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The Rhipsalideae Registry

Part 1: Handbook of Cultivars and Species

Version 4.0 (2024)

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International Cultivar Registration Authority (ICRA)
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The information in this list is mainly based on descriptions of the breeders. A guarantee for correctness and completeness is therefore not given.

Note that the color of flowers of *Schlumbergera*-cultivars can differ considerably due to cultivation circumstances and season.

If you find any errors or would like additions, please contact the authors, email: srl@schlumbergera.net

Cover photo: *Schlumbergera* 'Spanish Dancer'

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Foreword/Acknowledgements

The authors of the Rhipsalideae Registry have a combined experience that approaches or possibly exceeds 200 years specializing in Rhipsalideae. This Rhipsalideae tribe comprises *Hatiora*, *Lepismium*, *Rhipsalis*, *Rhipsalidopsis* and *Schlumbergera*. Together, the authors have created a comprehensive, detailed corroboration for the benefit of International collectors, growers and hybridizers.
The Rhipsalidae Registry Part 1: Handbook of Species and Cultivars provides historical species perspectives, species descriptions, cultivation and disease information (in English & German), hybridization information (including valid intergeneric hybrids and some doubtful ones). Current and past grower sources and hybridizers are documented. The purpose of this long overdue treatise is to educationally serve our special horticultural community.

Kindest regards

Lee Gordon Goodfellow

In April 2024

The genera *Schlumbergera* and *Rhipsalidopsis*

History

Until around 1808, the then Portuguese colony of Brazil was isolated from the outside world. The flora and fauna were almost unknown and Brazil was largely unexplored. With the flight of the Portuguese court to Brazil, before the Napoleonic wars in 1807, this began to change. Thanks to the predominantly European explorers, our knowledge about the plant world of Brazil grew rapidly. One of the plants discovered and described at the beginning of the 19th century was *Epiphyllum truncatum* in 1819, today's *Schlumbergera truncata*. *Epiphyllum russellianum* = *Schlumbergera russelliana* followed in 1839, then *Cereus microsphaericus* = *Schlumbergera microsphaerica* (non *Cereus obtusangulus* = *Schlumbergera obtusangula*) in 1890, and in 1905 *Epiphyllum opuntioides* = *Schlumbergera opuntioides*. After more than 70 years *Schlumbergera orssichiana* was described in 1978 and *Schlumbergera kautskyi* in 1991.

In 1858 Charles Lemaire created the genus *Schlumbergera*, named after the French cactus collector Frédéric Schlumberger with the only species *Schlumbergera epiphylloides*, today's *S. russelliana*. In 1890 Karl Schumann created the genus *Zygocactus* for *Epiphyllum truncatum*, as this species has zygomorphic flowers, whereas *Schlumbergera russelliana* has radiosymmetrical flowers. Alwin Berger created the genus *Epiphyllanthus* in 1905, because he was of the opinion that the areoles on the segments of some taxa would make this necessary. In 1913 Nathaniel Britton and Joseph Rose transferred *Epiphyllum russellianum* into the genus *Schlumbergera*, in 1953 Reid Moran combined *Epiphyllum truncatum* to *Schlumbergera truncata*, in 1969 David Hunt transferred *Epiphyllum opuntioides* to *Schlumbergera opuntioides*, and finally in 1992 P. V. Heath combined *Cereus microsphaericus* to *Schlumbergera microsphaerica*.

In 1884, Eduard von Regel described *Epiphyllum russellianum* var. *gaertneri*, a taxon that was raised to species level in 1889 and combined to *Schlumbergera* by Britton & Rose in 1913. In 1925 combined as *Rhipsalis*, in 1929 as *Epiphyllopsis* (Alwin Berger), in 1953 by Moran to *Rhipsalidopsis* and finally in 1987 by Wilhelm Barthlott to *Hatiora*, the classification of this species remained unclear for many years. DNA research by ALICE CALVENTE & al. (2011) and NADJA KOROTKOVA & al. (2011) did not yield any clear results. CALVENTE & al. argue for an extended genus *Schlumbergera* (*Schlumbergera* sensu lato), which includes *Hatiora* (partially) and *Rhipsalidopsis*. KOROTKOVA & al. however recognize *Rhipsalidopsis* as a genus again.

The same applies to *Hatiora epiphylloides* and its subspecies *bradei*. Therefore CALVENTE & al. (2011) recombined it to *Schlumbergera lutea* and *Schlumbergera lutea* subsp. *bradei*. Although KOROTKOVA & al. have the same molecular findings on this species as CALVENTE & al., they plead for the retention of the old classification due to the flower morphology deviating from *Schlumbergera* sensu stricto.

Rhipsalis rosea described in 1912 was the only species in 1923 that Britton & Rose placed in the genus *Rhipsalidopsis* before Wilhelm Barthlott transferred it to *Hatiora* in 1987. The DNA investigations of CALVENTE & al. and KOROTKOVA & al. have shown the same results as for *Epiphyllum russellianum* var. *gaertneri*. Following their logic, CALVENTE & al. have combined the species to *Schlumbergera rosea*, while KOROTKOVA & al. address it as *Rhipsalidopsis rosea*.

For the list presented here, the following taxonomy is taken as a basis:

Schlumbergera
- *Schlumbergera kautskyi*
- *Schlumbergera lutea* subsp. *lutea*
- *Schlumbergera lutea* subsp. *bradei*
- *Schlumbergera microsphaerica*
- *Schlumbergera opuntioides*
- *Schlumbergera orssichiana*
- *Schlumbergera russelliana*
- *Schlumbergera truncata*

Rhipsalidopsis
- *Rhipsalidopsis gaertneri*
- *Rhipsalidopsis rosea*

Hatiora
- *Hatiora cylindrica*
- *Hatiora herminiae*
- *Hatiora salicornioides*

Occurrence

The taxa of the genera *Schlumbergera* and *Rhipsalidopsis* occur exclusively in Brazil. Their distribution is limited to the Atlantic coastal mountain forest (Mata Altlântica), which today only exists in rudiments. Here the plants grow epiphytically in the Floresta Ombrófila Densa, a moist, evergreen forest at altitudes between 400 and 2400 m. Only *Schlumbergera microsphaerica* grows mostly lithophytically in an open high mountainous landscape (Campo de Altitude) at altitudes between 2400 and 2700 m. The distribution of *Schlumbergera* and *Rhipsalidopsis* in the mountains called Serra do Mar extends over the Brazilian states of Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Rio de Janeiro, Espírito Santo and Minas Gerais for about 1000km.

Hybridization

All taxa of the genus *Schlumbergera* flower uniformly purple except *S. lutea*, which is yellow flowering. *S. truncata* is also an exception. Plants with orange-red, pink, red, purple and even white flowers can be found in the natural habitat. Soon after the introduction of this species in 1818, the first crosses and selections were carried out and around the middle of the 19th century a considerable number of cultivated varieties already existed. In 1839, *Schlumbergera russelliana* arrived in Europe and was soon used for breeding by Wilbraham Buckley. The crosses *Schlumbergera russelliana* × *S. truncata* were then described by Moore in 1852 as *Epiphyllum buckleyi*. Today they are known as *Schlumbergera × buckleyi* or generally as 'Christmas cacti' and became very popular in England especially during the Victorian period.

With the beginning of the 20th century, the interest in the *Schlumbergera* cultivars ended. After 1960, individual breeders began to deal with hybridization again, for example Alfred Gräser in Germany and Joyce Carr in Australia with her 'Liberty Series' from the 1980s onwards. From around 1980, large nurseries became particularly involved and endeavored to breed strong and upright plants with new flower colors and shapes, instead of naturally hanging plants. In the USA, these were mainly B.L. Cobia Inc. in Winter Garden (Orlando, Florida). Their breeding concept was cultivars with polyploid (multiple), up to eightfold chromosome sets, with which they achieved some spectacular breeds. These were then patented and marketed in the 1980s as the 'Cobia Collector Series'. This included the first yellow-flowering *S. truncata* variety 'Gold Charm'. *Schlumbergera* finally also became interesting to commercial horticulture. Today, millions of small flowering plants of *S. truncata* cultivars and selections are sold in the USA for Thanksgiving in particular, and they are also sold in large quantities in Europe in late autumn and around Christmas. In order to meet this huge demand, several large nurseries have specialized in production. These are primarily de Vries in Netherlands and Rohde, Thoruplund and above all Madsen in Denmark. Today, *S. truncata* cultivars and selections have become an indispensable part of the range of plants offered by garden centers and nurseries.

The discovery of *Schlumbergera orssichiana* and the use of this species as a crossing partner increased the variability of the cultivars enormously. The first crosses *S. orssichiana* × *S. truncata* were carried out in Brazil by Countess Beatrix Orssich from Teresópolis, Brazil , who called her breeds 'Queens', which is why these crosses were given the Nothospecies name *S. × reginae*. Other breeders of these varieties in the 1980s were A.J.S. McMillan in England and especially Dolly Kölli in the USA. *S. × reginae* cultivars have never achieved the economic importance of the *S. truncata* varieties described above, despite their impressive flowers.

Schlumbergera opuntioides, *S. kautskyi* and *S. microsphaerica*, on the other hand, play only a minor role as cross partners. The latter two species are self-fertile and therefore crosses are rarely successful. *S. lutea* plays no role in hybridization. So far, the following interspecific hybrids have been given Nothospecies names, which can also be used when crossing in the opposite direction:

Schlumbergera × *buckleyi* = *S. russelliana* × *S. truncata*
Schlumbergera × eprica = *S. orssichiana* × *S. russelliana*
Schlumbergera × exotica = *S. truncata* × *S. opuntioides*
Schlumbergera × reginae = *S. truncata* × *S. orssichiana*

While *Schlumbergera* cultivars exist in large numbers, the hybridization of *Rhipsalidopsis* began quite late and the number of cultivars has remained significantly lower. This may be partly due to the fact that there are only two initial species available, *R. gaertneri* and *R. rosea*, whose natural forms are also quite uniform in color, in contrast to the range of color variations of *Schlumbergera truncata*. *Rhipsalidopsis* cannot be hybridized with *Schlumbergera* under natural conditions.

It was Alfred Gräser from Nuremberg who first crossed *R. gaertneri* and *R. rosea* in 1932. This hybrid was described by Werdermann as *Rhipsalis × graeseri* in 1939 (Kakteenkunde 1939: 10) and was recombined by Moran to *Rhipsalidopsis × graeseri* in 1953. The name *R. × graeseri* applies to crosses in both directions, i.e. no matter, which plant is mother plant or pollen dispenser. In the 1960s, it was Harry Johnson of Johnson Cactus Gardens in California who bred some famous varieties, such as 'Crimson Giant' or 'China Pink'.

B.L. Cobia was also involved in hybridizing *Rhipsalidopsis* in addition to breeding *Schlumbergera* cultivars. In England Abbey Brook Nurseries produced some notable *Rhipsalidopsis* varieties (e.g. 'Easter Wedding'), as well as Japanese breeders (e.g. the two-colored 'Parnell'). Special mention should be made of Andrew Savio in Australia, who succeeded (probably by induced mutation) in breeding varieties with double flowers, e.g. his famous 'New Double'.

In the 'fairway' of the winter-flowering *Schlumbergera* cultivars, the *Rhipsalidopsis* varieties very quickly gained popularity as spring bloomers or 'Easter cacti' and are today produced in masses and parallel to the *Schlumbergera* varieties by the aforementioned European nurseries de Vries, Rohde, Thoruplund and Madsen. Today there are *Rhipsalidopsis* varieties available flowering in white,

orange, pink, red, purple, dual colors and variations with darker or lighter central stripes. Yellow is the only missing hue. The plants also have to grow vigorously and upright so that, just like the new *Schlumbergera* varieties, they do not have to be cultivated in hanging baskets.

Mass production makes the new *Schlumbergera* and *Rhipsalidopsis* varieties affordable, but in most cases, they are 'disposed of' by the 'consumer' after flowering and not further cultivated. For the gardener it is no longer worthwhile to sell the plants with labels and variety names. Thus, even the most beautiful new cultivars disappear into anonymity. May this register help to get the plants out of their namelessness and give them the place in our collections that they deserve!

Cultivation

Since both *Schlumbergera* and *Rhipsalidopsis* grow epiphytically cultivation in hanging pots is recommended. The substrate should be porous so that no standing moisture develops. A mixture of humous cactus soil and a fine orchid substrate has proved to be a good solution. Substrates with 50% and more of mineral components (pumice, perlite and vermiculite) can also be used. The cultivation on the outer surface of unglazed hollow clay cylinders, filled with water, has been proved to be useful because this provides a constant slight humidity. It furthermore decreases the temperature around the roots by evaporation, which is favorable for growth particularly at elevated outside temperatures.

However, it is very important that the plants are not exposed to intense sun and receive sufficient fresh air. Cultivation in a hot and dry greenhouse usually leads to the rapid death of the plants. Especially vulnerable are *Schlumbergera lutea*, *S. microsphaerica*, *S. opuntioides*, and *S. russelliana*. These tolerate temperatures above 28 °C (82 °F) for only short periods of time. It is therefore recommended to cultivate these species possibly grafted on e.g. *Selenicereus*. Even in winter, all taxa need watering albeit in reduced amounts.

In Brazil *Schlumbergera truncata* and their cultivars are called "Flor de Maio" (flowering in May) because of their flowering time in the early Brazilian winter.

The *S.* × *buckleyi* hybrids (*S. truncata* × *S. russelliana* in both directions) are typically called Christmas Cacti in Europe and the *S. truncata* varieties are usually called Thanksgiving Cacti in the U.S.A.

Rhipsalidopsis gaertneri flowers in the northern hemisphere in April/May, which led to the name Easter Cactus.

Diseases

The most common diseases of *Schlumbergera* and *Rhipsalidopsis* are caused by fungi. Bacterial infections are rare. Viral infections are usually not destructive but weaken the plants and lead to unattractive spotting. More recently, mites of the genus *Brevipalpus* have been identified as important destructive pathogens. The most important fungal pathogen for *Schlumbergera* and *Rhipsalidopsis* is *Fusarium oxysporum, which* occurs worldwide in soil in over 100 different forms and shapes. The pathogens attack the roots, the stems and finally the phylloclades with soft, and red basal stem canker. Infections by *Pythium* species and *Phytophthora* species especially *P. nicotianae*, lead to clinical pictures, which are hardly distinguishable from one another. In contrast bipolaris blight caused by *Bipolaris cactivora* (formerly *Drechslera cactivora*), which could lead to smudged, round, black sunken lesions on phylloclades, which then rot and fall off the stems. Fungal infestation is generally promoted by high soil humidity and poor ventilation associated with higher temperatures of more than 28 °C (82 °F).

Infested plants should be destroyed. When treating with fungicides, rapid development of resistance must be taken into account and various preparations should be used alternately.

Bacterial infections by *Pectobacterium* (syn. *Erwinia*) *carotovorum* are rare. They are characterized by a soft rot generally starting at the soil line, which becomes mushy red. Treatment is not possible. The same applies to virus infections, which usually do not destroy the plants.

Since the 1990s *Schlumbergera* in North America and Europe have mainly suffered from Tospoviruses (Tomato Spotted Wilt Virus, TSWV and Impatiens Necrotic Spot Virus INSV of the family Bunyaviridae), which are transmitted as vectors by various thrips species. The infection is manifested in particular by sunken chlorotic lesions, chlorosis, ring spots and necrosis. A discoloration of the flowers has also been observed in *Schlumbergera orssichiana*. Control of biting and sucking insects and mites as well as hygiene when making cuttings (careful twisting of phylloclades or use of heat-sterilized knives) are the only possibilities to avoid virus distribution.
Schlumbergera and *Rhipsalidopsis* can also be asymptomatically infected!
Mites of the genus *Brevipalpus*, especially *B. russulus*, vernacularly named "flat mites" or "false spider mites" and not to be confused with the common spider mites (genus *Tetranychus*) are little noticed, but obviously widespread. In contrast to the latter, *Brevipalpus* species do not produce webs. The damages are varied and include chlorosis, sometimes accompanied by

reddish spots or discolorations, soft rot and falling apart of the phylloclades. In addition, these pests are important vectors of plant viruses.
As in other cactus groups plants can often be attacked by mealy bugs. Spider mites on the other hand are of little importance.

Recommended literature

Books:

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MCMILLAN, A.J.S. & HOROBIN, J.F. 1995: Christmas Cacti: The genus *Schlumbergera* and its hybrids. – Succulent Plant Research **4**. 160 p.

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MEIER, E. 1995: Easter cacti (*Rhipsalidopsis*; Cactaceae). – Haseltonia **3**: 10–24.

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DORSCH, R. & TROPPER, R.: Dolly *Köllis* Aufzeichnungen über ihre Arbeiten mit Schlumbergera. – https://www.epig.org/Aktuelles/Schlumbergera hybrids Dolly Kölli notes (31.07.2018).

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Die Gattungen *Schlumbergera* und *Rhipsalidopsis*

Geschichte

Bis ca. 1808 war die damalige portugiesische Kolonie Brasilien von der Außenwelt isoliert. Nur wenig drang nach außen. Flora und Fauna waren nahezu unbekannt und unerforscht. Erst mit der Flucht des portugiesischen Hofes 1807 vor den napoleonischen Kriegen nach Brasilien begann sich dies zu ändern. Vorwiegend europäische Forschungsreisende ließen unsere Kenntnisse über die Pflanzenwelt Brasiliens rasch anwachsen. Eine dieser Pflanzen, die zu Beginn des 19. Jahrhunderts entdeckt und beschrieben wurden, war 1819 *Epiphyllum truncatum*, die heutige *Schlumbergera truncata*. 1839 folgten *Epiphyllum russellianum* = *Schlumbergera russelliana*, 1890 *Cereus microsphaericus* = *Schlumbergera microsphaerica* (non *Cereus obtusangulus* = *Schlumbergera obtusangula*) und 1905 *Epiphyllum opuntioides* = *Schlumbergera opuntioides*. Nach über 70 Jahren wurden dann 1978 *Schlumbergera orssichiana* und 1991 *S. kautskyi* beschrieben.

1858 schuf Charles Lemaire die Gattung *Schlumbergera*, benannt nach dem französischen Kakteensammler Frédéric Schlumberger und stellte als einzige Art *Schlumbergera epiphylloides*, die heutige *S. russelliana* in diese Gattung. 1890 schuf Karl Schumann die Gattung *Zygocactus* für *Epiphyllum truncatum*, da diese Art zygomorphe Blüten hat, *Schlumbergera russelliana* hingegen radiärsymetrische. Alwin Berger schuf 1905 noch die Gattung *Epiphyllanthus*, da er der Ansicht war, dass die Areolen auf den Trieben einiger Taxa dies notwendig machen würde. 1913 überführten Nathaniel Britton und Joseph Rose *Epiphyllum russellianum* in die Gattung *Schlumbergera*, 1953 kombinierte Reid Moran *Epiphyllum truncatum* zu *Schlumbergera truncata*, 1969 David Hunt *Epiphyllum opuntioides* zu *Schlumbergera opuntioides*, und schließlich 1992 P. V. Heath *Cereus microsphaericus* zu *Schlumbergera microsphaerica*.

Bereits 1884 beschrieb Eduard von Regel *Epiphyllum russellianum* var. *gaertneri*, ein Taxon, das 1889 in

Artrang erhoben und 1913 von Britton & Rose zu *Schlumbergera* umkombiniert wurde. 1925 als *Rhipsalis*, 1929 zu *Epiphyllopsis* (Alwin Berger), 1953 von Moran zu *Rhipsalidopsis* und schließlich 1987 von Wilhelm Barthlott zu *Hatiora* kombiniert, blieb die Zuordnung dieser Art lange Zeit unklar. DNA-Untersuchungen von ALICE CALVENTE & al. (2011) und NADJA KOROTKOVA & al. (2011) brachten keine eindeutigen Ergebnisse. CALVENTE & al. plädieren für ein erweitertes Genus *Schlumbergera* (*Schlumbergera* sensu lato), das *Hatiora* (teilweise) und *Rhipsalidopsis* mit einschließt. KOROTKOVA & al. dagegen erkennen *Rhipsalidopsis* als Gattung wieder an.

Gleiches gilt für *Hatiora epiphylloides* und deren Unterart *bradei*. Es erfolgte daher von CALVENTE & al. (2011) die Umkombination zu *Schlumbergera lutea* und *Schlumbergera lutea* subsp. *bradei*. Korotkova & al. haben zwar die gleichen molekularen Befunde zu dieser Art wie CALVENTE & al., plädieren aber zunächst für eine Beibehaltung der alten Zuordnung wegen der von *Schlumbergera* sensu stricto abweichenden Blütenmorphologie.

Die 1912 beschriebene *Rhipsalis rosea* wurde als einzige Art 1923 von Britton & Rose in die Gattung *Rhipsalidopsis* gestellt, bevor sie Wilhelm Barthlott 1987 zu *Hatiora* überführte. Die DNA-Untersuchungen von CALVENTE & al. und KOROTKOVA & al. haben die gleichen Ergebnisse wie bei *Epiphyllum russellianum* var. *gaertneri* ergeben. Ihrer Logik folgend haben CALVENTE & al. die Art zu *Schlumbergera rosea* umkombiniert, während KOROTKOVA & al. sie als *Rhipsalidopsis rosea* ansprechen.

Für die hier vorgelegte Liste wird folgende Taxonomie zugrunde gelegt:

Schlumbergera
- *Schlumbergera kautskyi*
- *Schlumbergera lutea* subsp. *lutea*
- *Schlumbergera lutea* subsp. *bradei*
- *Schlumbergera microsphaerica*
- *Schlumbergera opuntioides*
- *Schlumbergera orssichiana*
- *Schlumbergera russelliana*
- *Schlumbergera truncata*

Rhipsalidopsis
- *Rhipsalidopsis gaertneri*
- *Rhipsalidopsis rosea*

Hatiora
- *Hatiora cylindrica*
- *Hatiora herminiae*
- *Hatiora salicornioides*

Vorkommen

Die Taxa der Gattungen *Schlumbergera* und *Rhipsalidopsis* kommen ausschließlich in Brasilien vor. Ihr Vorkommen ist auf den heute nur noch in Rudimenten vorhandenen atlantischen Küstenbergwald (Mata Altlântica) beschränkt. Hier wachsen die Pflanzen epiphytisch im Floresta Ombrófila Densa, einem feuchten, dauergrünen Wald in Höhen zwischen 400 und 2400 m. Nur *Schlumbergera microsphaerica* wächst meist lithophytisch in einer offenen Hochgebirgslandschaft (Campo de Altitude) in Höhen zwischen 2400 und 2700 m. Die Verbreitung von *Schlumbergera* und *Rhipsalidopsis* erstreckt sich in dem Serra do Mar genannten Gebirge über die brasilianischen Bundestaaten Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Rio de Janeiro, Espírito Santo und Minas Gerais über ca. 1000 km.

Hybridisierung

Alle Taxa der Gattung *Schlumbergera* blühen einheitlich purpurfarben, außer *S. lutea*, die gelb blüht. Auch *S. truncata* bildet eine Ausnahme. Am natürlichen Fundort kommen Pflanzen mit orangeroten, rosa, roten, purpurnen und sogar weißen Blüten vor. Schon bald nach der Einführung dieser Art im Jahre 1818 wurden hiermit die ersten Kreuzungen durchgeführt und um die Mitte des 19. Jahrhunderts existierte bereits eine beträchtliche Anzahl kultivierter Sorten. 1839 gelangte *S. russelliana* nach Europa und wurde kurze Zeit später von Wilbraham Buckley zur Züchtung verwendet. Die Kreuzungen *S. russelliana* × *S. truncata* wurden dann von Moore 1852 als *Epiphyllum buckleyi* beschrieben. Sie sind heute als *Schlumbergera* × *buckleyi* oder allgemein als „Weihnachtskakteen“ bekannt und erfreuten sich in England besonders in der Viktorianischen Zeit allgemeiner Beliebtheit.

Mit dem Beginn des 20. Jahrhunderts endete das Interesse an den *Schlumbergera*-Kultivaren. Erst nach 1960 begannen einzelne Züchter, sich wieder mit der Hybridisierung zu befassen, so z.B. in Deutschland Alfred Gräser und ab den 1980er Jahren Joyce Carr in Australien mit ihrer „Liberty-Serie“. Besonders aber engagierten sich ab ca. 1980 große Gärtnereien und bemühten sich, kräftige und aufrecht wachsende statt der von Natur aus hängenden Pflanzen mit neuen Blütenfarben und Blütenformen zu züchten. In den USA waren dies vor allem B. L. Cobia Inc. in Winter Garden (Orlando, Florida). Ihr Züchtungskonzept waren Hybriden mit polyploiden (mehrfachen), bis zu achtfachen Chromosomensätzen, mit denen sie z.T. spektakuläre Züchtungen erzielten, die sie dann, patentiert, in den 1980er Jahren als „Cobia Collector Series“ auf den Markt brachten. Hierzu gehörte auch die erste gelbblühende *S. truncata*-Sorte ‘Gold Charm’.

Schlumbergera wurden schließlich auch im kommerziellen Gartenbau interessant. Insbesondere zu Thanksgiving werden heutzutage in den USA Millionen kleiner blühender Pflanzen von *S. truncata*-Kultivare verkauft und auch in Europa werden sie im Spätherbst und um die Weihnachtszeit in großen Mengen angeboten. Um diesen riesigen Bedarf zu decken, haben sich mehrere Großgärtnereien auf die Produktion spezialisiert. Dies sind in erster Linie de Vries in den Niederlanden sowie Rohde, Thoruplund und vor allem Madsen in Dänemark. Heute sind *S. truncata*-Kultivare und Auslesen aus dem Angebot von Gärtnereien und Gartencentern nicht mehr wegzudenken.

Die Entdeckung der *Schlumbergera orssichiana* und die Nutzung dieser Art als Kreuzungspartner erhöhte die Variabilität der Kultivare enorm. Die ersten Kreuzungen
S. orssichiana × *S. truncata* wurden in Brasilien von Gräfin Beatrix Orssich aus Teresópolis, Brasilien durchgeführt, die ihre Züchtungen als „Queens“ bezeichnete, weshalb diese Kreuzungen den Nothospecies-Namen
S. × reginae erhielten. Weitere Züchter dieser Sorten in den 1980er Jahren waren A.J.S. McMillan in England und vor allem Dolly Kölli in den USA. *S. × reginae*-Kultivare haben aber trotz ihrer eindrucksvollen Blüten nie die wirtschaftliche Bedeutung der oben beschriebenen *S. truncata*-Sorten erzielt.

Schlumbergera opuntioides, *S. kautskyi* und *S. microsphaerica* spielen als Kreuzungspartner hingegen bisher keine oder nur eine untergeordnete Rolle. Bei den beiden letztgenannten Arten kommt erschwerend hinzu, dass sie selbstfertil sind und Kreuzungen deshalb nur selten erfolgreich sind. *S. lutea* spielt bei der Hybridisierung keine Rolle. Bislang wurden folgende interspezifische Hybriden mit Nothospecies-Namen versehen, die auch verwendet werden können, wenn die Kreuzung in umgekehrter Richtung durchgeführt wird:

Schlumbergera × buckleyi = *S. russelliana* × *S. truncata*
Schlumbergera × *eprica* = *S. orssichiana* × *S. russelliana*
Schlumbergera × *exotica* = *S. truncata* × *S. opuntioides*
Schlumbergera × *reginae* = *S. truncata* × *S. orssichiana*

Während also *Schlumbergera*- Kultivare in großer Zahl existieren, begann man erst recht spät mit der Hybridisierung von *Rhipsalidopsis* und die Anzahl der Züchtungen blieb bisher deutlich geringer. Dies mag z. T. daran liegen, dass nur zwei Ausgangsarten, *R. gaertneri* und *R. rosea*, zur Verfügung stehen, deren Naturformen zudem farblich ziemlich einheitlich sind, im Gegensatz zur farblichen Variationsbreite von *Schlumbergera truncata*. Mit *Schlumbergera* lässt sich *Rhipsalidopsis* auch unter natürlichen Verhältnissen nicht hybridisieren.

Es war Alfred Gräser aus Nürnberg, der 1932 erstmals *R. gaertneri* und *R. rosea* kreuzte. Diese Hybride wurde 1939 (Kakteenkunde 1939, S. 10) von Werdermann als *Rhipsalis × graeseri* beschrieben und 1953 von Moran zu *Rhipsalidopsis × graeseri* umkombiniert. Der Name *R. × graeseri* gilt für Kreuzungen in beiden Richtungen, d. h. gleich welche Pflanze als Mutterpflanze oder Pollenspender fungiert.

In den 1960er Jahren war es Harry Johnson von Johnson Cactus Gardens in Kalifornien, der einige berühmt gewordene Sorten gezüchtet hat, wie ‘Crimson Giant’ oder ‘China Pink’. Auch B. L. Cobia beschäftigten sich neben der Züchtung von *Schlumbergera* Kultivaren mit der Hybridisierung von *Rhipsalidopsis*. In England produzierten Abbey Brook Nurseries einige beachtenswerte *Rhipsalidopsis*-Sorten (z.B. ‘Easter Wedding’) ebenso wie auch japanische Züchter (z.B. die zweifarbige ‘Parnell’). Besondere Erwähnung gebührt Andrew Savio in Australien, dem es (vermutlich durch induzierte Mutation) gelang, Sorten mit gefüllten Blüten zu züchten, z.B. seine berühmte ‘New Double’.

Im „Fahrwasser“ der winterblühenden *Schlumbergera*- Kultivare gewannen sehr schnell auch die *Rhipsalidopsis*-Sorten als Frühjahrsblüher oder „Osterkakteen“ an Popularität und werden heute in Massen und parallel zu den *Schlumbergera*-Sorten von den vorher schon genannten europäischen Großgärtnereien de Vries, Rohde, Thoruplund und Madsen produziert. So stehen heute *Rhipsalidopsis*-Sorten zur Verfügung, die in den Farben weiß, orange, rosa, rot und purpurn blühen, nur nicht in reinem gelb, dafür aber zweifarbig und mit hellem oder dunklem Mittelstreifen auf den Blütenblättern. Auch auf einen kräftigen und aufrechten Wuchs der Pflanzen wird Wert gelegt, so dass sie, ebenso wie die neuen *Schlumbergera*-Sorten, nicht als Ampelpflanzen kultiviert werden müssen.

Die Massenproduktion macht die neuen *Schlumbergera*- und *Rhipsalidopsis*-Züchtungen preislich erschwinglich, aber als Massenware werden sie vom „Verbraucher“ in den meisten Fällen nach der Blüte „entsorgt“ und nicht weiter kultiviert. Für den Gärtner lohnt es sich damit auch nicht mehr, die Pflanzen mit Etikett und Sortennamen zu verkaufen. Damit verschwinden auch die schönsten neuen Züchtungen in der Anonymität. Möge dieses Register dazu beitragen, die Pflanzen aus ihrer Namenlosigkeit herauszuholen und ihnen den Platz in unseren Sammlungen zuzuweisen, der ihnen zusteht!

Kultur

Da sowohl *Schlumbergera* als auch *Rhipsalidopsis* epiphytisch wachsen, empfiehlt sich eine Kultur in Hängetöpfen. Das Substrat sollte gut wasserdurchlässig sein, so dass keine stehende Feuchtigkeit entsteht. Gut bewährt hat sich hier eine Mischung aus humoser Kakteenerde und einem feinen Orchideensubstrat. Substrate mit 50 % und mehr mineralischen Bestandteilen (Bims/Perlite/Vermiculite) können ebenfalls verwendet werden. Auch die Kultur auf Gießtöpfen hat sich bewährt, da zum einen immer eine gewisse Feuchtigkeit vorhanden ist, zum anderen durch die Verdunstungskälte eine Absenkung der Temperaturen im Wurzelbereich erfolgt, was insbesondere bei hohen Temperaturen für das Wachstum förderlich ist. Sehr wichtig ist aber, dass die Pflanzen nicht der prallen Sonne ausgesetzt sind und ausreichend Frischluft erhalten. Die Kultur in einem heißen und trockenen Gewächshaus führt meist zum schnellen Tod der Pflanzen. Besonders *Schlumbergera lutea*, *S. microsphaerica*,

S. opuntioides und *S. russelliana* tolerieren Temperaturen über 28 °C (82 °F) nur für kurze Zeit. Deshalb empfiehlt es sich, diese Arten eventuell gepfropft auf z. B. *Selenicereus* zu kultivieren. Auch im Winter benötigen alle Taxa, wenn auch reduzierte, Wassergaben.

In Brasilien werden *Schlumbergera truncata* und ihre Kultivare Flor de Maio (Blüte im Mai), wegen der dortigen Blütezeit im brasilianischen Frühwinter, genannt. Die *S.* × *buckleyi* Hybriden (*S. truncata* × *S. russelliana* in beiden Richtungen) werden in Europa (oder in England) typischerweise als Christmas Cactus und die *S. truncata*-Sorten in den USA meist als Thanksgiving Cactus bezeichnet. Die Blütezeit von *Rhipsalidopsis gaertneri* liegt auf der Nordhalbkugel im April/Mai was zu der Bezeichnung Osterkaktus geführt hat.

Krankheiten

Die häufigsten Krankheiten bei *Schlumbergera* und *Rhipsalidopsis* werden durch Pilze verursacht. Bakterielle Infektionen sind selten. Virale Infektionen sind meist nicht zerstörend, aber schwächen die Pflanzen und führen zu unschöner Fleckenbildung. In neuerer Zeit sind Milben der Gattung *Brevipalpus* als wichtige zerstörende Krankheitserreger identifiziert worden.

Wichtigster pilzlicher Erreger für *Schlumbergera* und *Rhipsalidopsis* ist *Fusarium oxysporum*, das weltweit mit über 100 verschiedenen Formen im Boden vorkommt. Die Erreger befallen die Wurzeln, den Stamm und schließlich auch die Phyllokladien mit weicher und geschwüriger Fäulnis. Zu hiervon kaum zu unterscheidenden klinischen Bildern führen Infektionen durch *Pythium* spec. und *Phytophthora*, insbesondere *P. nicotianae*. Dagegen verursacht die *Bipolaris* Fäule, hervorgerufen hauptsächlich durch *Bipolaris cactivora* (früher *Drechslera cactivora*) unscharf begrenzte runde, schwarze und zentral eingesunkene Läsionen auf den Phyllokladien, die dann faulen und von den Trieben abfallen. Pilzbefall wird allgemein gefördert durch hohe Luft- und Bodenfeuchtigkeit bei schlechter Belüftung und höheren Temperaturen (> 28 °C/82 °F). Befallene Pflanzen sollten vernichtet werden. Bei der Behandlung mit Fungiziden ist eine schnelle Resistenzentwicklung zu berücksichtigen und verschiedene Präparate sollten abwechselnd eingesetzt werden.

Bakterielle Infektionen durch *Pectobacterium* (syn. *Erwinia*) *carotovorum* sind selten. Sie sind gekennzeichnet durch eine weiche, breiige Fäulnis beginnend an den basalen Phyllokladien. Eine Behandlung ist nicht möglich. Gleiches gilt für Virus Infektionen, die allerdings meist die Pflanzen nicht zerstören. Bei *Schlumbergera* wurden in Nordamerika und Europa seit den 1990er Jahren vor allem Tospoviren (Tomato Spotted Wilt Virus, TSWV und Impatiens Necrotic Spot Virus, INSV, Familie Bunyaviridae) nachgewiesen, die durch verschiedene Thrips-Arten als Vektoren übertragen werden. Die Infektion äußert sich insbesondere durch eingesunkene chlorotische Läsionen, gelbliche Flecken, ringförmige Flecken. Auch eine Entfärbung der Blüten ist z. B. bei *Schlumbergera orssichiana* beobachtet worden. Bekämpfung beißender und saugender Insekten und Milben sowie – prophylaktisch – Hygiene bei der Entnahme von Stecklingen (vorsichtiges Abdrehen der Phyllokladien oder Gebrauch hitzedesinfizierter Messer) zur Vermeidung der Virusverbreitung sind die einzigen Möglichkeiten der Bekämpfung. *Schlumbergera* und *Rhipsalidopsis* können aber auch asymptomatisch infiziert sein!

Wenig beachtet, aber offensichtlich weit verbreitet sind Milben der Gattung *Brevipalpus*, vor allem *B. russulus*, umgangssprachlich als “Flachmilben” oder “Falsche Spinnmilben” bezeichnet und nicht zu verwechseln mit der gewöhnlichen Spinnmilbe (Gattung *Tetranychus*). Im Gegensatz zu letzteren produzieren *Brevipalpus*-Arten kein Gespinst. Die Schädigungen sind sehr vielgestaltig und beinhalten Chlorosen, manchmal begleitet von rötlichen Flecken oder Verfärbungen, leichter Fäulnis und dem Zerfallen der Phyllokladien. Darüber hinaus sind diese Schädlinge wichtige Vektoren von Pflanzenviren.

Wie auch die anderen Kakteengruppen können die Pflanzen nicht selten von Schmierläusen befallen werden. Spinnmilben haben dagegen keine Bedeutung.

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Species Classification

SCHLUMBERGERA
Schlumbergera* subgenus *Schlumbergera
Schlumbergera russelliana
Schlumbergera* subgenus *Zygocactus
Schlumbergera kautskyi
Schlumbergera orssichiana
Schlumbergera truncata
Schlumbergera* subgenus *Epiphyllanthus
Schlumbergera microsphaerica
Schlumbergera opuntioides
Schlumbergera* subgenus *Pseudozygocactus
Schlumbergera lutea subsp. *lutea*
Schlumbergera lutea subsp. *bradei*
***Schlumbergera* hybrids**
Schlumbergera × buckleyi
Schlumbergera × eprica
Schlumbergera × exotica
Schlumbergera × reginae

RHIPSALIDOPSIS
Rhipsalidopsis gaertneri
Rhipsalidopsis rosea
Rhipsalidopsis × graeseri

HATIORA
Hatiora cylindrica
Hatiora herminiae
Hatiora salicornioides

Schlumbergera kautskyi – (K). Brazil (Espírito Santo, Minas Gerais), in altitudes above 1200 m. Phylloclades flattened, 4 cm long and 2.5 cm wide, apical and marginal with forward pointing teeth. Flowers with a well-developed perianth-tube, zygomorphic, up to 5 cm long, fuchsia-pink, self-fertile. Fruits elongated, greenish, ribbed. Flowering period in northern hemisphere: September to November.

Schlumbergera lutea* subsp. *lutea – Brazil (Rio do Janeiro), in altitudes between 800 and 1500 m elevation. Phylloclades flattened, 2.5 cm long and 1 cm wide, crenate in form. Flowers broadly funnel form, brilliant yellow, possibly self-fertile (data not yet sufficient). Fruits spherical, greenish, angled. Flowering period in northern hemisphere: March to May.

Schlumbergera lutea* subsp. *bradei – Brazil (Rio do Janeiro), in areas above 800 m elevation. Phylloclades flattened, 1.5 cm long and 1 cm wide, narrower than subsp. *lutea*, club-shaped. Flowers broadly funnel form, brilliant yellow, possibly self-sterile (data not yet sufficient). Fruits spherical, greenish, angled. Flowering period in northern hemisphere: March to May.

Schlumbergera microsphaerica – (M). Brazil (Minas Gerais, Rio de Janeiro), known only from two disjunct locations in the states of Minas Gerais and Rio de Janeiro above 2400 m elevation. Phylloclades cylindrical, 4 cm long and 0.5 cm diameter, with few, spined areoles. Flowers with a well-developed perianth-tube, zygomorphic, up to 4 cm long, solid fuchsia pink with little recurve, self-fertile. Fruits spherical, greenish, angled. Flowering period in northern hemisphere: April to May.

Schlumbergera opuntioides – (Op). Brazil (Minas Gerais, Rio de Janeiro, São Paulo) in altitudes between 1600 and 2300 m elevation. Phylloclades flattened, pad-like similar to an *Opuntia*, 7 cm long and 3 cm wide, with some areoles and spines on it. Flowers with a well-developed perianth-tube, zygomorphic, up to 6 cm long, solid fuchsia pink with little recurve, self-sterile. Fruits spherical, greenish, angled. Flowering period in northern hemisphere: February to March.

Schlumbergera orssichiana – (O). Brazil. (Rio de Janeiro). Phylloclades flattened, 7.5 cm long and 4.5 cm wide, apical and marginal with forward pointing teeth. Flowers with a well-developed perianth-tube, slightly zygomorphic, up to 9 cm long, pinkish, self-sterile. Fruits elongated, yellow-green to crème, ribbed. The exact location of the type-collection remained unknown for a long time. Some years ago, it was rediscovered in the state of Rio de Janeiro at an altitude of about 350 m, about 70 km apart from the putative location. Flowering period in northern hemisphere: September to October.

Schlumbergera russelliana – (R). Brazil (Rio de Janeiro) in altitudes above 1700 m. Phylloclades flattened, 3.5 cm long and 2 cm broad, apical and marginal no teeth, with one or two areoles per side. Flowers with a well-developed perianth-tube, radially symmetrical, up to 5 cm long, pendant, solid fuchsia pink, self-sterile. Fruits spherical, greenish, ribbed. Flowering period in northern hemisphere: February to March.

Schlumbergera truncata – (T). Brazil (Rio de Janeiro), in altitudes between 250 and 1300 m elevation. Phylloclades flattened, 6 cm long and 3.5 cm wide, apical and marginal with forward pointing teeth. Flowers with a well-developed perianth-tube, zygomorphic, up to 7 cm long, white, rose, red or purple with all intermediates, self-sterile. Fruit pear-shaped; pinkish to reddish, not ribbed. Flowering period in northern hemisphere: October to November.

Rhipsalidopsis gaertneri – Brazil (Rio Grande do Sul, Santa Catarina, Paraná) in altitudes between 350 and

1300 m elevation. Phylloclades flattened, 7 cm long and 2.5 cm wide, apical with brownish bristles. Flowers broadly funnel form, radially symmetrical, up to 5 cm long, scarlet, self-fertile. Fruits flattened spherical, reddish, ribbed. Flowering period in northern hemisphere: March to May.

Rhipsalidopsis rosea – Brazil (Rio Grande do Sul, Santa Catarina, Paraná) in altitudes above 800 m elevation. Phylloclades flattened, 4 cm long and 2 cm wide, apical and marginal with fine, brown bristles. Flowers broadly funnel form, radially symmetrical, up to 4 cm long, pinkish, self-fertile. Fruits flattened spherical, yellowish, ribbed. Flowering period in northern hemisphere: March to May.

Hatiora cylindrica – Brazil. (Bahia, Minas Gerais, Rio de Janeiro, São Paulo) lithophytic or terrestric at an elevation of sea level to 1200 m. Similar to *Hatiora salicornioides* but with sometimes red edges. The stem segments are cylindrical and not bottle shaped like in *H. salicornioides*. The fruit is whitish to purple. Flowering period in northern hemisphere: January to April.

Hatiora herminiae – Brazil. (Minas Gerais (?) and São Paulo), epiphytic in the cloud forests of the Serra da Mantiqueira, at elevations from 1750–2050 m. Growth habit is erect to pendent, up to 50 cm. Cylindrical stem segments are a grey-green that can turn purple tinged in full sun, 5 cm in length and 0.5 cm in diameter. Attractive pink to violet-pink flowers have brilliant orange stigmas extending slightly past the flower apex. The 2 cm long and 2.5 cm wide flowers are self-fertile. Fruit whitish. Flowering period in northern hemisphere: January to April.

Hatiora salicornioides – Brazil. (Bahia, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Paraná) from near sea-level to 1850 m. Erect or pendent, eventually woody, segments clavate, 1.5–5 cm × 3–5 mm, typically with neck at base and resembling inverted bottles, in some forms ±cylindric to globose. Flowers terminal or apical, up to 13 × 10 mm, yellow to orange; inner tepals erect to incurved, hiding the stamens; fruit globose, ca. 5 mm, white to pale purple. Flowering period in northern hemisphere: January to April.

List of Synonyms (in chronological order)

Schlumbergera kautskyi **(Horobin & McMillan) N. P. Taylor (1991)**
- *Schlumbergera truncata* subsp. *kautskyi* Horobin & McMillan (1991)

Schlumbergera lutea **subsp. *lutea* Zappi & Calvente (2011)**
- *Rhipsalis epiphylloides* var. *epiphylloides* Campos-Porto & Werdermann (1935)
- *Pseudozygocactus epiphylloides* var. *epiphylloides* (Campos-Porto & Werdermann) Backeberg (1941)
- *Hariota epiphylloides* var. *epiphylloides* (Campos-Porto & Werdermann) Porto & Castellanos (1941)
- *Hatiora epiphylloides* var. *epiphylloides* (Campos-Porto & Werdermann) P. V. Heath (1983)
- *Pseudozygocactus epiphylloides* subsp. *epiphylloides* (Campos-Porto & Werdermann) Doweld (2002)

Schlumbergera lutea **subsp. *bradei* Zappi & Calvente (2011)**
- *Hariota epiphylloides* var. *bradei* Campos-Porto & Castellanos (1941)
- *Pseudozygocactus epiphylloides* var. *bradei* (Porto & Werdermann) Backeberg (1941)
- *Hatiora epiphylloides* f. *bradei* (Campos-Porto & Castellanos) P. V. Heath (1982)
- *Hariota epiphylloides* f. *bradei* (Campos-Porto & Castellanos) P. V. Heath (1992)
- *Hatiora epiphylloides* subsp. *bradei* (Campos-Porto & Castellanos) Barthlott & N. P. Taylor (1995)
- *Rhipsalis epiphylloides* var. *bradei* (Campos-Porto & Castellanos) Kimnach (1996)
- *Pseudozygocactus epiphylloides* subsp. *bradei* (Campos-Porto & Werdermann) Doweld (2002)

Schlumbergera microsphaerica **(K. Schumann) P. V. Heath (1992)**
- *Cereus microsphaericus* K. Schumann (1890)
- *Cereus obtusangulus* K. Schumann (1890)
- *Epiphyllanthus obtusangulus* A. Berger (1905)
- *Zygocactus candidus* Loefgren (1918)
- *Zygocactus obtusangulus* (K. Schumann) Loefgren (1918)
- *Epiphyllanthus candidus* (Loefgren) Britton & Rose (1923)
- *Epiphyllanthus microsphaericus* (K. Schumann) Britton & Rose (1923)
- *Zygocactus microsphaericus* (K. Schumann) Buxbaum (1957)
- *Schlumbergera obtusangula* (K. Schumann) D. R. Hunt (1969)
- *Schlumbergera candida* (Loefgren) Hövel (1970)
- *Schlumbergera microsphaerica* f. *obtusangula* (K. Schumann) P. V. Heath (1992)
- *Schlumbergera microsphaerica* f. *parvula* (K. Schumann) P. V. Heath (1992)
- *Schlumbergera microsphaerica* subsp. *candida* (Loefgren) D. R. Hunt (1995)

Schlumbergera opuntioides **(Loefgren & Dusén) D. R. Hunt (1969)**

- *Epiphyllum opuntioides* Loefgren & Dusén (1905)
- *Zygocactus opuntioides* (Loefgren & Dusén) Loefgren (1918)
- *Epiphyllanthus obovatus* (Engelmann ex K. Schumann) Britton & Rose (1923)
- *Epiphyllanthus opuntioides* (Loefgren & Dusén) Moran (1953)

***Schlumbergera orssichiana* Barthlott & McMillan (1978)**

***Schlumbergera russelliana* (Hooker) Britton & Rose (1913)**

- *Epiphyllum russellianum* Hooker (1839)
- *Cereus russellianus* Gardner ex Hooker (1839)
- *Phyllocactus russellianus* (Hooker) Salm-Dyck (1845)

***Schlumbergera truncata* (Haworth) Moran (1953)**

- *Epiphyllum truncatum* Haworth (1819)
- *Cereus truncatus* (Haworth) Sweet (1826)
- *Epiphyllum altensteinii* Pfeiffer (1837)
- *Epiphyllum truncatum altensteinii* (Pfeiffer) Lemaire (1839)
- *Epiphyllum purpurascens* Lemaire (1841)
- *Epiphyllum ruckeri* Paxton (1846)
- *Zygocactus altensteinii* (Pfeiffer) K. Schumann (1890)
- *Zygocactus truncatus* (Haworth) K. Schumann (1890)
- *Epiphyllum delicatum* E. Brown (1902)
- *Zygocactus delicatus* (N. E. Brown) Britton & Rose (1913)
- *Epiphyllum truncatum var. wagneri* Roland-Gosselin ex Guillaumin (1932)
- *Zygocactus truncatus altensteinii* (Pfeiffer) Borg (1937)
- *Zygocactus truncatus delicatus (*N. E. Brown) Borg (1937)
- *Schlumbergera truncata altensteinii* (Pfeiffer) Moran (1953)
- *Schlumbergera truncata candida* (N. E. Brown) Moran (1953)

***Rhipsalidopsis rosea* (Lagerheim) Britton & Rose (1923)**

- *Rhipsalis rosea* Lagerheim (1912)
- *Hatiora rosea* (Lagerheim) Barthlott (1987)
- *Rhipsalidopsis rosea* var. *riograndensis* Prestlé (1991)
- *Schlumbergera rosea* (Lagerheim) Calvente & Zappi (2011)

***Rhipsalidopsis gaertneri* (Regel) Linding (1942)**

- *Epiphyllum russellianum* var. *gaertneri* Regel (1884)
- *Epiphyllum gaertneri* (Regel) Robinson (1889)
- *Schlumbergera gaertneri* (Regel) Britton & Rose (1913)
- *Rhipsalis gaertneri* (Regel) Vaupel (1926)
- *Epiphyllopsis gaertneri* (Regel) A. Berger (1929)
- *Rhipsalidopsis serrata* Linding (1942)
- *Epiphyllopsis gaertneri* var. *tiburtii* Backeberg & Voll (1950)
- *Rhipsalidopsis gaertneri* var. *tiburtii* (Backeberg & Voll) Moran (1953)
- *Epiphyllopsis gaertneri* var. *serrata* (Linding) Backeberg (1959)
- *Hatiora gaertneri* (Regel) Barthlott (1987)

Intergeneric Hybrids

× ***Hatbergera*** Süpplie (2004) – *Hatiora* × *Schlumbergera*.

× ***Rhipsatiora astra*** Urano (2022): *Rhipsalis cereuscula* × *Hatiora salicornioides.*

× ***Schlumbergeranthus*** Doweld (2003) – *Epiphyllanthus* × *Schlumbergera*.

× ***Schlumbergopsis*** P. V. Heath (1992) – *Rhipsalidopsis* × *Schlumbergera*.

Dubious Intergeneric Hybrids

Intergenus crosses may not be that, but the result of flowers being tricked into acceptance of self-pollen, due to the presence of foreign pollen of botanical species. Most species and cultivars of *Schlumbergera* normally reject their own pollen with the exception of *S. kautskyi* and *S. microsphaerica*. The latter two are known to be self-fertile. Some of the *S. kautskyi* hybrids have proven to be self-fertile like the species parent.

× ***Schlumisocactus*** Süpplie (2000) – *Schlumbergera* × *Disocactus macranthus*. Several of Joyce Carr's hybrids are described as an intergeneric cross between *Disocactus* and *Schlumbergera*. The legitimacy of this being a true hybrid has yet to be validated.

× ***Schlumbephyllum*** Süpplie (2000) – *Schlumbergera* × *Epiphyllum*. There are some hybrids described as being a cross between an *Epiphyllum* hybrid and *Schlumbergera*. The legitimacy of this being a true hybrid has yet to be validated.

× ***Schlumbergolychnia*** D.R. Hunt (1978) – *Schlumbergera* × *Eulychnia*. It seems to be a fictionary name.

Historical Clonal Descriptions of Species

Until a few years ago, only few clones of secured plant material of botanical species were available. Since these are well known and documented, they will be briefly introduced here.

Schlumbergera orssichiana – (O)

Dolly K3 – USA. Jochen Bockemühl, named by Jochen Bockemühl and Ruud Tropper, 2016. (Popponesett KS22 × Jochen KS21W24). Dolly Kölli made the initial cross. The seed was germinated by Jochen Bockemühl in May 2014. When the seedling was one year old, it was raised by Ruud Tropper. Ref.: EPIG **77**: 9–11. (2016).

Eckhard KS25 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Highwood KS22W24 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Jochen KS21W24 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Mashpee KS21W5 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

New Seabury KS21W2 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Popponesset KS22 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Quashnet KS30 – USA. Dolly Kölli. (Wild Type I × Wild Type II).

Unnamed K1 – USA. Jochen Bockemühl. (Popponesset KS22 × Jochen KS21W24).

Unnamed K2 – USA. Jochen Bockemühl. (Popponesset KS22 × Jochen KS21W24).

Wild Type I – Brazil. Large, 9 cm by 9 cm slightly zygomorphic flowers have white center that suffuses to carmine tips, opening very wide. Color varies depending on the time of year bloom occurs. The short tube is white, with white filaments, deep yellow anthers and magenta style having 6–8 stigma lobes. Pericarpels are light green, c. 1.2 cm long and 5–6 angled, differing from the smooth pericarpels of *S. truncata*. Ripe fruit is yellow-green to white, whereas *S. truncata* has pink to reddish ripe fruit. Growth is close to *S. truncata*. Growth habit is very pendant with large, wavy phylloclades 5–7.5 cm long by 3.2–4.5 cm wide, with margins having 2–3 sharply pointed, sometimes curved dentations. Often an extra dentation appears near the apex of a segment. This trait is also evident in *S. orssichiana* hybrids. Distribution: Countess Beatrix Orssich received the plants from an orchid collector without precise locality. It was said that they were collected at the Morro dos Três Picos in the state of Rio de Janeiro. Mrs Orssich supplied the initial two wild forms from Brazil. These initial plants were grafted once they arrived in Europe. It is believed the rootstock was virused, which is where the issue of viral infection originated in the early specimens. Fortunately, the two forms were crossed and virus free seedlings produced.

Wild Type II – Brazil. Slightly smaller flower size. Coloration is the same as Wild Form I. Phylloclades are also similar differing only in being slightly smaller. All other characteristics identical.

Wild Type III – Probably same as Wild Type I. Heavily virused, smaller than Wild Type I. Could not be hybridized with Wild Type I.

Schlumbergera russelliana – (R)

Bachthalers Wildform – Brazil, PSNO above 1800 m. PSNO - Parque Nacional da Serra dos Orgãos (Organ Mountains National Park). Collected by Dr. Esser. Perianth is oblique suggesting this is an intermediate form (Horobin). There is said to be two forms of this russelliana.
Ref.: McM&H 1995: 34.

Bonn 4672 – Brazil. Bonn Botanical Garden, Germany.

Ehlers Form – Teresópolis, Brazil. Flower is pendant, small, solid fuchsia pink with recurve petals. Fruit is 4-angled, green and spherical. Phylloclades are very small and thick with two areoles per side. The base of the phylloclade is narrow and the apex is wide giving a triangular appearance. Also known as Small Form and Mrs Ehlers Small Form. Found in a deep ravine. May exist in two forms, one being larger.
Ref.: McM&H 1995: 36.

H Form (Heidelberg Form) – Brazil. Heidelberg Botanical Garden, Germany by a Mr Pauli, origin unknown. Nice healthy compact plant. Heidelberg 33160. Phylloclades are very wide and square in shape. Usually one, but sometimes two areoles per side. This form no longer exists in the Heidelberg Botanical Gardens.

Hunt 6484 – Abrigo II, Brazil, above 1500–1600 m. Flower color described by Horobin as RHS 71B, 5.8 × 3.5 cm with back petals 5 cm Stigma exerted 3 mm, anthers and pollen pink. Said to still be available. However, what is currently advertised does not match. Thomas H. Boyle used this species to create his *S. × buckleyi* remakes: Albert Loefgren and George Gardner. It is reported that Boyle also lost Hunt 6484. Collected by D. Hunt, Aug 03, 1966. Preserved at Kew Gardens, which distributed cuttings. Described as epiphytic growing in trees near a stream.
Ref.: McM&H 1995: 34.

Huntington No. 34533 – Brazil, PSNO at 2073 m (6800 feet) a few hundred feet below Pico de Açu. PSNO - Parque Nacional da Serra dos Orgãos (Organ Mountains National Park). Flower color is a uniform RHS 67B. Flower length 5 × 3.7 cm, corolla is regular with seven perianth segments 5 mm broad. Tube is self-colored, no ring, with stamens holding pink pollen. Style is 4.5 cm, stigma is rounded RHS 67A, pericarpel is greenish brown with four angles or ridges. Segments are small and slender. Not hardy. Collected by Dr. Fowlie in an orchid-hunting expedition. This specimen languished at Huntington Gardens. Said to be similar to the JFH Clone II collected in 1981. McMillan grafted a cutting in 1983, which flowered in March 1987.
Ref.: McM&H 1995: 34.

JFH Clone I – Brazil. Flower color RHS 67C. Flower length 5 cm, tube 3 cm Anthers and pollen are deep pink, style white at intersection to the ovary, then magenta from halfway up. Fruit is 4–5-angled or ridged and ripens greenish-yellow. Dark brown seeds are larger than *S. × buckleyi* or *S. truncata*. Stem segments are 1–3 cm × 1–1.5 cm, bright green with one, occasionally two areoles on each side. Growth habit branched and pendant. Collected by Hooker in 1839. Described by Tjaden in 1966 and presumed lost. Later tracked down by Horobin in 1983 to an estate garden greenhouse in Sussex, England.
Ref.: McM&H 1995: 34 & 36.

JFH Clone II – Brazil, PSNO at 2000 m. Flower is clear pink with fruit and seed similar to JHF Clone I. The differences are the stamens, style and pollen are a deep magenta. The style is white from the ovary and the color starts halfway up. Stigma shape differs by not being as knob-shaped and more like *S. × buckleyi*. Collected by Dr. G. Brasil in 1981 at 2000 m in the PSNO - Parque Nacional da Serra dos Orgãos (Organ Mountains National Park).
Ref.: McM&H 1995: 36.

South of Nova Friburgo Form – Brazil. Flower is solid fuchsia pink, lighter on the tube. Flower shape is symmetrical with recurve petals. Phylloclades are crenate and Buckleyi in form. An easier form to grow than many of the other clones. Russellianas are challenging at best and difficult to keep over time.

VDL – Vale da Luva, PSNO (Organ Mountains National Park), Brazil. Small, narrow phylloclades with two areoles per side.

Schlumbergera truncata (T)

A11 Clone – Flower is carmine-red with light-colored silvery tube.

Abendroth No. 2 – T/Mallow (Beetroot). Brazil. Adda Abendroth. Petals are a deep rose color, RHS 71B with white in the throat. Large flower. Illustrated in Ashingtonia **1**(12): 139. (1975).
Ref.: McM&H 1995: 101; Bockemühl, J. & Bauer, R. in EPIG **70**: 27. (2012).

Abendroth No. 4– TB/Carmine-red. England. Holly Gate Nursery. Flower is light red, RHS 54A with a whitish tube. Also known as Vivien.
Ref.: Bockemühl, J. & Bauer, R. in EPIG **70**: 27. (2012).

Abendroth No. 6 – T/Fuchsia. England. Holly Gate Nursery. Flower color is described as rose. This is also known as Tiefrosa, which is German for deep rose. It was grown from seed at Holly Gate Nursery. Considered a wild form *S. truncata*.
Ref.: Bockemühl, J. & Bauer, R. in EPIG **70**: 27. (2012); McM&H 1995: 101.

Abendroth No. 13 – TB/Mallow (Beetroot). England. Holly Gate Nursery. No data available. Also known as Jan. King or Jan. Beauty.
Ref.: McM&H 1995: 101 & 109.

Abendroth No. 14 – Dark to light red with white tube.
Ref.: Bockemühl, J. & Bauer, R. in EPIG **70**: 27. (2012).

Adda Abendroth – See Abendroth No. 2

Branco – Brazil. (NS) White flowered, possibly the same as *S. truncata delicata*.
Ref.: McM&H 1995: 104.

Espirito Santo Domingo – Brazil. Does not occur in Espírito Santo state. The name may have originated from Roberto Kautsky who lived in Domingos Martins, Espírito Santo. Flower is a carmine-pink shade.

Ox Clone – Same as Wald bei Teresópolis.

Ruckeri – T/Mallow (Beetroot). England. Paxton (1846). Early *truncata*. Flower is reddish-purple with a violet center.
Ref.: McM&H 1995: 95.

Serra do Mar – A clone collected from R. Thieken in Brazil. Exact location unknown, may be cultivated material. Deep magenta flowers.

Tiefrosa – See Abendroth No. 6.

Wald bei Teresópolis – From Beatrix Orssich collected in the surroundings of Teresópolis and given to Gertrud Bieri. Different clones numbered 1–4. All have orange flowers.
Ref.: Bockemühl, J. & Bauer, R. in EPIG **70**: 27. (2012).

Sources

Some sources from which *Schlumbergera*- and *Rhipsalidopsis*-hybrids as well as botanical species of these two genera can be obtained. The list does not claim to be correct and/or complete.

Public resources with named plants:

Air Plant Décor. Location: Brisbane, Australia. Email: info@airplantdecor.com.au. Website: www.airplantdecor.com.au. Small collection of *Schlumbergera* pot plants. This nursery is also known as Adam's Jungle Cacti.

Epihaven. Location: Westerly, Rhode Island, USA. Email: unknown. Website: www.epihaven.com. Small collection of *Schlumbergera* pot plants.

E.P.R.I.C. Location: Netherlands. Email: epric.foundation@gmail.com. Website: www.schlumbergera.eu. Nice selection of *Schlumbergera* hybrids. Also developing new hybrids. Mostly unrooted cuttings.

Kakteen-Haage. Location: Erfurt, Germany. Email: info@kakteen-haage.de. Website: www.kakteen-haage.de. Very small selection of *Hatiora* and *Schlumbergera* pot plants.

Kerlt Palomo. Location: Sweden. Email: kerltpalomo@hotmail.com. Website: www.schlumbergeraworld.blogspot.com. Nice list of *Schlumbergera* cultivars/hybrids. Also offering hybrids of Antonio Palomo from Spain (brother).

Logees. Location: Danielson, Connecticut, USA. Email: info@logees.com. Website: www.logees.com. Very small selection of *Hatiora* and *Schlumbergera* pot plants.

Lordicultural. Location: Porter, Maine USA. Email: Lordicultural@gmail.com. Website: To come. Very large selection of *Schlumbergera*, *Rhipsalidopsis* and *Hatiora*. One of the largest collections in the world.

PlantGusto. Location: Netherlands. Email: info@seedlingsandcuttings.eu. Website: www.seedlingsandcuttings.eu. Good selection of botanic species. Also developing new hybrids (including the first yellow Queen). Broad selection of *Schlumbergera*, *Hatiora* and *Rhipsalidopsis*. Cuttings and seeds.

Uhlig Kakteen. Location: Kernen Rommelshausen, Germany. Email: info@uhlig-kakteen.com., Website: www.uhlig-kakteen.de. Small selection of *Schlumbergera* and *Rhipsalidopsis*. Mostly commercial hybrids like the Thor™ Series.

Whitton Greenhouses. Location: Camden, Delaware, USA. Email: unknown. Website: www.whittongreenhouses.com. Specialized in growing Christmas cactus (*Schlumbergera*) and Easter cactus (*Rhipsalidopsis*) plants in pots. Nice selection, also some commercial hybrids from the Brazil and Thor™ Series. Currently USA delivery only.

Wholesale resources:

Hofland Flowering Plants. Location: Netherlands. Email: info@hoflandfloweringplants.nl. Website: www.hoflandfloweringplants.nl. Limited selection of *Schlumbergera* for wholesale. Some Breeders' rights on specific *Schlumbergera* cultivars.

PKM (Gartneriet PKM A/S). Location: Odense, Denmark. Email: pkm@pkm.dk. Website: www.pkm.dk. Large nursery with a limited selection of *Schlumbergera* and *Rhipsalidopsis* cultivars for wholesale. Some Breeders' rights on specific *Schlumbergera* and *Rhipsalidopsis* cultivars. *Schlumbergera* is sold as the Flame™ Series. *Rhipsalidopsis* is sold as the Fire™ Series. PKM has ceased producing *Schlumbergera*. The production of their *Schlumbergera* has handed over to a Dutch nursery.

Rosa Danica (ROSA DANICA A/S). Location: Marslev, Denmark. Email: info@rosa-danica.dk. Website: www.rosa-danica.dk. Large nursery with a limited selection of *Schlumbergera* cultivars for wholesale. This nursery is the source of the Brazil Series of cultivars. Some Breeders' rights on specific *Schlumbergera* cultivars. *Schlumbergera* are sold under the commercial name Tendenza™.

Thoruplund (Gartneriet Thoruplund A/S). Location: Odense, Denmark. Email: info@thoruplund.dk. Website: www.thoruplund.dk. Large nursery with a limited selection of *Schlumbergera* and *Rhipsalidopsis* cultivars for wholesale. Some Breeders' rights on specific *Schlumbergera* and *Rhipsalidopsis* cultivars. *Schlumbergera* are sold under the commercial name Thor™.

Vries de (Johan de Vries Potplantencultures b.v.). Location: Netherlands. Email: info@jdevries.nl. Website: www.jdevries.nl. Large nursery with a limited selection of *Schlumbergera* and *Rhipsalidopsis* cultivars for wholesale. Some Breeders' rights on specific *Schlumbergera* and *Rhipsalidopsis* cultivars.

List of Hybridizers

Abbey Brook Nurseries – Abbey Brook Nurseries, Derbyshire, England: Cactus nursery in Matlock, Derbyshire, England.

Adda Abendroth – Adda Abendroth, Brazil: Hobbyist in Teresópolis, Rio de Janeiro, Brazil (1898–1974), who colected plants in the region around Teresópolis.

Adrian Roberts – Adrian Roberts, Classic Winds Nursery, Sydney, Australia: Former owner of Classic Winds Nursery.

Alfred Gräser – Alfred Gräser (1893–1977), Nuremberg, Germany: developed the first cross between *Rhipsalidopsis gaertneri* and *Rhipsalidopsis rosea* in 1928. This crossing between these two botanic species has been named after him. *Rhipsalidopsis* × *graeseri*.

André Norman – André Norman, Sweden Breeding focus has been creating double flower Schlumbergeras in various shapes and colours. André was the first breeder to present a double yellow flower Schlumbergera in early 2021, named 'Laila Norman' after his grandmother. He also developed the first double flowering Queen in late 2021.

Andrew Savio – Andrew Dominic Savio, Croydon, Victoria, Australia: famous breeder from Australia.

Anna Galvas – Anna Galvas, Germany: collector. Hybridizing on small scale.

Antonio Palomo Cadenas – Antonio Palomo Cadenas, Spain: collector with large collection. Antonio has produced many hybrids over the years. Often involving strange forms like 'Laranja Dobrada' as one of the parents, and as a result new flower forms and colors.

Adrian McMillan – Adrian John Stuart McMillan, England: Mac (his nickname) was very knowledgeable in the field of Christmas Cacti (as well as other areas). Together with J. F. Horobin he wrote the famous book on Christmas Cacti (The genus Schlumbergera and its hybrids). He also was an active writer for the Epiphytes Journal. Many of his hybrids start with the name Bristol (like 'Bristol Sunbeam'). A.J.S. McMillan died on 4 March 2008.

Atsuta Yoshio – Atsuta Yoshio: no further information available at this time.

August Bebel – August Bebel, Quedlinburg, Germany: cactus collector and breeder from Quedlinburg, Germany.

Barnell L. Cobia – Barnell Larry Cobia, USA: the most important Schlumbergera nursery in the USA in the second half of the last century, who achieved the objective of the first yellow flowering Schlumbergera in 1982 after a project that took 15 years. M.E. Cobia (1992) describes that they started by selecting the most promising research varieties which then were propagated by repeated self-pollination. They thus produced ca. 50,000 seedlings which were grown up and evaluated. They obtained one variety with a true yellow flower but an unattractive bush form. This variety was then hybridized with a white-flowering cultivar showing an excellent growth habit. Of this cross, about 200 seeds were grown, resulting in 150 yellow–flowering offspring. One of these was perfect and named 'Gold Charm'. In 1988, two further cultivars were released by B.L. Cobia Inc., i.e. *Schlumbergera* 'Christmas Flame', a 'Gold Charm' mutation with darker yellow flowers, and *Schlumbergera* 'Cambridge'. Other important hybrids developed include 'Bridgeport', 'Aspen' and 'Ascot', all with fringed flowers. The Cobia nursery company was eventually sold and later closed down.

Betty Winton – Betty Winton, Australia: grower and seller of *Schlumbergera* and *Rhipsalidopsis* plants. Nursery at Douglas Park, NSW, bought from Mr. Atherton.

Bill Baker's Nursery – Bill Baker's Nursery, Reseda, California, USA: Donna Marie Baker (2018) runs her late husband unique garden and Cactus and Succulent Nursery located in the San Fernando Valley in Tarzana.

Blackburns – Blackburns of Woodplumpton, Lancashire, England: no further information available at this time.

Brindley's Nurseries – Brindley's Nurseries, Coffs Harbour, PBR, Australia: Graeme and Tony Brindley met Cobia in Florida in 1984. Cobia at that time had new *Schlumbergera* hybrids. Brindley's Nurseries took cuttings of Gold Charm to Australia. Graeme and Tony Brindley continued visiting Cobia in Florida. Brindley's Nurseries secured the Australian and New Zealand rights to Cobia's Schlumbergera hybrids. The larger flowering varieties were marketed under the Showcase Zygo™ name and the improved regular varieties marketed under the Zygo Fantasies™ name. Graeme Brindley helped by Larry Cobia has continued to breed new *Schlumbergera* varieties for Australia.

California Epi Center – California Epi Center, USA: California Epi center, no longer exists however was a long time seller of epiphytic cacti. Currently known as Rainbow Gardens.

Carinya Collector's Nursery – Carinya Collector's Nursery, Markville, NSW, Australia: no further information available at this time.

Carmel Metcalfe – Carmel Metcalfe, Queensland, Australia: private breeder from Gympie, Queensland, Australia. The nursery was sold to D.J. & A.A. Smith.

CB Cactus Breeding I/S – CB Cactus Breeding I/S: a (former) partnership between Johan de Vries Potplantencultures (Nteherlands) and a number of Danish growers, Gartneriet PKM, Garneriet Rohde, Jörn Hansson.

Christian Hald Madsen – Breeder at the PKM nursery in Denmark, not related to Poul and Kristian Madsen.

David Lunde – David Lunde: no further information available at this time.

Davies – Mrs. J. Davies, Sydney, Australia: no further information available at this time.

Des & Merriel Ellery – Des & Merriel Ellery, Australia: breeders and former owners of the Buena Vista Nursery, Rossmore, NSW, Australia.

Des Ellery – Des Ellery, Rossmore, Australia: breeder and former owner of the Buena Vista Nursery, Rossmore, NSW, Australia. From 1964 on they produced many hybrids. From 1993 on these were labeled with the prefix 'Rossmore'.

Dolly Kölli – Dolly Kölli, USA: Dolly was very interested in botanics. Besides the cultivation of lilies she was strongly occupied with the cultivation and breeding of *Schlumbergera*. Many beautiful hybrids were developed by her using *S*. *orssichiana* as one of the parents. She was also the first to grow virus free *S*. *orssichiana* clones, out of seed that was produced and provided to her by Eckhard Meier (via Rudolf Tröster). *S*. *orssichiana* clones from the wild, but both virus infected were the source. She also made very accurate notes about her plants and documented it carefully. These notes are still of great interest and can be found on the website of the EPIG society (www.Epig.org). She was always willing to share her material. Thomas Boyle and Dolly Kölli shared their ideas about breeding. Dolly Kölli died (29th July 2015), but is in the memory of many of her friends in the USA and Germany.

Dutch Windmill Nursery – The Dutch Windmill Garden And Gift Centre, Jandakot, WA, Australia: closed down.

Eckhard Meier – Eckhard Meier, Diez, Germany: very knowledgeable collector from Germany who wrote many articles including a list of *Rhipsalidopsis* hybrids that formed the basis for the list.

Edi Day – Edi Day, Switzerland: private collector from Switzerland.

Edwin Hoare – Edwin B. Hoare, Lismore, Australia: very active private breeder from Lismore, NSW, Australia up to 1992. He was the first to gather information on all Australian hybrids.

EpiWorld – EpiWorld: no further information available at this time.

Everson & Williams – Everson & Williams, Rainbow Gardens, Vista, California, USA: visit after appointment only.

Flemming Rohde – Flemming Rohde: Flemming Rohde had his own nursery called Rohde A/S in Denmark. He joined with Rosa Danica in 2010 and became the chief hybridizer for Rosa Danica.

Frank Rohde – Frank Rohde, Kertiminde, Denmark: Nursery Rohde's A/S. The Rhode nursery and the breeding rights of the famous Brazil Series of *Schlumbergera* joined the Rosa Danica nursery in 2010.

Frank Süpplie – Frank Süpplie, Netherlands: founder of the Epiphytic Plant Research And Information Centre (E.P.R.I.C.).

Funnel – Mrs. Funnel: no further information available at this time.

Gerhard Buys – Gerhard Buys, South Africa: plants were all developed with fast growth, enhanced disease resistance, heat resistance and either pendant or upright growing shape in mind. Gerhard lives in an agricultural area where large scale farming of various plants (vegetables), mushrooms, animals as well as birds are farmed. This increases the likelihood of airborne and waterborne (rain) fungus related and other disease infections. On top of that there is an aim to produce very small flower size as well as very large flower sizes. He is trying to create a “shy” flower form with minimal recurve of the petals. Succeeded in breeding one variety (‘Dusty Pink’) that would some seasons produce small sharp pointed flowers half the size of normal *Schlumbergera* flowers but the very next season it may throw back and produce standard sized flowers and would again the following season revert to the small flowers. It is still very much an unknown quantity and would likely require further breeding to stabilise.

Gilbert Wrightson – Gilbert Wrightson: no further information available at this time.

Glenhirst Nurseries – Glenhirst Nurseries, Swineshead, England: Cactus and Palm nursery in Swineshead, Lincolnshire, England.

Gordon Rollason – Gordon Rollason, Johannesburg, South Africa: collector and breeder of some strong yellow/red colored hybrids like ‘Sangeeta’ and the older ‘Frances Rollason’.

Graeme Brindley – Graeme Brindley, Brindley’s Nurseries, Coffs Harbour, NSW, Australia: See Brindley’s Nurseries.

Greenlight Nursery – Greenlight Nursery, Moorland, NSW, Australia: no further information available at this time.

Griffin – Griffin, New York, USA: no further information available at this time.

Günther Noller – Günther Noller, Germany: a very knowledgeable grower from Germany. Performed many crosses on all types of epiphytic cacti, including *Schlumbergera*.

Gustav Haage – Gustav Ferdinand Haage (1830–1921), Germany: owner of the famous cactus nursery Haage in Erfurt, Germany.

Hall – Mrs. Hall, Marlborough, Queensland, Australia: no further information available at this time.

Harry Higaki – Harry Higaki, California, USA: no further information available at this time.

Hashizume – Hashizume: no further information available at this time.

Hattori Kazumi – Hattori Kazumi: no further information available at this time.

Hattori Shoichiro – Hattori Shoichiro: no further information available at this time.

Hawkins Nursery – Hawkins Nursery, Brisbane, Queensland, Australia: no further information available at this time.

Hayano Kimiharu – Hayano Kimiharu: no further information available at this time.

Helen Barkdoll – Helen Barkdoll, La Mesa, California, USA: no further information available at this time.

Hermann Königer Nursery – Hermann Königer Nursery, Aalen, Germany: nursery in southern Germany, specialized in cacti, now closed.

Hinson – Hinson: no further information available at this time.

Hiroshi Mitsuhashi – Hiroshi Mitsuhashi (1950–2016), Ichihara City, Japan: owner of Mitsuhashi Peacock Cactus Garden Nursery in Ichihara City, Chiba Prefecture, Japan. In 1977 he opened the nursery. While at the Mitsuhashi Peacock Cactus Garden Nursery, he originated many hybrids of *Epicactus*, *Schlumbergera* and *Clivia*.

Hofland – Hofland, Netherlands: *Schlumbergera* production for wholesale. Also development of new hybrids. Breeders' rights on specific *Schlumbergera* cultivars.

Holly Gate Nursery – Holly Gate Nursery, Sussex: nursery in Ashington, West Sussex, England.

Ira Slade – Ira Slade, Greenlife Gardens, Georgia, USA: no further information available at this time.

Ishida Masayuki – Ishida Masayuki: no further information available at this time.

Jack Lawrie – Jack Lawrie, Minto, NSW, Australia: owned Warrawong Nursery at Minto. Closed down.

Jan Riha – Jan Riha, Czech Republic: cactus collector from Czech Republic.

Jo Old – Jo M. Old, Allen, Kansas, USA: hobbyist.

Jørgen Andersen – Jørgen Kurt Andersen: Jørgen Kurt Andersen is chief hybridizer for Thoruplund.

Johan de Vries – Johan de Vries, Aalsmeer, Netherlands: starting of in 1942 it grew into a large nursery. Many new *Schlumbegera* and *Rhipsalidopsis* hybrids were developed which are still under Breeders' rights protection. Now (2020) producing 2.5 million *Schlumbergera* and 1.5 million *Rhipsalidopsis* each year.

John Horobin – John F. Horobin, England: British horticulturist; editor of 'Journal of the Epiphytic Plant Study Group' 1981~; specializes in *Schlumbergera*. Developed some *Schlumbergera* hybrids starting with the name 'Hatherton'. Together with McMillan he wrote the famous book on Christmas Cacti (The genus Schlumbergera and its hybrids).

Johnson Cactus Gardens – Johnson Cactus Gardens, Paramount, California, USA: closed.

Joyce Carr – Joyce Carr, Woodville Gardens, Australia: very active private breeder from Woodville Gardens, South Australia, Austalia.

June Hollier – June Hollier, Buffalo, Victoria, NSW, Australia: private breeder from Buffalo, Victoria, NSW, Australia. Collection was sold.

Kristian Madsen – Kristian Madsen, Denmark: son of Poul Madsen and owner of the PKM nursery.

Kurt Petersen – Kurt Petersen (1916 – 1993), Osterholz-Scharmbeck, Germany: hobbyist, president of the German Cactus Society (DKG) from 1973–1977 and co-founder of the EPIG.

Lau Rasmussen – Lau Lindegaard Rasmussen, Fyn, Denmark: breeder at Rohde A/S. 'Samba Brazil' is one of his best known hybrids.

Lee Gordon Goodfellow – Lee Gordon Goodfellow, Vancouver Island, Canada: the initial breeding goal was to develop crenate type plants similar to the old fashioned *S. × buckleyi*, but in a varied colour range, specifically oranges and yellows. In recent years, the planned crosses led to some novel BT type plants that were small to miniature growers. These 'little guys' changed the focus to "little". Some of these have been small enough not to outgrow a 10 cm pot. The white flowered cultivar, 'Little Angel's Dream' is the smallest by Lee Goodfellow produced to date. This one was grown from seed in 2013, and has never outgrown an 8 cm pot. Most of the resulting plants have been BT types having a slight tendency toward slightly asymmetrical flowers and the odd apical dentation. He is aiming with two new crosses for a few with more symmetrical flowers. Presently (2020), waiting on a small grower with wide crenate phylloclades and a white bud! The bud is shorter than normal. Maybe this is the one! The second blooming on this will tell the true story. A grower friend in the USA once told Lee Goodfellow his attempts to develop a white or yellow old fashion Christmas Cactus was like searching for Bigfoot. Well, if Lee Goodfellow develops it, 'Little Bigfoot' will be its name.

Leo Cady – Leo Cady, Kiama, Australia: former nurseryman in Kiama, NSW. Australia. Retired from ~1995 on.

Leo Kihm – Leo Kihm, San Diego, California, USA: no further information available at this time.
Linda Ryan – Linda Ryan: no further information available at this time.
Lotte Haage – Lotte Haage, Erfurt, Germany: wife of the former owner of the famous cactus nursery Haage, Erfurt, Germany.
Louis Paduch – Louis Paduch, Carver, Maryland: no further information available at this time.
Madsen – probably Kristian Madsen: breeder at the PKM nursery in Denmark, not related to Poul and Christian Hald Madsen.
Marga Leue – Marga Leue, Haunetal: mainly Epicactus breeder from Haunetal, Germany.
Mario Martins – Mario Luciano Martins, Bay City Flower Company: no further information available at this time.
Matsumoto Tamotsu – Matsumoto Tamotsu: no further information available at this time.
Matsunaga Takao – Matsunaga Takao: no further information available at this time.
McQuown – F.R. McQuown, England: no further information available at this time.
Mervyn Wilson – Mervyn Wilson, Belmont, NSW, Australia: private breeder from Belmont North, NSW, Australia. Produced some nice hybrids like 'Cha Cha'.
Nick Smith – Nick Smith: no further information available at this time.
Noel Kretschmann – Noel Kretschmann: no further information available at this time.
Norm Cook – Norm Cook: no further information available at this time.
North Coast Plant and Nursery – North Coast Plant and Nursery: no further information available at this time.
Northern Rivers Plant Nursery – Northern Rivers Plant Nursery, NSW, Australia: no further information available at this time.
Nunn – Rev. R.F. Nunn, Sheffield: no further information available at this time.
Oakleigh Nurseries – Oakleigh Nurseries, England: no further information available at this time.
Oiwa Tokuo – Oiwa Tokuo: no further information available at this time.
Okumura Katsumasa – Okumura Katsumasa: no further information available at this time.
Otto Voll – Otto Voll (1884–1958), Brazil: curator of the Botanical Garden of Rio de Janeiro.
Paradise Distributors – Paradise Distributors, Nambour, Queensland: owned by Bob and Bev, specialized in rare plants.
Parravicini – Mrs. Parravicini, Ingham, North Queensland: no further information available at this time.
Pawlas – Pawlas: no further information available at this time.
Peter Cooper – Peter Cooper: no further information available at this time.
Phil Knight – Phil Knight, Bacchus Marsh, Victoria: no further information available at this time.
PKM – PKM, Denmark: large nursery with a limited selection of *Schlumbergera* and *Rhipsalidopsis* cultivars for wholesale. Some Breeders' rights on specific Schlumbergera and Rhipsalidopsis cultivars. *Schlumbergera* is sold as the Flame™ Series. *Rhipsalidopsis* is sold as the Fire™ Series.
Poul Madsen – Poul Madsen (1917–1989), Denmark: Poul Madsen founded the PKM nursery together with his wife Marie in 1949. From 1960 cultivation of *Schlumbergera* and *Rhipsalidopsis*.
Ralph Mangelsdorff – Ralph Mangelsdorff, Germany: botanist at the University of Frankfurt. Interested in not common crosses, like 'Spanish Dancer', the result of a cross with 'Starburst' and the first cross between *S. truncata* and *S. microsphaerica*. Broad interest in epiphytic cacti.
Randy Whitton – Randy Whitton, Whitton Greenhouses: no further information available at this time.
Redlands Greenhouse – Redlands Greenhouse Ltd., Redlands Bay, Queensland, Australia: nursery in Australia.
Reg Norton – Reg Norton, Belrose, NSW, Australia: no further information available at this time.
RHS Wisley – RHS Wisley, England: The Royal Horticultural Society is the UK's leading gardening charity. Wisley is one of the world's great gardens, packed with horticultural inspiration.
Robert & Carmel Metcalfe – Robert & Carmel Metcalfe, Queensland, Australia: private breeders from Gympie, Queensland, Australia.
Robert Caldera – Robert Caldera, Surrey, England: collector and writer (Epiphytes) from England.
Robert Raward – Robert Raward, Gold Coast, Queensland, Australia: Rawards Nursery.
Rosa Danica – Rosa Danica, Marslev, Denmark: very large nursery founded in 1967 with a limited selection of *Schlumbergera* cultivars for wholesale. This nursery is the source of the Brazil Series of cultivars. Some Breeders Rights on specific Schlumbergera cultivars. *Schlumbergera* is sold under the commercial name Tendenza™.
Rudolph Zenneck – Rudolph Zenneck, Bad Mergentheim, Germany: hobbyist from Bad Mergentheim, Germany.
Ruud Tropper – Ruud Tropper, Netherlands: breeding focus is on large flowers (Queens) and small *S. russelliana* like flowers both in complementary colors. Crossing of botanic species not done before for DNA research purposes. Furthermore Albiflora type

flowers in different forms. The combination of different flowers shapes and colors should lead to new attrative forms. For *Rhipsalidopsis* in search of a yellow flowering. Botanic species often form the basis.

Scrivener – Scrivener, Australia: no further information available at this time.

Sherry Jesberger – Sherry Jesberger, Pennsylvania, USA: hobbyist hybridizer. Hybridizer of three Keystone cultivars. Sherry is still (2020) developing new *Schlumbergera* that will be registered in the near future.

Soda Yoshinori – Soda Yoshinori: no further information available at this time.

Susanne Schuhmann – Susanne Schuhmann, Germany: hobbyist from Bensheim, Germany.

Sybil Harland – Sybil Harland, Australia: no further information available at this time.

Sybil McGregor – Sybil McGregor, Leppington, NSW, Australia: no further information available at this time.

Terry Wells – Terry Wells, Coraki, NSW, Australia: had an orchid nursery at Lismore.

Thomas Boyle – Thomas H. Boyle (1953–2006), Massachusetts, USA: botanist at the University of Massachusetts, Amherst, USA, working with epiphytic cacti. He wrote many scientific papers on the cultivation and behavior of *Schlumbergera* and *Rhipsalidopsis*. He also developed new hybrids that met his standards and that are still around. He was a close friend of Dolly Kölli. They exchanged plant material, ideas and information.

Thoruplund – Thoruplund, Denmark: large nursery with a limited selection of *Schlumbergera* and *Rhipsalidopsis* cultivars for wholesale. Some Breeders' rights on specific *Schlumbergera* and *Rhipsalidopsis* cultivars. *Schlumbergera* are sold under the commercial name Thor™.

Tobey – W.B. Tobey, Devon, England: no further information available at this time.

Trevor Poulson – Trevor Poulson, Brisbane, Australia: private breeder in Brisbane, Australia. The collection was sold after his death.

Usuba Hisanaga – Usuba Hisanaga: no further information available at this time.

Valter Eugenio Saia – Valter Eugenio Saia, Marília, Brazil. Private breeder in Brazil. Active breeding since 1987. The inheritance of his grandfather contained four to five different native *Schlumbergera truncata*, in the colors: white with pink color, pinkish at the tips and white core, fuchsia (or Solferino) or variance, orange with pink core and red. From that base, crosses resulted in 200–300 different plant and color combinations. The crosses are unnamed until now, besides two, the 'Pearl of Marília'. An albino form and 'Fogo Brazilian'. Breeding still continues.

Aim is to explore the total color variation available in *Schlumbergera truncata*.

Walter Widmann – Walter Widmann, Waiblingen, Germany: hobbyist from Waiblingen in southern Germany.

Watson – Mrs. Watson, Padstow, Sydney, NSW: no further information available at this time.

Westfield Cacti – Westfield Cacti, Devon, England: cactus nursery (since 1980) in Winkleigh, Devon, England.

Whitestone Gardens Ltd. – Whitestone Gardens Ltd., England: Garden centre and Nursery in Thirsk, North Yorkshire, England.

Whitton Greenhouses – Whitton Greenhouses, Camden, Delaware, USA: nursery specialized in growing Christmas cactus (*Schlumbergera*) and Easter cactus (*Rhipsalidopsis*) plants in pots.

Wilbraham Buckley – Wilbraham Buckley, Tooting, London, England: floriculturist, who obtained (around 1840) the first cross between *Schlumbergera truncata* and *S. russelliana*. This cross is named after Buckley as *S.* × *buckleyi*.

William Morris – William Morris, Newcastle, NSW, Australia: no further information available at this time.

William Tjaden – William Louis Tjaden (1913–2008), Welling, Kent, England: active collector from England.

Wright – Mr. Wright, Hamilton Hall, Western Australia: no further information available at this time.

Abbreviations and References

McM&H 1995		see in recommended literature: McMillan, A.J.S. & Horobin, J.F. 1995
NSW	→	New South Wales, Australia
PBR	→	Plant Breeders Rights
PKM	→	Gartneriet PKM A/S, Odense, Denmark
Ref.	→	Reference
RHS	→	Colors of the Royal Horticultural Society Colour Charts
Wisley	→	RHS Plant Trials Schlumbergera 1977 - Tjaden and others