

PLETHORA OF PLANTS – COLLECTIONS OF THE BOTANICAL GARDEN, FACULTY OF SCIENCE, UNIVERSITY OF ZAGREB (1): TEMPERATE GLASSHOUSE EXOTICS – HISTORIC OVERVIEW

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Due to the forthcoming obligation to thoroughly catalogue and officially register all living and non-living collections in the European Union, an inventory revision of the plant collections in Zagreb Botanical Garden of the Faculty of Science (University of Zagreb, Croatia) has been initiated. The plant lists of the temperate (warm) greenhouse collections since the construction of the first, Exhibition Glasshouse (1891), until today (2015) have been studied. Synonymy, nomenclature and origin of plant material have been sorted. Lists of species grown (or that presumably lived) in the warm greenhouse conditions during the last 120 years have been constructed to show that throughout that period at least 1000 plant taxa from 380 genera and 90 families inhabited the temperate collections of the Garden. Today, that collection holds 320 exotic taxa from 146 genera and 56 families.

Key words: Zagreb Botanical Garden, warm greenhouse conditions, historic plant collections, temperate glasshouse collection

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Slijedom najavljenog temeljitog popisivanja i službene registracije svih živih i neživih zbirki u Europskoj uniji, u Botaničkom vrtu Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu pokrenuta je revizija sadržaja stakleničkih zbirki. Sastavljeni su popisi biljaka toplog staklenika od njegovog podizanja (1891.) do danas (2015.), uređena sinonimka i nomenklatura te istraženo podrijetlo biljnog materijala. Rezultati pokazuju kako je kroz zbirku toplog staklenika tijekom posljednjih 120 godina prošlo barem 1000 svojti iz 380 rodova i 90 porodica. Danas u toj zbirci živi 320 biljnih svojti iz 146 rodova i 56 porodica.

Ključne riječi: Botanički vrt u Zagrebu, povijesne zbirke biljaka, staklenički uvjeti, zbirka toplog staklenika

INTRODUCTION

Established in 1889 and statutorily protected in 1971 as a Monument of Park Architecture and an integral part of the Zagreb *Green Horseshoe* Monument of Culture (REGULA,

* **Supplementary Material:** Table 2 are available only in the Electronic Supplement of the online version of this article.

Dodatni materijal: Tablica 2 dostupna je samo u Dodacima elektroničke verzije ovoga članka.

1997; JURETIĆ *et al.*, 2014), the Botanical Garden of the Faculty of Science, University of Zagreb (in further text “the Botanical Garden” or “the Garden”) today is a member of the *Botanic Gardens Conservation International* (BGCI) and *International Plant Exchange Network* (IPEN). Though very small (4.45 ha) and placed in the very heart of the Croatian Capital, it has a 125-years-long tradition of university education and international seed exchange via *Delectus (Index) Seminum*-publications. Along with the easily accessible outdoor areas, the Garden also has several glasshouses. The largest, Exhibition Glasshouse (Figs. 1abcd), is one of the oldest in this part of Europe. It was built in 1891 on the model of the famous Viennese *Palmenhaus* in Schönbrunn, and by the same craftsmen, in the same well-regarded Viennese master-workshop. Though nowadays closed to the public due to the long deterioration, the glasshouses are still home to many plants from all continents and were during the century a home to many more, now vanished.

As a part of the announced need to register all, both living and non-living, collections in the European Union, and in view of the forthcoming total reconstruction of the old Garden Exhibition Glasshouse, in 2015 I made an inventory of all existing and once-existing plants of the temperate (warm) greenhouse collection. The main idea was to gain a combined and full inventory, which would provide, for a first time in the Garden's history, a thorough insight to the “houseplants” grown in the Botanical Garden's temperate collections (Figs. 2ab). After we published data on the Croatian statutorily strictly protected species grown in the Garden (cp. SANDEV *et al.*, 2013; KOVAČIĆ *et al.*, 2014), it is our intention, to systematically examine and register in such a manner all of our Garden collections.

The Greenhouses

Since the building of the first greenhouses of Emperor Tiberius in the 1st century AD, via the Far East glasshouses of 15th century Korea, 17th century Netherlands and early 19th century Europe (WOODS & SWARTZ WARREN, 1990; ANONYMOUS, 2007; PARIS & JANICK, 2008; BAVCON *et al.*, 2012 and the literature within; GRANT, 2013), the “indoor-space for plants” became a standard of any botanic garden. Heated buildings with adequate humidity and ventilation become necessary for any garden that wishes to preserve plant material for research and education, as well as to grow exotics to attract more visitors.

In the 20th century, it became common to classify greenhouses, according to the minimal winter temperatures provided, together with the required humidity and lightning, into “cool” (cold, *frigidaria*), “warm” (temperate, *lepidaria*), and “hot” (tropical, *caldaria*). Accordingly, in our Botanical Garden the “cool” glasshouse maintains a winter temperature below 12 °C or 10 °C, so light heating is required. Depending on the plant collection overwintering in such an environment, the amount of humidity should be levelled between very low (for example, for the collection of succulents) and relatively high (for the collection of Mediterranean plants). In our Garden, the “cool” glasshouses are used for the overwintering of Croatian and other Mediterranean native (potted) plants, as well as palms (fam. Arecaceae) and succulents (families Cactaceae, Mesembryanthemaceae, Euphorbiaceae etc.). In the “hot” glasshouses, the collections of tropical (and some subtropical) plants do not just overwinter, but in most of cases live permanently. These premises require a minimum all-year round temperature of at least 20 °C to 18 °C. The regular daily temperature is often higher than 30 °C, to mimic the conditions of tropical and rain forests. Along with the high temperatures, hot glasshouses must have a relative humidity above 80%, as well as rain-watering and appropriate misting- and shading-systems, so they are expensive to maintain.

In-between the “cool” and “hot” greenhouse conditions, there is a range of various so called “warm” or temperate ambiances, required for a vast spectrum of plants which we often call “the houseplants”. The most common conditions are those of a “living room”: the lowest temperature required during the wintertime is between 15 °C and 18 °C, along with a medium humidity and considerable shading at mid-day. In the temperate (“warm”) glasshouse conditions, the maintenance of high humidity is appropriate, but not essential, as it is in the “hot” glasshouses. More important is regular ventilation: stale air is inappropriate and favourable only for the growth of various pests. However, draft is also harmful to the plants, so airing must be carried out with caution.

From the building of the Exhibition Glasshouse (1891) in our Botanical Garden, the “houseplants” and other exotics from temperate parts of the world were grown in the presentation area – later, presumably, in the “supplementary” glasshouse as well, which was erected in 1899 (REGULA, 1997). In 1985, that smaller greenhouse was enlarged to approx. 150 m² and colloquially named “The Aroideae” (Fig. 3), for it was initially intended for the members of Araceae family (especially subfam. Aroideae) and their relatives. Thirty years on, mostly due to the chronic shortage of space, a large number of various plants live there (Fig. 4), while the members of Araceae family dwell mostly in the tropical glasshouse.

In the warm greenhouse-conditions of the Garden today a collection of exotic plants from temperate and subtropical parts of the world (Australia, South America, Asia) overwinters and permanently lives; among these plants many are economically important (edible, medicinal, ornamental) and there are also popular ornamentals (cultivars, hybrids, forms).

The aim of this paper is to reveal the data on the plant species that have been grown in the temperate collections of the Botanical Garden (Faculty of Science, University of Zagreb) since its foundation. For establishing a list of associated taxa, during 2015 I thoroughly examined the published works, the Garden database and my own records. Lists of plants living in the temperate glasshouse collection between 1895 and 2015 were thus constructed and compared. The comprehensive inventory of the recent collection is a foundation for the announced thorough cataloguing and registration of all, collections in the European Union. However, it is also important to discover the plants grown in the collections over the years, for by knowing both, we can plan our further steps in maintaining and supplementing the collections: replacing the *missing parts of the puzzle*, and adding new ones, to form a *meaningful whole*.

MATERIAL & METHOD

Three main sources are used for constructing the lists of exotic plants growing in the Botanical Garden’s temperate glasshouse collections, since its establishment: (i) published data on the historic collection of the early days (1891-1896), (ii) the passive database of plants cultivated in the Garden since 1948 but not living today, and (iii) active database of plants recently (2015) living in the temperate glasshouse collection, together with 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 (1861-1919). In this work, published in 1895-1896, he depicts the astonishing amount of indoor- and outdoor-plants contained in the collections soon after the Garden was formally established (1889). It is quite hard to belie-

ve that in only four years after “the first shovel was stuck into the bare ground” in early March of 1891 (HEINZ, 1895-1896, pg. 13), such a *plethora of plants* inhabited the Garden facilities.

The booklet (HEINZ, 1895-1896) was written according to the then valid classification of the Plant Kingdom, which is today somewhat hard to follow, and was quite vague with respect to the details in the inventory. In numerous cases, only plant genera are named, as “containing several/many species”, without any further details (origin, acquirement, living conditions, etc.). Though back then the Garden Exhibition Glasshouse was divided in several temperature zones (“kuće”) and the collections accordingly, Heinz mostly named the location in the Garden where the certain plant group lives just as “in the greenhouses” or “in the open”, without information where exactly or in what conditions. Accordingly, Tab. 1 lists the plants grown in the temperate glasshouse collections in 1895. Since the precise data of Heinz (1895-1896) are missing, it must be stressed that much speculation went into the construction of Tab. 1: I had to make many “educated guesses” either as to the plant species that actually need the warm-glasshouse conditions to thrive, or the valid names of taxa of all ranks, which changed during the century. At first, I was guided by the data on life-requirements for the species listed by Heinz, or their relatives living conditions in our glasshouse collections today. Secondly, I kept the original names stated by Heinz, mainly for historical reasons, but with some notes on the currently valid nomenclature and classification, when possible. Though incomplete, this oldest inventory of the temperate greenhouse-plant collection (HEINZ, 1895-1896) is worth mentioning in order to project a picture of the collection as initially established, and identify the plant taxa that should be added to the recent collection, for historical reasons or “filling the gaps” in the inventory of certain families or genera.

After the booklet of HEINZ (1895-1896), there is a large gap of more than 50 years (until the establishment of the current Garden database in 1948), and throughout the data on the glasshouse collections are missing. Some data on the glasshouse-plants can be found in the gardeners’ working diaries (their manuscripts since 1926 are placed in the Botanical Garden archives), but never in the form of complete or thorough plant lists. REGULA (1997) supposes that a comprehensive Garden database did not exist in the first half of the 20th century – however, this is hard to believe, as every European botanic garden keeps a register of their inventory in one form or another, sometimes for centuries. Moreover, we are in possession of a single preserved notebook from 1898 (Figs. 5ab) containing a list of conifers in the Garden, which implies that there must have been something similar for at least some of the other collections. It could be assumed with some certainty that the Garden collections were in the first half of 20th century at least twice seriously impoverished (during the First and the Second World War), but also that there were some longer periods of thriving. Whatever the case, comprehensive data for the whole period are sadly missing.

Recent Garden records (Figs. 6ab) were founded in 1948, with the arrival of the first post-WWII director of the Garden, Dr. Sala Ungar (1908-1988). It is since then that we can track the contents of the collections in detail, and botanists of the Garden have kept up this activity. In addition, it is since 1948 that every potted plant in the Garden’s greenhouse-facilities has been labelled with its scientific name, town/botanical garden of origin, year of acquiring and the serial number of the Garden-database, so the tracking of the collections is much easier.

The Botanic Garden database holds approx. 28,000 cards (single entries for a single taxon, Figs. 6ab), which are divided in two parts: what is called the **passive database** (plants not present in the Garden, but grown during the years) and the **active database** (plants recently grown in the Garden), which was digitalized in 2002 as a component of the *Flora Croatica Database* with restricted access (<http://hirc.botanic.hr/fcd/crofloradb/>, Fig. 8). The contents of the passive and active card database are connected with several notebooks (Fig. 5b), listing the plant names of all received species in several groups (native plants, exotic plants, annuals), arranged by their serial numbers.

Cards (Figs. 7ab) were designed to carry vital data on each plant entering the collection: from the scientific and common names, through the city and year of acquiring, to practical notes on cultivating and managing the species. Valid scientific names of the time were occasionally unconfirmed or doubtful, due to the lack of adequate literature: for example, some names were stated only according to some *Delectus Seminum*. For most of the species already living in the glasshouses when the new database was launched, the oldest cards state just "plant found growing in the Garden", without any further data on origin etc., which were obviously unknown: for example, *Lunularia cruciata* (nn, 1949), *Isoloma pictum* (nn, 1950 – Figs. 7ab), *Callisia repens* (nn, 1950), *Selaginella involvens* (nn, 1950), *Streptocarpus rexii* (nn, 1950), etc. ("nn" is short for "unknown origin").

For all newcomers after 1948, the local area or the botanic garden of plant seed/cutting/bulb origin was noted, together with a year when the material was acquired: the oldest plant in the temperate collection recorded in such a manner was one *Dracaena* 'Haageana', obtained from Palermo (Italy) in 1948. The facility or an outdoor-place where the plant was cultivated in the Garden was also noted: for example, "S" for a greenhouse (without further notice of which one exactly), "P" for arboretum, "Y" for nursery, etc.

Initially, a collection inventory was kept annually, when the status of each specimen was carefully noted in the card of each taxon: for example, the number of potted, replanted, sold or died-off specimens; newly grown specimens by seeds, cuttings or by dividing of the old ones, etc. For many taxa the data are incomplete, and for the minority it was noted only that they were successfully germinated and placed in the temperate collection, but nothing further. The reason for this may lay in the fact that during the years and even decades when the Garden staff and finances were limited, sometimes five or more years would pass between two inventories. Also, from some cards, it is obvious that the Garden staff struggled to grow certain interesting species in different conditions, year after year, but failed, probably due to the unfamiliar conditions under which some plant should be germinated or cultivated. It is also interesting to see that via *Delectus Seminum* publications the Garden obtained some species from native seeds, collected in remote regions of the world: for example, one *Cycas taiwaniana*, today listed in CITES' Appendix II (ANONYMOUS, 1979), as "*Trade controlled to avoid use incompatible with species survival – Global*". In places with a high rate of endemism (South Africa, Australia, Madagascar, China, Pacific Islands...) collecting in the wild is nowadays strictly forbidden.

Tab. 2 (not shown here; 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 warm greenhouse conditions since 1948, but now missing in the recent temperate collection (nonetheless, some are growing in the other parts of the Garden). After the digital Garden-database was established in 2002 (<http://hirc.botanic.hr/fcd/crofloradb/>), this "silent" catalogue of approximately 20,000

entries has rarely been consulted: during this study, some of the cards were extracted for the first time in decades after they were removed from the active database of living plants. In examination of this part of the database I found some very interesting data, as well as many synonyms and double (even triple) entries for the same plant sample or species. Most of the older passive database cards do not carry precise information on the greenhouse-conditions in which some plant lived, just a symbol "S" ("staklenik", a glasshouse in Croatian). In such cases, again, I had to make educated guesses so it is possible that I either overlooked some plant species which should be placed in the temperate (warm) glasshouse collection, or inventoried some that were never actually grown in such conditions. It is only since 1985, when the new "Aroideae" glasshouse was erected, that the cards have carried the "S8"-sign, depicting that some particular plant lives in the temperate glasshouse collection Number 8 – which is the "Aroideae". Also, it is worth mentioning that during my inspection of the passive database I have noticed several larger plant die-offs in the glasshouses – perhaps due to some disease or vermin, when the pest-control was insufficient. Unfortunately, there were some periods of time after WWII when even the basic care of the Garden was deficient: times with a severe lack of finances and trained staff – even in the recent era, during the Croatian War of Independence (1991-1995), when just the minimal care for plants could have been provided.

The final part of this study is based on our active Garden-database and recent records on the plants growing in the warm glasshouse, concluding with May 30th, 2015. Today, the inventories of the glasshouse collections are made biannually, when the new nomenclature is obtained, as the scientific names of plants often change according to the latest research on the origin and relations of species. A paradox is that, in contrast to the shortage of proper literature experienced during the olden days, today we are overwhelmed with information. Various authorities disagree greatly on the valid nomenclature and synonymy of plants (even in the proper name(s) of the author(s) of species, not even counting the accepted names of taxa), so we decided during the 2000s to consult the Tropicos database of the United States' St. Louis Missouri Botanical Garden (<http://www.tropicos.org/>), to obtain the recent valid scientific names of exotic, non-Croatian and non-European native species growing in the glasshouses. During the last several years, if Tropicos lacks information, the Plant List database (<http://www.theplantlist.org/>) has been consulted, followed by the other on-line sources, such as the International Plant Names Index (<http://www.ipni.org/>), etc.

Tab. 3 depicts plants that live in the warm, "Aroidea"-glasshouse today. The basis of that list is my own register of inventories, assembled biannually since 2000 by the attending gardeners in the temperate greenhouse collection. Besides, the active Garden database was thoroughly examined and compared with the data contained in the digitalized database (<http://hirc.botanic.hr/fcd/crofloradb/>), during which many cards ought to be removed to the passive part of the records. We are still keeping track of the origin of plant material and the precise place in the Garden where each specimen is placed. Most of the plants in the recent temperate collection are represented with three to five clay-potted-specimens, which are rejuvenated (vegetatively or germinatively) when 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. Rarely, some gardens offer living plants (bulbs, cuttings, plantlets) from which the growing is faster, if these vegetative fragments survive transport and frequent delays at the custom-offices. From time to time, some interesting plants (primarily cultivars that are impossible to grow from seeds) are purchased from nurseries or garden centres.

RESULTS & DISCUSSION

Tab. 4 depicts the relations in estimated numbers of families, genera and taxa living in the temperate glasshouse collection of the Botanical Garden (Faculty of Science, University of Zagreb) during the years.

Tab. 4. Compilation of numbers of families, genera and taxa for the five large groups of temperate glasshouse collection plants (Thallose liverworts, Spikemosses, Ferns, Dicotyledons and Monocotyledons), extracted from three sources: **1895** – the booklet written by HEINZ (1895-1896); **1948-2014** – the passive Garden database on the plants grown during that period, but recently not existing in the temperate glasshouse collection; **2015** – the active Garden database on the plants recently grown in the temperate glasshouse collection. An asterisk (*) depicts an estimated number, due to the lack of precise data.

Plant group	Year(s)	Families	Genera	Taxa
Thallose liverworts	1895	1	3	5*
	1948-2014	6	8	11
	2015	0	0	0
Spikemosses	1895	1	1	10*
	1948-2014	1	1	20
	2015	1	1	9
Ferns	1895	6	21	35*
	1948-2014	13	26	53
	2015	7	13	25
Dicotyledons	1895	40	92	130*
	1948-2014	38	120	297
	2015	31	72	159
Monocotyledons	1895	14	50	70*
	1948-2014	16	75	152
	2015	17	60	127
In total	1895	62	167	250*
	1948-2014	74	230	533
	2015	56	146	320

As already emphasized, it is hard to compare data from various ages due to the extensive synonymy and the many changes in taxonomic and systematic relationships of plants. For example, once known only as “Hepaticae” (Tab. 1), thallose liverworts were later subdivided into many families (Tab. 2), some monotypic. On the other hand, many previous, smaller families of monocotyledons are now integrated in the large “Asparagaceae” (Tab. 3), etc. As the aim of this study is neither to solve the taxonomical or nomenclatural problems, nor to get involved in the scientific debates on the more or less “natural” subclassifications of the Plant Kingdom, for purely “gardener-friendly” purposes I have provisionally assembled the plants of the Garden’s temperate collection into five groups. These are: **Thallose liverworts** (Marchantias), **Spikemosses** (Selaginellas), **Ferns** (Pteridophyta), **Dicotyledons** (“Dicots”, Magnoliopsida) and **Monocotyledons** (“Monocots”, Liliopsida).

Here follow some explanations and clarifications of the data listed in Tabs. 1, 2 and 3 (in Supplements), arranged by five aforementioned provisional groups of plants formerly or recently grown in the temperate glasshouse collection of our Garden:

Thallose liverworts (*Bryophyta-Marchantiopsida-Marchantiales*)

According to the earliest data (HEINZ, 1895-1896, pg. 13-14), several taxa in three genera of “Hepaticae” (Tab. 1 & 4) were grown in the glasshouse in 1895: *Riccia* (“various”), *Marchantia* and *Lunularia*. There are no references to the origin of these liverworts in the early days of the Garden. These primitive plants were always in the first place important for the teaching of botany, but sometimes became troublesome weeds in other plant pots and Garden surfaces: for example, *Lunularia vulgaris* and *Marchantia polymorpha* were already infesting the greenhouses in the early 1890s (HEINZ, 1895-1896).

Since 1948, 6 liverwort families with 8 genera and 11 species (Tab. 2 & 4) passed through the warm glasshouses: Aytoniaceae (genera *Fimbriaria* and *Mannia*), Corsiniaceae (*Corsinia*), Lunulariaceae (*Lunularia*), Marchantiaceae (two species of *Marchantia* and two of *Dumortiera*), Targioniaceae (two species of *Targionia*) and Wiesnerellaceae (*Wiesnerella*), according to the recent nomenclature. Almost exclusively, the liverworts were obtained from the botanic gardens in Antwerp (Belgium) and Jena (Germany) in the early 1960s, but wilted or were displaced from the collection before 1970.

Recently, only the common liverwort (*Marchantia polymorpha*) is periodically placed in the temperate glasshouse, when it is needed in larger amounts for the purpose of botany classes or research, but not as a regular part of the temperate greenhouse collection (Tab. 3 & 4). Besides this, three representatives of thallose liverworts today grow in the Garden (and so outdoors): *Lunularia cruciata*, *Conocephalum conicum* and *Frullania dilatata* (data of Antun Alegro, pers. comm. – unpublished).

Spikemosses (*Lycopodiophyta-Isoetopsida-Selaginellales*)

Spikemosses or selaginellas belong to a monotypic family (Selaginellaceae), which contains only a single genus – *Selaginella*. Although there were some attempts to divide the genus and family into smaller groups, the simple “single family – single genus” approach still prevails.

According to HEINZ (1895-1896, pg. 16), “there is a nice collection of many beautiful spikemosses in the glasshouse”, without a more concise description of the subordinate taxa: whether he was referring to the number of *Selaginella* species or to individual specimens (Tab. 1), I cannot tell.

After WWII, as many as 20 spikemoss species with two subordinate taxa went through the temperate glasshouse collection, which are absent today (Tab. 2 & 4). It seems that *Selaginella kraussiana*, *S. millspaughii* and *S. stellata* were most often ordered from the various *Delecti Semini* – however, the most favourite botanical garden from which to order these attractive plants was that in Lyon (France), during 1960s. The longest-running specimens in the collection were some of *S. kraussiana* and *S. stellata*, living for about 25 years (1962-1988).

Nine species of spikemoss are permanently living in the temperate glasshouse today (Tab. 3 & 4). Most of them are quite old, originating from the 1960s: for example, our recent *S. tenuissima* was obtained from Lyon (France) in 1951. It is worth mentioning that Tabs. 2 and 3 overlap in two species: *Selaginella involvens* and *S. kraussiana*, ordered among others from Cluj-Napoca (Romania) in 2015. The reason for this is simple: the newcomers are not yet fully established after they arrived as plantlets, and in poor shape.

Ferns (*Pteridophyta* – *Polypodiopsida*/*Pteridopsida*)

The classification of ferns and their relatives is very difficult and much disputed. In almost every source consulted – printed or accessible on-line – one will find different views on the taxonomy, nomenclature and systematic position of taxa. The synonymy of ferns is enormous, sometimes counting 30-or more “accepted”, “valid”, “synonymic” and “rejected” names for a single taxon, which could be attributed to several different families. To make it all worse, a confusion around the natural and cultivated varieties (“cultivars”), forms and hybrids tangles the nomenclature furthermore.

According to HEINZ (1895-1896; pg. 14-15), “many species” from 21 fern genera and 6 families (Tab. 1 & 4) of that time grew in the Exhibition Glasshouse in 1895, many of which are today missing. For various taxa just a genus is stated, as “containing several species”, so it was impossible to sort out which. It is very impressive to see, just three years after the construction of the Exhibition Greenhouse, so many ferns living in the Garden: even the primitive whisk fern (*Psilotum nudum*) of the ancient Psilotales, and many other true-fern species (as seen in Tab. 1), which never appeared again.

In Tab. 2 I have listed all ferns grown since WWII in the temperate greenhouse conditions: the list includes 13 recent families, 26 genera and 53 taxa (Tab. 4) which are not present in the nowadays collection. We now miss the representatives of 7 fern families and 10 genera – but this is, actually, disputable. As already stated, different botanical sources classify ferns in different ways: for example, the genus *Arachniodes* is included in *Polystichum*, *Histiopteris* in *Pteris*, *Drynaria* in *Polypodium* etc., so this “lack” in representatives of genera and families is relative.

Recent collection of the temperate glasshouse ferns lacks some species today living in the tropical facilities of the Garden (*Platyserium*, *Ceratopteris*). The temperate glasshouse collection is at the moment home to 7 fern families (Tab. 3 & 4) and 13 genera with several dozen specimens from 25 taxa (species, subspecies, cultivars). As the ferns are not easily developed from spores, in ordering taxa from other gardens the living-plants were preferred. Many specimens were obtained in a form of already established plants, just after the WWII often from the Croatian Opeka Arboretum, but also from other gardens and private donations (in Tab. 3 assigned as “nn” – origin unknown; acc. to Dr. Ljerka Regula – pers. cont.). The oldest living fern specimen in our collection originates from plants obtained in 1954: these are well-known ornamentals *Pteris multifida* and *Nephrolepis exaltata* (Tab. 2). Always very popular among the visitors, our exotic ferns overwinter indoors, but oversummer in the open: in the Garden *fernarium*, where they can be closely approached. Potted tropical and subtropical ferns (for example Fig. 9a) are combined in between the permanently planted, open-air ferns of the cooler parts of the world, to form a summertime-long fern collection.

“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 19th century more than 90 genera from 40 families lived in the temperate glasshouse collection (Tab. 4) – and this is just an estimation. Like today (Tab. 3), the most abundant were the families of Gesneriaceae, Moraceae and Amaranthaceae, out of which many of the listed plants are present in the recent collection. Some scientific names are difficult to confirm (especially because the authors of species-names are missing): for example, genus “Candollea” (fam. Dilleniaceae), or species such as “Uragoga (Cephaelis) Ipecacuanha” (fam. Rubiaceae).

According to my calculations (Tab. 2 & 4), during the last 70 years almost 300 “dicot”-taxa passed through the temperate glasshouse collection but are now missing, from 120 genera and 38 families. Some of the species are growing in other parts of the Garden (for example *Ruellia blumei*, *Iresine herbstii*, etc.), but a large portion was linked to the warm-greenhouse environment exclusively (for example begonias, peperomias, etc.) and are not grown elsewhere. More than 70 now absent taxa of Begoniaceae, 40 of Gesneriaceae, 30 of Piperaceae etc., once lived in the warm greenhouse. Some species were ordered repeatedly (for example *Begonia dregei*, *B. grandis* ssp. *evansiana*, cultivars of *Begonia x tuberhybrida*, *B. ‘Rex Cultorum’* or *Saintpaulia ionantha*; *Jacaranda mimosifolia*, *Tipuana tipu*, *Clerodendrum speciosissimum*, many peperomias, etc.), among which the absolute winner is *Streptocarpus rexii*: it was ordered a dozen times during the years, but lived briefly (Tab. 2). Also, it is obvious that *Delecti Semini* of some botanic gardens were more popular than the others: for example the gardens in Besançon, Gent and Nancy (France), Antwerp (Belgium) and Vienna (Austria – Institute, Belvedere and Schönbrunn). For about 50 samples the source is unknown (“nn” in Tab. 2). Some of those plants were received from the Garden staff and visitors, and some were purchased, but without a known origin (acc. to Dr. Ljerka Regula – pers. comm.).

In the current “Aroideae”-glasshouse about 160 “dicots” from 72 genera and 31 families have recently been grown (Tab. 3 & 4). The most abundant are the families Piperaceae (26 taxa in two genera) and Moraceae (24 taxa in two genera), followed by Acanthaceae (20 taxa in 15 genera, among which *Pleuropetalum darwinii* is placed in the IUCN Red list), and Gesneriaceae (12 taxa in 6 genera). The Begoniaceae family recently holds 10 taxa (Fig. 9b), while in the past (Tab. 2) it was far more abundant. Around a dozen families hold only a single representative (again, the nomenclature is conducted according to the Tropicos botanic database – other sources might consider the ranges of families and subordinate taxa differently), but most of them are represented in the other (glasshouse) collections (for example, Araliaceae, Oleaceae, Passifloraceae, etc.). Most of the plants grown in the large pots are placed during the summertime in the open, to be reachable to our visitors. To them, the most interesting are the collections of *Coffea* (many pots, Fig. 9c), *Piper* (several taxa) and *Ficus* (more than 20 taxa, Figs. 9de). The Garden glass houses have been closed to the public for almost a century now: in future, when the old Exhibition Glasshouse is reconstructed, part of the temperate collection will gain a space of its own (“topla kuća” – “warm house”).

“Monocotyledons” (“monocots”, Liliopsida)

A few of the exotic plants once grown in the temperate-glasshouse collections belong to the angiosperm group of “monocotyledons” or “liliopsida”. At the end of the 19th century, Heinz (1895-1896) depicts the representatives of at least 50 genera in 14 families at the time (Tab. 1 & 4). Members of the Araceae, Bromeliaceae, Liliaceae and Zingiberaceae were most abundant.

According to my calculations (Tab. 2 & 4), in the temperate-glasshouse collection after 1948 about 150 “monocots” from 75 genera and 16 families once grew but are now missing. Families of Bromeliaceae, Araceae, Commelinaceae and Asparagaceae were most abundant in the temperate greenhouse collection. Most of the representatives of, for example, fam. Orchidaceae and Amaryllidaceae (s.l.) are today cultivated in the other greenhouse collections.

The recent temperate glasshouse collection holds around 130 “monocots” from 60 genera and 16 families (Tab. 3 & 4). The most abundant are the families Asparagaceae

(40 taxa in 11 genera) and Bromeliaceae (35 taxa in 14 genera – *Billbergia macrolepis* is placed in the IUCN Red List). Several families hold only a single representative, but, again, according to other sources, some of them are included in other (larger) families. Some of our temperate collection “monocots” are also placed during the summertime in the open, such as the famous birds of paradise (*Strelitzia*), the currently large Asparagaceae (dracaenas, sansevierias) and some larger Bromeliaceae (Fig. 9f).

Representatives of other evolutionary groups and families were occasionally placed in the warm greenhouse facilities for various reasons, among which the most often was a simple lack of space. These “ephemerals” are not included in Tab. 2, for they were regularly moved to the other collections after some time. For example, members of the ancient Gnetaceae family (mostly *Gnetum gnemon*) lived occasionally in the temperate glasshouse, as well as the young plants of the Araucariaceae family (*Araucaria angustifolia*, *A. araucana*, *A. bidwillii*, *A. cunninghamii*), which spent several years of their “childhood” in the temperate greenhouse collection, before being added to the cool greenhouse collection.

CONCLUSIONS

According to a thorough examination of the available sources, I found that during the last 125 years at least 1000 plant taxa from 380 genera and 90 families were cultivated in the temperate (warm) glasshouse collection of the Botanical Garden, Faculty of Science, University of Zagreb. As early as 1895 (HEINZ, 1895-1896), at least 250 taxa of 167 genera and 62 families inhabited this collection. After that, until the end of the WWII, data on the glasshouse collections are missing.

The passive part of the recent database, keeping details on plants that are today missing, shows that between 1948 and 2014 at least 533 taxa from 230 genera and 74 families passed through the temperate glasshouse collection.

The active part of the recent database holds information on the plants cultivated in the Garden at the moment: accordingly, the temperate glasshouse plant collection contains 320 taxa from 146 genera and 56 families.

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I wish to express my sincere gratitude to the Botanical Garden volunteers Renata Biba, Kristina Blagušević, Anja Gotić and Livia Hamaček, students of biology (Faculty of Science, University of Zagreb), who typed and sorted the vast lists of plants grown in the temperate glasshouses extracted from the Garden database. My appreciation extends to my colleagues, Biserka Juretić, Darko Mihelj and Dr. Vanja Stamenković, who patiently compared these lists with their own; the gardeners Zrinka Dević, Gordana Ljevar and Mirela Ravlić, for constructing the inventories of the recent temperate glasshouse collections since 2000; and Dr. Ljerka Regula, retired manager of our Botanical Garden, for sharing countless stories and unpublished data over the years. I am also thankful for the good will and valuable suggestions of my esteemed peers, Dr. Jože Bavcon, Director of the Ljubljana University Botanical Garden (Slovenia), and Dr. Dario Kremer, Head of the Fran Kušan Pharmaceutical Botanical Garden, Zagreb University (Croatia). Finally, the efforts of all Garden managers, curators and gardeners, in maintaining the collections of living plants in the Botanical Garden of the Zagreb Faculty of Science, since its foundation in 1889 until today, are greatly admired and appreciated – most of all those of its founder, Professor Antun Heinz.

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SAŽETAK

Obilje bilja – zbirke Botaničkoga vrta Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu (1): Uresnice toplog staklenika – povijesni pregled

S. Kovačić

Dvije godine po osnutku Botaničkoga vrta (1889.) današnjeg Biološkog odsjeka Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu, u njemu su dovršeni staklenici (1891.). Najveći, izložbeni staklenik izgrađen je po uzoru na slavni *Palmenhaus* u bečkome Schönbrunnu te podijeljen na nekoliko manjih prostorija namijenjenih uzgoju uresnih (egzotičnih) biljaka hladnih, umjerenih i tropskih podneblja svijeta ("zdena kuća", "topla kuća", "kuća za palme"...). Već 1899. staklenici su dograđeni (REGULA, 1997), čime se dobilo na prostoru za proširenje zbirke. Neposredno prije stotog rođendana Vrta, 1985. godine, na mjestu jednog manjeg staklenika podignut je novi, kolokvijalno nazvan "Aroideae" jer je

inicijalno bio namijenjen uzgoju pripadnika porodice kozlaca (Araceae). Otada, u tom prostoru od oko 150 m², prezimljuje i trajno živi velika zbirka biljaka toplih i umjerenih podneblja svijeta, koja je davno prerasla okvire planirane porodice i proširena mnogim drugim vrstama sličnih zahtjeva ("sobne biljke"). Uz 30. obljetnicu toga staklenika i 125. rođendan Botaničkoga vrta počeli smo s temeljitim inventariziranjem zbirke. Prema nadolazećim propisima Europske unije ubrzo će biti potrebno službeno registrirati, između ostaloga, i sve žive zbirke biljaka, kako bi se moglo pratiti njihovo podrijetlo i put od sjemenke do odrasle biljke te spriječilo neovlašteno korištenje i moguća zlouporaba materijala.

Analiziranje zbirke toploga staklenika obuhvatilo je, osim današnje kartoteke biljaka, i jedini sačuvani povijesni opis iz 19. stoljeća, objavljen u knjižici osnivača Botaničkoga vrta, profesora Antuna Heinza ("Kr. Botanički vrt u Zagrebu", 1895-1896). Iz knjižice doznajemo kako je već 1895. u staklenicima raslo zapanjujuće obilje bilja: barem 250 svojta iz 167 rodova i 62 porodice samo u zbirci toploga staklenika! Iako podatci koje donosi Heinz nisu potpuni i teško ih je uspoređivati s današnjima, na tom popisu ipak možemo prepoznati mnogobrojne vrste koje i danas uzgajamo u Botaničkom vrtu. Nažalost, tijekom sljedećih pola stoljeća sudbina stakleničkih zbirki posve nam nepoznata. Sve do 1948. – kad prva poslijeratna upraviteljica Botaničkoga vrta PMF-a, dr. sc. Sala Ungar, osniva današnju kartoteku – nemamo gotovo nikakvih podataka o stakleničkim zbirkama Vrtu. Teško je vjerovati kako u razdoblju od 50 godina nije postojalo sustavno vođenje popisa biljaka u uzgoju, uobičajeno u svim europskim vrtovima već više stotina godina: iako ne možemo biti sigurni, pretpostavljamo kako su inventarne liste, u kojem god obliku bile vođene, izgubljene tijekom Prvog i/ili Drugog svjetskog rata.

Kartoteka osnovana 1948. danas broji oko 28 000 kartica – pojedinačnih unosa svojti uzgajanih u Vrtu tijekom posljednjih gotovo 70 godina. Sastoji se od dva dijela: "pasivnog", s odloženim karticama biljnih vrsta i nižih sistematskih kategorija (uključujući kultivare) koje su tijekom desetljeća uzgajane u Vrtu, a danas manjkaju; te "aktivnog", s karticama biljnih vrsta i nižih sistematskih kategorija koje se trenutačno uzgajaju u Vrtu. Taj je dio kartoteke 2002. godine i digitaliziran, u sklopu *on-line* "Baze hrvatske flore" /*Flora Croatica Database*/ s ograničenim pristupom.

Analizom rijetko korištenog, "pasivnog" dijela današnje vrtne kartoteke utvrdila sam kako su kroz zbirku toplog staklenika od 1948. do danas prošle najmanje 533 biljne svojte koje nam danas nedostaju, iz 230 rodova i 74 porodice (poneke rastu u drugim vrtovima zbirkama).

Trenutačno (popis zaključen s krajem svibnja 2015.), u zbirci toplog staklenika obitava 320 svojta iz 146 rodova i 56 porodica. Naravno, valja imati na umu da je nomenklatura vezana uglavnom uz jednu referentnu botaničku bazu, "Tropicos" Botaničkog vrta savezne države Missouri u St. Louisu (SAD), koji u Vrtu koristimo za ujednačavanje važećih naziva vrsta od ranih 2000-tih. Konzultacijom drugih botaničkih baza dolazimo često do posve različitih podataka o važećim znanstvenim nazivima, sinonimici, pa i pripadnosti rodovima i porodicama.

Usporedbom triju tablica (zbog dužine sve nisu prikazane uz tiskani tekst) s podacima iz 1895. te iz današnje "pasivne" i "aktivne" kartoteke, nalazimo kako je od 1891. do danas kroz zbirku toplog staklenika prošlo **barem 1000 biljnih svojti iz 380 rodova i 90 porodica**. Međutim, potrebno je i na kraju naglasiti kako postoji velika "praznina" u podacima o stakleničkim zbirkama između 1895. i 1948., te su ti brojevi zasigurno veći.

Prilikom buduće registracije zbirke Botaničkoga vrta svakako je važno temeljito popisati sve postojeće biljne vrste u našim zbirkama. No, također je dobro znati i koje su vrste nekad u Vrtu rasle, a danas nedostaju, kako bismo ih mogli ciljano nadomjestiti.

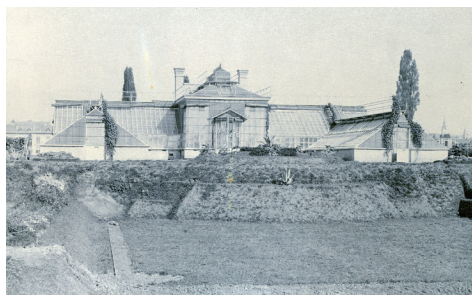


Fig. 1a. The Exhibition Glasshouse in the Botanical Garden shortly after the construction was finished, probably before the time of Heinz's booklet (1895-1896). The buildings of the Lower City of Zagreb around the Garden are still missing. (Botanical Garden Archives)

Slika 1a. Izložbeni staklenik u Botaničkom vrtu nedugo nakon izgradnje, vjerojatno prije objavljivanja Heinzeve knjižice (1895-1896). Zgrada današnjega Donjeg grada nema: parcele uokolo Vrta još su prazne. (arhiv Botaničkog vrta)



Fig. 1b. The view onto the central flower parterre and the Exhibition Glasshouse before the First World War (probably 1912-1913): it is noticeable that the familiar buildings of the Lower City of Zagreb in the meantime had grown around the Garden. (Botanical Garden Archives)

Slika 1b. Središnji cvjetni parter i izložbeni staklenik prije Prvoga svjetskog rata (vjerojatno 1912.-1913.). U međuvremenu su podignute i danas prepoznatljive građevine na Marulićevu trgu: Donji je grad narastao oko Botaničkog vrta. (arhiv Botaničkog vrta)



Fig. 1c. Central flower parterre and the Exhibition Glasshouse from the newly erected Karstic rockery (probably 1928): far left, below the Exhibition Glasshouse, is a smaller one (steep roof), at which place since 1985 the "Aroideae" warm glasshouse has stood. (Botanical Garden Archives)

Slika 1c. Pogled na cvjetni parter i izložbeni staklenik s novoosnovane Krške vegetacijske skupine (vjerojatno oko 1928.): sasvim lijevo, ispod razine izložbenog staklenika, vidi se manji, strmoga krova, na mjestu kojega je 1985. izgrađen današnji topli staklenik ("Aroideae"). (arhiv Botaničkog vrta)



Fig. 1d. Central flower parterre and the Exhibition Glasshouse (in 2005): after a long period of deterioration, this old building today faces the very beginning of its full restoration. (photo by Mirna Kirin)

Slika 1d. Cvjetni parter i izložbeni staklenik 2005. godine. Nakon dugog razdoblja propadanja, stari je staklenik danas napokon pred potpunom obnovom. (fotografija Mirne Kirin)



Fig. 2a. A nice example of the temperate collection is a maidenhair fern (*Adiantum capillus-veneris*), emblem of the Botanical Garden: this photo was taken in the greenhouse in 1935, by Croatian photographer Milan Dvoržak (Botanical Garden Archives)...

Slika 2a. Od samoga osnutka, stalni je stanovnik zbirke toploga staklenika nježna paprat gospin vlasak (*Adiantum capillus-veneris*), danas logo Botaničkoga vrta. Ovu je fotografiju u stakleniku snimio samoborski fotograf Milan Dvoržak 1935. ... (arhiv Botaničkoga vrta)



Fig. 2b. ...and this, of the same species in the same place, in 2015 by Dr. Vanja Stamenković, senior Garden curator.

Slika 2b. ...a ovu, iste vrste na istome mjestu, ali 80 godina kasnije (2015.), stručni savjetnik Botaničkoga vrta dr. sc. Vanja Stamenković!



Fig. 3. The "Aroideae" warm glasshouse holds the collection of temperate exotic "houseplants". (photo by Mirna Kirin)

Slika 3. "Aroideae" topli staklenik zatvoren je javnosti kao i svi drugi staklenici u Vrtu. U njemu živi bogata zbirka egzotičnih uresnica, od kojih su mnoge znane "sobne biljke". (fotografija Mirne Kirin)



Fig. 4. Recent view of the central part of the temperate glasshouse collection, at "the bridge" over the freshwater pools: on the left, a collection of snake plants (*Sansevieria*, fam. Asparagaceae); on the right, various Bromeliaceae. (photo by Mirna Kirin)

Slika 4. Današnji pogled na središnji dio toploga staklenika, tzv. "most" iznad bazenčića s kišnicom: lijevo se nalazi zbirka sanseverija (rod *Sansevieria*, porodica Asparagaceae), a desno raznovrsnih bromelija (porodica Bromeliaceae). (fotografija Mirne Kirin)

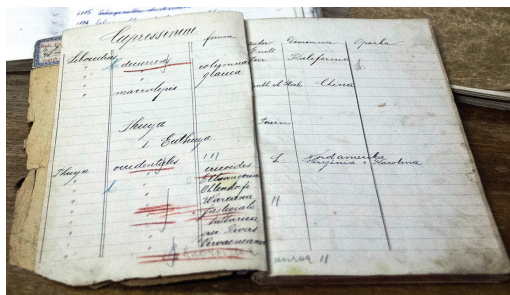


Fig. 5a. The single remaining inventory-notebook from the 19th century ("Coniferae" manuscript, 1898) implies that similar inventories must have existed for the other Garden collections, but were lost during the years. (photo by Vanja Stamenković)

Fig. 5a. Jedina sačuvana bilježnica s popisom vrsta u vrtnom uzgoju s kraja 19. stoljeća (zbirka četinjača, "Coniferae", iz 1898.), daje naslutiti kako su slične evidencije postojale i za druge zbirke u Vrtu, no izgubljene su tijekom stoljeća. (fotografija Vanje Stamenkovića)



Fig. 5b. Several notebooks connect the passive and active database: all the plants in the collections are arranged numerically and listed in the notebooks. (photo by Vanja Stamenković)

Slika 5b. Nekoliko bilježnica povezuje sadržaje "pasivne" i "aktivne" kartoteke: vrste su u njima popisane po brojevima, pod kojima se vode u kartoteci. (fotografija Vanje Stamenkovića)



Fig. 6a. The "paper-card" database, established in 1948, consists of 24 compartments. Every compartment contains around 1000 entries, each of a single plant taxon. The lower (open) drawers hold the passive dataset of the plants currently missing from the collections. (photo by Vanja Stamenković)

Slika 6a. Vrtna kartoteka, osnovana 1948., sastoji se od 24 ladice, od koje svaka sadrži i preko 1000 kartica – pojedinačnih unosa svojiti uzgajanih u vrtim zbirkama. Donji dio ladica čuva "pasivnu" kartoteku, kartice onih vrsta kojih danas više nema u zbirkama. (fotografija Vanje Stamenkovića)



Fig. 6b. A single database compartment, holding the alphabetically ordered cards: active and passive parts are held separately. (photo by Sanja Kovačić)

Slika 6b. Svaka ladica kartoteke sadrži abecednim redom složene kartice pojedinačnih svojiti. "Aktivna" i "pasivna" kartoteka čuvaju se odvojeno. (fotografija Sanje Kovačić)

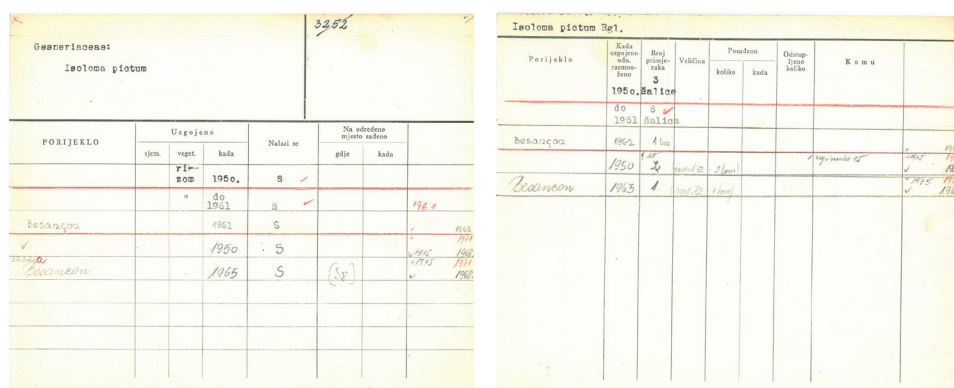


Fig. 7. Card of *Isoloma pictum*, one of the oldest temperate glasshouse collection-entries in the Garden database: a) front; b) back of the card. (photo by Sanja Kovačić)

Slika 7. Kartica vrste *Isoloma pictum*, jedne od najstarijih stanarica zbirke toploga staklenika: a) prednja strana kartice; b) stražnja strana kartice. (fotografija Sanje Kovačić)

Fig. 8. Recent entry ("card") from the digitalized Garden database. (photo by Vanja Stamenković)

Slika 8. Moderna "kartica" digitalizirane vrtne baze podataka, u sastavu *Flora Croatia Database*. (fotografija Vanje Stamenkovića)



Fig. 9. Several representatives of the recent temperate glasshouse collection: a) *Davallia solida* 'Superba'; b) *Begonia nelumbiifolia*; c) *Ficus elastica* 'Belize'; d) *Ficus lyrata* 'Bambino'; e) collection of *Coffea-taxa*; f) *Neoregelia spectabilis*. (photos by Mirna Kirin & Vanja Stamenković)

Slika 9. Nekoliko predstavnika današnje zbirke toploga staklenika: a) paprat *Davallia solida* 'Superba'; b) *Begonia nelumbiifolia*; c) *Ficus elastica* 'Belize'; d) *Ficus lyrata* 'Bambino'; e) zbirka kava (*Coffea* spp.); f) bromelija *Neoregelia spectabilis*. (fotografije Mirne Kirin i Vanje Stamenkovića)

Table 1. Estimated collection of temperate (warm) glasshouse in 1895 (Heinz, 1895-1896)

Family	Scientific name (original, acc. to Heinz)	Still exists in Garden collections	Valid & accepted names, notes and remarks
THALLOSE LIVERWORTS ("Embryophyta zooidiogama")			
Hepaticae	<i>Riccia</i> spp.	yes	several taxa, today fam. Ricciaceae
	<i>Marchantia polymorpha</i>	yes	today fam. Marchantiaceae
	<i>Lunularia vulgaris</i>	yes	probably <i>L. cruciata</i> ; today fam. Lunulariaceae
SPIKEMOSSES ("Embryophyta zooidiogama")			
Selaginellaceae	<i>Selaginella</i> spp.	yes	
FERNS ("Embryophyta zooidiogama" - Pterydophyta)			
Cyatheaceae	<i>Alsophila</i> sp.	no	many synonyms and accepted names
	<i>Dicksonia</i> spp.	no	today fam. Dicksoniaceae
Hymenophyllaceae	<i>Hymenophyllum tunbridgense</i>	no	also <i>H. rugosum</i> ; many synonyms
	<i>Trichomanes radicans</i>	no	several synonyms
Marattiaceae	<i>Angiopteris longifolia</i>	no	unresolved name, maybe a cultivar?
Osmundaceae	<i>Todea</i> sp.	no	
Polypodiaceae	<i>Blechnum brasiliense</i>	no	several synonyms; today fam. Blechnaceae
	<i>Lomaria Gibba</i>	no	unresolved name, maybe a cultivar? today fam. Blechnaceae
	<i>Pteris longifolia</i>	no	syn. <i>P. vittata</i> ; today fam. Pteridaceae
	<i>Pteris serrulata</i>	yes	syn. <i>P. dentata</i> & <i>P. multifida</i> ; today fam. Pteridaceae
	<i>Pteris cretica</i>	yes	many synonyms; today fam. Pteridaceae
	<i>Adiantum capillus-veneris</i>	yes	
	<i>Adiantum cuneatum</i>	yes	syn. <i>A. raddianum</i> ; today fam. Pteridaceae
	<i>Adiantum Farleyense</i>	no	most probably <i>A. tenerum</i> Sw. 'Farleyense'; today fam. Pteridaceae
	<i>Adiantum trapeziforme</i>	no	many synonyms; today fam. Pteridaceae
	<i>Asplenium</i> spp.	yes	today fam. Aspleniaceae
	<i>Gymnogramme</i> spp.	no	rejected genus-name; today either <i>Eriosorus</i> or <i>Hemionitis</i> in fam. Pteridaceae
	<i>Scolopendrium hybridum</i>	no	"from Lošinj island" (Croatia, endemic); today <i>Asplenium h.</i> , fam. Aspleniaceae
	<i>Nephrodium</i> sp.	no	today fam. Dryopteridaceae
	<i>Polypodium</i> spp.	yes	
	<i>Platyserium alcorniae</i>	yes	several synonyms
	<i>Ceratopteris thalictroides</i>	yes	many synonyms; today fam. Pteridaceae
	<i>Didymochlaena</i> sp.	no	<i>Didymochlaena</i> ; today fam. Dryopteridaceae
	<i>Davallia</i> sp.	yes	today fam. Davalliaceae

	<i>Chrysodium crinitum</i>	no	unresolved name, maybe a cultivar? today fam. Pteridaceae
	"and many others"	yes	family is today divided to many smaller
Schizeaceae	<i>Aneimia Phyllitidis</i>	no	<i>Anemia phyllitidis</i> ; several synonyms; today fam. Anemiaceae
DICOTYLEDONAE ("Embryophyta siphonogama" - Angiospermae)			
Acanthaceae	<i>Thunbergia</i> spp.	yes	
	<i>Aphelandra</i> sp.	no	
	<i>Sanchezia</i> sp.	yes	
	<i>Ruellia</i> spp.	yes	many synonyms
	<i>Fittonia</i> sp.	yes	
	<i>Strobilanthes</i> sp.	yes	more than 20 genus-synonyms
	"and others"	yes	
Amarantaceae	<i>Achyranthes</i> sp.	no	Amaranthaceae
	<i>Iresine</i> sp(p.)	yes	several synonyms; Amaranthaceae
	<i>Alternanthera</i> sp(p.)	no	Amaranthaceae
Anonaceae	<i>Anona</i> spp.	no	<i>Annona</i> ; Annonaceae
	<i>Asimina triloba</i>	yes	Annonaceae
Apocynaceae	<i>Thevetia neriifolia</i>	yes	accepted name is <i>Th. peruviana</i> ; many synonyms
	"also other species"	yes	
Araliaceae	<i>Aralia</i> spp.	yes	several synonyms
	<i>Fatsia papyrifera</i>	no	accepted name is also <i>Tetrapanax papyrifer</i> ; several synonyms
Aristolochiaceae	<i>Aristolochia elegans</i>	yes	valid name is <i>A. littoralis</i> ; several synonyms
	<i>Aristolochia fimbriata</i>	no	several synonyms
	<i>Aristolochia ornithocephala</i>	no	also <i>A. labiata</i> ; several synonyms
	<i>Aristolochia</i> spp.	yes	
Asclepiadaceae	<i>Stephanotis floribunda</i>	yes	several accepted names, incl. <i>Marsdenia f.</i> ; today fam Apocynaceae
Balsaminaceae	<i>Impatiens Sultani</i>	no	accepted name is <i>I. walleriana</i> ; several synonyms, incl. <i>I. balsamina</i>
	<i>Impatiens</i> spp.	yes	
Begoniaceae	<i>Begonia</i> spp.	no	
Bignoniaceae	<i>Bignonia</i> spp.	yes	
Bombaceae	<i>Durio zibethinus</i>	no	today fam. Malvaceae
Candolleaceae	<i>Stylidium adnatum</i>	no	today fam. Stylidaceae
Caricaceae	<i>Carica Papaya</i>	yes	<i>C. papaya</i> , accepted also <i>Papaya carica</i> ; more than 30 synonyms
Chenopodiaceae	"many species also in the greenhouses"	yes	today fam. Amaranthaceae
Compositae	"many species in glasshouses"	yes	today fam. Asteraceae
Convolvulaceae	<i>Calonyction speciosum</i>	no	accepted name is <i>Ipomoea alba</i> ; many synonyms

	<i>Pharbitis hispida</i>	yes	accepted name is <i>Ipomoea purpurea</i> ; many synonyms
	<i>Quamoclit</i> spp.	yes	accepted name is also <i>Ipomoea</i> ; many synonyms
	<i>Mina lobata</i>	yes	accepted names are also <i>Ipomoea l.</i> and <i>Quamoclit l.</i> ; many synonyms, incl. <i>Ipomoea lobata</i>
	<i>Ipomoea</i> spp. ("many")	yes	vast spectrum of accepted names and synonyms
	"and many more lianas"	no	
Cucurbitaceae	"many species in the greenhouses"	yes	
Erythroxylaceae	<i>Erythroxylon Cocca</i>	yes	<i>Erythroxylum coca</i> , two synonyms
Euphorbiaceae	<i>Phyllanthus</i> spp.	no	approx 50 genus-synonyms! Today fam. Phyllanthaceae
	<i>Daleschampsia</i> sp.	no	<i>Dalechampia</i> ; several genus-synonyms
	<i>Acalypha</i> spp.	no	many genus-synonyms
	<i>Manihot</i> spp.	no	several genus-synonyms
	<i>Jatropha</i> sp.	yes	many genus-synonyms
	<i>Alchornea</i> (<i>Coelebogyne</i>) <i>ilicifolia</i>	no	many synonyms of both genera; sometimes considering as separate
	"more species in the greenhouses"	yes	
Gesneraceae	<i>Streptocarpus</i> spp.	yes	fam. Gesneriaceae
	<i>Aeschynanthus</i> sp.	yes	syn. <i>Trichosporum</i> ; fam. Gesneriaceae
	<i>Didymocarpus</i> sp.	no	accepted name is also <i>Petrocodon</i> ; many synonyms; fam. Gesneriaceae
	<i>Chirita</i> sp.	no	3 synonyms; fam. Gesneriaceae
	<i>Gloxinia</i> sp.	yes	fam. Gesneriaceae
	<i>Achimenes</i> sp.	yes	
	<i>Naegelia</i> sp.	no	
	<i>Tydaea</i> sp.	no	
	<i>Gesnera</i> sp.	no	<i>Gesneria</i> ; fam. Gesneriaceae
	<i>Sinningia speciosa</i> ("Gloxinia of the gardeners")	yes	syn. <i>Gloxinia</i> s.; fam. Gesneriaceae
	"and others"	yes	fam. Gesneriaceae
Hydrophyllaceae	<i>Wigandia caracasana</i>	no	valid name is <i>W. urens</i> ; fam. Boraginaceae
	"and many others, mostly ornamentals"	yes	today fam. Boraginaceae
Labiatae	<i>Pogostemon Patschuli</i>	no	<i>P. patchouli</i> ; accepted also <i>P. cablin</i> ; several synonyms; today fam. Lamiaceae
Leguminosae	<i>Tamarindus indica</i>	no	several synonyms; fam. Fabaceae
	<i>Bauhinia</i> spp.	yes	fam. Fabaceae
	<i>Carmichaelia</i> sp.	no	
	<i>Desmodium gyrans</i>	no	several accepted names; fam. Fabaceae
	<i>Amicia zygoteris</i>	no	syn. <i>Hedysarum grandiflorum</i> , fam. Fabaceae

	<i>Dalbergia</i> sp.	no	fam. Fabaceae
	"many more species in the greenhouses"	yes	
Malvaceae	<i>Hibiscus Rosa Sinensis</i>	yes	<i>H. rosa-sinensis</i>
	<i>Gossypium</i> spp.	yes	
	<i>Abutilon</i> spp.	yes	two genus-synonyms
Melastomataceae	<i>Sonerilla</i> spp.	no	valid genus-name is <i>Sonerila</i>
	<i>Centradenia</i> spp.	no	
	<i>Medinilla</i> spp.	no	
	<i>Heterocentron</i> spp.	no	2 synonyms
	<i>Melastoma</i> spp.	no	
	<i>Bertolomia</i> spp.	no	<i>Bertolonia</i>
	<i>Rhexia</i> spp.	no	
Moraceae	<i>Dorstenia Contrayerva</i>	yes	<i>D. contrajerva</i> ; many synonyms
	<i>Artocarpus incisa</i>	no	unknown; acc. to ITIS-database it is an older syn. of <i>A. altilis</i> or <i>A. communis</i>
	<i>Artocarpus integrifolia</i>	no	<i>A. integrifolius</i> , also <i>A. heterophylla</i> ; many synonyms
	<i>Castilloa elastica</i>	no	<i>Castilla e.</i> ; many synonyms
	<i>Ficus elastica</i>	yes	several synonyms
	<i>Ficus religiosa</i>	yes	
	<i>Ficus australis</i>	no	
	<i>Ficus lanceolata</i>	no	
	<i>Ficus stipulata</i>	yes	also accepted <i>F. pumila</i>
	<i>Ficus</i> spp.	yes	
Oleaceae	<i>Jasminum</i> spp.	yes	
Oxalidaceae	<i>Biophytum sensitivum</i>	yes	also <i>B. umbraculum</i> ; several synonyms
	<i>Oxalis</i> spp.	yes	
Passifloraceae	"several representatives in the glasshouse"	yes	incl. fam. Turneraceae
Phytolaccaceae	<i>Rivina</i> spp.	yes	
Piperaceae	<i>Piper nigrum</i>	yes	
	<i>Piper Cubeba</i>	yes	<i>P. cubeba</i>
	<i>Piper Betle</i>	no	<i>P. betle</i>
	<i>Piper</i> spp.	yes	
	<i>Peperomia</i> spp.	yes	
Rubiaceae	<i>Cinchona</i> sp.	no	2 synonyms
	<i>Bouvardia</i> spp.	no	
	<i>Gardenia florida</i>	no	<i>G. jasminoides</i> ; many synonyms
	<i>Nertera</i> sp.	no	2 synonyms
	<i>Coffea arabica</i>	yes	
	<i>Coffea liberica</i>	no	2 synonyms

	<i>Uragoga</i> (<i>Cephaelis</i>) <i>Ipecacuanha</i>	no	<i>U. ipecacuanha</i> ; unresolved; several synonyms and accepted names, incl. <i>Carapichea</i> i. and <i>Psychotria</i> i.; also <i>Cephaelis ipecacuanha</i>
	"and others"	yes	
Rutaceae	<i>Pilocarpus pennatifolius</i>	no	many synonyms
Scrophulariaceae	<i>Tetranema mexicanum</i>	yes	accepted name also <i>T. roseum</i> ; several synonyms; fam. Plantaginaceae
	"many others"	yes	today fam. Plantaginaceae
Solanaceae	<i>Cestrum</i> spp.	yes	several genus-synonyms
	<i>Brunfelsia</i> spp.	yes	
	"many others"	yes	
Sterculiaceae	<i>Theobroma Cacao</i>	yes	many synonyms; today fam. Malvaceae
	<i>Hermannia</i> spp.	no	today fam. Malvaceae
	<i>Dombeya</i> (<i>Astrapaea</i>) sp.	yes	several genus-synonyms, among which also <i>Astrapaea</i> ; today fam. Malvaceae
Turneraceae	"several representatives in the glasshouse"	yes	today fam. Passifloraceae
Urticaceae	<i>Laportea Gigas</i>	no	<i>L. gigas</i>
	<i>Boehmeria nivea</i>	no	several synonyms
	<i>Pilea</i> spp.	yes	
Verbenaceae	<i>Clerodendron</i> spp.	yes	valid genus-name is <i>Clerodendrum</i> ; fam. Lamiaceae
	<i>Lippia citriodora</i>	yes	valid name is <i>Aloysia</i> c.; several synonyms
Vitaceae	<i>Cissus</i> spp. ("with variegated leaves")	yes	several genus-synonyms
MONOCOTYLEDONAE ("Embryophyta siphonogama" - Angiospermae)			
Amaryllidaceae	<i>Sprekelia formosissima</i>	yes	several synonyms
	<i>Fourcroya gigantea</i>	yes	syn. of <i>Furcraea foetida</i> , <i>F. gigantea</i> or <i>Agave foetida</i> (all valid)
	<i>Beschorneria yuccoides</i>	no	today fam. Asparagaceae
	<i>Curculigo recurvata</i>	no	syn. <i>Molinieria</i> r.; today fam. Hypoxidaceae
	"and other"	yes	(today many smaller families belong to Amaryllidaceae)
Araceae	<i>Pothos</i> spp.	yes	several synonyms
	<i>Anthurium Scherzerianum</i>	yes	<i>A. scherzerianum</i>
	<i>Anthurium radicans</i>	no	
	<i>Anthurium Andreanum</i>	yes	<i>A. andreanum</i>
	<i>Anthurium crystallinum</i>	no	
	<i>Anthurium Warocqueanum</i>	yes	<i>A. warocqueanum</i> T. Moore or <i>A. x warocqueanum</i>
	<i>Aglaonema</i> sp.	yes	
	<i>Philodendron</i> spp.	yes	several synonyms
	<i>Remusatia vivipara</i>	yes	several synonyms

	<i>Typhonium divaricatum</i>	no	several synonyms
	<i>Sauromatum</i> spp.	yes	
	<i>Ariopsis peltata</i>	yes	
Bromeliaceae	<i>Nidularium</i> spp.	yes	
	<i>Cryptanthus zonatus</i>	yes	
	<i>Ananas sativus</i>	no	syn. <i>A. comosus</i>
	<i>Bilbergia</i> spp.	yes	
	<i>Aechmea</i> spp.	yes	
	<i>Pitcairnia</i> spp.	yes	
	<i>Dyckia</i> spp.	yes	
	<i>Tillandsia</i> spp.	yes	
	<i>Vriesea</i> spp.	yes	
	"and many others of the same family"	yes	
Commelinaceae	<i>Zebrina pendula</i> (<i>Tradescantia zebrina</i>)	yes	both valid; several synonyms
	<i>Palisota Barteri</i>	no	<i>Palisota barteri</i>
	<i>Dichorisandra</i> sp.	no	
	<i>Rhoeo discolor</i>	yes	accepted names include <i>Rh. spathacea</i> , <i>Tradescantia spathacea</i> and <i>T. discolor</i> ; several synonyms
Dioscoreaceae	<i>Testudinaria Elephantipes</i> ("wilted")	no	<i>T. elephantipes</i> ; also <i>Dioscorea e.</i>
Gramineae	"several in the greenhouses"	yes	today fam. Poaceae
Iridaceae	"many species in the greenhouses"	yes	(today is family divided)
Liliaceae	<i>Chlorophytum Sternbergianum</i>	no	<i>Ch. sternbergianum</i> ; today fam. Asparagaceae
	<i>Bowiea volubilis</i>	yes	today fam. Asparagaceae
	<i>Dasyllirion</i> spp.	yes	
	<i>Cordyline</i> spp.	yes	
	<i>Dracaena draco</i>	yes	
	<i>Dracaena</i> spp.	yes	
	<i>Aspidistra elatior</i>	yes	
	<i>Ophiopogon</i> sp.	yes	
	<i>Sansevieria</i> sp.	yes	valid genus-name is <i>Sansevieria</i> ; fam. Asparagaceae
	<i>Lapageria rosea</i>	no	today fam. Philesiaceae
	<i>Aletris</i> sp.	no	today in genus <i>Hosta</i> , fam. Asparagaceae (? acc. to other sources, valid genus of Nartheciaceae family)
	<i>Smilax medica</i>	yes	today <i>Smilax aristolochiifolia</i>
Marantaceae	<i>Maranta arundinacea</i>	no	many synonyms
	<i>Phrynium</i> sp.	no	accepted is also genus-name <i>Saranthe</i> ; several synonyms
Musaceae	<i>Strelitzia</i> spp.	yes	today fam. Strelitziaceae

Orchidaceae	"many species in the greenhouses"	yes	
Pandanaceae	<i>Pandanus utilis</i>	yes	many synonyms
	"and other similar species"	yes	
Taccaceae	<i>Tacca pinnatifida</i>	no	accepted also <i>T. leontopetaloides</i> ; many synonyms; today fam. Dioscoreaceae
Zingiberaceae	<i>Curcuma Zedoaria</i>	no	also <i>C. phaeocaulis</i> ; several synonyms
	<i>Hedychium Gardnerianum</i>	yes	<i>H. gardnerianum</i>
	<i>Brachychilum</i> sp.	yes	some taxa accepted, some in <i>Hedychium</i>
	<i>Kämpferia</i> sp.	no	<i>Kaempferia</i>
	<i>Alpinia nutans</i>	yes	accepted names <i>A. zerumbet</i> and <i>A. speciosa</i> ; several synonyms
	<i>Alpinia vittata</i>	no	
	<i>Zingiber Zerumbet</i>	no	it is not clear if such species exists: it could be <i>Alpinia zerumbe</i>
	<i>Amomum Melegueta</i>	no	accepted <i>A. melegueta</i> , also <i>Aframomum melegueta</i>
	<i>Globba</i> spp.	no	
	"and many others of the same family"	yes	

Table 2. Collection of the temperate (warm) glasshouse between 1948 and 2014: recently non-existing plants

Family	Scientific name (acc. to Tropicos database)	City of plant material origin (seed, cutting, bulb, <i>planta viva</i>), year of ordering/purchasing	Year when the plant was last recorded in collection (and the exact year of wilting, if known)	Still exist in (other) collections	Notes and remarks
	THALLOSE LIVERWORTS				
Aytoniaceae	<i>Fimbriaria ludwigii</i> (Schwaegr.) Limpr. ex Muell. Frib.	Jena, 1963 & 1964	1963 & 1966	no	syn. <i>Marchantia ludwigii</i>
		Antwerp, 1967 & 1968	1968	no	
	<i>Mannia dichotoma</i> S.W. Arnell	Jena, 1966	1968	no	older: <i>Grimaldia d.</i>
Corsiniaceae	<i>Corsinia marchantioides</i> Raddi	Antwerp, 1968	1968	no	
Lunulariaceae	<i>Lunularia cruciata</i> (L.) Dumort. ex Lindb.	nn, 1949	1961	yes	
		Jena, 1963	1963	yes	
		Antwerp, 1965	1966	yes	
Marchantiaceae	<i>Dumortiera hirsuta</i> (Sw.) Nees	Jena, 1963	1963	no	
		Budapest, 1963	1963	no	
		Antwerp, 1966	1968	no	
	<i>Dumortiera velutina</i> Schiffn.	Jena, 1964	1966	no	not listed in Tropicos, Plant List nor IPNI; Catalogue of Life states that it is one of the many synonyms of <i>D. hirsuta</i>
		Antwerp, 1965, 1966 & 1967	1966, 1968 & 1969	no	
	<i>Marchantia paleacea</i> Bertol.	Antwerp, 1962, 1964 & 1965	1963, 1966 & 1966	no	
		Jena, 1963	1966	no	
	<i>Marchantia polymorpha</i> L.	Jena, 1970 & 1981	no further records	yes	replaced?
Targioniaceae	<i>Targionia hypophylla</i> L.	Jena, 1963 & 1966	no further record & 1968	no	
		Antwerp, 1968	no further record	no	
	<i>Targionia lorbeeriana</i> Muell. Frib.	Antwerp, 1965, 1966 & 1968	1966, 1968 & 1968	no	
Wiesnerellaceae	<i>Wiesnerella denudata</i> (Mitt.) Stephani	Jena, 1966	1968	no	
	SPIKEMOSSES				
Selaginellaceae	<i>Selaginella apoda</i> (L.) C. Morren	nn, 1961	1984	no	

	<i>Selaginella biformis</i> A. Braun ex Kuhn	Lyon, 1965	1968 (1975)	no	
	<i>Selaginella delicatula</i> (Desv. ex Poir.) Alston	Lyon, 1965	no further record	no	arrived as <i>S. canaliculata</i> , one of about 10 recognized synonyms
	<i>Selaginella erythropus</i> (Mart.) Spring	Oslo, 1957	1966 (1975)	no	arrived with the synonym " <i>S. umbrosa</i> ", which is nowadays syn. of <i>S. erythropus</i> var. <i>major</i>
	<i>Selaginella haematodes</i> (Kunze) Spring	Szeged, 1963	1975	no	
		Lyon, 1963	1975	no	
	<i>Selaginella involvens</i> (Sw.) Spring	nn, 1950	1952	no	arrived as <i>S. caulescens</i> ; there are at least 3 more accepted names and many synonyms
	<i>Selaginella kraussiana</i> (Kunze) A. Braun	nn, 1961	no further record	no	synonyms are also <i>S. cansecens</i> and <i>S. denticulata</i>
		Besancon, 1963	no further record	no	
		Szeged, 1963	no further record	no	
		Genova, 1963	no further record	no	
		Cork, 1963	1988 ("incorrect!")	no	
		Antwerp, 1968	1969	no	arrived as <i>S. denticulata</i>
	<i>Selaginella kraussiana</i> (Kunze) A. Braun 'Aurea'	Lyon, 1965	1965 (1975)	no	arrived as "var. <i>aurea</i> "
	<i>Selaginella lepidophylla</i> (Hook. & Grev.) Spring	nn, 2007	2009	no	given to the students' laboratory
	<i>Selaginella lyallii</i> (Hook. & Grev.) Spring	Lyon, 1963 & 1965	no further records (both)	no	arrived as <i>S. laevigata</i> var. <i>lyallii</i>
	<i>Selaginella martensii</i> Spring var. <i>watsoniana</i> (?)	Antwerp, 1968	1969 (1975)	no	arrived as "var. <i>aurea</i> "; the variety is unknown to Tropicos, it could be "hort."
	<i>Selaginella millspaughii</i> Hieron.	Antwerp, 1962	1966	no	3 other accepted names
		Lyon, 1963, 1964, 1965 & 1966	1975, 1968, 1978 & 1978	no	
		Besancon, 1965	1966	no	
	<i>Selaginella pilifera</i> A. Braun	Lyon, 1965	1969 (1975)	no	
	<i>Selaginella plana</i> (Desv. ex Poir.) Hieron.	Lyon, 1963	no further record	no	
		Cork, 1963		no	
	<i>Selaginella stellata</i> Spring	Antwerp, 1962	1988 ("incorrect!")	no	
		Lyon, 1963 & 1965	1966 & no further record	no	arrived as <i>S. galeottii</i> Spring, a single synonym

		Szeged, 1965	1966	no	1 synonym
		Besancon, 1965	1988	no	arrived as <i>S. galeottii</i> Spring, a single synonym
	<i>Selaginella uncinata</i> (Desv. ex Poir.) Spring	nn, 1951	1966	no	1 synonym
		Lyon, 1966	1966 (1975)	no	
	<i>Selaginella usteri</i> Hieron.	Pisa, 1963	1969 (1975)	no	
	<i>Selaginella victoriae</i> Moor.	Antwerp, 1968	1969 (1975)	no	not recognized in Tropicos nor IPNI; acc. to the caverock.net.nz' World Species list of Selaginellaceae, it is a forgotten synonym of <i>S. atroviridis</i> Spring
	<i>Selaginella viticulosa</i> Klotzsch	nn, 1952	1969 (1975)	no	
	<i>Selaginella watsonii</i> Underw.	Antwerp, 1964 & 1965	no further record & 1966	no	
	<i>Selaginella willdenovii</i> Baker	Oslo, 1965	no further record (1975)	no	
	FERNS				
Anemiaceae	<i>Anemia rotundifolia</i> Schrad.	Marburg, 1982	1982	no	
		Karlsruhe, 1982	1988	no	
Aspleniaceae	<i>Asplenium bulbiferum</i> G. Forst.	Haren, 1974	1975	no	4 synonyms
		Strasbourg, 1986	1988	no	
	<i>Asplenium nidus</i> L. 'Osaka'	nn, 2008	2009	no	purchased; famous old cultivar
	<i>Asplenium scolopendrium</i> L. <i>Crispum</i> Group	Essen, 2001	2005 (2006)	no	arrived as <i>Phyllitis</i> 'Crispa'; several synonyms & accepted names of species
Blechnaceae	<i>Blechnum brasiliense</i> Desv.	nn, 1953	no further record	no	6 synonyms
		Amsterdam, 1968	1969	no	
		Berlin, 1969	1971	no	
	<i>Blechnum moorei</i> C.Chr.	Kiel, 1982	1988	no	acc. to IPNI & Plant List; an unresolved name
		Muenchen, 1982	2000	no	
	<i>Blechnum neohollandicum</i> Christenh.	Lyon, 1954	1963	no	arrived as syn. <i>Doodia aspera</i> , which is replaced by <i>B. n.</i>
	<i>Stenochlaena palustris</i> (Burm. f.) Bedd.	Antwerp, 1966	1968	no	10+ synonyms
	<i>Stenochlaena tenuifolia</i> (Desv.) T. Moore	Besancon, 1977	1980	no	10+ synonyms
Cyatheaceae	<i>Cyathea australis</i> Domin	Amsterdam, 1968	1969	no	arrived as syn. <i>Alsophila australis</i>
		Potsdam, 2010	2012 (2013)	no	

	<i>Cyathea leichhardtiana</i> Copel.	Amsterdam, 1968	1969	no	arrived as syn. <i>A. leichhardtiana</i>
Cystopteridaceae	<i>Cystopteris bulbifera</i> (L.) Bernh.	Bologna, 1974	1975	no	6 synonyms
		Berlin, 1989	1996	no	
Davalliaceae	<i>Davallia denticulata</i> (Burm. f.) Mett. ex Kuhn	Antwerp, 1967 & 1973	1968 & 1978	no	accepted name is also <i>D. chaerophylloides</i>
	<i>Davallia solida</i> (G. Forst.) Sw.	Tuebingen, 1971	1972	yes	accepted name is also <i>D. sinensis</i>
	<i>Nephrolepis biserrata</i> (Sw.) Schott var. <i>furcans</i> L.H. Bailey	Montreal, 1978	1979	no	also as 'Furcans' hort.
	<i>Nephrolepis cordifolia</i> (L.) C. Presl	Szeged, 1970	1980 (1988)	no	12 synonyms
	<i>Nephrolepis exaltata</i> (L.) Schott f. <i>muscosa</i> Clute*	nn, 1963	1969 ("incorrect!")	no	f. acc. to IPNI (as fam. Oleandraceae)
	<i>Nephrolepis exaltata</i> (L.) Schott 'Green Fantasy'	nn, 2003	2005 (2006)	no	purchased; well known cultivar
	<i>Nephrolepis exaltata</i> (L.) Schott 'Whitmanii'	Opeka, 1963	1978	no	4 species-synonyms
	<i>Nephrolepis hirsutula</i> (G. Forst.) C. Presl	Szeged, 2002	2007 (2008)	no	3 synonyms
Dennstaedtiaceae	<i>Histiopteris incisa</i> (Thunb.) J. Sm.	Leningrad (St. Petersburg), 1981	1988	no	arrived as syn. <i>Pteris quadriaurita</i> (Pteridaceae); 9 synonyms; perhaps the family is monotypic
	<i>Microlepia speluncae</i> (L.) T. Moore	Muenchen, 1958	1961	no	accepted name is also <i>M. hancei</i> ; 30+ synonyms
Dicksoniaceae	<i>Dicksonia antarctica</i> Labill.	Potsdam, 2010	2012	no	
Dryopteridaceae	<i>Arachniodes aristata</i> (G. Forst.) Tindale	Berlin, 1968	1972 (1988)	no	arrived as syn. <i>Polystichum aristatum</i> ; 20+ synonyms
	<i>Cyrtomium falcatum</i> (L. f.) C. Presl 'Rochfordianum'	Stockholm, 1958	1988	no	7 species-synonyms
		Cluj-Napoca, 1969	1975	no	
	<i>Cyrtomium lonchitoides</i> (Christ) Christ	nn, 1961 & 1963	1988 & 2001 (2003)	no	arrived as <i>Polystichum lonchitoides</i> , one of 4 today's synonyms
	<i>Dicalpe aspidioides</i> Blume	nn, 1961	2000	no	2 more accepted names (<i>Peranema a.</i> , <i>Dryopteris pseudocaenopteris</i>)
		nn, 2005	2005 (2007)	no	purchased
	<i>Polystichum braunii</i> (Spenn.) Fée	nn, 1961	no further record	no	4 species-synonyms
	<i>Polystichum polyblepharum</i> (Roem. ex Kunze) C. Presl	nn, 2007	2008	no	3 synonyms
Lygodiaceae	<i>Lygodium japonicum</i> (Thunb.) Sw.	Lyon, 1966	no further record	no	15+ synonyms

		Brno, 2001	2003 (removed)	no	
		Lyon, 1967	no further record	no	
Onocleaceae	<i>Onoclea sensibilis</i> L.	Amsterdam, 1958	1963	no	8 synonyms; perhaps the family is monotypic
Polypodiaceae	<i>Drynaria quercifolia</i> (L.) J. Sm.	Aachen, 1990	1991	no	syn. <i>Polypodium q.</i>
		Berlin, 1969	1975 ("incorrect!")	no	
	<i>Microsorium punctatum</i> (L.) Copel.	nn, 1961 & 1969	2000	no	arrived as <i>M. polycarpon</i> , which is also an accepted name; contains 60+ synonyms
		nn, 1961, 1972, 1981	1981 ("incorrect!"), 1991	no	arrived as <i>Microsorium p.</i> ; accepted name is also <i>M. polycarpon</i> ; contains 60+ synonyms
	<i>Platynerium</i> 'Wilhelminae-Reginae'	Potsdam, 1982	1982	no	?, probably <i>Platynerium grande</i> J. Sm. 'Queen Wilhelmina'
	<i>Polypodium glaucum</i> Thunb. ex Houtt.	Cluj-Napoca, 1968	1973	no	with 4 accepted names; several synonyms
	<i>Polypodium leiorrhizum</i> Wall.*	Karlsruhe, 1969	1973 ("incorrect: Pteris!")	no	that name is marked as "unsolved" in all consulted databases
	<i>Pyrrosia nummulariifolia</i> (Sw.) Ching	Leiden, 1985	2007 (2008)	no	10+ synonyms
Pteridaceae	<i>Adiantum</i> 'Magnificum' (?)	Bucarest, 1986 & 1988	1988 & 1989	no	unknown cultivar
	<i>Adiantum raddianum</i> C. Presl 'Gracillimum'	Riga, 1959	2010 (2011)	no	arrived under also accepted name: <i>A. cuneatum</i> var. <i>gracillimum</i>
	<i>Adiantum raddianum</i> 'Brilliantelse' or 'Brilliant Elze'	Opeka, 1963	1968	no	arrived as <i>A. brilliantelse</i>
	<i>Adiantum tenerum</i> Sw. (cult.?)	Opeka, 1963	1969	no	arrived as syn. <i>A. tenerum</i> var. <i>scutatum</i> hort f. <i>roseum</i> , hard to tell which cultivar it was, perhaps 'Scutum Roseum'
	<i>Adiantum tetraphyllum</i> Humb. & Bonpl. ex Willd.*	Szeged, 1970	1984 ("incorrect: A. capillus-veneris!")	no	4 synonyms
	<i>Pellaea atropurpurea</i> (L.) Link	Muenchen, 1997	2005 (2006)	no	5 synonyms; there is also <i>P. × atropurpurea</i> (pro. sp.)
	<i>Pellaea paradoxa</i> Hook. "Glow Star"	nn, 2007	2008	no	purchased; well known cultivar
	<i>Pellaea rotundifolia</i> (G. Forst.) Hook.	Cork, 1960	1961	no	
		Zurich, 1982	1983	no	
		Marburg, 1982	2007 (2008)	no	
	<i>Pityrogramma calomelanos</i> (L.) Link	Berlin, 1968	1969	no	15+ synonyms

	<i>Pityrogramma sulphurea</i> (Sw.) Maxon	nn, 1954 & 1982	no further record & 1984	no	
		Muenster, 1988	1990	no	
		Dresden, 1989	1990	no	
		nn, 2005	2005	no	purchased
	<i>Pteris argyraea</i> T. Moore	Opeka, 1963	1972	no	
		Nancy, 1968 & 1982	1975 & 1991	no	
		Potsdam, 1982	1991	no	
		Muenchen, 1982	1991	no	
	<i>Pteris cretica</i> L.	nn, 1961	2010	no	accepted name is also <i>P. stenophylla</i> ; 10 synonyms
	<i>Pteris cretica</i> L. 'Gauthierii' (?)	Opeka, 1963	1978	no	accepted species-name is also <i>P. stenophylla</i> ; 10 species-synonyms; the cultivar is unknown, maybe 'Gauthieri'?
	<i>Pteris cretica</i> L. 'Rowerii'	Opeka, 1963	1966	no	accepted name is also <i>P. stenophylla</i> ; 10 species-synonyms; the cultivar arrived as 'Roeweri'
	<i>Pteris multifida</i> Poir. 'Cristata'	nn, 1975	1978	no	3 species-synonyms
	<i>Pteris vittata</i> L.	nn, 1961 & 1963	1981	no	arrived as <i>P. longifolia</i> , accepted name of <i>P. vittata</i> together with 2 others; 10 synonyms
		Utrecht, 1980	2010	no	10 synonyms
	DICOTYLEDONS (Magnoliopsida)				
Acanthaceae	<i>Aphelandra aurantiaca</i> (Scheidw.) Lindl.	Rouen, 1961 & 1966	1962 & 1968	no	10 synonyms
	<i>Aphelandra squarrosa</i> Nees	nn, 1961	no further record	no	
	<i>Barleria lupulina</i> Lindl.	Bogor, 2004	2005	no	2 synonyms
	<i>Barleria prionitis</i> L.	Wuppertal, 1964	no further record	no	5 synonyms
		Glasgow, 1987	1988	no	
		Copenhagen, 1986	1988	no	
	<i>Brillantaisia lamium</i> (Nees) Benth.	Saarbruecken, 1968	1969	no	syn. <i>Leucorhaphis lamium</i>
	<i>Brillantaisia palisotii</i> Lindau	Goettingen, 1965	1988	no	
	<i>Chamaerantherum beyrichii</i> Nees	Aachen, 1966	1977	no	
	<i>Crabbea velutina</i> S. Moore	Besancon, 1965	1969	no	arrived as <i>C. reticulata</i> , one of 2 synonyms
		Jena, 1964	1988	no	

	<i>Crossandra flava</i> Hook.	Haren, 1979	1979	no	
		Basel, 1981	no further record	no	
		Muenster, 1980	1989	no	
	<i>Crossandra infundibuliformis</i> (L.) Nees	Basel, 1972	1978	no	5 synonyms
		Cobham, 1980	1995	no	
	<i>Crossandra infundibuliformis</i> (L.) Nees 'Mona Wallhead'	Karlsruhe, 1978	1979	no	
	<i>Crossandra massaica</i> Mildbr.	Bonn, 1970	no further record	no	syn. <i>C. nilotica</i> var. <i>massaica</i>
	<i>Crossandra subacaulis</i> C.B. Clarke	Bonn, 1971	1973	no	
		Rotterdam, 1989	1995 ("incorrect!")	no	determined as <i>C. nilotica</i> in 2001
	<i>Eranthemum wattii</i> (Bedd.) Stapf	Marburg, 1963	1966	no	
		Aachen, 1966	1975	no	
		Copenhagen, 1966	1972	no	
		Duesseldorf, 1989	1989	no	
	<i>Eremomastax speciosa</i> (Hochst.) Cufod.	Copenhagen, 2003	2005	no	accepted name is also <i>E. polysperma</i> , among other synonyms
	<i>Graptophyllum pictum</i> (L.) Griff.	Brno, 1963	1966	no	2 synonyms
	<i>Jacobinia pohliana</i> (Nees) Lindau var. <i>velutina</i> Nees	Besancon, 1968	1975	no	accepted name is also <i>Justicia carnea</i>
	<i>Perilepta dyeriana</i> (Mast.) Bremek.	nn, in collection in 2000	2007	no	unresolved name; not in Tropicos, acc. to Plant list maybe <i>Strobilanthes dyeriana</i> Mast.
	<i>Ruellia blumei</i> Steud.	nn, 1961	2003 (2010)	no	unresolved name (acc. to IPNI, not in Tropicos!)
		nn, in collection in 2000	2005	yes	relocated; unresolved name
	<i>Ruellia ciliosa</i> Pursh	Vienna, 1961	1975	no	2 synonyms
	<i>Ruellia elegans</i> Poir.	Kaunas, 1970	1972 (1975)	no	4 synonyms
	<i>Ruellia graecizans</i> Rech. f.	nn, 1961	1966 (1968)	no	10+ synonyms
		Copenhagen, 1969	2005	no	relocated; 10+ synonyms
	<i>Ruellia lorentziana</i> Griseb.	nn, 1961	1978	no	accepted name is also <i>R. ciliatiflora</i> ; several synonyms
		Lisbon, 1970	2003 (2005)	no	
	<i>Ruellia strepens</i> L.	Pallanza, 1970	1971	no	
		Bruxelles, 1970	1971 (1975)	no	

	<i>Ruellia tuberosa</i> L.	nn, 1961	2003	no	
	<i>Ruspolia seticalyx</i> (C.B. Clarke) Milne-Redh.	Berlin, 1967	1984 (1988)	no	
		Turlen, 1989	2001	no	
	<i>Strobilanthes glabrata</i> Nees	Tuebingen, 1963	1966 (1975)	no	
	<i>Strobilanthes</i> "roseus Nees" (?)	Kaunas 1962	1968 (1975)	no	unresolved name (acc. to IPNI, not in Tropicos nor Plant List); perhaps <i>Ruellia rosea</i>
	<i>Thunbergia fragrans</i> Roxb.	Bonn, 1987	1991	no	accepted name is also <i>Th. convolvulifolia</i> ; 6 synonyms
	<i>Thunbergia grandiflora</i> Roxb.	Barcelona, 1963	1972	no	5 synonyms
	<i>Whitfieldia longifolia</i> T. Anderson	Caen, 2002	2003 (2010)	no	accepted name is also <i>Whitfieldia elongata</i> , syn. <i>Ruellia elongata</i> and 4 more
Amaranthaceae	<i>Iresine herbstii</i> Hook.	nn, 1981	2005	yes	3 accepted names, 2 synonyms
Anacardiaceae	<i>Mangifera indica</i> L.	nn, 1981	1984	no	2 synonyms
	<i>Maytenus</i> "serrotina" (?)	Muenchen, 1979	1988	no	unknown species, perhaps a misspelling; maybe " <i>M. serrata</i> " ...?
Annonaceae	<i>Annona reticulata</i> L.	Potsdam, 1982	1984	no	accepted names are also <i>A. muscosa</i> and <i>Rollinia mucosa</i> ; 20+ synonyms
Apocynaceae	<i>Acokanthera spectabilis</i> (Sond.) Hook. f.	Dublin, 1964	1965	no	accepted name is also <i>A. oblongifolia</i> ; 2 synonyms
	<i>Carissa macrocarpa</i> (Eckl.) A. DC.	Antibes, 1978	1981	no	arrived as <i>C. grandiflora</i> , one of 4 synonyms
	<i>Cryptolepis triangularis</i> N.E. Br.	"Angola", 1972	1975	no	possibly from the native (Angolan) locality, via some Delectus Seminum
	<i>Mandevilla suaveolens</i> Lindl.	Coimbra, 1953	no further record	no	accepted name is also <i>M. laxa</i> ; 10 synonyms
		Lisbon, 1960	1968	no	
	<i>Philibertia gracilis</i> D. Don	Besancon, 1962 & 1965	1963 & no further record	no	3 more accepted names
	<i>Rauwolfia tetraphylla</i> L.	Muenchen, 1980	1988	no	15+ synonyms
		Shanghai, 1980	1988	no	arrived as <i>Rauwolfia t.</i> ; one of 15+ synonyms
		Marburg, 1958 & 1959	1961 & no further record	no	arrived as <i>Rauwolfia canescens</i> , one of 15+ synonyms
		Tsukuba, 1983	1984	no	15+ synonyms
	<i>Stephanotis floribunda</i> Brongn.	Karlsruhe, 1963	1964	no	2 more accepted names; 8 synonyms
		Wuppertal, 1989 & 1990	2003 (2010) & 2007 (2008)	no	
	<i>Thevetia peruviana</i> K. Schum.	nn, 1989	1996	no	accepted name is also <i>Cascabela thevetia</i> ; 10 synonyms

	<i>Tweedia coerulea</i> D. Don ex Sweet	Chelsea, 1954	1961	no	accepted name is also <i>Oxyptalum coeruleum</i> , 2 synonyms
		Lyon, 1963	no further record	no	
	<i>Wrightia religiosa</i> (Teijsm. & Binn.) Benth ex Kurz	Bogor, 2004	2005	no	author acc. to Plant List; 2 synonyms
Araliaceae	<i>Acanthopanax setchuensis</i> Harms ex Diels	Prague, 1962	1963	no	2 more accepted names; 4 synonyms
	X <i>Fatsyhedera lizei</i> (Cochet) Guillaumin 'Silver Prince'	"Lada" Nursery Slovenia, 1964	1988	no	hybrid genus of <i>Fatsia japonica</i> 'Moseri' and <i>Hedera helix</i>
	<i>Schefflera digitata</i> J.R. Forst. & G. Forst.	Bucharest, 1985	2005	yes	
		nn, 1986	1988	yes	
	<i>Tetrapanax papyrifer</i> (Hook.) K. Koch	Barcelona, 1968	1970	no	4 synonyms
Asteraceae	<i>Chrysocoma coma-aurea</i> L.	Wuppertal, 1985, 1986 & 1989	1988, 1987 & 1989	no	
		Lisbon, 1988	1989	no	
	<i>Rhodanthemum gayanum</i> (Coss. & Durieu) B.H. Wilcox, K. Bremer & Humphries	Reading, 2002	2004 (2005)	no	(acc. to IPNI & Plant List: unknown to Tropicos)
Balsaminaceae	<i>Impatiens sodenii</i> Engl. & Warb.	Bonn, 1960	2002	no	6 synonyms
	<i>Impatiens flaccida</i> Arn.	Bonn, 1972	no further record	no	
	<i>Impatiens holstii</i> Engl. & Warb. 'Roodkapje'	Nijmegen, 1969	1972	no	accepted species-name is also <i>I. walleriana</i> ; 7 synonyms
Begoniaceae	<i>Begonia</i> × <i>albopicta</i> W. Bull	nn, 1961	no further record	no	there is also <i>B. albopicta</i> W. Bull
	<i>Begonia</i> × <i>argenteoguttata</i> M. Lemoine	nn, 2000	2003	no	purchased as <i>Begonia</i> 'Argenteoguttata'
	<i>Begonia angularis</i> Raddi	Nantes, 1962	1963	no	
	<i>Begonia</i> × <i>bunchii</i> L.H. Bailey	Bergen, 1976	1988	no	
	<i>Begonia biserrata</i> Lindl.	Pisa, 1966	2013	no	arrived as <i>B. palmaris</i> , a single synonym
	<i>Begonia bowerae</i> Ziesenh. 'Nigra'	Lublin, 1987	2013	no	
	<i>Begonia</i> × <i>credneri</i> F. Haage & E. Schmidt	Edinburgh, 1960	1966	no	
	<i>Begonia caffra</i> Meisn.	Potsdam, 1986	1991	no	accepted name is also <i>B. homonyma</i>
	<i>Begonia</i> 'Comte de Lesseps'	Nancy, 1958	1961	no	arrived as <i>B. 'Ferdinand de Lesseps'</i> ; hybrid
	<i>Begonia concinna</i> Schott	Wuppertal, 1978	no further record	no	

	<i>Begonia corallina</i> Carrière 'Luzerna'	Caen, 1988	2003 (2010)	no	there is also <i>B. lucerna</i> , as an unresolved name
	<i>Begonia cucullata</i> Willd.	Marburg, 1978	1979	no	accepted name is also <i>B. urticae</i> L. f.; 30+ synonyms
		Manchester, 1981	1984	no	
	<i>Begonia dregei</i> Otto & A. Dietr.	Bonn, 1960	1961	no	2 synonyms
		Antwerp, 1961	1963	no	
		Rotterdam, 1960	1966	no	
		Potsdam, 1978	1980 (1981)	no	
		Basel, 1980	1991	no	
	<i>Begonia fernando-costae</i> Irmsch.	Lyon, 2004	2005 (2010)	no	
	<i>Begonia foliosa</i> Kunth	Vacratot, 1963	2003 (2010)	no	8 synonyms
	<i>Begonia franconis</i> Liebm.	Berlin, 1983	1984	no	3 synonyms
	<i>Begonia glabra</i> Aubl.	Antwerp, 1971	1972	no	accepted name is also <i>B. urticae</i> L. f.; 30+ synonyms
		Manchester, 1981	1984	no	
	<i>Begonia gracilis</i> Kunth	Gent, 1970	1971	no	arrived as <i>B. gracilis</i> var. <i>martiana</i> , one of 2 accepted synonyms
	<i>Begonia grandis</i> Dryand.	Naples, 1960	1961	no	
		Bielefeld, 1989	1996	no	
	<i>Begonia grandis</i> Dryand. subsp. <i>evansiana</i> (C. Andrews) Irmsch.	Karlsruhe, 1960	1961	no	4 synonyms; for each also other accepted names
		Frankfurt, 1969	1980	no	
		Linz, 1978	2003 (2006)	no	
		Zuerich, 1981	1984 (1988)	no	
		Tuebingen, 1983 & 1988	1984 & 1989	no	
	<i>Begonia</i> 'Helen Lewis'	nn, in collection in 2000	2001 (2003)	no	hybrid
	<i>Begonia heracleifolia</i> Schltdl. & Cham. var. <i>nigricans</i> Hook.	nn, 1961	2003 (2006)	no	arrived as <i>B. heracleifolia</i> var. <i>nigricans</i> , an illegitimate name; 15+ species-synonyms
	<i>Begonia hirtella</i> Link	Muehlhausen, 1980	no further record	no	4 synonyms
		Liege, 1986	1996	no	
	<i>Begonia homonyma</i> Steud.	Muenchen, 1990	1995	no	synonym is <i>B. caffra</i>
	<i>Begonia hydrocotylifolia</i> Otto ex Hook.	Bergen, 1973	1981	no	
		Postdam, 1978	no further record	no	
		Caen, 1986	2001 (2006)	no	

	<i>Begonia imperialis</i> Lem. var. <i>smaragdina</i> Lem.	nn, 1961	2003 (2006)	no	3 species-synonyms, accepted name is also <i>B.</i> <i>imperialis</i> ; arrived as 'Smaragdina'
	<i>Begonia incarnata</i> Link & Otto var. <i>maculosa</i> (?)	Antwerp, 1965	1966	no	unknown variety
	<i>Begonia maculata</i> Raddi	Antwerp, 1966	1969	no	3 synonyms
	<i>Begonia malabarica</i> Lam.	Bergen, 1965	1966	no	2 homonyms
		Antwerp, 1965	1966	no	
		Wuppertal, 1978	1980 ("incorrect!")	no	
		Gembloux, 1989	1991 (1995)	no	
	<i>Begonia manicata</i> Brongn. ex F. Cels 'Crispa' (?)	nn, 1961	1975	no	arrived as <i>B. m.</i> var. <i>crispa</i> hort.; unknown variety
	<i>Begonia manicata</i> Brongn. ex F. Cels var. <i>aureomaculata</i> Ziesenh.	Antwerp, 1967	2003 (2006)	no	8 species-synonyms; accepted name is also <i>B.</i> <i>manicata</i> ; there is also a cultivar 'Aureo-maculata'
	<i>Begonia masoniana</i> Irmsch. ex Ziesenh. 'Iron Cross'	"Lada" Nursery Slovenia, 1964	2012	no	also as <i>B.</i> 'Iron Cross' (hort.)
	<i>Begonia molleri</i> (A. DC.) Warb.	Porto, 1967	1968	no	
	<i>Begonia mollicaulis</i> Irmsch.	Gent, 1988	1996	no	
	<i>Begonia multiflora</i> Benth. 'Helen Harms'	nn, 1962	1968	no	arrived as <i>B.</i> 'Helen Harms'
	<i>Begonia multiflora</i> Benth. 'Plam Deyon' (?)	nn, 1962	1968	no	unknown cultivar
	<i>Begonia oxysperma</i> A. DC.	Vienna, 2003	2005	no	
	<i>Begonia pearcei</i> Hook.	Montreal, 1960	1963	no	
	<i>Begonia</i> 'Perle de Lorraine'	nn, 1961	no further record	no	hybrid
	<i>Begonia rajah</i> Ridl.	Gent, 1988	1996	no	
	<i>Begonia Rex Cultorum</i>	nn, 1961	no further record	no	there is also described a wild species <i>B. rex</i> Putz, but the large group of cultivars 'Rex Cultorum' are horticultural hybrids (acc. to UK Begonia Society)
		Vacratot, 1963	1966	no	
		nn, 1980	1988	no	
		nn, 1987	1995	no	
		nn, 1987	1995	no	
	<i>Begonia Rex Cultorum</i> 'Abel Carriere'	Manchester, 1985	1996	no	

	<i>Begonia Rex Cultorum</i> 'Axel Lange'	nn, 1962	1978	no	
	<i>Begonia Rex Cultorum</i> 'Comtesse Louise Erdoedy'	Cluj-Napoca, 1965	1966	no	
	<i>Begonia Rex Cultorum</i> 'Escargot'	nn, 2003, 2004 & 2005	2004, 2005 & 2005	no	purchased
	<i>Begonia sanguinea</i> Raddi	Marburg, 1960	1963	no	
		Nancy, 1969	1972	no	
		Goeteborg, 1985	1989	no	
	<i>Begonia schmidtiana</i> Regel	Gent, 1970	1980	no	
		Wuppertal, 1978	2003 (2006)	no	
	<i>Begonia serratipetala</i> Irmsh.	Nantes, 1970	1971	no	
	<i>Begonia socotrana</i> Hook. f.	Basel, 1989	1996	no	
	<i>Begonia suffruticosa</i> Meisn.	Gent, 1982	1983	no	
		Goeteborg, 1985	1991 (1995)	no	
		Leipzig, 1990	1991 (1995)	no	
	<i>Begonia suthelandii</i> Binns	Dublin, 1960	1961	no	
	<i>Begonia × tuberhybrida</i> Voss	Zuerich, 1955	1963	no	
		Nijmegen, 1965	1966	no	
		Besancon, 1967 & 1968	1968 both	no	
		Goedoeillo, 1966	1968	no	
		Lviv, 1983	1984	no	
		Szeged, 1984	1988	no	
		Wroclaw, 1985	1988	no	
	<i>Begonia tomentosa</i> Schott	Wuppertal, 1978	1979	no	
		Gembloux, 1989	1991 (1995)	no	
	<i>Begonia undulata</i> Schott	Kaunas, 1981	1991 (1995)	no	
	<i>Begonia "urvilleana"</i> (?)	Berlin, 1991	2000	no	unknown species
	<i>Begonia × verschaaffeltii</i> Regel*	Besancon, 1972	2000 ("incorrect!")	no	
	<i>Begonia valida</i> K.I. Goebel	Muenchen, 1990	1991	no	
	<i>Begonia velloziana</i> Walp.*	Giessen, 1994	2000 ("incorrect!")	no	
	<i>Begonia vitifolia</i> Schott	Berlin, 1989	2010	no	
	<i>Begonia × weltoniensis</i> J.B. Weber	Nijmegen, 1968	1968	no	
	<i>Begonia wallichiana</i> Steud. ex Lehm.	Leipzig, 1960	1961	no	

		Potsdam, 1978	no further record	no	
		Wuppertal, 1987	1988	no	
Bignoniaceae	<i>Jacaranda acutifolia</i> Bonpl. 'Tango' (?)	Frankfurt, 1969	1989	no	unknown cultivar
	<i>Jacaranda mimosifolia</i> D. Don	Bogor, 1980	1981	no	arrived as <i>J. filicifolia</i> , one of 3 accepted names
		Legon, 1964	1984	no	4 synonyms
		Izmir, 1965	1978	no	
		Frankfurt, 1969	1989	no	
		Hong Kong, 1979	1989	no	
	<i>Macfadyena unguis-cati</i> (L.) A.H. Gentry	nn, 1961	1968	no	arrived as <i>Bignonia tweediana</i> ; 40+ accepted names and synonyms
		Bonn, 1981	1983	no	from a native locality in the Caribbean; 40+ accepted names and synonyms
		Adelaide, 1982	1988	no	arrived as <i>Doxantha u.-c.</i> ; 40+ accepted names and synonyms
	<i>Markhamia lutea</i> (Benth.) K. Schum.	Orotava-Tenerife, 2004	2010	no	
	<i>Pandorea ricasoliana</i> (Tanfani) K. Schum.	Ariana, 1963	1978	no	
	<i>Radermachera sinica</i> (Hance) Hemsl.	nn, 2003	2005	no	purchased; 2 synonyms
Boraginaceae	<i>Wigandia urens</i> (Ruiz & Pav.) Kunth	Stuttgart, 1987	1990	no	arrived as <i>W. caracasana</i> , one of 15+ synonyms
		Duesseldorf, 1989	1990	no	15+ synonyms
Campanulaceae	<i>Azorina vidalii</i> (H.C.Wats.) Feer	Orotava-Tenerife, 2004	2006	no	relocated
	<i>Campanumoea javanica</i> Blume	Shangai, 2003	2004 (2010)	no	syn. <i>Codonopsis javanica</i>
	<i>Hippobroma longiflora</i> (L.) G. Don	Bergen, 1965	1968	no	arrived as <i>Isotoma l.</i> (invalid); 7 synonyms
		Bonn, 1980	1981	no	7 synonyms
		Nancy, 2002	2010 (2012)	no	
	<i>Laurentia gasparrinii</i> (Tineo) Strobl	Copenhagen, 1978	1979 (1989)	no	
	<i>Lobelia fulgens</i> Willd.	Karlsruhe, 2002	2005	no	syn. <i>L. cardinalis</i> ; 20 synonyms
	<i>Michauxia campanuloides</i> L'Hér.	Teplice, 2004	2005	no	
	<i>Musschia aurea</i> (L.) Dumort.	Bochum, 2002	2003 (2005)	no	
Convolvulaceae	<i>Ipomoea batatas</i> (L.) Lam.	Wroclaw, 1986	2002 (2010)	no	30 synonyms
Cucurbitaceae	<i>Schizopepon bryoniifolius</i> Maxim.	Tskuba, 2002	2004 (2006)	no	2 synonyms

	Trichosanthes quinquangulata A. Gray	Hengchun, 2002	2003	no	
	Momordica charantia L.	Duisburg, 1969	1970	yes	10+ synonyms
Erythroxylaceae	Erythroxylum novogranatense (D. Morris) Hieron.	Singapore, 1961	1984	no	4 synonyms
Euphorbiaceae	Dalechampia spathulata (Scheidw.) Baill. var. spathulata (?)	Tuebingen, 1963	1968	no	unknown variety; with a syn. <i>D. roezliana</i> var. <i>rosea</i> - acc. to Tropicos, these are separate species; 8 synonyms
	Euphorbia tithymaloides (L.) Poit.	Antwerp, 1964	1966	no	accepted name is also <i>Pedilanthus t.</i> ; 30+ synonyms
		Vacratot, 1963 & 1965	1968 both	yes	
	Triadica sebifera (L.) Small	Sendai, 1980	1991	no	accepted name is also <i>Sapium sebiferum</i> ; 10+ synonyms
Fabaceae	Caesalpinia pulcherrima (L.) Sw. 'Ruby Red'	Auroville, 1990	1996	no	accepted name is also <i>Poinciana pulcherrima</i> ; 6 species-synonyms
	Cajanus cajan (L.) Huth	Duesseldorf, 2012	2013	no	several accepted names and many synonyms
	Desmodium illinoense A. Gray	Lyon, 1991	1996	no	
	Gastrolobium coriaceum (Sm.) G. Chandler & Crisp	Prague, 1961	1965	no	arrived as <i>Oxylobium</i> <i>retusum</i> ; one of 10 synonyms
	Hardenbergia comptoniana Benth.	Menton, 2011	2013	no	
	Leucaena glauca Benth.	Basel, 1995	1996	yes	3 more accepted names; 7 synonyms
	Samanea saman (Jacq.) Merr.	Bogor, 1984	1984 (1989)	no	3 more accepted names; 6 synonyms
		Auroville, 1990	1996	no	
	Tamarindus indica L.	Brisbane, 1963	1964	no	monotypic genus or with several species? Widely cultivated; 3 synonyms
		Legon, 1970	1989	no	
		Bogor, 1978	1984	no	
	Tipuana tipu (Benth.) Kuntze	Braunschweig, 1978 & 1979	1989 & 1979	yes	arrived as <i>T. speciosa</i> Benth., one of 3 synonyms
		Blanes, 1981 & 1984	1984 & 1989	yes	3 synonyms
		Barcelona, 1981 & 1982	1989 & 1984	yes	
		Coimbra, 1984	1989	yes	
Gesneriaceae	Achimenes erecta (Lam.) H.P. Fuchs	Duisburg 1982	no further record	yes	10 synonyms
		Berlin, 2003	2005 (2006)	yes	
	Aeschynanthus lobbianus Hook.	Bergen, 1957	1961	yes	

		Antwerp, 1972	1980	yes	
		nn, 2001 & 2003	2005 & 2007	yes	purchased
	Aeschynanthus longicaulis Wall. ex R. Br.	nn, in collection in 2000	2010	no	1 synonym
	Aeschynanthus pulcher (Blume) G. Don	nn, 1953, 1961 & 1966	1961, 1966 & 1970	no	from cuttings
	Aeschynanthus speciosus Hook.	nn, 1952	1961 (1975)	no	from cuttings
	Chirita lavandulacea Stapf	Naples, 1961	1962	no	
		Berlin, 1964	1964	no	
	Chirita micromusa B.L. Burtt	Vienna, 1968	1969	no	
	Columnnea arguta C.V. Morton	Antwerp, 1970 & 1971	1977 & 1972	no	1 synonym
	Columnnea × banksii Lynch	Bergen, 1967, 1968 & 1969	1968 & 1971	no	acc. to Plant List, an unresolved name
		Gent, 1968	1971	no	
	Columnnea glabra Oerst.	nn, 1961	1975	no	
	Columnnea gloriosa Sprague	nn, 1961	no further record	no	accepted name is also <i>C. microcalyx</i> ; 6 synonyms
	Columnnea hirta Klotzsch & Hanst.	Bergen, unreadable	1961	no	2 synonyms
	Columnnea magnifica Klotzsch ex Oerst. 'Purpurea'	Caen, 1988	1989 (2002)	no	2 species-synonyms
		Berlin, 2003	2005	no	
	Columnnea microphylla Klotzsch & Hanst. ex Oerst.	Bergen, 1965, 1966 & 1967	1966, 1977	no	from cuttings
	Columnnea schiedeana Schltdl.	Antwerp, 1966	1968 (1975)	no	
	Columnnea x kewensis hort.	Amsterdam, 1958	1961	no	hybrid of <i>C. glabra</i> X <i>C. schiedeana</i> , made in England at the Royal Botanic Garden at Kew
		Opeka, 1964	1968	no	
	Conandron ramondoides Siebold & Zucc.	Nasu, 2004	2005	yes	
	Episcia cupreata (Hook.) Hanst.	Uppsala, 1965	1966	yes	2 synonyms
		Antwerp, 1966	1966	yes	
	Episcia cupreata (Hook.) Hanst. 'Variegata'	nn, 1965	no further record	no	
	Gloxinella lindeniana (Regel) Roalson & Boggan	Bergen, 1965	1971	no	arrived as <i>Kohleria lindeniana</i> , one of 3 synonyms

	Hypocyrtia glabra Hook.	Wageningen, 1962	1963	no	accepted name is also <i>Nematanthus strigillosus</i> ; 4 synonyms
	Hypocyrtia radicans Klotzsch & Hanst.	Bergen, 1972	1974	no	2 synonyms
	Isoloma pictum (Hook.) Decne. ex Planch.	nn, 1950	1961	no	before WWII; accepted name is also <i>Kohleria tubiflora</i> ; 30+ synonyms
	Kohleria digitaliflora (Linden & André) Fritsch	Bergen, 1965 & 1966	1971 (both)	no	
	Kohleria hirsuta (Kunth) Regel	Bergen, 1955	no further record	no	40+ synonyms
	Rechsteineria cardinalis (Lehm.) Kuntze	Bergen, 1966	1977	no	
		Utrecht, unreadable	1971	no	
		Vienna, 1968	1972	no	
	Saintpaulia ionantha H. Wendl.	Paris, 1953	no further record	yes	from seed
		nn, 1951	1979	yes	
		Budapest, 1963	1966	yes	from cuttings
		Antwerp, 1971	1972	yes	
		Kaunas, 1985	1988	yes	
	Saintpaulia ionantha H. Wendl. 'Alba Duplex'	"Lada" Nursery Slovenia, 1964	1966	no	
	Saintpaulia ionantha H. Wendl. 'Sugar Baby'	Vacratot, 1963	1966	no	
	Sinningia 'Edelrot'	Potsdam, 1984	1988	no	
	Sinningia lineata (Hjelmq.) Chautems	Vienna, 1965	1972	no	arrived syn. <i>Rechsteineria lineata</i>
	Streptocarpus × hybridus hort. ex Kaven	nn, 1951	1961	no	before WWII;
	Streptocarpus × kewensis hort.	Potsdam, 1966	1968 (1975)	no	hybrid of <i>S. rexii</i> × <i>S. dunni</i>
	Streptocarpus cyaneus S. Moore	Basel, 1990	1996	no	2 synonyms
	Streptocarpus dunni Hook. f.	Halle, 1979	1981 netočno	no	2 synonyms
		Basel, 1981	1982	no	
	Streptocarpus gracilis B.L. Burtt	Bonn, 1966	1968	no	accepted name is also <i>S. prolixus</i>
	Streptocarpus grandis N.E. Br.	Nancy, 1961	1963	no	
	Streptocarpus holstii Engl.	Warsaw, 1958	1961	no	
	Streptocarpus 'Parviflora'	nn, 2001	2003	no	purchased; unknown relation with <i>S. parviflorus</i>
	Streptocarpus parviflorus Hook. f.	nn, 2002	2005	no	purchased; unknown relation with <i>S. 'Parviflora'</i>

	Streptocarpus rexii (Bowie ex Hook.) Lindl.	Utrecht, 1963	1963	no	syn. <i>Didymocarpus rexii</i>
		nn, 1950	1963	no	
		Cork, 1950	1981	no	
		Košice, 1957	1963	no	
		Warsaw, 1958	1963	no	
		Stockholm, 1963	1963	no	
		Berlin, 1966	1971	no	
		Muenster, 1966	1969	no	
		Meinz, 1967	1979	no	
		Dresden, 1967	1995	no	
		Potsdam, 1967 & 1978	1995 & 2005 (2006)	no	
		Nancy, 1971	1980	no	
	Streptocarpus rexii (Bowie ex Hook.) Lindl. var. <i>pelona</i> (?)	Kaunas, 1967	1968	no	unknown variety
	Streptocarpus saxorum Engl.	nn, 2002	2005	no	purchased
	Streptocarpus wilmsii Engl.	Berlin, 1964	1966 (1975)	no	syn. <i>S. muddii</i>
Lamiaceae	Clerodendrum cunninghamii Benth.	Brisbane, 1987	1991 (1995)	no	the genus previously belonged to fam. Verbenaceae
	Clerodendrum fallax Lindl.*	Bergen, 1958	1961 ("incorrect!")	no	arrived as <i>C. speciosissi- mum</i> , probably hort.; fam. Verbenaceae
		Liberec, 1988	1991 ("incorrect!")	no	
	Clerodendrum fortunatum L.	Shanghai, 1988	1988	no	6 synonyms
	Clerodendrum kaichianum P.S. Hsu	Shanghai, 1991	1995	no	
	Clerodendrum speciosissimum C. Morren	Goettingen, 1979	1980	no	
		Bergen, 1973	2002 (2011)	no	
		Berlin, 1973	1986	no	
		Amsterdam, 1979	1986 (1995)	no	
		Leningrad (St. Petersburg), 1973	1978	no	
		Basel, 1973	1978	no	
		Muenchen, 1978	1991 (1995)	no	
	Clerodendrum squamatatum Vahl	Rouen, 1988	1989	no	accepted name is also <i>C. japonicum</i> ; 9 synonyms
	Clerodendrum thom- soniae Balf.	nn, 2000	2005 (2005)	no	purchased as <i>C. thomsonae</i> , fam. Verbenaceae
	Clerodendrum umbellatum Poir.	Marburg, 1986	1988	no	

	Plectranthus fruticosus L'Hér.	Nancy, 1971, 1976, 1980, 1982	1980, 1984, 1980, 2001 ("incorrect!")	yes	
		nn, 1961	1963	yes	
	Plectranthus oertendahlii T.C.E. Fr.	nn, 1961	1984	no	
	Plectranthus tomentosus Benth.*	Oxford, 1983	2000 ("incorrect!")	no	
Lecythidaceae	Barringtonia samoensis A. Gray	Bogor, 2004	2010	no	
Malvaceae	Abutilon hybridum hort. ex Voss	Hamburg, 1960	1963	no	
		Bratislava, 1972	1975	no	
	Abutilon indicum (L.) Sweet	Berlin, 1973	1976	no	10+ synonyms
		Turku, 1985	1996	no	
		Haren, 1989	2003	no	
	Abutilon mauritianum (Jacq.) Medik.	Haren, 1989	no further record	no	
	Abutilon sonneratianum (Cav.) Sweet	Haren, 1983 & 1987	1991 & 1994	no	
	Abutilon theophrasti Medik.	Marburg, 1986	1989	no	10+ synonyms
	Abutilon vitifolium (Cav.) G. Don	Harrogate & Manchester, 1989	1989	no	accepted name is also <i>Corynabutilon vitifolium</i> ; 3 synonyms
	Adansonia digitata L.	Kirstenbosch, 1986	2008 (2010)	no	8 synonyms
		Strasbourg, 1985	1986	no	
	Hibiscus calyphyllus Cav.	Harren, 1989	1991	no	syn. <i>H. calycinus</i>
		nn, in collection in 2000	2005	yes	
	Hibiscus cameronii Knowles & Westcott	Harren, 1989	1991	no	2 synonyms
	Hibiscus eetveldeanus De Wild. & Durand*	Berlin, 1963	1963 ("incorrect!")	no	syn. <i>H. acetosella</i>
	Hibiscus moscheutos L.	Karlsruhe, 1986	1989 (1991)	no	
	Hibiscus mutabilis L.	Siene, 1989	1991	no	5 synonyms
		Kunming, 1989	1996	no	
	Hibiscus roseus Thore	Paris, 1988	1989	no	
	Hibiscus sabdariffa L.	Potsdam, 1990	1996	no	5 synonyms
		Joensuu, 1989	1989	no	
	Sida rhombifolia L.	Bruxelles, 1962	1963 (1989)	no	20+ synonyms

	<i>Thespesia lampas</i> (Cav.) Dalzell & A. Gibson	Haren, 1984	no further record	no	3 synonyms
	<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	Bonn, 1981	1984 (1989)	no	accepted name also <i>T. populneoides</i> ; 10+ synonyms
Melastomataceae	<i>Bertolonia maculata</i> DC.	Basel, 1981	1989	no	
		Karlsruhe, 1984	1989	no	
	<i>Calvoa orientalis</i> Taub.	Berlin, 1984	1984 (2002)	no	syn. <i>C. sessiliflora</i>
	<i>Gravesia guttata</i> (Hook.) Triana	Bergen, 1981	1981 (1989)	no	syn. <i>Bertolonia</i> g.
	<i>Medinilla magnifica</i> Lindl.	nn, 2010	2010	no	purchased
Moraceae	<i>Dorstenia contrajerva</i> L. var. <i>hudsoniana</i> (?)	nn, 1952	no further record	no	unknown variety
	<i>Dorstenia contrajerva</i> L. var. <i>maculata</i> (Lem.) Bureau	Kaunas, 1960	1961	no	
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Schryveriana'	"Lada" Nursery Slovenia, 1964	1978 (1989)	no	3 species-synonyms; that cultivar is recognized also as a natural variety, " <i>F. decora</i> var. <i>schryveriana</i> "
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Variegata'	nn, in collection in 2000	2010	no	leaf stripes faded eventually
	<i>Ficus</i> "hemeana" (?)	nn, in collection in 2000	2005	no	unknown taxon, maybe misspelled <i>F. henneana</i> ?
	<i>Ficus henneana</i> Miq.	nn, 1963	2000	no	syn. <i>F. superba</i> var. <i>henneana</i>
	<i>Ficus infectoria</i> Roxb.	nn, 1954	1961 (1989)	no	accepted name is also <i>F. virens</i>
		Genova, 1967	1989	no	
	<i>Ficus microphylla</i> Salzm. ex Miq.	Antwerp, 1966	1971 (1989)	no	
	<i>Ficus parcellii</i> Veitch ex Cogn. & Marchal	Prague, 1964	1966 (1989)	no	accepted name is also <i>F. aspera</i>
	<i>Ficus quercifolia</i> Blume	Antwerp, 1965	1968	no	
		Uppsala, 1965	1977 (1989)	no	
	<i>Ficus umbellata</i> Vahl	Legon, 1967	1981 (1989)	no	
	<i>Ficus variegata</i> Blume var. <i>chlorocarpa</i> (Benth.) Benth. ex King	Hong Kong, 1973	1977 (1989)	no	accepted name is also <i>F. variegata</i> ; known also as <i>F. chlorocarpa</i>
	<i>Ficus watkinsiana</i> F.M. Bailey	Melbourne, 1959	1981 (1989)	no	
Oleaceae	<i>Jasminum sambac</i> (L.) Aiton	Bratislava, 1971	1989	no	syn. <i>Nyctanthes sambac</i> L.
Oxalidaceae	<i>Averrhoa carambola</i> L.	Basel, 1990	2009 (2010)	no	4 synonyms
Passifloraceae	<i>Passiflora adenopoda</i> DC.	Muenchen, 1962	1968 (1989)	no	7 synonyms

	<i>Passiflora quadrangularis</i> L.	Glasgow, 1953	no further record	no	6 synonyms
		Wageningen, 1963	1968	no	
		Bratislava, 1971 & 1979	1974 & 1984 (1989)	no	
Pentaphragmaceae	<i>Cleyera japonica</i> Thunb.	Kyoto, 1986	1987 (1988)	no	accepted name is also <i>Ternstroemia j.</i> ; 8 synonyms; arrived as fam. Theaceae
Phytolaccaceae	<i>Rivina purpurascens</i> Schrad.	nn, 1974	1975	no	40+ synonyms of <i>R. humilis</i>
	<i>Rivina tinctoria</i> Ham. ex G. Don	Bruxelles, 1970	no further records	no	
Piperaceae	<i>Peperomia argyreia</i> (Miq.) E. Morren	Genova, 1963	1969	no	2 synonyms
		nn, 1969 & 1972	1991 both	no	
		Duisburg, 1988	2005 (2007)	no	
	<i>Peperomia bracteata</i> A.W. Hill	nn, 2003	2005 (2010)	no	
	<i>Peperomia caperata</i> Yunc.	nn, 1961, 1963 & 1972	1969, 2005 & 2003	no	
		Potsdam, 1969	1984	no	
	<i>Peperomia caperata</i> Yunc. 'Pink Lady'	nn, 2003	2005	no	
	<i>Peperomia caperata</i> Yunc. 'Shumi'	nn, 2002	2003	no	
	<i>Peperomia caulibarbis</i> Miq.	nn, 1961	no further record	no	an accepted name between 30+ synonyms; <i>P. glabella</i> and <i>Piper glabellum</i> also are accepted
		Iasi, 1963	1969	no	
	<i>Peperomia dolabriformis</i> Kunth f. <i>angustifolia</i> (?)	Salaspils, 1988	2003 (2005)	no	unknown form; probably a cultivar
	<i>Peperomia forsythii</i> C. DC.	Basel, 1986	1989	no	accepted name is also <i>P. trichophylla</i>
	<i>Peperomia galioides</i> Kunth	Basel, 1988	2003 (2005)	no	35+ synonyms
	<i>Peperomia griseoargentina</i> Yunc.	Uppsala, 1961 & 1964	1991 & 1966	no	
		Vacratot, 1963	1963	no	
		nn, 1981	2003 (2004)	no	
	<i>Peperomia longispicata</i> C. DC. 'Variegata'*	Antwerp, 1960	1981 ("incorrect!")	no	arrived as a natural variety, "var. variegata"
	<i>Peperomia maculosa</i> (L.) Hook.	Gent, 1979	2005	no	10 synonyms, among which <i>P. grandifolia</i> , <i>P. sarcophylla</i> etc. are sometimes considered to be accepted
		Amsterdam, 1960	1963	no	
		Nancy, 1966	1972	no	
		Basel, 1989	1991	no	

		Gent, 1988 i 1979	1995 & 2010	no	
		Goettingen, 1993	1995	no	
	<i>Peperomia magnoliifolia</i> (Jacq.) A. Dietr.	Antwerp, 1962 & 1964	1966 (both)	no	accepted name is also <i>P. obtusifolia</i> ; 40+ synonyms
		Brno, 1963	no further record	no	
		nn, 1972	1980 ("incorrect!")	no	
		Kaunas, 1970	1971	no	
	<i>Peperomia marmorata</i> Hook. f.	Amsterdam, 1961	no further record	no	
		Cluj-Napoca, 1964 & 1966	1966 & 1969	no	
		Košice, 1970	1975	no	
		Caen, 1981	2005 (2007)	no	
	<i>Peperomia metallica</i> Linden & Rodigas	Cluj-Napoca, 1966	1981	no	
		Caen, 1981 & 1988	1984 (1989) & 2003 (2010)	no	
	<i>Peperomia obtusifolia</i> (L.) A. Dietr.	Cluj-Napoca, 1966	1991	no	40+ synonyms
		Vacratot, 1961	1961 (1975)	no	
		Genova, 1963	1963 (1975)	no	
	<i>Peperomia obtusifolia</i> (L.) A. Dietr. f. <i>magnoliaefolia</i> (?)	Kaunas, 1961	1981 (1989)	no	40+ species-synonyms; unknown form
	<i>Peperomia pellucida</i> (L.) Kunth	Brno, 1989	1989	no	10+ synonyms
	<i>Peperomia pereskiaefolia</i> (Jacq.) Kunth	nn, 1963	1972 (1975)	no	10 synonyms
	<i>Peperomia puberulispica</i> C. DC.	Amsterdam, 1971	1972 (1975)	no	
	<i>Peperomia reptilis</i> C. DC.	Besancon, 1992	no further record	no	
	<i>Peperomia rotundifolia</i> (L.) Kunth	Duisburg, 1986	1988	no	arrived as <i>P. nummularifolia</i> , one of 20+ synonyms
		Antwerp, 1960 & 1966	1961 & 1972	no	20+ synonyms
		Naples, 1963	1969	no	
		Vacratot, 1965	1973 (1975)	no	
	<i>Peperomia serpens</i> (Sw.) Loudon	nn, 1961	1977	no	arrived as <i>P. scandens</i> , one of 30+ synonyms
	<i>Peperomia subpeltata</i> (Willd.) A. Dietr.*	Gent, 1979	1980 ("incorrect!")	no	det. as <i>P. sarcophylla</i>
	<i>Peperomia subrenifolia</i> Trel. & Yuncck.	Nantes, 1989	2003 (2010)	no	accepted name is also <i>P. quadrifolia</i> ; 20+ synonyms, among which is <i>Piper quadrifolium</i> "!"
	<i>Peperomia theodori</i> Trel.	Goeteborg, 1970	1975	no	syn. <i>P. reflexa</i> f. <i>longilimba</i>
	<i>Peperomia trinervis</i> Ruiz & Pav.	Duisburg, 1982	1985 (1989)	no	3 synonyms

	<i>Peperomia velutina</i> Linden & André	Cantonspark (Baarn), 1953	1963	no	
		Gent, 1979	2003 (2010)	no	
		Nancy, 1981	1991	no	
	<i>Peperomia</i> <i>verschaffeltii</i> Lem.	Duisburg, 1986	1991	no	2 synonyms
		Caen, 1988	2007	no	
	<i>Peperomia verticillata</i> (L.) A. Dietr.	Krakow, 1961	no further record	no	3 synonyms
		Vienna, 1961	1977	no	
	<i>Piper betle</i> L.	Besancon, 1965	1989	no	
		Dijon, 1986	1989	no	
	<i>Piper officinarum</i> (Miq.) C. DC.	Muenster, 1967	1968	no	accepted name is also <i>P. retrofractum</i> ; 3 synonyms
	<i>Piper ornatum</i> N.E. Br.	Vacratot, 1967	1978 (1989)	no	
Rubiaceae	<i>Gardenia jasminoides</i> J. Ellis var. <i>jasminoides</i>	Kyoto, 1980	1984	no	3 species-synonyms; arrived as <i>G. jasminoides</i> f. <i>grandiflora</i> , one of 20 synonyms
	<i>Hamelia patens</i> Jacq.	Bochum, 1980 & 1981	1984 both	no	15+ synonyms
	<i>Hydnophytum</i> <i>formicarum</i> Jack	Duesseldorf, 2004	2005	no	1 synonym
	<i>Nertera granadensis</i> (Mutis ex L. f.) Druce	nn, 1970	1971	no	2 more accepted names; 5+ synonyms
	<i>Paederia foetida</i> L.	Lushan, 1987	1987	no	arrived as <i>P. scandens</i> ; accepted name is also <i>P.</i> <i>diffusa</i> ; 15+ synonyms
Rutaceae	<i>Erythrochiton</i> <i>brasiliensis</i> Nees & C. Mart.	Vienna- Belvedere, 1956	1961	no	accepted name is also <i>Pentamorpha graveolens</i>
		Frankfurt, 1963 & 1968	1965 & 1969	no	
		Bern, 1966	1969	no	
	<i>Severinia buxifolia</i> (Poir.) Ten.	Havana, 1990	1996	no	
Sapindaceae	<i>Sapindus laurifolia</i> Vahl.	Annoville, 1990	1991	no	acc.to IPNI; in Tropicos and Plant List (<i>S.</i> <i>laurifolius</i>) it is an unresolved name
Saxifragaceae	<i>Rodgersia podophylla</i> A. Gray	Nasu, 2004	2005	yes	relocated, syn. <i>R. japonica</i>
Solanaceae	<i>Browallia speciosa</i> Hook.	nn, 1974	1975	no	
	<i>Cestrum roseum</i> Kunth	nn, 1963	1972 (1975)	no	syn. <i>Habrothamnus roseus</i>
	<i>Jaborosa integrifolia</i> Lam.	Bologna, 1968	1968	no	syn. <i>J. bonariensis</i>
	<i>Vestia foetida</i> Hoffmanns.	Chelsea, 2003	2009 (2010)	no	monotypic; syn. <i>V. lycioides</i>
Urticaceae	<i>Pilea microphylla</i> (L.) Liebm.	Coimbra, 1961	1963	no	10+ synonyms

		Amsterdam, 1987	2010	no	
	<i>Pilea mollis</i> Wedd. 'Moon Valley'	Vienna, 1971	1984	no	
	<i>Pilea pumila</i> (L.) A. Gray	Goettingen, 1989	no further record	no	syn. <i>Urtica pumila</i>
	<i>Pilea spruceana</i> Wedd.	London, 1959	1979	no	
Verbenaceae	<i>Lantana involucrata</i> L.	Bonn, 1981	1984	no	4 synonyms
Vitaceae	<i>Cissus</i> sp.	Prague, 1964	1983	no	
	<i>Cissus njejerre</i> Gilg & H.C. Strauss	Giessen, 1988	2012 (2013)	no	
Winteraceae	<i>Tasmannia lanceolata</i> (Poir.) A.C.Sm.	nn, 2008	2010	no	
	MONOCOTYLE- DONS (Liliopsida)				
Amaryllidaceae	<i>Haemanthus magnificus</i> Herb.	Besancon, 1969 & 1971	1979 (both)	no	accepted name is also <i>Scadoxus puniceus</i>
	<i>Hippeastrum aulicum</i> Herb.	Amsterdam, 1957	1968	no	syn. <i>Amaryllis aulica</i>
		Potsdam, 1978	1979	no	
	<i>Hippeastrum brachyandrum</i> Baker	Koeln, 1959	1981	no	accepted name is also <i>Habranthus brachyandrus</i> ; 2 synonyms
		Groningen, 1964	1968	no	
		Basel, 1975	1988	no	
		Haren, 1988	no further record	no	
	<i>Hippeastrum reticulatum</i> Herb.*	Louvain, 1961	1979 ("incorrect!")	no	det. as <i>Zephyranthes</i> sp.
	<i>Hippeastrum rutilum</i> (Ker Gawl.) Herb. var. <i>fulgidum</i> Sprenger	Vienna, 1965, 1967, 1968, 1969, 1976	1981, 1975, 1972, 1972, 2000	no	2 more accepted species-names; syn. <i>Amaryllis fulgida</i>
	<i>Hymenocallis rotata</i> (Ker Gawl.) Herb.	Zuerich, 1960	1963	no	4 synonyms
	<i>Ipheion uniflorum</i> (Lindl.) Raf.	Basel, 1966	1980	no	accepted name is also <i>Tristagma uniflorum</i> ; 8 synonyms
	<i>Scadoxus multiflorus</i> (Martyn) Raf. subsp. <i>katharinae</i> Friis & Nordal	nn, 2000	2000	no	arrived as <i>Haemanthus katharinae</i> , a single valid synonym
		nn, 1961	2000	no	
		Essen, 1969	1971	no	
		Wroclaw, 1969	1973	no	
Araceae	<i>Aglaonema costatum</i> N.E. Br.	Duisburg, 1960	1961	no	2 synonyms
	<i>Aglaonema marantifolium</i> Blume	Pavia 1967, 1969 & 1970	1972, 1972 & 1971	no	arrived as <i>Scindapsus erectus</i> , one of 5 synonyms
		Dresden, 1967	1972 (1975)	no	arrived as <i>A.oblongifolium</i> , invalid synonym among others

	<i>Aglaonema marmoratum</i> Engl.	Besancon, 1965	1968	no	accepted name is also <i>A.pumilum</i>
		Greifswald, 1966	1978	no	
	<i>Alocasia indica</i> (Lour.) Spach	Besancon, 1964	1966	no	arrived as <i>Arum indicum</i> , one of 40+ synonyms; accepted name is also <i>A.macrorrhizos</i>
		nn, 1961	no further record	no	arrived as <i>Colocasia indica</i> , accepted name as well as <i>A.macrorrhizos</i>
	<i>Alocasia korthalsii</i> Schott	nn, 1961	no further record	no	syn. <i>A.thibautiana</i>
	<i>Alocasia sanderiana</i> W. Bull	Goeteborg, 1978	1988	no	
	<i>Arisaema consanguineum</i> Schott	Turku, 1985	1988	no	accepted name is also <i>A.erubescens</i> ; 4 synonyms
	<i>Arisaema ringens</i> (Thunb.) Schott var. <i>praecox</i> (de Vriese ex K. Koch) Engl.	Basel, 1970	1972	no	accepted name is also <i>A.reingens</i> ; there is also a "f. <i>praecox</i> "
	<i>Caladium bicolor</i> (Aiton) Vent.	Bergen, 1973	1975	no	arrived as <i>C. hortulanum</i> ; accepted name is <i>C. x hortulanum</i>
		Linz, 1955 & 1963	1961 & 1966	no	arrived as <i>Arum bicolor</i> , one of 50+ synonyms
		Bratislava, 1966	1970	no	50+ synonyms
		Cluj-Napoca, 1966 & 1967	1977 both	no	
		Potsdam, 1968	no further record	no	
		Oslo, 1968 & 1969	1975 both	no	
	<i>Dieffenbachia "japonica viridis"</i> (?)	"Dalmatia", 1961 & 1975	no further records	no	unknown taxon and origin: probably a gift
	<i>Epipremnum pinnatum</i> (L.) Engl.	Naples, 1963	1968	no	arrived as <i>E. mirabile</i> , one of 40+ synonyms
	<i>Pothos "platycaule"</i> (?)	Nancy, 1963	1978	no	unknown species - maybe as a counterpart of <i>P. "acaule"</i> ?
	<i>Rhaphidophora africana</i> N.E. Br.	Besancon, 1972	1975	no	
	<i>Rhaphidophora decursiva</i> (Roxb.) Schott	Antwerp, 1965 & 1970	1966 & 1971 (1975)	no	8 synonyms
	<i>Sauromatum venosum</i> (Aiton) Kunth	Halle, 2001	2004 (2010)	yes	accepted name is also <i>Typhonium venosum</i> ; 30+ synonyms, ima 12767 Dusseldorf 05
	<i>Typhonodorum lindleyanum</i> Schott	Muenster, 1967	1968	no	monotypic; 2 synonyms
	<i>Xanthosoma violaceum</i> Schott	Kiel, 1966	1968	no	2 more accepted names; 2 synonyms
		Besancon, 1968	1968	no	
		Oslo, 1968	no further record	no	

	<i>Zantedeschia aethiopica</i> (L.) Spreng.	Palermo, 1969	2013	yes	relocated; 4 synonyms
	<i>Zantedeschia rehmannii</i> Engl.	Stockholm, 1968	1972	yes	
		Wroclaw, 1986	1988	yes	
		Bogor, 2004	2005	yes	
Asparagaceae	<i>Asparagus macowanii</i> Baker 'Blossfeld'	nn, 1985	2005 (relocated)	yes	
	<i>Asparagus setaceus</i> (Kunth) Jessop 'Cupressoides'	Warsaw, 1986	1991 (1996)	no	accepted species name is also <i>Protasparagus s.</i> ; 4 synonyms
	<i>Asparagus sprengeri</i> Regel	nn, 1963	1989 (1996)	no	accepted names are also <i>A.densiflorus</i> and <i>A.aethiopicus</i>
	<i>Aspidistra elatior</i> Blume 'Variegata'	nn, 1961 & 1981	1989 & 2002 (2005)	no	2 species-synonyms
	<i>Chlorophytum capense</i> (L.) Voss 'Variegatum'	Debrecen, 1968	1968	no	4 species-synonyms
	<i>Chlorophytum inornatum</i> Ker Gawl.	Berlin, 1973	1991	no	
	<i>Chlorophytum madagascariense</i> Baker	Bergen, 2004	2005	yes	accepted synonym is also <i>Ch.gramineum</i> ; 3 synonyms
		Karlsruhe, 1965	1966	yes	
		Bogor, 2004	2005	yes	
		Innsbruck, 2004	2005	yes	
	<i>Cordyline australis</i> Hook. f. 'Atropurpurea'	Adelaide, 1971	1989	yes	
	<i>Cordyline indivisa</i> (G. Forst.) Endl.	Invercargill, 1986	1988	no	3 homonyms, 2 still valid
		Wuppertal, 1990	1991	no	
	<i>Cordyline terminalis</i> (L.) Kunth 'Baueri'	Norfolk, 1981	1989	no	arrived as <i>C. baueri</i> - probably a synonym of <i>C.t. 'B.'</i>
		Zuerich, 1959	1979	no	
	<i>Cordyline terminalis</i> (L.) Kunth 'Youngii'	Kiel, 1972	1978	no	arrived as <i>C. terminalis</i> 'Youngi'
	<i>Dracaena fragrans</i> (L.) Ker Gawl. 'Compacta'	nn, 2003	2010	no	purchased; 3 species synonyms, incl. <i>D. deremensis</i>
	<i>Dracaena fragrans</i> (L.) Ker-Gawl. 'Massangeana'	nn, 2003	2008	no	purchased; 3 species synonyms, incl. <i>D. deremensis</i>
	<i>Dracaena godseffiana</i> Sander ex Mast.	"Lada" Nursery Slovenia, 1964	no further record	no	purchased; several synonyms
		Duisburg, 1969	1977	no	several synonyms
	<i>Dracaena 'Haageana'</i>	Palermo, 1948	1977	no	before WWII; hort.
	<i>Dracaena hookeriana</i> K. Koch	nn, 1961 & 1973	no further records	no	syn. <i>D.transvaalensis</i>
	<i>Dracaena sanderiana</i> Sander	"Lada" Nursery Slovenia, 1964	1966 (1989)	no	homonym <i>D.sanderiana</i> hort.

	<i>Dracaena surculosa</i> Lindl. var. <i>maculata</i> Hook. f. 'Florida Beauty'	Turku, 1990	1991	no	
	<i>Eucomis bicolor</i> Baker	Uppsala, 1957	2013	no	
	<i>Lachenalia reflexa</i> Thunb.	Kyoto, 2002	2010	no	relocated
	<i>Nolina greenei</i> S. Watson ex Trel.	nn, 1990	2005 (2010)	no	
	<i>Nolina longifolia</i> (Karw. ex Schult. f.) Hemsl.	Berlin-Dahlem, 1951	2010	no	relocated; 3 synonyms, incl. <i>Beaucarnea l.</i>
	<i>Nolina matapensis</i> Wiggins	San Marino, 1976	2010	yes	relocated
	<i>Nolina microcarpa</i> S. Watson	Barcelona, 1985	2005 (2010)	no	2 synonyms
	<i>Nolina stricta</i> (Lem.) Cif. & Giacom.	Adelaide, 1953	1991 (1995)	no	accepted name is also <i>Beaucarnea stricta</i> ; 5 synonyms
	<i>Sansevieria dooneri</i> N.E. Br.	nn, 2003	2005	no	
	<i>Sansevieria ehrenbergi</i> Schweinf. ex Baker*	Bucharest, 1971 & 1972	1980 & 1981 ("incorrect!")	no	
	<i>Sansevieria grandis</i> Hook. f.	nn, 1961	1989	no	
	<i>Sansevieria liberica</i> Gérôme & Labroy	Legon, 1967	1969 (1975)	no	
	<i>Sansevieria parva</i> N.E. Br.	Goeteborg, 1978	2007	no	
	<i>Veltheimia bracteata</i> Harv. ex Baker	Rotterdam, 1969	2010	no	arrived as syn. <i>V. viridifolia</i>
	<i>Veltheimia capensis</i> DC.	Vienna, 2012	2013	no	3 synonyms
	<i>Veltheimia glauca</i> Jacq.	nn, 1961 & 1971	1968 & 1984 (1989)	no	accepted name is also <i>V. capensis</i>
	<i>Yucca aloifolia</i> L. 'Variegata'*	Monaco, 1994	2000 ("incorrect!")	yes	3 species-synonyms
Bromeliaceae	<i>Aechmea candida</i> E. Morren ex Baker	nn, in collection in 2000	2010 (2011)	no	1 synonym
	<i>Aechmea cariocae</i> L.B. Sm	Bruxelles, 1965 & 1969	1995 & 1977	no	
	<i>Aechmea mexicana</i> Baker	Muenchen, 1986	2006 (2007)	no	7 synonyms
	<i>Aechmea mexicana</i> Baker var. <i>nudicaulis</i> (?)	Bruxelles, 1965	1969	no	8 synonyms; unknown variety (perhaps <i>Ae. nudicaulis</i> ?)
	<i>Aechmea nudicaulis</i> (L.) Griseb.	nn, 2004	2008	no	20+ synonyms
	<i>Aechmea nudicaulis</i> (L.) Griseb. var. <i>nudicaulis</i>	Utrecht, 2004	2005	no	10+ synonyms
	<i>Aechmea racinae</i> L.B. Sm	Prague, 1964	1978	no	

	<i>Aechmea recurvata</i> (Klotzsch) L.B. Sm. var. <i>ortgiesii</i> (Baker) Reitz	Prague, 1964	1984	no	4 synonyms; accepted name is also <i>Ae.r.</i> var. <i>albobracteata</i>
		Essen, 1968	1972	no	
	<i>Ananas comosus</i> (L.) Merr.	nn, 1956 & 1966	1963 & 1978	no	13 synonyms
	<i>Araeococcus goeldianus</i> L.B. Sm.	nn, in collection in 2000	2005 (2006)	no	
	<i>Billbergia decora</i> Poepp. & Endl.	Erlangen, 1965	1969	no	
		Gent, 1965	1995	no	
	<i>Billbergia viridiflora</i> H.L. Wendl.	Utrecht, 2004	2005 (2006)	no	3 synonyms
	<i>Bromelia balansae</i> Mez	nn, 1953	1980	no	arrived as <i>B. pinguin</i> , one of 4 synonyms
	<i>Bromelia nidus-puellae</i> (André) André ex Mez*	Gent, 1955	2010 ("incorrect!")	no	arrived as " <i>Karatas puellae</i> " (unknown member of fam. Bromeliaceae)
	<i>Canistrum lindenii</i> (Regel) Mez	"Erute", 1967	1978	no	accepted name is also <i>Edmundoa lindenii</i> var. <i>rosea</i> ; 12 synonyms
	<i>Cryptanthus acaulis</i> (Lindl.) Beer	Duisburg, 1961	1975	no	
	<i>Cryptanthus acaulis</i> (Lindl.) Beer var. <i>ruber</i> hort. ex Beer	Duisburg, 1961	1972	no	
	<i>Cryptanthus</i> 'Aurantiacus'	nn, 1963	1968	no	arrived as " <i>C. aurantiaca</i> "
	<i>Dyckia brevifolia</i> Baker	Barcelona, 1981	1988	no	3 synonyms
	<i>Fosterella penduliflora</i> (C.H. Wright) L.B. Sm.	Berlin, 1985	1986	no	4 synonyms
		Trondheim, 1989	1991 (1995)	no	
		Warsaw, 1989	1991 (1995)	no	
	<i>Guzmania fastuosa</i> (André) André ex Mez	Leningrad (St. Petersburg), 1958	1968	no	2 more accepted names; 10+ synonyms
	<i>Karatas nidus-puellae</i> André	Gent, 1955	1984 (1988)	no	accepted name is also <i>Bromelia nidus-puellae</i>
	<i>Neoregelia spectabilis</i> (Moore) L.B. Sm.	Prague, 1964 & 1967	1995 & 1975	no	5 synonyms
	<i>Nidularium</i> 'Tricolor'	"Lada" Nursery Slovenia, 1964	1966 (1975)	no	arrived as " <i>N. tricolor</i> "
	<i>Pitcairnia albucifolia</i> Schrad.*	nn, 1963	1981, "incorrect"	no	accepted name is also <i>Pitcairnia spicata</i> ; 10+ synonyms
	<i>Pitcairnia andreana</i> Linden	Vienna, 1965	1969	no	3 synonyms
	<i>Pitcairnia aphelandriflora</i> Lem.	Brisel, 1966	1968	no	3 synonyms
	<i>Puya coerulea</i> Lindl.	Berkeley, 1961	no further record	no	3 synonyms

	<i>Puya gigas</i> André	Košice, 1965	1980	no	CR B1ab(iii) - Critically Endangered - Global
	<i>Puya mirabilis</i> (Mez) L.B. Sm.	Nancy, 1981	1991	no	2 synonyms
		Nantes, 1986	1993	no	
	<i>Puya raimondii</i> Harms	Berkeley, 1988	1991 (1995)	no	syn. <i>Pourretia gigantea</i>
	<i>Puya spathacea</i> (Griseb.) Mez	Adelaide, 1959	1991	no	2 synonyms
	<i>Vriesea imperialis</i> Carrière	Bruxelles, 1965	1969 (1975)	no	3 synonyms
	<i>Vriesea saundersii</i> (Carrière) E. Morren ex Mez	Bruxelles, 1966	no further record	no	3 synonyms
	<i>Werauhia gigantea</i> (Mart. ex Schult. f.) J.R. Grant	nn, 2004	2005	no	purchased; accepted name is also <i>Vriesea amazonica</i> ; several synonyms
Commelinaceae	<i>Aneilema acuminatum</i> R. Br. (?)	Nancy, 1981	2010 (2013)	no	arrived as " <i>Gibasis papuana</i> ", possibly <i>Aneilema papuanum</i> , acc. to Plant list, a synonym of <i>A. acuminatum</i>
	<i>Aneilema beniniense</i> (P. Beauv.) Kunth	Antwerp, 1965	1983	no	
	<i>Callisia elegans</i> Alexander ex H.E. Moore	Rotterdam, 1959 & 2001	1972 & 2008	no	accepted name is also <i>C. gentlei</i> var. <i>elegans</i>
		Strasbourg, 1972	1978	no	arrived as <i>Setcreasea striata</i> , older synonym
	<i>Callisia fragrans</i> (Lindl.) Woodson	Antwerp, 1966	no further record	no	2 synonyms
		Vacratot, 1963	1971	no	
		Bologna, 1968	1969	no	
	<i>Callisia repens</i> (Jacq.) L.	nn, 1950	1961	no	3 synonyms
		Vacratot, 1963	1966	no	
		Strasbourg, 1973	1978	no	
	<i>Coleotrype natalensis</i> C.B. Clarke	Besancon, 1965	1966	no	
		Kaunas, 1967	1975	no	
	<i>Commelina benghalensis</i> L.	Tsukuba 08	2013	yes	8 synonyms; relocated
	<i>Commelina tuberosa</i> L.	Graz, 1973	1976	no	8 synonyms
		Glasgow, 1987	1989	no	
	<i>Cyanotis kewensis</i> C.B. Clarke	nn, 1951	1961	no	
		Cluj-Napoca, 1970	1970 (1975)	no	
	<i>Cyanotis nodiflora</i> (Lam.) Kunth	Kiel, 1966	1967	no	accepted name is also <i>Cyanotis speciosa</i>
		Strasbourg, 1969	1978	no	arrived as <i>Tradescantia nodiflora</i> , invalid synonym

	<i>Cyanotis somaliensis</i> C.B. Clarke	nn, 1961 & 1967	1968	no	
		Brno, 1963	1980	no	
	<i>Floscopa scandens</i> Lour.	Marburg, 1985	1986	no	
	<i>Palisota barteri</i> Hook.	Nancy, 1953	1961	no	
		Vienna, 1959	no further record	no	
		Erlangen, 1965	1975	no	
		Gent, 1965	1973	no	
		Hamburg, 1965	1973	no	
	<i>Palisota bracteosa</i> C.B. Clarke	Stockholm, 1958	1988	no	
		Gent, 1965	1973	no	
		Marburg, 1965	1972	no	
		Nancy, 1981	1984	no	
		nn, in collection in 2000	2003	no	
	<i>Palisota schweinfurthii</i> C.B. Clarke	Leningrad (St. Petersburg), 1958	1963	no	arrived as <i>Palisota mannii</i> , a single valid synonym
		Nancy, 1981	1983	no	
	<i>Polyspatha paniculata</i> Benth.	Strasbourg, 1969	1975	no	2 synonyms
	<i>Tinantia erecta</i> (Jacq.) Schltdl.	Frankfurt, 1985	1990	no	8 synonyms
	<i>Tradescantia amplexicaulis</i> Klotzsch ex C.B. Clarke	Antwerp, 1961	1966	no	accepted name is also <i>Tripogandra amplexicaulis</i> ; 4 synonyms
		Cluj-Napoca, 1961	1963	no	
	<i>Tradescantia pulchella</i> Kunth	Ciudad de Mexico, 1969	1977	no	accepted name is also <i>Gibasis pulchella</i> ; 2 synonyms
	<i>Tradescantia spathacea</i> Sw. 'Vittata'	Gent, 1967	1972 (1975)	no	accepted species-names are also <i>Rhoeo spathacea</i> and <i>T. discolor</i> ; 4 synonyms
	<i>Tradescantia venezuelensis</i> Steyerm.	Vacratot, 1963	1963	no	accepted name is also <i>Tradescantia gracillima</i> ; 3 synonyms
		Atwerpen, 1967	1972	no	
		Besancon, 1968 & 1977	1968 & 1978	no	
	<i>Tradescantia zebrina</i> Heynh. ex Bosse 'Purpusii'	Nantes, 1970	1972	no	arrived as <i>T. purpusii</i> ; accepted species-names are also <i>T. pendula</i> and <i>Zebrina pendula</i> ; 3 synonyms
	<i>Tripogandra pflanzii</i> (G. Brueckn.) Rohwe- der	Muenchen, 1968	1968	no	accepted names are also <i>T. glandulosa</i> and <i>T. radiata</i> ; arrived with an invalid synonym " <i>Tradescantia lanceolata</i> "

	<i>Weldenia candida</i> Schult. f.	Marburg, 1965	no further record	no	2 synonyms; monotypic
Costaceae	<i>Costus scaber</i> Ruiz & Pav.	Chemnitz, 2005	2013	no	10+ synonyms and accepted names
	<i>Tapeinochilos spectabilis</i> K. Schum.	Puerto de la Cruz, 2004	2010	no	
Dioscoreaceae	<i>Dioscorea batatas</i> Decne.	nn, 2005	2007	yes	accepted name is also <i>D. polystachya</i> ; 5 synonyms
Doryanthaceae	<i>Doryanthes excelsa</i> Corrêa	Antibes, 1955	2010	no	arrived as fam. Liliaceae
Iridaceae	<i>Babiana ambigua</i> G.J. Lewis	Kirstenbosch, 1979	no further record	no	
	<i>Babiana ecklonii</i> Klatt	nn, 2004	2005	no	
	<i>Babiana macrantha</i> MacOwan	Kirstenbosch, 1954	no further record	no	
	<i>Chasmanthe bicolor</i> (Gasp. ex Ten.) N.E. Br.	Blanes 2004	2005	no	syn. <i>Petamenes bicolor</i>
	<i>Herbertia pulchella</i> Sweet	nn, in collection in 2000	2013	no	purchased, 3 synonyms
		Kyoto, 2002	2005	no	4 synonyms
	<i>Trimezia martinicensis</i> (Jacq.) Herb.	Bonn, 1981	1983	no	3 synonyms
Liliaceae	<i>Semele androgyna</i> (L.) Kunth	Chelsea, 1953	1961 (1989)	no	
	<i>Streptopus amplexifolius</i> (L.) DC.	Moscow, 1975	1980	no	8 synonyms
		Meyrin, 1973 & 1977	1974 (1975) & 1979	no	
Marantaceae	<i>Calathea makoyana</i> E. Morren	nn, 2003	2003 (2004)	no	accepted name is also <i>Goepertia makoyana</i>
	<i>Maranta leuconeura</i> E. Morren	nn, 1984	1985 (1989)	no	syn. <i>Calathea leuconura</i>
	<i>Marantochloa flexuosa</i> (Benth.) Hutch.	Aachen, 1996	2003 (2005)	no	syn. <i>Phyllodes flexuosa</i>
Orchidaceae	<i>Pleione formosana</i> Hayata 'Oriental Grace'	Bern, 2002	2004 (2005)	no	species is listed at CITES App. II; 7 synonyms
Pandanaceae	<i>Pandanus houlletii</i> Carrière	Montreal, 1956	1979	no	
		Brisbane, 1956	1979	no	
	<i>Pandanus lais</i> Kurz	nn, 1968	no further record	no	
	<i>Pandanus pedunculatus</i> R. Br.	Naples, 1958	1961	no	
		nn, 1968	1978	no	
	<i>Pandanus</i> sp.	Brisbane, 1956	1975	no	never determined
Strelitziaceae	<i>Strelitzia nicolai</i> Regel & Koern.	Sydney, 1962	1963	yes	syn. <i>S. quensoni</i>
	<i>Strelitzia parvifolia</i> W.T. Aiton	Sydney, 1963	1972	no	
		Adelaide, 1967	1975	no	

	<i>Strelitzia reginae</i> Aiton	nn, 1961	no further record	yes	
Xanthorrhoeaceae	<i>Geitonoplesium</i> <i>cymosum</i> (R. Br.) A. Cunn. ex Hook.	Palermo, 1964	1991	no	
		Genova, 1983	1991	no	
Zingiberaceae	<i>Alpinia arundelliana</i> (F.M. Bailey) K. Schum.	Orotava- Tenerife, 2004	2005 (2006)	no	
	<i>Alpinia calcarata</i> Roscoe	nn, 1961 & 1962	no further record & 1984 ("incorrect!")	no	syn. <i>Languas calcarata</i>
		Rouen, 1966	1982	no	
		Basel, 1982	no further record	no	
	<i>Alpinia formosana</i> K. Schum.	Hengchun, 2013	2014	no	4 synonyms
	<i>Curcuma hort.</i>	nn, in collection in 2000	2000	yes	
	<i>Curcuma longa</i> L.	Uppsala, 1966	1972	no	arrived as <i>C. domestica</i> , one of 3 synonyms
	<i>Curcuma longa</i> L.	Aachen, 1966	2010	yes	
	<i>Hedychium coccineum</i> Buch.-Ham.	Rouen 88	2015		
	<i>Hedychium coccineum</i> Buch.-Ham. ex Sm. var. <i>carneum</i> (Roscoe) Baker	Stockholm, 1953	1961	no	
		Palermo, 1954	no further record	no	
	<i>Hedychium muluense</i> R.M. Sm.	Ulm, 2012	2013	no	

Table 3. Collection of the temperate (warm) glasshouse: recently existing plants (May, 2015)

Family	Scientific name (acc. to Tropicos database)	City of plant material origin (seed, cutting, bulb, <i>planta viva</i>), year of ordering/purchasing	Notes and remarks
	SPIKEMOSSES		
Selaginellaceae	Selaginella inaequalifolia Spring	Cork, 1963	valid
	Selaginella involvens (Sw.) Spring	Cluj-Napoca, 2015	3 accepted names, 20+ synonyms
	Selaginella krausiana (Kunze) A. Braun		synonyms are also S.canescens and S.denticulata
	Selaginella martensii Spring	Oslo, 1968	2 synonyms
		Cluj-Napoca, 2015	
	Selaginella pallescens (C. Presl) Spring	Lyon, 1966	arrived as S.cuspidata, one of the recognized synonyms
		Cluj-Napoca, 2015	8 synonyms, among which S. cuspidata and S. emmeliana
	Selaginella pulcherrima Liebm.	Cork, 1963	3 synonyms
	Selaginella tenuissima Fee	Cluj-Napoca, 2015	arrived as S.serpens, a valid synonym
		Lyon, 1951	
		Berlin-Dahlem, 2013	
	Selaginella umbrosa Lem. ex Hieron.	Cluj-Napoca, 2015	arrived as S. erythropus var. umbrosa; syn. Is also S. e. var. major
	Selaginella vogelii Mett.	Lyon, 1966	accepted name is also S.braunii; 3 synonyms
	FERNS		
Aspleniaceae	Asplenium dimorphum Kunze	Berlin-Dahlem, 2003	unresolved name (not in Tropicos; acc. to IPNI & Plant List)
	Asplenium nidus L.	nn, 2011	purchased; 12 synonyms
	Asplenium scolopendrium L. <i>Crispum Group</i> 'Cristatum'	nn, 2005	purchased as Phyllitis cristata; several synonyms & accepted names of species
	Asplenium viviparum (L. f.) C. Presl	Nancy, 1963	arrived as A. daucifolium var. viviparum, one of 10+ synonyms
Blechnaceae	Blechnum 'Silver Lady'	nn, 2012	purchased; full name should be "B. gibbum", but the author is missing
Davalliaceae	Davallia solida (G. Forst.) Sw. 'Superba'	Antwerp, 1972	5+ species-synonyms; accepted species-name is also D. sinensis
	Nephrolepis exaltata (L.) Schott	nn, 1954	4 more accepted species-names; 20+ synonyms
	Nephrolepis exaltata (L.) Schott 'Piersonii'	nn, 1961	
	Nephrolepis exaltata (L.) Schott 'Selecta'	Opeka, 1963	
	Nephrolepis 'Pearls of Living'	nn, 2012	purchased - unknown cultivar

	Niphidium crassifolium (L.) Lellinger	nn, 1961	accepted name is also Polypodium c.; 10+ synonyms
Dryopteridaceae	Bolbitis heteroclita (C. Presl) Ching	Haaren, 1974	4 synonyms
	Cyrtomium falcatum (L. f.) C. Presl	Stockholm, 1958	arrived as Polypodium f., one of 7 synonyms
	Dryopteris pseudocaenopteris (Kunze) L.B. Zhang	nn, 2009	purchased as Cyathea aspidioides, one of 2 accepted names; 5+ synonyms
Polypodiaceae	Microsorium punctatum (L.) Copel.	nn, 1961	accepted name is also M. polycarpon; 60+ synonyms; colonizes the walls inside the greenhouse
	Polypodium aureum L.	nn, 1963	accepted species-name is also Phlebodium a.; 2 species-synonyms
	Polypodium aureum L. 'Umbellatum'	Essen, 1982	
Pteridaceae	Adiantum capillus-veneris L.	Szeged, 1970	20+ synonyms; colonizes the walls inside the greenhouses
	Adiantum raddianum C. Presl	nn, 2012	purchased; 15 synonyms
	Pteris biaurita L.	Jibou, 1984	7 synonyms
	Pteris cretica L. 'Cristata'	nn, 1961	accepted species-name is also P. stenophylla; 5 synonyms
	Pteris cretica L. var. albolineata Hook.	nn, 1961	
	Pteris cretica L. 'Wimsettii'	Opeka, 1963	
	Pteris multifida Poir.	Szeged, 1954	3 synonyms
Tectariaceae	Tectaria cicutaria (L.) Copel.	nn; plant found in collection in 2000	several synonyms
	DICOTYLEDONS (Magnoliopsida)		
Acanthaceae	Beloperone guttata Brandegeee	nn, 1960	accepted name is also Justicia brandegeana; several others are accepted, many synonyms
	Crossandra nilotica Oliv.	Bonn, 1970	
	Crossandra pungens Lindau	Duesseldorf, 2002	
	Dicliptera squarrosa Nees	Antibes, 1960 & 1973	arrived as Jacobinia suberecta, one of 15 synonyms
	Elytraria caroliniensis (Walter ex. F. Gmel.) Pers.	Goettingen, 2001	syn. Tubiflora c.
	Elytraria caroliniensis (Walter ex. F. Gmel.) Pers. var. angustifolia (Fernald) S.F. Blake	Havana, 1990	several combinations of this name
	Fittonia albivenis (Lindl. ex Veitch) Brummitt	nn; plant found in collection in 2000	several combinations of this name; incl. F. verschaffeltii
	Fittonia cult. div.	nn, 2008	purchased
	Gymnostachyum ceylanicum Arn. & Nees	Brno, 1963	
	Hemigraphis alternata (Burm.f.) T. Anderson <i>cult.</i>	Duisburg, 1989	5 synonyms, inc. H. colorata and Ruellia colorata/alternata

	<i>Hemigraphis repanda</i> (L.) Hallier f.	Caen, 1988	not in Tropicos; acc. to Plant List accepted, syn of <i>Ruellia</i> r.
	<i>Hypoestes phyllostachya</i> Baker <i>cult.</i>	nn; plant found in collection in 2000	
	<i>Justicia carnea</i> Lindl.	Prag, 1964	accepted name is also <i>Jacobinia</i> c. 6 <i>Justicia magnifica</i> , 10+ synonyms; plant was in the collection before WWII
	<i>Peristrophe hyssopifolia</i> (Burm.f.) Bremek.	Besancon, 1968	unresolved name acc. to Tropicos and Plant List
	<i>Phaulopsis imbricata</i> (Forssk.) Sweet	Utrecht, 1971	3 synonyms
	<i>Pseuderanthemum alatum</i> (Nees) Radlk.	Dresden, 2002	2 synonyms
	<i>Ruellia makoyana</i> Closon	nn, 2003	purchased
	<i>Ruellia rosea</i> (Nees) Hemsl.	Wroclaw, 1988	3 synonyms
	<i>Sanchezia nobilis</i> Hook.f.	nn; plant found in collection in 2000	accepted name is also <i>S. oblonga</i> ; 6 synonyms
	<i>Strobilanthes reptans</i> (G. Forst.) Moylan ex Y.F. Deng & J.R.I. Wood	Muenchen, 1967	arrived as <i>Hemigraphis primulifolia</i> , one of 10+ synonyms
Amaranthaceae	<i>Aerva scandens</i> (Roxb.) Moq.	nn, 1972	accepted name is also <i>Ae. Sanguinolenta</i> ; 5 synonyms
	<i>Pleuropetalum darwinii</i> Hook. f.	Utrecht, 2004	EN B1ab(ii, iii, v); B2ab(ii, iii, v) - Endangered - Global and VU D2 - Vulnerable - Global
Annonaceae	<i>Annona muricata</i> L.	Phillipines, 2009	5 synonyms
Apocynaceae	<i>Cataranthus roseus</i> (L.) G. Don 'Albus'	Coimbra, 1961	syn. <i>C. (roseus var.) albus</i> ; 50+ synonyms
	<i>Cataranthus roseus</i> (L.) G. Don 'Roseus'		arrived as <i>C. (roseus var.) roseus</i> ; 50+ synonyms
	<i>Mandevilla splendens</i> (Hook.) Woodson	nn, 2008	purchased; 3 synonyms
	<i>Ochrosia coccinea</i> (Teijsm. & Binn.) Miq.	Bogor, 2004	3 synonyms
	<i>Trachelospermum jasminoides</i> (Lindl.) Lem.	Nanjing, 1987	4 synonyms
Araliaceae	<i>Plerandra elegantissima</i> (Veitch ex Mast.) Lowry, G.M. Plunkett & Frodin	nn, 2010	purchased as <i>Aralia</i> e.; 7 synonyms, along with <i>Schefflera</i> e. and <i>Dyzygotheca</i> e.
Aristolochiaceae	<i>Aristolochia gigantea</i> Mart.	Linz, 2002	accepted is also <i>A. elegans</i> ; 2 synonyms
	<i>Aristolochia littoralis</i> D. Parodi	nn; plant found in collection in 2000	accepted is also <i>A. cordiflora</i> ; 2 synonyms (in collection since 1949)
	<i>Aristolochia zollingeriana</i> Miq.	Hengchun, 2013	4 synonyms
Begoniaceae	<i>Begonia acutifolia</i> Jacq.	Potsdam, 1986	
	<i>Begonia</i> × <i>erythrophylla</i> Herincq	nn; plant found in collection in 2000	<i>B. hydrocotylifolia</i> X <i>B. manicata</i>
	<i>Begonia fuchsoides</i> Hook.	Nantes, 1970	accepted names are also <i>B. miniata</i> & <i>B. foliosa</i> var. <i>miniata</i>
	<i>Begonia nelumbiifolia</i> Schltdl. & Cham.	nn; plant found in collection in 2000	4 synonyms

	<i>Begonia peltata</i> Otto & D. Dietr.	Vienna, 2003	arrived as <i>B. kellermannii</i> ; one of several synonyms
	<i>Begonia</i> × <i>reichenheimii</i> G. Bartsch	Potsdam, 1969	
	<i>Begonia</i> 'Rex Cultorum'	nn, 2010	purchased; various cultivars
	<i>Begonia</i> × <i>ricinifolia</i> A. Dietr.	nn; plant found in collection in 2000	<i>B. heracleifolia</i> X <i>B. peponifolia</i>
	<i>Begonia subvillosa</i> Klotzsch var. <i>leptotricha</i> (C. DC.) L.B. Sm. & Wassh.	Vilnius, 2013	arrived as syn. <i>B. leptotricha</i>
	<i>Begonia venosa</i> Skan ex Hook.f.	Braunschweig, 2002	
Bignoniaceae	<i>Crescentia cujete</i> L.	Bonn, 1980	8 synonyms
	<i>Kigelia africana</i> (Lam.) Benth.	Bogor, 2004	accepted name is also <i>K. pinnata</i> ; 15+ synonyms
	<i>Pandorea jasminoides</i> (Lindl.) K. Schum.	Brisbane, 2002	several synonyms
Boraginaceae	<i>Cordia caffra</i> Sond.	Jerusalem, 2010	
Cucurbitaceae	<i>Momordica rostrata</i> A. Zimm.	Wroclaw, 1987	
Erythroxylaceae	<i>Erythroxylum coca</i> Lam.	Utrecht, 1975	2 synonyms
Euphorbiaceae	<i>Dalechampia roezliana</i> Muell. Arg.	Amsterdam, 1973	accepted name is also <i>D. spathulata</i> ; 8 synonyms
	<i>Euphorbia pulcherrima</i> Willd. ex Klotzsch	Stuttgart, 1970	arrived as unknown cultivar 'Kolle'; 10+ synonyms
	<i>Jatropha curcas</i> L.	Bogor, 1978	15+ synonyms
	<i>Melanolepis multiglandulosa</i> (Reinw. ex Blume) Rchb. f. & Zoll.	Hengchun, 2013	5 synonyms
Fabaceae	<i>Bauhinia japonica</i> Maxim.	Kyoto, 1994	2 synonym
	<i>Hardenbergia comptoniana</i> (Andrews) Benth.	Menton, 2011	
	<i>Schotia latifolia</i> Jacq.	Melbourne, 1986	
Gesneriaceae	<i>Alsobia dianthiflora</i> (H.E. Moore & R.G. Wilson) Wiehler	Caen, 2002	arrived as <i>Episcia</i> d., one of several synonyms
	<i>Episcia cupreata</i> (Hook.) Hanst. 'Silver Sheen'	nn, 2003	purchased; 2 species-synonyms
	<i>Episcia cupreata</i> (Hook.) Hanst. 'Silver Skies'		
	<i>Gloxinia perennis</i> (L.) Fritsch	Goeteborg, 1978	15 synonyms
	<i>Gloxinia sylvatica</i> (Kunth) Wiehler	Aachen, 1989	accepted name is also <i>Seemannia</i> s.; 20+ synonyms
	<i>Nematanthus gregarius</i> D.L. Denham 'Gievotz'	nn, 2002	purchased as <i>Nematanthus</i> 'Gietvoz'
	<i>Sinningia aggregata</i> (Ker Gawl) Wiehler	Duesseldorf, 2003	syn. <i>Gesneria</i> a.
	<i>Sinningia cardinalis</i> (Lehm.) H.E. Moore	Muenchen, 1978	several synonyms
	<i>Sinningia cooperi</i> (Paxton) Wiehler	Duesseldorf, 2003	3 synonyms

	<i>Sinningia eumorpha</i> H.E. Moore	Ulm, 2012	
	<i>Sinningia speciosa</i> (Lodd.) Hiern.	Amsterdam, 1984	
	<i>Streptocarpus saxorum</i> Engl. 'Blue Velvet'	Berlin-Spaeth, 2013	
Lamiaceae	<i>Clerodendrum cyrtophyllum</i> Turcz.	Wroclaw, 1988	arrived as fam. Verbenaceae
	<i>Clerodendrum glandulosum</i> Lindl.	Kunming, 1987	invalid name acc. to Tropicos; accepted acc. to Plant List, with several synonyms; fam. Verbenaceae
	<i>Clerodendrum inerme</i> (L.) Gaertn.	Tsukuba, 1988	2 more accepted names; 5+ synonyms; fam. Verbenaceae
	<i>Clerodendrum philippinum</i> Schauer	nn, 1971	purchased as syn. <i>C. fragrans</i> 'Pleniflorum' - incl. to <i>C. philippinum</i> , with several more accepted names and many synonyms; as fam. Verbenaceae
	<i>Clerodendrum splendens</i> G. Don	Porrentruy, 1990	arrived as fam. Verbenaceae
	<i>Clerodendrum ugandense</i> Prain	nn, 2001	purchased; fam. Verbenaceae
	<i>Holmskioldia sanguinea</i> Retz.	Menton, 2009	
	<i>Plectranthus prostratus</i> Guerke	Gembloux, 2089	
Malvaceae	<i>Abroma augustum</i> (L.) L.f.	Berlin-Dahlem, 1995	arrived as fam. Sterculiaceae
	<i>Dombeya burgessiae</i> Gerrard ex Harv. & Sond.	Barcelona, 1990	arrived as fam. Sterculiaceae
	<i>Hibiscus elatus</i> Sw.	Graz, 1995	2 accepted names; several synonyms
	<i>Hibiscus rosa-sinensis</i> L.	nn; plant found in collection in 2000	
	<i>Theobroma cacao</i> L.	Potsdam, 2010	arrived as fam. Theobromaceae; 20 synonyms
Moraceae	<i>Dorstenia contrajerva</i> L.	Oxford, 1992	10+ synonyms
	<i>Ficus benamina</i> L.	Antwerp, 1969	5 synonyms
	<i>Ficus benamina</i> L. 'Golden Monique'	nn, 2001	purchased; 5 species-synonyms
	<i>Ficus benamina</i> L. 'Nastasja'	nn, 2001	purchased; 5 species-synonyms
	<i>Ficus binnendijkii</i> Miq. 'Alii'	nn, 2003	purchased
	<i>Ficus elastica</i> Roxb. ex Hornem.	nn; plant found in collection in 2000	3 synonyms
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Decora'		3 species-synonyms
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Belize'	nn, 2001	purchased; 3 species-synonyms
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Melany'		
	<i>Ficus elastica</i> Roxb. ex Hornem. 'Petite Melany'		
	<i>Ficus fistulosa</i> Reinw. ex Blume	Hengchun, 2011	1 syn.
	<i>Ficus irisana</i> Elmer	Hengchun, 2013	1 syn.

	<i>Ficus lyrata</i> Warb.	nn; plant found in collection in 2000	1 syn.
	<i>Ficus lyrata</i> Warb. 'Bambino'	nn, 2008	purchased; 1 species-synonym
	<i>Ficus microcarpa</i> L.f.	nn, 2001	purchased, 15 species-synonyms
	<i>Ficus microcarpa</i> L.f. 'Formosa'		
	<i>Ficus triangularis</i> Warb.	Prag, 1964	acc. to Plant List, accepted name is <i>F. natalensis</i> Hochst. ssp. <i>lepieurii</i> (Miq.) C.C. Berg
	<i>Ficus pumila</i> L.	Antwerp, 1962	2 synonyms
	<i>Ficus pumila</i> L. 'Minima'	Linz, 1994	cutting; 2 species-synonyms
	<i>Ficus pumila</i> L. 'Variegata'	Turku, 1989	
	<i>Ficus racemosa</i> L.	nn, 1966	2 synonyms
	<i>Ficus rubiginosa</i> Desf. ex Vent. 'Variegata'	Brijuni Croatia, 1963	1 syn.
	<i>Ficus septica</i> Burm. f.	Hengchun, 2011	4 synonyms
	<i>Ficus tinctoria</i> G. Forst.	Hengchun, 2007	
Oleaceae	<i>Jasminum officinale</i> L.	nn; plant found in collection in 2000	
Oxalidaceae	<i>Biophytum sensitivum</i> (L.) DC.	Berlin-Dahlem, 2004	accepted name is also <i>B. umbraculum</i> ; several synonyms
	<i>Oxalis lasiandra</i> Zucc.	Berlin-Spaeth, 2013	bulbs; 5 synonyms
	<i>Oxalis triangularis</i> A. St.-Hil. 'Rubra'	Berlin-Dahlem, 2003	bulbs; 10+ species-synonyms
Passifloraceae	<i>Turnera ulmifolia</i> L.	Joensuu, 1989	9 synonyms; arrived as fam. Turneraceae
Phytolaccaceae	<i>Rivina humilis</i> L.	Halle, 1983	arrived as <i>R. aurantiaca</i> ; one of 35+ synonyms
		Giesen, 1990	arrived as <i>R. brasiliensis</i> ; one of 35+ synonyms
		Frankfurt, 2014	35+ synonyms; arrived as fam. Riviniaceae
Piperaceae	<i>Peperomia alata</i> Ruiz & Pav.	Vienna, 1961	15 synonyms
	<i>Peperomia blanda</i> (Jacq.) Kunth	Wroclaw, 1989	arrived as <i>P. langsdorffii</i> , one of 40 synonyms
	<i>Peperomia caperata</i> Yunck. 'Rubra'	Caen, 1988	cutting
	<i>Peperomia caperata</i> Yunck. 'Variegata'	nn, 2002	purchased
	<i>Peperomia clusiifolia</i> (Jacq.) Hook.	Cluj-Napoca, 1966	arrived as <i>P. obtusifolia</i> var. <i>clusiaefolia</i> , one of 2 synonyms
	<i>Peperomia clusiifolia</i> (Jacq.) Hook. 'Variegata'		spontaneously, in some newly vegetatively reproduced plants
	<i>Peperomia fenzelei</i> Regel	Stockholm, 1969	
	<i>Peperomia flexicaulis</i> Wawra	Duisburg, 1990	
	<i>Peperomia glabella</i> (Sw.) A. Dietr.	Stockholm, 1960	35 synonyms
	<i>Peperomia incana</i> (Haw.) A. Dietr.	nn; plant found in collection in 2000	
	<i>Peperomia longispicata</i> C. DC.	Rome, 1960	

	<i>Peperomia obtusifolia</i> (L.) A. Dietr. 'Variegata'	Napoli, 1963	
	<i>Peperomia orba</i> Bunting	Dijon, 1993	not in Tropicos; unresolved name acc. to Plant List
	<i>Peperomia pseudovariegata</i> C. DC.	Vienna-Belvedere, 2012	3 synonyms
	<i>Peperomia reticulata</i> Balf. f.		
	<i>Peperomia rubella</i> Hook.	Iasi, 1961	
	<i>Peperomia serpens</i> (Sw.) Loudon 'Variegata'	Besancon, 1971	arrived as <i>P. serpens</i> f. <i>variegata</i> , one of 25+ synonyms
	<i>Peperomia trifolia</i> (L.) A. Dietr.	Caen, 2002	3 synonyms
	<i>Peperomia urocarpa</i> Fisch. & C.A. Mey.	Besancon, 1971	15 synonyms
	<i>Peperomia urvilleana</i> A. Rich.	Berlin-Dahlem, 1991	
	<i>Piper apiculatum</i> C. DC.	Antwerp, 1966	accepted name is also <i>P. divaricatum</i> ; one of 30+ synonyms
	<i>Piper arboreum</i> Aubl.	Joensuu, 1989	40 synonyms
	<i>Piper auritum</i> Kunth	Marburg, 1966	13 synonyms
	<i>Piper cernuum</i> Vell.	Kopenhagen, 1988	20 synonyms
	<i>Piper cubeba</i> L.f.	Prague, 1963	
	<i>Piper nigrum</i> L.	Antwerp, 1967	
Plantaginaceae	<i>Tetranema roseum</i> (M. Martens & Galeotti) Standl. & Steyerl.	Haren, 1989	arrived as fam. Scrophulariaceae
Rubiaceae	<i>Coffea arabica</i> L.	Chemnitz, 2003	
	<i>Coffea arabica</i> L. 'Nana'	Pruhonic, 1988	
	<i>Coffea mauritiana</i> Lam.	Cluj, 2012	4 synonyms
	<i>Coffea</i> 'Perlita'	nn; plant found in collection in 2000	unknown cultivar
	<i>Coffea stenophylla</i> G. Don	Pruhonic, 1988	
Sapindaceae	<i>Sapindus trifoliatus</i> L.	Auroville, 1990	1 syn.
Saxifragaceae	<i>Tolmiea menziesii</i> (Pursh) Torr. & Gray	Bielefeld, 2012	1 syn.
Solanaceae	<i>Brunfelsia americana</i> L.	Bogor, 1980	
	<i>Brunfelsia nitida</i> Benth.	Havana, 1990	
	<i>Cestrum aurantiacum</i> Lindl.	Innsbruck, 2011	8 synonyms
Urticaceae	<i>Pellionia repens</i> (Lour.) Merr.	Cluj-Napoca, 2012	12 synonyms
	<i>Pilea cadierei</i> Gagnep. & Guillaumin	nn, 2010	purchased
	<i>Pilea depressa</i> (Sw.) Blume	Caen, 1995	
	<i>Pilea spruceana</i> Wedd. 'Norfolk'	nn, 1981	purchased as <i>Pilea</i> 'Norfolk'
	<i>Pilea libanensis</i> Urb.	nn, 2012	purchased
	<i>Pilea nummulariifolia</i> (Sw.) Wedd.	Vacratot, 1963	1 syn.
	<i>Pilea peperomioides</i> Diels	nn, 2002	purchased as <i>Peperomia ariifolia</i>
Verbenaceae	<i>Duranta erecta</i> L.	Menton, 2012	accepted is also <i>D. repens</i> ; 35+ synonyms

Vitaceae	Leea guineensis G. Don	nn, 1999	arrived as fam. Leeaceae; 40 synonyms
	Leea indica (Burm. f.) Merr.	Hengchun, 2013	arrived as fam. Leeaceae; 35+ synonyms
	Tetrastigma voinierianum (Baltet) Gagnep.	Ljubljana, 2002	2 synonyms
	MONOCOTYLEDONS (Liliopsida)		
Acoraceae	Acorus gramineus Sol. ex Aiton 'Aureovariegatus'	Košice, 1970	13+ species-synonyms; as fam. Araceae
Amaryllidaceae	Cyrtanthus elatus (Jacq.) Traub	Rotterdam, 1971	3 synonyms
	Habranthus tubispathus (L'Her.) Traub	Caen, 2002	15+ synonyms
	Haemanthus albiflos Jacq.	nn; plant found in collection in 2000	illegitimate name acc. to Tropicos; accepted acc. to Plant List
	Hymenocallis speciosa (Salisb.) Salisb.	Amsterdam, 1970	
	Sprekelia formosissima (L.) Herb.	Basel, 1958	7 synonyms
Araceae	Anthurium cordifolium (Raf.) Kunth	Bucarest, 1984	accepted name is also <i>A. grandiflorum</i> ; several synonyms
	Anthurium hybridum hort. ex Engl.	nn, 2004 & 2009	purchased; unknown cultivars
	Ariopsis peltata J. Graham	Kiel, 1970	
	Philodendron hort.	nn, 2010	purchased; unknown cultivar
Asparagaceae	Asparagus stipularis Forssk.	Berlin-Dahlem, 2002	acc. to Plant List, several accepted names and synonyms
	Aspidistra elatior Blume	nn, 1981	fam. Liliaceae; 2 synonyms
	Bowiea kilimandscharica Mildbr.	Basel, 1974	syn. <i>B. volubilis</i> ssp. <i>volubilis</i> ; fam. Liliaceae
	Bowiea volubilis Harv.	Halle, 1961	many synonyms; fam. Liliaceae
	Chlorophytum amaniense Engl.	Menton, 2012	arrived as fam. Anthericaceae
	Chlorophytum comosum (Thunb.) Jacques	nn; plant found in collection in 2000	syn. <i>Anthericum c.</i>
	Chlorophytum comosum (Thunb.) Jacques 'Variegatum'	Szeged, 1963	fam. Liliaceae
	Chlorophytum macrophyllum (A. Rich.) Asch.	Joensuu, 1989	fam. Liliaceae
	Chlorophytum orchidastrum Lindl.	Innsbruck, 2004	acc. to Plant List, several accepted names and synonyms
	Cordyline terminalis (L.) Kunth	Adelaide, 1971	fam. Liliaceae; 4 synonyms
	Dasyllirion acrotrichum (Schiede) Zucc.	Lyon, 1960	3 synonyms; fam. Liliaceae
	Dasyllirion longissimum Lem.	Berlin-Dahlem, 1981 Barcelona, 1961	arrived as fam. Liliaceae
	Dracaena aletriformis (Haw.) Bos	nn, 1961	
	Dracaena draco (L.) L.	Ariana, 1986	several synonyms; fam. Liliaceae

Dracaena draco (L.) L. 'Sydney'	nn, 2010	purchased
Dracaena fragrans (L.) Ker-Gawl.	nn, 1961	arrived as <i>D. deremensis</i> ; 3 synonyms; fam. Liliaceae
Dracaena fragrans (L.) Ker-Gawl. var. warneckei Engl.	Lada Nursery Slovenia, 1964	purchased as <i>D. warneckii</i> (unknown/illegitimate); many synonyms; fam. Liliaceae
Dracaena fragrans (L.) Ker-Gawl. 'Yellow Coast'	nn, 2010	purchased
Dracaena marginata <i>hort.</i>		
Dracaena reflexa Lam. 'Gold Coast'	nn, 2001	
Dracaena reflexa Lam. 'Lemon Surprise'		
Dracaena reflexa Lam. 'Song of India'		
Drimiopsis maculata Lindl. & Paxton	Coimbra,1961	fam. Liliaceae; acc. to Plant List, several accepted names and synonyms
Eucomis comosa (Houtt.) Wehrh.	Sienna, 1984	arrived as <i>E. punctata</i> ; many synonyms; fam. Liliaceae
Eucomis regia (L.) Aiton	Palermo, 1961	3 synonyms; fam. Liliaceae
Nolina recurvata (Lem.) Hemsl.	Palermo, 1969	fam. Liliaceae; accepted name is also <i>Beaucarnea r.</i> ; acc.to Plant List, several synonyms
	Montreal, 1986	
	Menton, 2014	
Sansevieria arborescens Gentil	Budapest, 1978	fam. Liliaceae
Sansevieria cylindrica Bojer ex Hook.	Brno, 1963	fam. Liliaceae
Sansevieria dooneri N.E. Br.	Goeteborg, 1978	fam. Liliaceae
Sansevieria grandicuspis Haw.	Goeteborg, 1978	fam. Liliaceae
Sansevieria grandis Hook.f.	nn; plant found in collection in 2000	fam. Liliaceae
Sansevieria metallica Gerome & Labroy	Budapest, 1975	accepted name is also <i>S.</i> <i>hyacinthoides</i> ; 12 synonyms; fam. Liliaceae
Sansevieria raffillii N.E. Br.	Budapest, 1977	fam. Liliaceae
Sansevieria stuckyi God.-Leb.	Rome, 1960	fam. Liliaceae
Sansevieria trifasciata Prayn	Szeged, 1970	5 synonyms; fam. Liliaceae
Sansevieria trifasciata Prayn 'Golden Hahnii'	Wroclaw, 1986	fam. Liliaceae
Sansevieria trifasciata Prayn 'Gruene Craigii'	Wroclaw, 1986	fam. Liliaceae
Sansevieria trifasciata Prayn 'Hahnii'	nn, 1961	fam. Liliaceae
Sansevieria trifasciata Prayn 'Laurentii'	nn, 1963	fam. Liliaceae
Sansevieria trifasciata Prayn 'Silver Hahnii'	Kiev, 1989	fam. Liliaceae

Bromeliaceae	Acanthostachys strobilacea (Schult. f.) Link, Klotzsch & Otto	Muenchen, 1963	2 synonyms
	Aechmea 'Blue Rain'	nn, 2010	purchased
	Aechmea bracteata (Sw.) Griseb.	Frankfurt, 1957	10+ synonyms
	Aechmea bromeliifolia (Rudge) Baker	Marburg, 1965	25+ synonyms
	Aechmea fasciata (Lindl.) Baker	nn, 1977	
	Aechmea lindenii (E. Morren) Baker var. makoyana Mez	Marburg, 1965	accepted name is also <i>Ae. comata</i> ; several synonyms
	Aechmea lindenii (E. Morren) Baker 'Variegata'	Brisel, 1965	arrived as <i>Ae. comata</i> var. <i>variegata</i> ; accepted species-name is also <i>Ae. comata</i>
	Aechmea lueddemanniana (K. Koch) Brongn. ex Mez	Prag, 1964	10 synonyms
	Aechmea mariae-reginae H. Wendl.	Hamburg, 1967	3 synonyms
	Aechmea penduliflora Andre	Nantes, 1985	4 synonyms
	Aechmea recurvata (Klotzsch) L.B. Sm.	nn, 1995	
	Aechmea sphaerocephala Baker	Berlin-Dahlem, 1965	3 synonyms
	Billbergia alfonso-joannis Reitz	Cluj-Napoca, 2002	
	Billbergia brasiliensis (hort. ex Lem.) L.B. Sm.	Cluj-Napoca, 1965	
	Billbergia iridifolia (Nees & Mart.) Lindl.	nn; plant found in collection in 2000	
	Billbergia kuhlmannii L.B. Sm.	Vacratot, 2009	several synonyms
	Billbergia macrolepis L.B. Sm.	Cluj-Napoca, 2004	3 synonyms; VU D2 - Vulnerable - National (Colombia)
	Billbergia nutans H. Wendl ex Regel	Nantes, 1959	
	Billbergia rosea <i>hort.</i> ex Beer	Berlin-Dahlem, 1968	arrived as <i>B. venezuelana</i> , one of several synonyms
	Billbergia saundersii hort. ex Dombrain	Prague, 1964	accepted name is also <i>B. chlorosticta</i> & <i>Neoregelia ch.</i> ; 10+ synonyms
	Billbergia vittata Brong. ex Morel	Liverpool, 1962	10 synonynms
	Billbergia zebrina (Herb.) Lindl.	Basel, 1965	arrived as (also accepted name) <i>B. porteana</i> ; 10+ synonyms
	Billbergia zebrina (Herb.) Lindl.	Utrecht, 2004	accepted name is also <i>B. porteana</i> ; 10+ synonyms
	Cryptanthus acaulis (Lindl.) Beer	Berlin-Dahlem, 2003	
	Deuterocohnia meziana Kuntze ex Mez	Dresden, 2012	3 synonyms
	Dyckia niederleinii Mez	Nantes, 2009	2 synonyms
	Fosterella penduliflora (C.H. Wright) L.B. Sm.	Brno, 2012	4 synonyms

	<i>Guzmania lingulata</i> (L.) Mez <i>cult.</i>	nn, 2010	purchased, several cultivars (red, yellow and orange)
	<i>Neoregelia spectabilis</i> (Moore) L.B. Sm.	Prague, 1964	5 synonyms, diff. genera
	<i>Nidularium "candidum"</i> (?)	nn; plant found in collection in 2000	unknown taxon
	<i>Orthophytum foliosum</i> L.B. Sm.	Potsdam, 2009	
	<i>Pitcairnia grafii</i> Rauh	Utrecht, 2004	
	<i>Puya chilensis</i> Molina	Balchik, 2008	10 synonyms
	<i>Puya mirabilis</i> (Mez.) L.B.Sm.	Nantes, 1986	2 synonyms
	<i>Puya spathacea</i> (Grieseb.) Mez.	Adelaide, 1959	2 synonyms
	<i>Vriesea splendens</i> hort. ex M.B. Foster	nn, 2010	purchased
Colchicaceae	<i>Gloriosa superba</i> L.	Pretoria, 1981	arrived as fam. Liliaceae; 2 synonyms
	<i>Gloriosa superba</i> L. 'Rothschildiana'	Bergen, 1970	arrived as fam. Liliaceae
Commelinaceae	<i>Aclisia condensata</i> (C.B. Clarke) G. Brueckn.	Nancy, 1992	acc. to Plant List, accepted name is also <i>Pollia</i> c.
	<i>Callisia insignis</i> C.B. Clarke	Antwerp, 1978	
	<i>Callisia multiflora</i> (M. Martens & Galeotti) Standl.	Strassbourg, 1973	5 synonyms
	<i>Cyanotis vaga</i> (Lour.) Schult. & Schult.f.	Bucarest, 1958	arrived without an author; many synonyms and accepted names
	<i>Murdannia nudiflora</i> (L.) Brennan	Tsukuba, 2004	10 synonyms
	<i>Setcreasea purpurea</i> Boom	Bonn, 1964	accepted name is also <i>Tradescantia pallida</i> ; many synonyms
	<i>Tradescantia albiflora</i> Kunth	nn, 1961	accepted name is also <i>T. fluminensis</i> ; 3 synonyms
	<i>Tradescantia geniculata</i> Jacq.	Marburg, 1965	accepted names are also <i>Gibasis</i> g. & <i>Aneilema</i> g.
	<i>Tradescantia sillamontana</i> Matuda	Kaunas, 2012	1 synonyms
	<i>Tradescantia spathacea</i> Sw.	Nancy, 1970	accepted species-names are also <i>T. discolor</i> & <i>Rhoeo spathacea</i> ; many synonyms
	<i>Tradescantia spathacea</i> Sw. 'Variegata'	nn; plant found in collection in 2000	
	<i>Tradescantia zebrina</i> Heynh. ex Bosse	nn, 1961	also <i>Zebrina pendula</i> & <i>Z. purpusii</i> ; many synonyms
	<i>Tradescantia zebrina</i> Heynh. ex Bosse 'Quadricolor'	nn; plant found in collection in 2000	
	<i>Tradescantia zebrina</i> Heynh. ex Bosse var. <i>flocculosa</i> (G. Brueckn.) D.R. Hunt	Strassbourg, 1973	
Costaceae	<i>Costus afer</i> Ker-Gawl.	Meise, 1989	accepted name is also <i>C. maculatus</i>
	<i>Costus deistelii</i> K. Schum.	Graz, 2013	
	<i>Costus megalobracteata</i> K. Schum.	Duesseldorf, 2012	
	<i>Costus spiralis</i> (Jacq.) Roscoe	Bogor, 2004	accepted name is also <i>C. woodsonii</i> ; syn. <i>Alpinia</i> s.

Dioscoreaceae	Tacca chantrieri Andre	Dresden, 2012	4 synonyms
Iridaceae	Aristea ecklonii Baker	Jerusalem, 2012	
	Diets iridioides (L.) Sweet & Klatt	Cluj-Napoca, 2002	3 synonyms
	Gladiolus callianthus Marais 'Murielae'	Berlin-Dahlem, 2003	
	Neomarica gracilis (Herb.) Sprague	Bruxelles, 1960	2 synonyms
	Orthosanthus multiflorus Sweet	Chelsea, 2012	
Liliaceae	Ledebouria socialis Jessop	Uppsala, 1964	arrived as <i>Scilla violacea</i> (syn. <i>S. socialis</i>)
Marantaceae	Maranta arundinacea L.	Potsdam, 1986	
Orchidaceae	Ludisia discolor (Ker-Gawl.) A. Rich.	Berlin-Dahlem, 2003	
Poaceae	Setaria palmifolia (J. Koenig) Stapf	Ulm, 2012	40+ synonyms
Strelitziaceae	Strelitzia alba Skeels	Puerto de la Cruz, 1999	2 synonyms; acc. to Plant list, the author is (L.f.) Skeels
	Strelitzia reginae Aiton	Puerto de la Cruz, 1982	acc. to Plant list, the author of species is Banks and there are many synonyms
	Strelitzia reginae Aiton 'Mandela's Gold'	Kirstenbosch, 1997	
Xanthorrhoeaceae	Dianella tasmanica Hook. f.	Chelsea, 2012	
Zingiberaceae	Alpinia speciosa (Blume) D. Dietr.	Menton, 2008	accepted name is also <i>Etlingera elatior</i> ; 10 synonyms
	Alpinia zerumbet (Pers.) B.L. Burtt & R.M. Sm. 'Variegata'	nn, 2010	purchased as <i>A. speciosa</i> 'Variegata'
	Brachichylum horsfieldii (R. Br. ex Wall.) Petersen	Utrecht, 1963	acc. to Plant List, accepted name is also <i>Hedychium h.</i> , and several others
	Curcuma <i>cult.</i>	nn, 2003	purchased
	Elettaria cardamomum (L.) Maton	Gent, 1988	2 synonyms
	Hedychium coccineum Buch.-Ham. ex Sm.	Rouen, 1988	acc. to Plant List, several synonyms
	Hedychium gardnerianum Sheppard ex Ker Gawl.	Ulm, 2012	
	Zingiber officinale Roscoe	Aachen, 1987	7 synonyms