	Sienne	1990	1993	
	Tuebingen	1995	1996	
	nn	2009	2016	bought in Bauhaus
<i>Bulbine caulescens</i> L.	Blanes	1997	2003	arrived as <i>B. frutescens</i> ; one of 4 synonyms
× <i>Gasteraloe lapaixii</i> (Radl) Guillaumin	Palermo	1964	1980	arrived as <i>Aloe × lapaixii</i> ; <i>Aloe aristata</i> × <i>Gasteria bicolor</i> var. <i>bicolor</i>
× <i>Gasterhaworthia bayfieldii</i> (Salm-Dyck) G.D.Rowley	Wageningen	1964 & 1965 & 1968 & 1969	1990 & 1990 & 1981 & 2004	arrived as <i>Aloe × bayfieldii</i> , one of 2 synonyms; <i>Gasteria × Haworthia</i>
	Wageningen	in collection in 1975	1983	
	Wageningen	in collection in 1989	2003	
<i>Gasteria acinacifolia</i> (J.Jacq.) Haw.	nn	in collection in 1961	1961	20+ synonyms

Scientific name	City of plant material origin	Year of ordering/purchasing	Year when plant was last recorded in collection	Notes and remarks
	Adelaide	1953	2010	arrived as <i>G. acinacifolia</i> var. <i>Venusta</i>
<i>Gasteria bicolor</i> Haw. var. <i>bicolor</i>	Frankurt/Mein	1960	2003	arrived as <i>G. maculata</i> ; from cuttings; one of 5 synonyms
	Duisburg	1998	2000	
<i>Gasteria bicolor</i> var. <i>liliputana</i> (Poelln.) Van Jaarsv.	Wageningen	1967 & 1969 & 1972	1971 & 1971 & 2000	arrived as syn. <i>G. liliputana</i> ; from cuttings (1967)
<i>Gasteria brevifolia</i> Haw.	nn	1949	1961	syn. <i>G. brevifolia</i> var. <i>latevivens</i>
	nn	in collection in 1963	1993	
<i>Gasteria carinata</i> (Mill.) Duval	nn	unknown	1961	arrived as <i>G. excavata</i> ; one of 2 synonyms
<i>Gasteria carinata</i> var. <i>carinata</i>	Berlin	1978	2016	arrived as <i>G. sulcata</i> ; one of 20+ synonyms
	Wuppertal	1995	2016	
<i>Gasteria carinata</i> var. <i>glabra</i> (Salm-Dyck) van Jaarsv.	Duisburg	1995	2000	arrived as <i>G. glabra</i> ; one of 30+ synonyms
<i>Gasteria carinata</i> var. <i>verrucosa</i> (Mill.) Van Jaarsv.	Adelaide	1953	2003	arrived as <i>G. verrucosa</i> var. <i>asperrima</i> ; 10+ synonyms
	Adelaide	in collection in 1968	1981	
	Marburg	1953	1961	arrived as <i>G. verrucosa</i>
<i>Gasteria</i> × <i>cheilophylla</i> Baker	Adelaide	1954 & 1955 & 1959	1961 & 2000 & 1979	<i>G. carinata</i> × <i>G. pulchra</i>
	Besancon	1971	no dana	
<i>Gasteria disticha</i> (L.) Haw.	Nancy	1953	1961	arrived as <i>G. obtusifolia</i> ; 20+ synonyms
	Nantes	1953	1980	
	Berlin	1978	2016	arrived as <i>G. conspurcata</i>
<i>Gasteria excelsa</i> Baker	Berlin	1979	2010	
<i>Gasteria gigantea</i> Graessn.	Cluj-Napoca	2000	2006	(neriješen status)
<i>Gasteria nitida</i> (Salm-Dyck) Haw.	nn	in collection in 1961	1961	3 synonyms
<i>Gasteria nitida</i> var. <i>armstrongii</i> (Schönland) van Jaarsv.	Berlin	1978	1993	arrived as <i>G. armstrongii</i> ; one of 2 homonyms
	Pecs	2005	2009	
<i>Gasteria pseudonigricans</i> (Salm-Dyck) Haw.	Gent	1970	2010	syn. <i>Aloe pseudonigricans</i>
<i>Gasteria pulchra</i> (Aiton) Haw.	nn	1951	2003	4 synonyms
<i>Gasteria trigona</i> Haw.	Besancon	1971	1981	2 synonyms
	Wuppertal	1995 & 1996	2003 & 1997	
<i>Haworthia aristata</i> Haw.	Palermo	1961	1962	3 synonyms
<i>Haworthia attenuata</i> (Haw.) Haw.	Muenster	1966	1980	arrived as <i>H. tisleyi</i> ; one of 2 synonyms
	Debrecen	1956	1961	arrived as <i>H. attenuata</i>
	Wageningen	1964	2000	arrived as <i>Haworthia attenuata</i> var. <i>argyrostigma</i>
<i>Haworthia attenuata</i> var. <i>britteniana</i> (Poelln.) Poelln.	Liberec	1965	1980	2 synonyms
<i>Haworthia coarctata</i> Haw.	Wageningen	1966 & 1967 & 1968	1980 & 1983 & 1979	arrived as <i>H. resendama</i> ; one of 20+ synonyms
	nn	in collection in 1961	1982	arrived as <i>H. coarctata</i>
	Iasi	1963	1966	
	Wageningen	1970	2001	
<i>Haworthia coarctata</i> Haw. f. <i>coarctata</i>	Wageningen	1964 & 1966	1975 & 1980	arrived as <i>H. reinwardtii</i> var. <i>fallax</i> ; one of 2 synonyms
<i>Haworthia coarctata</i> f. <i>greenii</i> (Baker) M.B.Bayer	Wageningen	1970	2000	arrived as <i>H. greenii</i> ; one of 8 synonyms

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<i>Haworthia cooperi</i> Baker	Wageningen	1964 & 1965 & 1972 & 1974 & 1980	1980 & 1980 & 1980 & 1975 & 1980	arrived as syn. <i>H. vittata</i>
	nn	1971	1978	
	Pecs	1996	1997	
<i>Haworthia cooperi</i> var. <i>tenera</i> (Poelln.) M. B. Bayer	Brno	1963	1975	arrived as <i>H. tenera</i> ; one of 2 synonyms
<i>Haworthia cymbiformis</i> (Haw.) Duval	Wageningen	1964	1966	arrived as <i>H. planifolia</i> ; one of 20+ synonyms, P.V.
	Antwerpen	1965	1971	arrived as <i>H. cymbiformis</i>
	Iasi	1963	1971	
	Palermo	1963	1990	
	Cluj	1967	1977	from cuttings
<i>Haworthia cymbiformis</i> (Haw.) Duval cv. <i>variegata</i>	Wageningen	1966 & 1968	1980 & 1971	
<i>Haworthia fasciata</i> (Willd.) Haw.	Palermo	1962	1980	arrived as <i>H. subfasciata</i> ; one of 15+ synonyms
<i>Haworthia herbacea</i> (Mill.) Stearn	Liberec	1964	1966	arrived as <i>H. pallida</i> ; 10+ synonyms
	Pesc	1996	2001	arrived as <i>H. translucens</i>
<i>Haworthia icosiphylla</i> Baker	Wageningen	1965	2000	
<i>Haworthia janseneana</i> Uitewaal	Wageningen	1964	2001	from cuttings
<i>Haworthia margaritifera</i> (L.) Haw.	nn	1952	1961	20+ synonyms
	Kirstenbosch	1961	1979	
	Pecs	1997	2000	arrived as planta viva
<i>Haworthia marumiana</i> Uitewaal	Wageningen	1964 & 1967 & 1968 & 1970	1979 & 1968 & 1980 & 1980	from cuttings (1964, 1967)
<i>Haworthia marumiana</i> var. <i>batesiana</i> (Uitewaal) M. B. Bayer	Wageningen	1961 & 1964 & 1965 & 1972	2001 & 1995 & 1980 & 1975	arrived as <i>H. batesiana</i>
	Besancon	1971	1983	
	Kiev	1989	1990	
<i>Haworthia maxima</i> (Haw.) Duval	Valencia	1961 & 1968	1980 & 1971	arrived as <i>H. semimargaritifera</i> ; 5+ synonyms
	Goettingen	2000	2003	
	Madrid	2000	2003	
	Pecs	1997	2001	from cuttings
	nn	in collection in 1971	1980	
	Palermo	1966	1980	arrived as <i>H. papillosa</i> ; one of 10+ synonyms; from cuttings
	Pecs	1997	2000	arrived as planta viva
<i>Haworthia mirabilis</i> (Haw.) Haw. var. <i>triebmeriana</i> (Poelln.) M. B. Bayer	Wageningen	1964 & 1971	1980 & 1978	arrived as <i>H. nitidula</i>
<i>Haworthia mucronata</i> Haw.	Wageningen	1964 & 1965	1971 & 1985	arrived as <i>H. altilinea</i> ; one of 3 synonyms
<i>Haworthia reinwardtii</i> (Salm-Dyck) Haw.	Kiev	1989	1990	10+ synonyms
<i>Haworthia retusa</i> (L.) Duval	Wuppertal	1995	1997	syn. <i>Aloe retusa</i>
<i>Haworthia rigida</i> (Lam.) Haw.	nn	unknown	1961	8 synonyms
	Wageningen	1964 & 1965 & 1968	2004 & 1980 & 2001	arrived as <i>H. rigida</i> var. <i>expansa</i>
<i>Haworthia ryderiana</i> Poelln.	Wageningen	1964 & 1965	1990 & 2000	arrived as planta viva (1964)
<i>Haworthia subattenuata</i> (Salm-Dyck) Baker	Palermo	1958	2001	syn. <i>Aloe subattenuata</i>
<i>Haworthia turgida</i> Haw.	Berlin	1960	1961	arrived as <i>H. laetevirens</i> , one of 2 synonyms
	nn	1961 & in collection in 1968	1963 & 1983	
<i>Haworthia viscosa</i> (L.) Haw.	Wageningen	1965	2003	arrived as <i>H. tortuosa</i> var. <i>curta</i> ; 30+ synonyms
	Wageningen	1965 & 1970	2001 & 2001	arrived as <i>H. tortuosa</i> var. <i>variegata</i>

Scientific name	City of plant material origin	Year of ordering/ purchasing	Year when plant was last recorded in collection	Notes and remarks
	Wageningen	1964	2003	from cuttings; arrived as <i>H. cassytha</i>
	Valencia	1961 & 1962	1980 & 1963	arrived as <i>H. tortuosa</i> var. <i>pseudorigida</i>
	Palermo	1958	1968	arrived as <i>H. tortuosa</i> var. <i>pseudorigida</i>
	Debrecen	1956	1961	arrived <i>H. tortuosa</i>
	Kiev	1989	1990	
	nn	1964	1971	arrived as <i>H. asperiuscula</i>
<i>Haworthiopsis attenuata</i> (Haw.) G.D. Rowley var. <i>attenuata</i>	Monaco	1994	2001	arrived as <i>Haworthia attenuata</i> var. <i>argyrostigma</i> ; 15+ synonyms
	Palermo	1957 & 1960 & 1961	no data & 2001 & 1961	arrived as <i>Haworthia attenuata</i> var. <i>clariperla</i>
	Wageningen	1964 & 1965	1980 & 1980	from cuttings (1964); arrived as <i>Haworthia subulata</i>
	Dijon	1989	2004	
<i>Haworthiopsis attenuata</i> var. <i>radula</i> (Jacq.) G.D. Rowley	nn	1958	1961	arrived as <i>Haworthia rugosa</i> , 4 synonyms
	Barcelona	1961	1962	
	Iasi	1958	2004	
	Palermo	1957	1961	
	nn	in collection in 1963	1980	
	Wageningen	1969	1980	
<i>Haworthiopsis coarctata</i> (Haw.) G.D. Rowley var. <i>coarctata</i>	Wageningen	1966 & 1967 & 1970	1993 & 1978 & 2002	arrived as <i>Haworthia greenii</i> ; 10+ synonyms; from cuttings (1967)
<i>Haworthiopsis coarctata</i> var. <i>tenuis</i> (G.G. Sm.) G.D. Rowley	Wageningen	1966	1978	arrived as <i>Haworthia reinwardtii</i> var. <i>tenuis</i> ; one of 2 synonyms
<i>Haworthiopsis fasciata</i> (Willd.) G.D. Rowley	Valencia	1961	1966	arrived as <i>Haworthia fasciata</i> ; one of 4 synonyms
	Monaco	1992	2001	
<i>Haworthiopsis glauca</i> (Baker) G. D. Rowley var. <i>herrei</i> (Poelln.) G.D. Rowley	Wageningen	1968 & 1970	1978 & 1978	arrived as <i>Haworthia armstrongii</i> ; one of 4 synonyms
	Wageningen	1968 & 1969	1980 & 1979	arrived as <i>Haworthia eilyae</i>
	Wageningen	1969	1978	arrived as <i>Haworthia herrei</i>
<i>Haworthiopsis limifolia</i> (Marloth) G.D. Rowley	Bologna	1966	1979	arrived as <i>Haworthia limifolia</i>
<i>Haworthiopsis tessellata</i> (Haw.) G.D. Rowley	nn	1957	1961	arrived as <i>Haworthia tessellata</i> ; one of 2 synonyms
	Debrecen	1956	1975	
	Vienna	1964	1975	from cuttings
<b>Bromeliaceae</b>				
<i>Dyckia brevifolia</i> Baker	nn	1951	no data	arrived as <i>D. sulphurea</i> ; one of 4 synonyms
	Kaunas	1958	1990	
	Barcelona	1981 & 1993	1991 & 1995	arrived as <i>D. brevifolia</i>
	nn	in collection in 1984	1993	
	Liege	1993	1995	
<i>Dyckia rariflora</i> Schult. & Schult.f.	Helsinki	1960	1961	
<b>Hyacinthaceae</b>				
<i>Bowiea volubilis</i> Harv.	nn	in collection in 1968	1978	2 synonyms
	Kirstenbosch	1970	1983	

Tab. 3. Collection of the cold glasshouse: recently existing plants (May, 2017).

Scientific name	City of plant material origin	Year of ordering/purchasing	CITES	EASIN	Notes and remarks
<b>DICOTYLEDONS</b>					
<b>Aizoaceae</b>					
<i>Aloinopsis malherbei</i> (L. Bolus) L. Bolus	Innsbruck	2017	no	no	syn. <i>Nananthus malherbei</i>
<i>Aptenia cordifolia</i> (L.f.) Schwantes	Cluj-Napoca	2017	no	no	4 synonyms
<i>Astridia herrei</i> L. Bolus	Pecs	2016	no	no	
<i>Bergeranthus multiceps</i> (Salm-Dyck) Schwantes	Budapest	2017	no	no	arrived as <i>B. artus</i> ; one of 4 synonyms
<i>Bergeranthus scapiger</i> (Haw.) Schwantes	Berlin-Dahlem	1976	no	no	syn. <i>Mesembryanthemum scapiger</i>
<i>Carpobrotus acinaciformis</i> (L.) L. Bolus	Aachen	1996	no	yes	10+ synonyms
	Nantes	1998	no	yes	
<i>Carruanthus peersii</i> L. Bolus	Bochum	2011	no	no	
<i>Chasmatophyllum masculinum</i> (Haw.) Dinter & Schwantes	Richmond	2000	no	no	syn. <i>Mesembryanthemum masculinum</i>
<i>Conophytum bilobum</i> (Marloth) N.E. Br.	Monaco	1993	no	no	40+ synonyms
<i>Corpuscularia lehmannii</i> (Eckl. & Zeyh.) Schwantes	nn	in collection in 1963	no	no	4 synonyms
	Wageningen	1986	no	no	
<i>Cylindrophyllum calamiforme</i> (L.) Schwantes	Berkeley	1994	no	no	syn. <i>Mesembryanthemum calamiforme</i>
<i>Delosperma bosseranum</i> Marais	Monaco	2017	no	no	
<i>Delosperma cooperi</i> (Hook.f.) L. Bolus	Plzen	2016	no	yes	2 synonyms
	Vienna	2016	no	yes	
	MBM - bought	unknown	no	yes	syn. <i>Mesembryanthemum cooperi</i>
<i>Delosperma echinatum</i> (Lam.) Schwantes	Berlin-Dahlem	2003	no	no	5 synonyms
<i>Delosperma ecklonis</i> (Salm-Dyck) Schwantes	Berlin-Dahlem	1972	no	no	2 synonyms
<i>Delosperma lehmannii</i> (Eckl. & Zeyh.) Schwantes ex H. Jacobsen	nn	unknown	no	no	
	Cuba	1986	no	no	
<i>Delosperma pachyrhizum</i> L. Bolus	Berlin-Dahlem	1978	no	no	arrived as <i>D. pachyrhizum</i> var. <i>pubescens</i>
<i>Delosperma robustum</i> L. Bolus	Gent	1967	no	no	
<i>Delosperma sutherlandii</i> (Hook.f.) N.E.Br.	Potsdam	2016	no	no	syn. <i>Mesembryanthemum sutherlandii</i>
<i>Faucaria bosscheana</i> (A. Berger) Schwantes	Bochum	1995	no	no	arrived as <i>F. paucidens</i> ; one of 8 synonyms
<i>Faucaria britteniae</i> L. Bolus	Pecs	2005	no	no	arrived as <i>F. grandis</i> ; one of 5 synonyms
<i>Faucaria felina</i> (L.) Schwantes	Cluj-Napoca	2014	no	no	arrived as <i>F. felina</i> var. <i>jamesii</i> ; one of 20+ synonyms
<i>Faucaria tigrina</i> (Haw.) Schwantes	Barcelona	1991	no	no	3 synonyms
<i>Glottiphyllum cruciatum</i> (Haw.) N.E.Br.	Padova	2014	no	no	10+ synonyms
<i>Glottiphyllum longum</i> (Haw.) N.E.Br.	Pecs	2001	no	no	one of 15+ synonyms
<i>Glottiphyllum oligocarpum</i> L. Bolus	Bochum	1995	no	no	
<i>Glottiphyllum regium</i> N.E.Br.	Pecs	2017	no	no	arrived as syn. <i>G. compressum</i>
<i>Glottiphyllum salmii</i> (Haw.) N.E.Br.	Nantes	1995	no	no	syn. <i>Mesembryanthemum salmii</i>
<i>Hereroa calycina</i> L. Bolus	Pecs	2017	no	no	
<i>Hereroa gracilis</i> L. Bolus var. <i>gracilis</i> L. Bolus	Wuppertal	1998	no	no	arrived as <i>H. gracilis</i>
<i>Hereroa muiri</i> L. Bolus	Budapest	2017	no	no	
<i>Lampranthus aurantiacus</i> Schwantes	Monaco	1991	no	no	
<i>Lampranthus lunatus</i> N.E. Br.	Berlin- Dahlem	1979	no	no	

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<i>Lithops marmorata</i> (N.E.Br.) N.E.Br.	Innsbruck	2008 (seeds from 2002)	no	no	5 synonyms
<i>Lithops salicola</i> L. Bolus	Dresden	1986	no	no	
	Cluj-Napoca	2017 (seeds from 2015) & 2017	no	no	
<i>Machairophyllum albidum</i> (L.) Schwantes	Vienna	2010 (seed from 1971)	no	no	3 synonyms
<i>Mesembryanthemum splendens</i> L. subsp. <i>pentagonum</i> (L. Bolus) Klak	nn	in collection in 1963	no	no	arrived as <i>Aridaria pentagona</i> ; one of 15+ synonyms
<i>Mestoklema tuberosum</i> (L.) N.E.Br.	Tuebingen	2016	no	no	4 synonyms
<i>Nanathus aloides</i> (Haw.) Schwantes	Tuebingen	2015 (seeds from 2013)	no	no	
<i>Oscularia deltoides</i> (L.) Schwantes	Siena	2012 & 2016	no	no	2 synonyms
	Padova	2017 (seeds from 2010)	no	no	
<i>Pleiospilos bolusii</i> (Hook. f.) N.E. Br.	Kiel	1995	no	no	syn. <i>Mesembryanthemum bolusii</i>
	Innsbruck	2000	no	no	
<i>Pleiospilos compactus</i> Schwantes subsp. <i>canus</i> H.E.K. Hartmann & Liede	Innsbruck	2000	no	no	arrived as <i>P. nobilis</i> ; one of 15+ synonyms
<i>Pleiospilos simulans</i> N.E. Br.	Innsbruck	2000	no	no	
<i>Rhombophyllum dolabriforme</i> Schwantes	Pecs	2001	no	no	
<i>Schwantesia pillansii</i> L. Bolus	Innsbruck	unknown	no	no	
<b>Apocynaceae</b>					
<i>Adenium obesum</i> (Forssk.) Roem. & Schult.	Košice	2016	no	no	10+ synonyms
	Prague	2016	no	no	
<i>Adenium obesum</i> (Forssk.) Roemer & Schultes ssp. <i>obesum</i>	Frankfurt	2017	no	no	unknown in The Plant List and Tropicos
<i>Plumeria obtusa</i> L. cult.	nn	2003	no	no	unknown cultivar
<i>Plumeria rubra</i> L.	nn	2002	no	yes	gift from Mrs. Ivanka Gajšak; P. V.
<b>Asclepiadaceae</b>					
<i>Caralluma europaea</i> (Guss.) N.E.Br.	Duisburg	1989	no	no	30+ synonyms
<i>Caralluma joannis</i> Maire	Monaco	1997	no	no	syn. <i>Apteranthes joannis</i>
<i>Ceropegia affinis</i> Vatke	nn	1969	no	no	15+ synonyms
<i>Ceropegia africana</i> R.Br. subsp. <i>barklyi</i> (Hook.f.) Bruyns	nn	in collection in 1963	no	no	arrived as <i>C. barklyi</i> ; one of 2 synonyms
<i>Ceropegia bulbosa</i> Roxb.	Kaunas	1970	no	no	9 synonyms
<i>Ceropegia linearis</i> E.Mey.	Cluj-Napoca	2003	no	no	P.V.
<i>Ceropegia linearis</i> E.Mey. subsp. <i>debilis</i> (N.E.Br.) H.Huber	nn	in collection in 1963	no	no	arrived as syn. <i>C. debilis</i>
<i>Ceropegia sandersonii</i> Decne. ex Hook. f.	nn	2000	no	no	syn. <i>C. monterioae</i>
<i>Ceropegia stapeliiformis</i> Haw.	Muenchen	2015	no	no	syn. <i>C. stapeliiformis</i> subsp. <i>stapeliiformis</i>
<i>Huernia barbata</i> (Masson) Haw.	Basel	1995	no	no	2 synonyms
<i>Huernia hystrix</i> (Hook. f.) N.E. Br.	Innsbruck	1996	no	no	3 synonyms
<i>Huernia macrocarpa</i> (A. Rich.) Spreng. f. <i>macrocarpa</i>	Basel	1995	no	no	arrived as <i>H. macrocarpa</i> var. <i>penzigii</i> ; one of 10 synonyms
	Muenchen	1995	no	no	
<i>Huernia pendula</i> E. A. Bruce	Ferrara	1983	no	no	
	Szeged	1985	no	no	
<i>Orbea lutea</i> (N.E. Br.) Bruyns subsp. <i>vaga</i> (N.E.Br.) Bruyns	Pecs	1996	no	no	4 synonyms
<i>Orbea variegata</i> (L.) Haw.	Duisburg	1989	no	no	arrived as <i>Stapelia lepida</i> ; one of 20+ synonyms



Scientific name	City of plant material origin	Year of ordering/purchasing	CITES	EASIN	Notes and remarks
<i>Stapelia gigantea</i> N.E. Br.	Besancon	1970	no	no	5 synonyms
<i>Stapelia grandiflora</i> Masson	Gent	1979	no	no	one of 20 synonyms
	Klagenfurt	2011	no	no	
<b>Asteraceae</b>					
<i>Senecio rowleyanus</i> H. Jacobsen	Salaspils	1997	no	no	P.V.
<i>Senecio serpens</i> G. D. Rowley	Genova	1970	no	no	2 synonyms
<i>Senecio spiculosus</i> (Shepherd) Rowley	Gent	1960	no	no	
<i>Senecio tropaeolifolius</i> MacOwan ex F.Muell.	Antwerpen	1969	no	no	
<b>Cactaceae</b>					
<i>Astrophytum capricorne</i> (A.Dietr.) Britton & Rose	Cluj-Napoca	2017	yes	no	arrived as <i>A. senile</i> ; one of 20+ synonyms
	Monaco	1991	yes	no	
<i>Astrophytum myriostigma</i> Lem.	Duesseldorf	1994	yes	no	20+ synonyms
	Parma	2016	yes	no	
<i>Astrophytum ornatum</i> (DC.) Britton & Rose	Frankfurt	1992	yes	no	15+ synonyms
	Košice	2015 (seeds from 2013) & 2015	yes	no	
	Cluj-Napoca	2014	yes	no	
	Jibou	2015	yes	no	
<i>Austrocylindropuntia vestita</i> (Salm-Dyck) Backeb.	Kiev	1989	yes	no	5+ synonyms
	Parma	2016	yes	no	
<i>Aylostera deminuta</i> (F.A.C.Weber) Backeb.	Innsbruck	2001	yes	?	unresolved name (The Plant List); 2 synonyms
<i>Browningia hertlingiana</i> (Backeb.) Buxb.	Belveder	1971	yes	no	arrived as <i>Azurocereus hertlingianus</i> ; one of 3 synonyms; natural locality
<i>Cereus alacriportanus</i> Pfeiff.	Vienna	1968	yes	?	unresolved name (The Plant List)
<i>Cereus hexagonus</i> (L.) Mill.	Adelaide	1972	yes	no	15+ synonyms
<i>Cereus jamacaru</i> DC.	Blanes	1994	yes	no	8 synonyms
<i>Cereus repandus</i> (L.) Mill.	nn	1963	yes	no	arrived as <i>C. peruvianus</i> ; one of 20+ synonyms
	Siena	2013	yes	no	
	Košice	2017	yes	no	
<i>Cereus repandus</i> (L.) Mill. f. <i>monstrosa</i> DC.	nn	2017	yes	no	arrived as <i>C. peruvianus</i> f. <i>monstrosa</i>
<i>Cleistocactus straussii</i> (Heese) Backeb.	Adelaide	1959	yes	no	5 synonyms
	Halle	1966	yes	no	
	Barcelona	1995	yes	no	natural locality
	Dresden	1995	yes	no	
	Porrentruy	1995	yes	no	
<i>Copiapoa echinoides</i> (Lem. ex Salm-Dyck) Britton & Rose	nn	1963	yes	no	arrived as <i>Echinocactus salm-dyckianus</i> ; one of 8 synonyms
<i>Cumulopuntia sphaerica</i> (Foerster) E.F. Anderson	nn	1962	yes	no	arrived as <i>Tephrocactus sphaerica</i> ; one of 10+ synonyms
<i>Denmoza rhodacantha</i> (Salm-Dyck) Britton & Rose	Bordeaux	1992	yes	no	arrived as <i>D. erythrocephala</i> ; one of 8 synonyms
<i>Disocactus flagelliformis</i> (L.) Barthlott	Jibou	1986	yes	no	arrived as <i>Cereus flagelliformis</i> ; one of 30+ synonyms
	Jibou	1986	yes	no	arrived as <i>Aporocactus flagelliformis</i>
<i>Echinocactus grusonii</i> Hildm.	Basel	2017 (seeds from 2014)	yes	no	4 synonyms

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	Košice	2015	yes	no	
	Parma	2015	yes	no	
	Barcelona	1980	yes	no	
<i>Echinopsis backebergii</i> Werderm.	Heidelberg	1967	yes	no	6 synonyms
<i>Echinopsis calochlora</i> K.Schum.	Meise	2001	yes	no	2 synonyms
<i>Epiphyllum hookeri</i> Haw. subsp. <i>pittieri</i> (F.A.C.Weber) Ralf Bauer	Saarbrücken	1968	yes	no	arrived as <i>E. pittieri</i> ; one of 3 synonyms
<i>Epiphyllum oxypetalum</i> (DC.) Haw.	Napoli	1961	yes	no	arrived <i>Phyllocactus latifrons</i> ; one of 10+ synonyms
<i>Epiphyllum phyllanthus</i> (L.) Haw.	Berlin-Dahlem	1971	yes	no	10+ synonyms
<i>Epostoa lanata</i> (Kunth) Britton & Rose	Barcelona	1991	yes	no	30+ synonyms
<i>Ferocactus glaucescens</i> (DC.) Britton & Rose	Palermo	1957 & 1962	yes	no	arrived as <i>F. glaucescens</i> var. <i>pfeifferi</i>
	Balchik	2017 (seeds from 2012)	yes	no	
<i>Ferocactus wislizeni</i> (Engelm.) Britton & Rose	Meise	1994	yes	no	15+ synonyms
<i>Gymnocalycium denudatum</i> (Link & Otto) Pfeiff. ex Mittler	Dresden	1997	yes	no	9 synonyms
<i>Gymnocalycium mostii</i> (Gürke) Britton & Rose	Monaco	2004	yes	no	2 synonyms
<i>Gymnocalycium saglionis</i> (Cels) Britton & Rose	Linz	2008	yes	no	3 synonyms
<i>Gymnocalycium saglionis</i> (Cels) Britton & Rose subsp. <i>tilcarensis</i> (Backeb.) H.Till & W.Till	Monaco	2000	yes	no	arrived as <i>G. saglionis</i> var. <i>tilcarensis</i> ; 3 synonyms
<i>Hylocereus undatus</i> (Haw.) Britton & Rose	Berlin-Dahlem	1973	yes	yes	7 synonyms
<i>Isolatocereus dumortieri</i> (Scheidw.) Backeb.	Beograd	1964	yes	no	4 synonyms
<i>Leuchtenbergia principis</i> Hook.	Dresden	1993	yes	no	
<i>Mammillaria compressa</i> DC.	Muenchen	1953	yes	no	5+ synonyms
	Gent	1968	yes	no	arrived as <i>M. seitziana</i>
<i>Mammillaria crinita</i> DC. subsp. <i>crinita</i>	Berlin-Dahlem	1978	yes	no	arrived as <i>M. pygmaea</i> ; one of 3 synonyms
<i>Mammillaria heyderi</i> Muehlenpf.	Halle	1965	yes	no	
<i>Mammillaria karwinskiana</i> Mart. subsp. <i>nejapensis</i> (R.T. Craig & E.Y. Dawson) D.R. Hunt	Cluj-Napoca	2005	yes	no	arrived as <i>M. nejapensis</i> ; one of 2 synonyms
<i>Mammillaria mollihamata</i> Shurly	Berlin-Dahlem	1978	yes	no	unresolved name (The Plant List)
<i>Mammillaria nana</i> Backeb.	Halle	1997	yes	no	
<i>Mammillaria perbella</i> Hildm. ex K. Schum.	Dresden	1997	yes	no	arrived as <i>Neomammillaria perbella</i>
<i>Mammillaria polyedra</i> Mart.	Dresden	1996	yes	no	syn. <i>Mammillaria multisetata</i>
<i>Mammillaria prolifera</i> (Mill.) Haw.	Halle	1984	yes	no	2 synonyms
<i>Mammillaria rhodantha</i> Link & Otto subsp. <i>mollendorffiana</i> (Shurly) D.R. Hunt	Halle	1998	yes	no	arrived as syn. <i>M. mollendorffiana</i>
<i>Myrtillocactus geometrizans</i> (Mart. ex Pfeiff.) Console	Barcelona	1971	yes	no	3 synonyms
<i>Neobuxbaumia euphorbioides</i> Buxb.	Dresden	2000	yes	no	arrived as <i>Rooksbhya euphorbioides</i> ; one of 10+ synonyms
<i>Neomammillaria seideliana</i> (Quehl) Britton & Rose	Potsdam	1994	no	no	arrived as <i>Mammillaria seideliana</i>
<i>Opuntia ficus-indica</i> (L.) Mill.	nn	in collection in 1978	yes	yes	4 synonyms
	nn	in collection in 2010	yes	yes	arrived as <i>O. vulgaris</i>
	Balchik	2017 (seeds from 2012)	yes	yes	
<i>Opuntia humifusa</i> (Raf.) Raf.	Balchik	2017 (seeds from 2012)	yes	no	arrived as <i>O. compressa</i> ; one of 15+ synonyms

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	Parma	2016	yes	no	
	Balchik	2017 (seeds from 2012)	yes	no	
	Lisbon	unknown	yes	no	
<i>Opuntia maxima</i> Mill.	Coimbra	1996	yes	yes	10+ synonyms
<i>Opuntia microdasys</i> (Lehm.) Pfeiff.	Barcelona	1994	yes	yes	7 synonyms
	nn	1961	yes	yes	arrived as <i>O. microdasys</i> var. <i>albispina</i>
<i>Parodia microsperma</i> (F.A.C.Weber) Speg. subsp. <i>horrida</i> (F.W. Brandt) R. Kiesling & O. Ferrari	Cluj-Napoca	2000	yes	no	arrived as <i>P. formosa</i> ; one of 10+ synonyms
<i>Parodia mueller-melchersii</i> (Fric̆ ex Backeb.) N.P. Taylor	Cluj-Napoca	2017	yes	no	arrived as <i>Notocactus rutilans</i> ; one of 6 synonyms
<i>Parodia mutabilis</i> Backeb.	Cluj-Napoca	2005	yes	?	unresolved name (The Plant List); 2 synonyms
<i>Pereskia aculeata</i> Mill.	nn	in collection in 1961	yes	no	15+ synonyms
<i>Pereskia bleo</i> (Kunth) DC.	Hamma	1960	yes	no	6 synonyms
<i>Pereskia sacharosa</i> Griseb.	Košice	2017	yes	no	5 synonyms
<i>Pilosocereus coeruleus</i> (Lem.) F.Ritter	Barcelona	1994	yes	?	arrived as <i>Cereus coeruleus</i> ; 6 synonyms; unresolved name (The Plant List)
<i>Rebutia diminuta</i> (F.A.C. Weber) Britton & Rose	Jibou	1998	yes		arrived as <i>Aylostera diminuta</i> ; one of 3 synonyms
<i>Rebutia fiebrigii</i> (Gürke) Britton & Rose	Cluj-Napoca	2000	yes	no	arrived as <i>Aylostera jujuyana</i> ; one of 40+ synonyms
<i>Rebutia minuscula</i> K. Schum.	Cluj-Napoca	2000	yes	no	20+ synonyms
<i>Selenicereus grandiflorus</i> (L.) Britton & Rose	Barcelona	1971	yes	no	20+ synonyms
<i>Selenicereus macdonaldiae</i> (Hook.) Britton & Rose	Siena	1968	yes	no	5 synonyms
<i>Selenicereus nelsonii</i> (Weing.) Britton & Rose	Berlin-Dahlem	1966	yes	no	syn. <i>Cereus nelsonii</i>
<i>Selenicereus vagans</i> (K. Brandegee) Britton & Rose	nn	in collection in 1971	yes	no	5 synonyms
<i>Stetsonia coryne</i> (Salm-Dyck) Britton & Rose	Berlin-Dahlem	1987	yes	no	syn. <i>Cereus coryne</i>
<i>Sulcorebutia steinbachii</i> (Werderm.) Backeb.	Bratislava	2000	yes	no	arrived as <i>S. glomerispina</i> ; one of 20+ synonyms
<b>Campanulaceae</b>					
<i>Canarina canariensis</i> (L.) Vatke	Wuppertal	1984	no	no	5 synonyms
	Dresden	2006	no	no	6 synonyms
<b>Crassulaceae</b>					
<i>Adromischus cooperi</i> (Baker) A. Berger	Berlin-Dahlem	1995	no	no	7 synonyms
<i>Aeonium arboreum</i> Webb & Berthel.	Amsterdam	1976	no	yes	9 synonyms
<i>Aeonium arboreum</i> Webb & Berthel. var. <i>holochrysum</i> H.Y.Liu	Marnier	1977	no	yes	4 synonyms
<i>Aeonium canariense</i> (L.) Webb & Berthel.	Tuebingen	2015	no	no	syn. <i>Sempervivum canariense</i>
	Marburg	2017	no	no	
<i>Aeonium castello-paivae</i> Bolle	Berlin-Dahlem	1973	no	no	syn. <i>A. gomeraeum</i>
<i>Aeonium decorum</i> Webb ex Bolle	Bristol	1977	no	yes	
	Marburg	2017	no	no	arrived as <i>Greenovia dodrantalis</i> ; one of 4 synonyms
<i>Aeonium glutinosum</i> (Aiton) Webb & Berthel.	nn	1988	no	yes	
<i>Aeonium gomerense</i> (Praeger) Praeger	Berlin-Dahlem	1976	no	no	syn. <i>Sempervivum gomerense</i>
<i>Aeonium goochiae</i> Webb & Berthel.	nn	1989	no	no	2 synonyms
<i>Aeonium haworthii</i> Webb & Berthel.	Berlin-Dahlem	1976	no	yes	syn. <i>Sempervivum haworthii</i>
	Basel	1995	no	yes	

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<i>Aeonium percarneum</i> (R. P. Murray) Pitard & Proust	Gran Canaria	1994	no	no	4 synonyms
<i>Aeonium simsii</i> (Sweet) Stearn	Basel	1989	no	yes	syn. <i>Sempeviovum simsii</i>
<i>Aeonium tabuliforme</i> (Haw.) Webb & Berthel.	Marburg	2017	no	no	5 synonyms
<i>Aeonium undulatum</i> Webb & Berthel.	Tenerife	1986	no	no	2 synonyms
<i>Aichryson bethencourtianum</i> Bolle	Szeged	1996	no	no	arrived as <i>Aeonium bethencourtianum</i> ; one of 4 synonyms
<i>Bryophyllum fedtschenkoi</i> (Raym.-Hamet & H.Perrier) Lauz.-March.	Ferrara	1970	no	yes	arrived as <i>Kalanchoe fedtschenkoi</i> ; one of 2 synonyms
<i>Crassula exilis</i> Harv. subsp. <i>schmidtii</i> (Regel) G. D. Rowley	MBM - bought	2012	no	no	arrived as <i>C. schmidtii</i> ; one of 2 synonyms; P.V.
<i>Crassula montana</i> L.f. subsp. <i>quadrangularis</i> (Schönl.) Toelken	Wageningen	1967	no	no	arrived as <i>C. gillii</i> ; one of 2 synonyms; from cuttings
<i>Crassula muscosa</i> L. var. <i>muscosa</i>	Wageningen	1977	no	no	arrived as <i>C. lycopodioides</i> var. <i>purpusii</i>
	Cluj-Napoca	2006	no	no	
<i>Crassula ovata</i> (Mill.) Druce	Wageningen	1964	no	yes	8 synonyms
<i>Crassula perforata</i> Thunb.	Besancon	1971	no	no	arrived as <i>C. conjuncta</i> , 10 synonyms
	Dresden	2002	no	no	arrived as <i>C. perfossa</i> Lam.
<i>Crassula socialis</i> Schönland	Caen	1996	no	no	
<i>Dudleya caespitosa</i> (Haw.) Britton & Rose	Berlin- Dahlem	1970	no	no	10+ synonyms
<i>Echeveria amoena</i> De Smet ex E.Morren	Szeged	1999	no	no	syn. <i>E. pusilla</i>
<i>Echeveria derenbergii</i> J. A. Purpus	Antwerpen	1967	no	no	
<i>Echeveria elegans</i> Rose	nn	in collection in 1968	no	no	4 synonyms
<i>Echeveria x gilva</i> E. Walther	Wageningen	1968	no	no	<i>E. agavoides</i> x <i>E. elegans</i>
<i>Echeveria nodulosa</i> (Baker) Otto	nn	in collection in 1961	no	no	arrived as syn. <i>Cotyledon nodulosa</i>
<i>Echeveria pringlei</i> (S.Watson) Rose	nn	in collection in 1961	no	no	syn. <i>Cotyledon pringlei</i>
<i>Echeveria x pulchella</i> A. Berger pro sp.	nn	unknown	no	no	from cuttings; garden hybrid
<i>Echeveria pulvinata</i> Rose	nn	in collection in 1961	no	no	syn. <i>Cotyledon pulvinata</i>
<i>Graptopetalum macdougalii</i> Alexander	Wageningen	1970	no	no	
<i>Graptopetalum paraguayense</i> (N.E.Br.) E.Walther	Wageningen	1957	no	yes	5+ synonyms
<i>Kalanchoe beharensis</i> Drake	Siena	2016	no	no	
<i>Kalanchoe daigremontiana</i> Raym.-Hamet & H. Perrier	nn	1983	no	yes	syn. <i>Bryophyllum daigremontianum</i> ; from cuttings; gift from Eric
<i>Kalanchoe hildebrandtii</i> Baill.	Wageningen	1964	no	no	3 synonyms
<i>Kalanchoe tashiroi</i> Yamam.	nn	1995	no	no	
<i>Pachyphytum compactum</i> Rose 'Cristatum'	Wageningen	1965	no	no	unknown cultivar, probably <i>P. compactum</i> f. <i>cristatus</i> hort.
<i>Sedum adolphii</i> Raym.-Hamet	nn	in collection in 1963	no	no	
<i>Sedum allantoides</i> Rose	nn	in collection in 1961	no	no	
<i>Sedum compressum</i> Rose	nn	in collection in 1963	no	no	
<i>Sedum goldmanii</i> (Rose) Moran	Pecs	1997	no	no	arrived as <i>Villadia batesii</i> ; one of 2 synonyms, P.V.
<i>Sedum lucidum</i> R.T. Clausen	Wageningen	1967	no	no	from cuttings

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<i>Sedum moranense</i> Kunth	Wageningen	1980	no	no	3 synonyms
<i>Sedum moranense</i> Kunth subsp. <i>grandiflorum</i> R.T. Clausen	Wageningen	1980	no	no	arrived as <i>S. moranense</i> 'Grandiflorum'
<i>Sedum morganiatum</i> E. Walther	nn	in collection in 2000	no	yes	
<i>Sedum nussbaumerianum</i> Bitter	Rotterdam	1969	no	no	
<i>Sedum rubrotinctum</i> R. T. Clausen 'Aurora'	Wageningen	1964	no	yes	
<i>Sedum stahluii</i> Solms	Wageningen	1970	no	no	
<i>Sedum treleasei</i> Rose	Wageningen	1964	no	no	
<i>Sempervivum tectorum</i> L.	Meyrin	1980	no	no	
<i>Sempervivum vicentii</i> Pau	Dresden	1995	no	no	4 synonyms
<i>Sempervivum wulfenii</i> Hoppe ex Mert. & W.D.J.Koch	Bonn	1996	no	no	syn. <i>Sempervivum globiferum</i>
<i>Sinocrassula yunnanensis</i> (Franch.) A. Berger	Tuebingen	2017	no	no	2 synonyms
<b>Euphorbiaceae</b>					
<i>Euphorbia alcornis</i> Baker	Iasi	1995	yes	no	
<i>Euphorbia balsamifera</i> Aiton	Lisbon	2000	yes	no	arrived as <i>E. balsamifera</i> subsp. <i>adenensis</i>
<i>Euphorbia bubalina</i> Boiss.	Cluj-Napoca	2017 (seeds from 2014)	yes	no	syn. <i>E. laxiflora</i>
<i>Euphorbia canariensis</i> L.	nn	1972	yes	no	5 synonyms
<i>Euphorbia candelabrum</i> Trémaux ex Kotschy	Monaco	1994	yes	yes	5 synonyms
<i>Euphorbia fimbriata</i> Scop.	Szeged	1971	yes	no	4 synonyms
<i>Euphorbia globosa</i> (Haw.) Sims	Jibou	1996	yes	no	2 synonyms
<i>Euphorbia grandidens</i> Haw.	nn	1971	yes	no	2 synonyms
<i>Euphorbia lactea</i> Haw.	nn	unknown	yes	no	
<i>Euphorbia ledienii</i> A. Berger	nn	in collection in 1963	yes	no	syn. <i>E. ledienii</i> var. <i>ledienii</i>
<i>Euphorbia milii</i> Des Moul.	nn	in collection in 1963	yes	yes	arrived as <i>E. splendens</i> var. <i>bojeri</i> ; 10+ synonyms
<i>Euphorbia monteiroi</i> Hook.	Richmond	2000	yes	no	3 synonyms
<i>Euphorbia obesa</i> Hook.f.	Kiel	1996	yes	no	syn. <i>E. obesa</i> subsp. <i>obesa</i>
	Monaco	2014	yes	no	
<i>Euphorbia ornithopus</i> Jacq.	Jibou	1996	yes	no	
<i>Euphorbia pendula</i> Boiss.	nn	1971	no	no	
<i>Euphorbia pseudocactus</i> A. Berger	Besancon	1971	yes	no	
<i>Euphorbia tirucalli</i> L.	nn	in collection in 1974	yes	no	15+ synonyms
<i>Euphorbia tithymaloides</i> L.	Strasbourg	1969	no	no	arrived as <i>Pedilanthus tithymaloides</i> ; one of 20+ synonyms
<i>Euphorbia tithymaloides</i> L. subsp. <i>smallii</i> (Millsp.) V.W.Steinm.	Rotterdam	1969	no	no	arrived as <i>Pedilanthus smallii</i> ; one of 3 sayonyms
<i>Euphorbia umbellata</i> (Pax) Bruyns	nn	in collection in 1968	yes	yes	arrived as <i>Synadenium grantii</i> ; one of 4 synonyms
<i>Euphorbia umbellata</i> (Pax) Bruyns 'Purpurea'	Besancon	1978	no	yes	arrived as <i>Synadenium grantii</i> 'Purpurea'
<i>Euphorbia virosa</i> Willd.	nn	1970	yes	no	4 synonyms
<b>Geraniaceae</b>					
<i>Pelargonium sericifolium</i> J. J. A. van der Walt	Frankfurt	2017	no	no	arrived as <i>P. sericeum</i>
<b>Portulacaceae</b>					
<i>Anacampseros rufescens</i> (Haw.) Sweet	Goettingen	1983	yes	no	syn. <i>A. arachmoides</i> var. <i>grandiflora</i>
<i>Anacampseros telephiastrum</i> DC.	Frankfurt	1960	yes	no	5+ synonyms
	Jibou	1998	yes	no	
<i>Portulacaria afra</i> Jacq.	nn	1998 (seeds from 1961)	no	no	6 synonyms

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<b>Vitaceae</b>					
<i>Cyphostemma juttae</i> (Dinter & Gilg) Desc.	Monaco	2012	no	no	syn. <i>Cissus juttae</i>
MONOCOTYLEDONS					
<b>Agavaceae</b>					
<i>Agave americana</i> L. 'Variegata'	nn	1972	no	no	
<i>Agave atrovirens</i> Karw. ex Salm-Dyck	nn	1968	no	yes	15+ synonyms
<i>Agave attenuata</i> Salm-Dyck	nn	in collection in 1970	no	yes	arrived as <i>A. cernuum</i> ; 5+ synonyms
	Genova	2017	no	yes	arrived as <i>A. attenuata</i>
<i>Agave aurea</i> Brandegee	nn	in collection in 1981	no	no	
<i>Agave bracteosa</i> S. Watson ex Engelm.	Menton	2002	no	no	
<i>Agave deserti</i> Engelm.	Jerusalem	2016	no	no	3 synonyms; large and variable complex
<i>Agave filifera</i> Salm-Dyck	Giessen	2015	no	no	6 synonyms
<i>Agave havardiana</i> Trel.	Wuerzburg	2017	no	no	
<i>Agave mitis</i> Mart. var. <i>albidior</i> (Salm-Dyck) B. Ullrich	Nancy	1962 & in collection in 2002	no	no	arrived as <i>A. albicans</i> ; one of 10+ synonyms
<i>Agave salmiana</i> Otto ex Salm-Dyck	nn	in collection in 1999	no	no	10+ synonyms
<i>Agave salmiana</i> Otto ex Salm-Dyck var. <i>ferox</i> (K. Koch) Gentry	Barcelona	1971	no	yes	arrived as <i>A. ferox</i> ; one of 3 synonyms
<i>Agave univittata</i> Haw.	Genova	2017	no	no	arrived as <i>Agave lophantha</i> ; one of 20+ synonyms
<i>Agave victoriae-reginae</i> T. Moore	Kiel	2006	yes	no	5+ synonyms
	Monaco	2011	yes	no	
	Besancon	2017	yes	no	
	Genova	2017	yes	no	
<i>Furcraea undulata</i> Jacobi	Berlin- Dahlem	1989 & 1996	no	no	arrived as <i>F. pubescens</i> ; one of 2 synonyms
<i>Hesperoyucca whipplei</i> (Torr.) Trel.	Berkeley	1994	no	no	arrived as <i>Yucca whipplei</i> ; one of 20+ synonyms
<i>Manfreda virginica</i> (L.) Salisb. ex Rose	Frankfurt	2017	no	no	arrived as <i>Agave virginica</i> ; one of 20+ synonyms
	Weinheim	2017	no	no	
<i>Yucca aloifolia</i> L.	Barcelona	1962	no	yes	20+ synonyms
<i>Yucca aloifolia</i> L. 'Variegata'	Antibes	1962	no	yes	
<b>Aloaceae</b>					
<i>Aloe africana</i> Mill.	Kirstenbosch	1986	yes	no	8 synonyms
<i>Aloe arborescens</i> Mill.	nn	1981	yes	yes	15+ synonyms
<i>Aloe brevifolia</i> Mill.	Toronto	1989	yes	yes	8 synonyms
<i>Aloe capitata</i> Baker	Barcelona	1986	yes	no	2 synonyms
<i>Aloe castanea</i> Schönland	Jerusalem	2016	yes	no	
<i>Aloe ciliaris</i> Haw.	Barcelona	1962	yes	yes	2 synonyms
<i>Aloe dichotoma</i> Masson	nn	1986	yes	no	4 synonyms
<i>Aloe ferox</i> Mill.	nn	in collection in 1961	yes	yes	from cuttings; 10+ synonyms
	Jerusalem	2012 & 2014	yes	yes	
	Basel	2014	yes	yes	
<i>Aloe grandidentata</i> Salm-Dyck	Kirstenbosch	1986	yes	no	
<i>Aloe pretoriensis</i> Pole-Evans	Stuttgart	1997	yes	no	
<i>Aloe ramosissima</i> Pillans	Bonn	1995	yes	no	2+ synonyms; from natural locality
<i>Aloe reitzii</i> Reynolds	Kiel	1996	yes	no	syn. <i>A. reitzii</i> var. <i>reitzii</i>
<i>Aloe striata</i> Haw.	Liege	1986	yes	no	5 synonyms



Scientific name	City of plant material origin	Year of ordering/purchasing	CITES	EASIN	Notes and remarks
<i>Aloe striatula</i> Haw.	Genova	2016	yes	no	5 synonyms
<i>Aloe succotrina</i> Lam.	Turku	2015	yes	yes	10+ synonyms
<i>Aloe suprafoliata</i> Pole-Evans	Latte	1990	yes	no	
<i>Aloe vera</i> (L.) Burm. f.	Palermo	1962	yes	yes	15+ synonyms
	Siena	2013 & 2015	yes	no	
<i>Aloe zebrina</i> Baker	Monaco	2017	yes	no	10+ synonyms
<i>Gasteria acinacifolia</i> (J.Jacq.) Haw.	Adelaide	1953	no	no	20+ synonyms
<i>Gasteria bicolor</i> Haw. var. <i>bicolor</i>	nn	in collection in 1951	no	no	arrived as <i>G. picta</i> var. <i>formosa</i> ; one of 5 synonyms
<i>Gasteria bicolor</i> Haw. var. <i>liliputana</i> (Poelln.) Van Jaarsv.	Wageningen	1964 & 1971	no	no	arrived as <i>G. liliputana</i>
	Cluj-Napoca	1999	no	no	
<i>Gasteria carinata</i> (Mill.) Duval	Kirstenbosch	1984	no	no	4 synonyms
<i>Gasteria carinata</i> (Mill.) Duval var. <i>carinata</i>	Adelaide	1959	no	no	arrived as <i>G. angulata</i> ; one of 40+ synonyms
	Berlin-Dahlem	1978	no	no	arrived as <i>G. sulcata</i>
<i>Gasteria carinata</i> (Mill.) Duval var. <i>verrucosa</i> (Mill.) Van Jaarsv.	Padova	2014	no	no	10+ synonyms
<i>Haworthia attenuata</i> (Haw.) Haw.	Wageningen	1969	no	no	2 synonyms
	Monaco	1994	no	no	
<i>Haworthia attenuata</i> (Haw.) Haw. var. <i>radula</i> (Jacq.) M.B. Bayer	Iasi	1958	no	no	6 synonyms
<i>Haworthia coerctata</i> Haw.	nn	in collection in 1968	no	no	20+ synonyms
	Wageningen	1970	no	no	
<i>Haworthia cymbiformis</i> (Haw.) Duval	Brno	1963	no	no	20+ synonyms
<i>Haworthia fasciata</i> (Willd.) Haw.	Monaco	1992	no	no	15+ synonyms
<i>Haworthia marumiana</i> Uitewall	Wageningen	1965	no	no	syn. <i>H. arachnoidea</i> var. <i>marumiana</i>
<i>Haworthia reinwardtii</i> (Salm-Dyck) Haw.	nn	in collection in 1963	no	no	10+ synonyms
<i>Hesperaloe parviflora</i> (Torr.) J.M.Coult.	Davis (California)	1988	no	no	5 synonyms
<b>Bromeliaceae</b>					
<i>Dyckia brevifolia</i> Baker	Frankfurt	1993	no	no	4 synonyms
<i>Dyckia rariflora</i> Schult. & Schult.f.	Hamburg	1960	no	no	
	Palermo	1993	no	no	
<i>Hechtia argentea</i> Baker	Barcelona	1960	no	no	
<b>Hyacinthaceae</b>					
<i>Bowiea volubilis</i> Harv.	Halle	1961	no	no	2 synonyms
<b>Nolinaceae</b>					
<i>Calibanus hookeri</i> (Lem.) Trel.	Bochum	1998	no	no	7 synonyms