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**Cover picture: *Gymnocalycium rhodantherum* JPR 438, Los Tambillos (Photo: W. Papsch).**

## Editorial

## Dear Gymnocalycium friends,

## Wolfgang Papsch

A remarkable year is drawing to its close. On the one hand, we had to deal with extreme weather activities with enormous amounts of rainfall in places, leading to vast flooding and tremendous damage by hail. On the other hand, the temperature profile was also out of the ordinary. A mild winter poor in precipitation, followed by unnaturally cold spring months was not beneficial for plant development. Especially the high air humidity lasting for weeks during the meteorological disturbances was an impediment for the pollination of numerous flowers in greenhouses as well as the cultivation of fruit. Thus, fructification and consequently harvest of seeds turned out to be rather sparse. For example, I observed an almost complete failure in fruit development with Gymnocalycium gibbosum.

Both Gymnocalycium conferences were certainly neither a failure nor a write-off event, which fortunately could be held again without any Covid-19 restrictions. Linz attracted the participants with the fascinating topic *Gymnocalycium rhodantherum* as well as further highly interesting contributions. You are going to find Ulf Marx's presentation below.

The new venue in Dresden-Coschütz emerged as a highlight in its own right. Apart from excellent service, the meeting scored, of course, due to the featured schedule of presentations and discussions. After having been postponed again and again for reasons of pandemic, the top issue was *Gymnocalycium monvillei*. Here again arose some interesting insights, which will be reported on in one of the next SCHÜTZIANA issues.

We would like to express our warmest thanks to Mrs Iris Blanz (Austria) who supports us with the translation into English, to Mrs Larisa Zaitseva (Russia) for the translation into Russian, to Mr Victor Gapon (Russia) for the content corrections of the Russian edition, to Mr Takashi Shimada (Japan) for the translation into Japanese, to Mr Jiahui Lin (China) for the translation into Chinese, to Mr Václav Johanna (Czech Republic) for the translation into Czech and to Mr Daniel Schweich (France), who has mirrored our publications under http://www.cactuspro.com/biblio/.

# Review of the 3rd International *Gymno Conference from 30th June to 1st July* in Linz (Austria)

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On 30th June 2023 numerous cacti lovers assembled to be admitted free to the Botanical Garden in Linz for the 3rd International Gymno Conference, which had once more been organized by the association "Cactus Gymno Team International".

After scores of cultivated cacti had changed hands, the welcoming night evoked pleasant memories as Wolfgang Borgmann showed pictures of various meetings and conferences of Gymno friends, which had taken place between 1989 and 2022. The audience recognized well-known faces in Eugendorf, Preussisch-Oldendorf, Karlsruhe (Wessner), Birgel (Piltz) and Linz. We were made aware of how large the international Gymno circle of friends has become, but also how sadly we miss long-term friends like Ludwig Bercht, Hans Till, Jörg Pilz or Jacques Lambert.

The evening was concluded by a visit to the nearby Pizzeria "Fortuna" and for some participants also by drinks and interesting discussions in the Botanical Garden late at night.

The next morning Ulf Marx welcomed further cacti lovers from Poland, Italy, Germany, the Czech Republic and Austria. Part of them had been travelling far and Ulf Marx thanked all the speakers for their willingness to give a presentation. We also commemorated our lately deceased cacti friends Walter Rausch and Jörg Piltz.

Then Wolfgang Papsch gave an introduction to historical literature referring to *Gymnocalycium rhodantherum*, which had been described first by the German chemist Franz Bödecker in issue 1 of "Kakteenkunde" (Cacti Studies). Bödecker recognized by accident in the collection Schuster (Cologne) that the plant found in the province Salta by chemist and collector PhD Luis Harperath corresponded to *Echinocactus mazanensis* var. *breviflorus* described by Backeberg. However, unlike in Backeberg's description, the plant neither had a yellowish flower nor any yellowish-white anthers, but dark red anthers and a rose-coloured flower, which was started by Bödecker. Thus, the plant could not really be identical with the plant described by Backeberg in "Kakteenfreund" (Cacti Friend) as *E. mazanensis* var. *breviflorus,* which Backeberg, too, recognized. *Gymnocalycium rhodantherum's* type was still *E. mazanensis* var. *breviflorus*. For if Backeberg had slightly shaken his *E. mazanensis* var. *breviflorus,* the anthers covered in whitish-yellow pollen would have revealed their red heads.

In 2004 Hans Till recombined Bödeker's *E. rhodantherus* into *G. rhodantherum* in the magazine Gymnocalycium (17(3)2004). As distribution area he specified the province La Rioja - between Sierra de Velasco in eastern, Sierra de Famatina in western and Sierra de Sanogasta in south-western direction. In Till's opinion *G. mazanense* was a separate line of development. In addition, Wolfgang Papsch presented the distribution areas of *G. rhodantherum* and *G. rhodantherum* var. *cinerascens* (Gymnocalycium 17(3)2004), which grow at an altitude of 1,000 m near Carrizal in Province La Rioja. The synonym mentioned by Till for *G. rhodantherum* var. *cinerascens* was *weissianum* var. *cinerascens*.

In 1948 Bohumil Schütz described (Sukkulentenkunde II, August 1948) *G. guanchinense,* which in his opinion belongs into the group of *G. mazanense,* as the crimson anthers are their common feature. According to Wolfgang Papsch, *G. rhodantherum* and *G. guanchinense* bear close similarity. He corroborates this with comparative pictures. In 1996 Hans Till and Gert Neuhuber found *G. jochumii* var. *jugum*, which was described in Gymnocalycium 18(1) 2005, in the southern Sierra de Sanogasta. It differs clearly from *G. ritterianum* subsp. *acentracanthum.*

One year later Franz Berger described *G. coloradense* (Gymnocalycium 19 (4) 2006) from the southern foothills of the Sierra de Los Colorados and he pointed out the differences from *G. castellanosii.* In 2007 Halda and Milt described *G. rhodantherum* subsp. *recii* (Acta musei Richnoviensis 14(4) 2007), which occurs near Aimogasta (Prov. Salta) at an altitude of 1,500 m and is thus located away from the so far known localities of *G. rhodantherum*. The assignment of *G. rhodantherum* subsp. *recii* is considered highly questionable by Wolfgang Papsch because all the other forms of *G. rhodantherum* are found along one single geographic line, those of the subspecies *recii,* however, are not.

The speaker encouraged a discussion about whether *G. rhodantherum* could be subdivided in terms of taxonomy, the whereabouts of the actual distribution area and how the populations west of Cuesta de Miranda should be evaluated. Moreover, he also suggested a delineation with *G. hossei* regarding taxonomy and nomenclature.

Tomáš Kulhánek's presentation followed, illustrating the geographic distribution area based on three-dimensional maps of *G. rhodantherum*, *G. ritterianum* and *G. jochumii*, thus generating a vivid image. He showed features of plants, beginning in the north (Santa Cruz) and continuing in southern direction (Nonogasta), and he compared various flower sections. It clearly emerged that the anthers are deep purple throughout the whole distribution area.

In the following he introduced habitats of *G. ritterianum,* which are mostly situated at a higher altitude. Other than further taxa discussed, these plants grow in diverse habitats. Plants from the western side of Cuesta Miranda can be clearly distinguished from *G. rhodantherum* from the Sierra de Fatima. The plants growing in the west, called *G. guanchinense* by Hans Till, are not correctly named according to the speaker, as Frič collected *G. guanchinense* in the vicinity of the River Guanchin. However, this area is situated on the eastern side of the mountain range.

Franz Berger calls the population from the higher altitude on the western side *G. ritterianum* subsp. *acentracanthum*, of which the chromosome set is unknown so far. Tomáš Kulhánek considers these plants rather as belonging to *G. rhodantherum,* as the specimens of *G. rhodantherum* are diploid (two sets of chromosomes) and those of *G. ritterianum* and *G. jochumii* are tetraploid (four sets of chromosomes). Here DNA research must finally bring clarity to the situation. In Tomáš Kulhánek's opinion the group of *G. ritterianum* and *G. jochumii* must definitely be separated from *G. rhodantherum.*

Gert Neuhuber, who filled in with his presentation for the originally intended speaker Massimo Meregalli at short notice, reported that he had carried out numerous seed investigations and flower sections of *G. rhodantherum* and in doing so discovered many distinctions. A lot of names and habitats were vague for him, consistent features had to be identified more exactly. To this end he suggested establishing a study group which should deal with *G. rhodantherum* in more depth.

During the lively discussion the question arose whether we should start working on with well-known names or locations. Anther colour could be only one approach, geographic assignment as well as DNA-analyses were inevitable. The problem if *G. jochumii* was a species of its own or if it should be assigned to *G. ritterianum*, which is indisputably a good species, was also mentioned.

After all the participants had refuelled at the sumptuous buffet in the Tillandsia greenhouse at midday, Michael Barfuss presented the principle of DNA-barcoding with *Tillandsia edithae* as an example and subsequently also enlarged on DNA-research with cacti. The background and benefit of DNA-barcoding is to draw on the genetic variability of DNA-features in order to delimitate species from each other and to match them with phenotypical features by comparison. In this respect, morphologic taxonomy refers almost exclusively to adult flowering plants. DNA-barcoding helps to better assign juvenile plants or cryptic taxa whose individual distinguishing features cannot be established easily. It takes specialist competence for morphological identification and taxonomy.

With view to method, it must be distinguished between samples originating from natural habitats and those from collections, on condition that the plant material to be investigated has been legally imported, respectively cultivated. The disadvantage is that old plants from collections are often poorly documented.

Michael Barfuss (scientist at Vienna University, Department of Botany and Biodiversity Research) amazed the audience by showing that the species *Schlumbergera* should best be divided into three genera with seven species based on molecular results obtained from DNA-analyses, but also according to traditional morphological aspects. By means of comparing DNA-sequences in the genus *Sulcorebutia*, too, the flower colour, for instance, could be unambiguously assigned to the respective species.

In his remarks Michael Barfuss also described the cost- and time-consuming laboratory work and suggested sending him plant samples relating to topics of future conferences timely, that is one or two years ahead of the meeting, so as to be able to present results of research at the respective conferences in Linz.

According to the speaker, however, morphological investigation and genetic analyses always have to be viewed together, as they are not contradictory, but mutually supplementary.

Impressed by the revelatory and informative DNA-research several participants declared that they were prepared to convey sample material to the speaker.

Next, Peter Lechner (professor emeritus of the University of Natural Resources in Vienna) demonstrated by means of pictures the variability of cacti, using the genus *Sulcorebutia* from around the provincial town of Totora in Bolivia as an example. The documentary of 3,300 data sets is based on field data and visual evidence of a group of authors comprising Hans-Jörg Jucker (CH), Peter Lechner (AT), Roland Müller (DE) und Johan de Vries (NL). It was compiled by Albert Hofman und Peter Lechner.

The area presented was visited by Walter Rausch in the 1970s and is consequently known to many lovers of *Sulcorebutia*.

The Totora region is divided into two areas by the authors. Area A spans the city as well as western and southern Totora, while area B ranges from the road starting at Totora via Saipina as far as Huanacuni Chico. Peter Lechner focused on area A in his presentation and illustrated the large variety of *Sulcorebutia oenantha*, S. *pampagrandensis*, var. *renatae* and *S*. spec. Julpe, which are native to the area. Due to extensive agricultural use of this area *S. oenantha* has

become threatened by extinction in the meantime. *S*. spec. Julpe, growing along the road from Totora to Mizque, has never been validly described. Clearly more specimens of *S. pampagrandensis* could be found, growing 5 to 6 km away from the main road. East of Totora a completely different type of plant was discovered. The field researcher showed the large variability of the still young genus *Sulcorebutia* here, too.

During coffee break the participants took the opportunity for a tour of the Botanical Garden and its considerable cacti collection.

In the late afternoon Alfred Draxler, together with Gert Neuhuber, told about their common five weeks' tour of Argentina, on which they had gone together with Clemens Füssl (Botanical Garden Linz) and Kerstin Schipani in November and December 2022.

The route began in Buenos Aires, leading in northern direction as far as La Quiaca right on the Bolivian border and back again via Cachi, Cafayate and San Luis to Buenos Aires. Along the route, which stretched over 8,500 km, 107 cacti locations were visited and an altitude of up to 4,170 m was reached.

As usual, many spectacular cacti locations could be discovered on this journey, too, and the beauty and culture of the country could be enjoyed.

The four travellers found relaxation in the thermal spas of Thermas Santa Teresita, for instance, a spa hotel with warm thermal water. It was also a great experience to watch condors in the wild in the province San Luis.

In the last week Clemens Füssl and Kerstin Schipani had to leave for Austria earlier for occupational reasons, while Gert Neuhuber and Alfred Draxler found accommodation in San Luis,

where they initially went on day trips in the area around Rio Quinto. There they found *G. poeschlii* and *G. fischeri.* Of course, the locality of *G. neuhuberi* could not be missing in the vicinity of the Benedictine monastery near Suyuque Nuevo, it was the icing on the cake.

Impressed by the ample footage from Argentina, the cacti lovers gave themselves another treat at the buffet for the evening, bought one or two second generation cultivations and then gathered in the lecture room for that night's presentation by Volker Schädlich. He reported on his adventurous journey to Paraguay the previous spring with his travel companions Michael Melojer and Holger Lunau.

The title of the presentation "Much water, few cacti" gave clues as to what to expect. Prior to their arrival there had been an amount of rainfall of 300 litres per square metre, a considerable amount of precipitation after almost two years of drought in this area. The first week of the journey was characterized by extensive restrictions due to the bad conditions of the roads, which were often even impassable. Thus only the few tarmac roads could be driven on in search of cacti. Most of the time only well-known localities were visited by the speaker. After all, taut *G. mihanovichii*, *G. friedrichii* and *G. pflanzii* could be found. Although not planned, it was decided to spend the journey's second week in Mato Grosso do Sul in Brazil. Here, too, mainly localities discovered by Volker Schädlich were revisited. It was a great pleasure that Holger Lunau found *G. matoense* again at the last known locality. In 2006 Ludwig Bercht and Volker Schädlich had rediscovered the species, which had been considered extinct for a long time. Since then, the speaker had repeatedly visited these localities, which are threatened by fire clearing, but had never found the plants, not even during another common journey with Holger Lunau in 2019. Apart from that, in the way of spherical cacti *G. anisitsii*, *Frailea melitaea*, *F. angelicana*, *Echinopsis rhodotricha* and *Discocactus silicicola* were tracked. According to the speaker, cacti density has decreased dramatically since his first visit of the area in 2001. The habitats, which had been only small twenty years ago, have been diminished even further and the remaining strips of natural vegetation are

not sufficient for cacti to survive in the long run. These effects are reinforced by proceeding climate change. The travellers spent the last two weeks in eastern Paraguay, taking accommodation in the area of Cordillera de los Altos near Paraguari for their remaining journey. *G. fleischerianum* was rather frequently found, for all the other spherical cacti the same situation as in Mato Grosso do Sul was true. One highlight of the journey was certainly a visit to the Jesuit mission La Santísima Trinidad de Paraná in Trinidad in the very south of Paraguay. Regrettably, the search for cacti was of no avail here as well. Although taking a lot of effort, only a few *Cereus*, *Epiphyllum* and *Rhipsalis* could be traced. The area along Rio Panama is very much shaped by agriculture on Paraguayan territory. Despite the large number of impediments, the speaker ended on a positive note in his résumé. Never before had he seen the Chaco so green and now, he realizes why the natives call this region the green hell.

The evening was far from being over and most conference guests were chatting till late at night in the Spanish moss greenhouse about travel experiences, discussing nomenclature or simply taking pleasure in being able to revive old friendships over a bottle of beer.

The topic of the 2024 conference in Linz was also determined. From 31st May to 2nd June, we are going to have a closer look at the seed group Muscosemineum (for details go to https://cactusgti.eu). We are looking forward to meeting again in Linz Botanical Garden in the year to come.

# Studies on the level of ploidy in the genus *Gymnocalycium*

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**ABSTRACT**

**The Working Group SCHÜTZIANA has examined a total of 778 seed samples of the genus *Gymnocalycium* to determine the level of ploidy between 2020 and 2023. Especially in the subgenera Scabrosemineum (diploid, tetraploid) and even more in the subgenus Gymnocalycium (diploid, tetraploid, hexaploid) polyploidy could be detected. The results of the analyses are presented below.**

**KEYWORDS: Cactaceae, *Gymnocalycium*, ploidy level.**

## INTRODUCTION

The Working Group SCHÜTZIANA set itself the goal of expanding knowledge about the genus *Gymnocalycium* and disseminating this knowledge in the journal of the same name. Part of the working group's activity relates to work on the assignment of unclear taxa or populations of the genus. In particular, the previous approach based on morphological characteristics is increasingly reaching its limits now. Identical habitat conditions at different locations sometimes lead to morphologically very similar plants that can hardly be distinguished.

Therefore the Working Group SCHÜTZIANA has looked for ways to circumvent this dilemma. With the determination of the ploidy level↑ and the practical implementation of the analyses by Mr Krit Raemakers (NL) they found a way to make this method usable for the working group, thus being able to shed more light on relationships between morphologically similar species through this additional methodological component.

## METHOD

For each sample 6-20 seeds (with embryo present) are crushed with a fine blade. *Clivia miniata* serves as a known reference sample and is treated adequately. DAPI↑ (4′,6-diamidino-2-phenylindole) is added to each sample. This step produces a suspension with cell nuclei, in which

DAPI has bonded to the nucleobases↑ adenine and thymine. Subsequently, filtration is carried out. The cell nuclei with the bonded DAPI pass through the filter medium. The samples are then transferred successively to the analyser and activated by a laser: the DAPI bonded to the nucleobases emits light. The amount of light is measured in the analyser. It is reciprocal to the amount of nuclear material present. The measured amount of light is then put in relation to the known sample of *Clivia miniata* and evaluated.

## RESULTS

In the past 3 decades, a manageable number of studies on determined levels of ploidy in the genus *Gymnocalycium* have been published sporadically. Apart from the field numbers of the individual specimens, the decisive factor for the assignment of the results is the name given to the species. In the course of these investigations some inconsistencies and obvious misclassifications were found, which, however, shall not be the subject of this publication.

Table 1: Sources and number of own investigations and those known from literature on the level of ploidy in the genus *Gymnocalycium*.

| | |
|---|---|
| Working Group Schütziana | 778 |
| Till & Lambrou (1993) | 22 |
| Till & Lambrou (1998) | 51 |
| Řepka et al. (2015)[1)] | 1 |
| Řepka et al. (2015)[2)] | 23 |
| Řepka (2018) | 4 |
| Řepka (2019)[1)] | 9 |
| Řepka (2019)[2)] | 6 |
| **Sum** | **894** |

Since 2018, the Working Group SCHÜTZIANA has had a total of 778 seed samples analysed in 9 rounds of investigations. Here, too, species' names were of course assigned in order to be able to address the taxa of the individual localities. As a result of the analyses, however, some names had to be changed because the plants had obviously been addressed incorrectly. This is a positive result. Furthermore, in the case of *G. parvulum* (Spegazzini) Spegazzini, for example, it was shown that the northern populations (*G. parvulum* subsp. *agnesiae* F. Berger, *G. parvulum* subsp. *amoenum* (H. Till) F. Berger and *G. parvulum* subsp. *huettneri* F. Berger) are tetraploid (4n). The examined *G. parvulum* from the central and southern range all turned out to be hexaploid (6n). Further interesting results still need to be investigated. These will be presented at a later date. The following designation of taxa was done by the individual finders and in some cases is not yet final.

In this publication, the individual results of the analyses on the level of ploidy are presented. Results that still need to be validated are not listed.

Table 2: Individual results of the analyses of the level of ploidy of the genus *Gymnocalycium* from the Working Group SCHÜTZIANA

List of acronyms used:
Be: Franz Berger, Austria
CH: Jaromir Chvastek, Czech Republic
EZ: Ernst Zecher, Austria
Gf: Norbert Gerloff, Germany
GN: Gert Neuhuber, Austria
HT: Hans Till, Austria
HU: Leopoldo Horst, Brazil & Werner Uebelmann, Switzerland
HUN: Cyrill Hunkeler, Switzerland
HV: Herman Vertongen, Belgium
JPR: Jaroslav Prochazka, Czech Republic
KH: Bruno Knutti & Christian Hefti, Switzerland
Lau: Alfred Lau, Germany
LB: Ludwig Bercht, Netherlands
Lun: Holger Lunau, Germany
MaW: Mario Wick, Germany
MM: Massimo Meregalli, Italy
MS: Miroslaw Sochurek, Czech Republic
MT: Martin Tvirdik, Czech Republic
P: Jörg & Brigitte Piltz, Germany
PR: Karl-Heinz Prestlé, Netherlands
RB: Rolf Bertz, Germany
RER: Radomir Řepka, Czech Republic
RH: Ralf Hillmann, Switzerland
SAR: Elisabeth & Norbert Sarnes, Germany
SNE: Bernd Schneekloth, Germany
SPE: Reiner Sperling, Germany
STO: H. Amerhauser, F. Strigl, H. Till, Austria
Tom: Tomáš Kulhánek, Czech Republic
TS: Thomas Strub, Switzerland
VG: Victor Gapon, Russia
VoS: Volker Schädlich, Germany
VS: Vladimir Šorma, Czech Republic
WP: Wolfgang Papsch, Austria
WR: Walter Rausch, Austria

| Taxon | Field Number | Level of Ploidy | Location | Province | Country |
|---|---|---|---|---|---|
| *achirasense* | SPE 290-133 | 2n | Achiras | Córdoba | Argentina |
| *achirasense* | Tom 342/2 | 2n | Sierra de Las Peñas, Los Molles | Córdoba | Argentina |
| *achirasense* | Tom 890/1 | 2n | Est. Los Gomeles | Córdoba | Argentina |
| *achirasense* | TS 766 | 2n | Elena | Córdoba | Argentina |
| *achirasense* | TS 2130a | 2n | La Esquina | San Luis | Argentina |
| *achirasense* subsp. *chacrasense* | TS 1638 | 2n | San Martín - Las Chacras | San Luis | Argentina |
| *acorrugatum* | SPE 542-268 | 2n | San Agustin de Valle Fertil | San Juan | Argentina |
| *affine* | MaW 206/324 | 4n | San Pedro Norte | Córdoba | Argentina |
| *affine* | MaW 227/359 | 4n | Caminiaga | Córdoba | Argentina |
| *affine* | MaW 246/379 | 4n | Villa Ojo de Agua | Santiago del Estero | Argentina |
| *affine* | Tom 1002/1 | 4n | San Francisco del Chañar | Córdoba | Argentina |
| *affine* | TS 654 | 4n | La Toma | Córdoba | Argentina |
| *affine* | TS 970 | 4n | Caminiaga | Córdoba | Argentina |
| *affine* | TS 987 | 4n | La Toma | Córdoba | Argentina |
| *affine* | TS 1399 | 4n | San Francisco del Chañar | Córdoba | Argentina |
| *affine* | TS 1400 | 4n | Villa Ojo de Agua | Santiago del Estero | Argentina |

| | | | | | |
|---|---|---|---|---|---|
| *affine* | TS 1405 | 4n | Villa Ojo de Agua | Santiago del Estero | Argentina |
| *affine* | TS 1406 | 4n | San Miguel | Córdoba | Argentina |
| *albiareolatum* | TS 1579 | 4n | Villa Sanagasta | La Rioja | Argentina |
| *alenae* | Tom 1003/1 | 2n | La Quinta | Córdoba | Argentina |
| *alenae* | Tom 1091/1 | 2n | San Francisco del Chañar | Córdoba | Argentina |
| *alenae* | TS 1510 | 2n | San Francisco del Chañar | Córdoba | Argentina |
| *andreae* | MaW 442/704 | 2n | Merlo → Lutti | Córdoba | Argentina |
| *andreae* | TS 747 | 2n | Merlo → Lutti | Córdoba | Argentina |
| *andreae* | VG 1162/1 | 2n | Refugio del Caraya | Córdoba | Argentina |
| *andreae* subsp. *pabloi* | Tom 484/1 | 2n | La Cumbre, Sierra Chica | Córdoba | Argentina |
| *angelae* | Gf 1300 | 2n | Tres Cerros | Corrientes | Argentina |
| *anisitsii* | VoS 28 | 2n | Concepción | Conception | Paraguay |
| *anisitsii* | VoS 286 | 2n | Río Apa | Mato Grosso do Sul | Brazil |
| *anisitsii* | VoS 290 | 2n | Concepción | Concepcion | Paraguay |
| *anisitsii* | VoS 525 | 2n | Tres Cerro | Concepcion | Paraguay |
| *anisitsii* | VoS 1200 | 2n | Tagatiya | Concepcion | Paraguay |
| *anisitsii* subsp. *tucavocense* | VoS 937 | 2n | Tucavaca | Santa Cruz | Bolivia |
| *anisitsii* subsp. *tucavocense* | VoS 2174 | 2n | Santo Corazon | Santa Cruz | Bolivia |
| *arzbergeri* | VoS 1201 | 2n | Concepción → Pozo Colorado | Pres. Hayes | Paraguay |
| *baldianum* | LB 1178 | 2n | Cuesta del Portezuelo | Catamarca | Argentina |
| *baldianum* | LB 1180 | 2n | X Ruta 11, Ruta 42 | Catamarca | Argentina |
| *baldianum* | LB 1191 | 2n | Casa Armada | Catamarca | Argentina |
| *baldianum* | LB 1197 | 2n | Anquincila | Catamarca | Argentina |
| *baldianum* | LB 6178 | 2n | Vilismán | Catamarca | Argentina |
| *baldianum* | SPE 719-371 | 2n | Buena Vista | Catamarca | Argentina |
| *baldianum* | SPE 740-382 | 2n | El Rodeo | Catamarca | Argentina |
| *baldianum* | SPE 757-391 | 2n | Los Morteros | Catamarca | Argentina |
| *baldianum* | SPE 767-394 | 2n | Ancasti | Catamarca | Argentina |
| *baldianum* | Tom 960/1 | 2n | Anquincila | Catamarca | Argentina |
| *baldianum* | Tom 966/1 | 2n | Vilismán | Catamarca | Argentina |
| *baldianum* | Tom 983/1 | 2n | Buena Vista | Catamarca | Argentina |
| *baldianum* | TS 675 | 2n | Sierra de Ancasti | Catamarca | Argentina |

| | | | | | |
|---|---|---|---|---|---|
| *baldianum* | TS 677 | 2n | Cuesta del Portezuelo | Catamarca | Argentina |
| *baldianum* | TS 1061 | 2n | El Taco | Catamarca | Argentina |
| *baldianum* | TS 1527 | 2n | Infanzón | Catamarca | Argentina |
| *baldianum* | TS 1544 | 2n | Anquincila | Catamarca | Argentina |
| *baldianum* | TS 1550 | 2n | Casa Armada | Catamarca | Argentina |
| *baldianum* | TS 1553 | 2n | El Rodeo | Catamarca | Argentina |
| *baldianum* | VoS 844 | 2n | Cuesta del Totoral | Catamarca | Argentina |
| *baldianum* subsp. *sanguiniflorum* | LB 1253 | 2n | Agua de las Palomas | Catamarca | Argentina |
| *baldianum* subsp. *sanguiniflorum* | LB 1255 | 2n | Agua de las Palomas | Catamarca | Argentina |
| *basiatrum* | MaW 423/664 | 2n | Chepes | La Rioja | Argentina |
| *bayrianum* | SPE 441-212 | 2n | La Candelaria | Salta | Argentina |
| *bayrianum* | SPE 710-366 | 2n | Sierra de Medina | Tucuman | Argentina |
| *berchtii* | LB 1383 | 4n | Los Duraznitos | San Luis | Argentina |
| *berchtii* | LB 4362 | 4n | Santa Rosa del Conlara | San Luis | Argentina |
| *berchtii* | LB 4364 | 4n | Los Chañares | San Luis | Argentina |
| *berchtii* | SPE 630-322 | 4n | Los Duraznitos | San Luis | Argentina |
| *berchtii* | SPE 631-323 | 4n | Los Duraznitos | San Luis | Argentina |
| *bodenbenderianum* | KH 25 | 2n | Andolucas | La Rioja | Argentina |
| *bodenbenderianum* var. *paucispinum – triacanthum* | Tom 952/1 | 2n | La Dorada | Catamarca | Argentina |
| *bodenbenderianum* var. *paucispinum – triacanthum* | Tom 955/1 | 2n | La Majada | Catamarca | Argentina |
| *bodenbenderianum* var. *paucispinum* fa. *guasayanense* | Tom 992/1 | 2n | Villa Guasayán | Catamarca | Argentina |
| *borthii* | SPE 629-321 | 2n | Los Chañares | San Luis | Argentina |
| *borthii* subsp. *kokori* | SPE 576-286 | 2n | Zanjitas | San Luis | Argentina |
| *borthii* subsp. *nogolense* | MaW 108/142 | 2n | Los Araditos | San Luis | Argentina |
| *borthii* var. *viridis* | GN 85/476 | 2n | Cerros del Rosario | San Luis | Argentina |
| *bruchii* subsp. *deminii* | VG 1176/2 | 4n | Cerro Uritorco | Córdoba | Argentina |
| *bruchii* subsp. *melojeri* | TS 1905 | 4n | Yacanto de Calamuchita → Cerro Linderos | Córdoba | Argentina |
| *bruchii* subsp. *melojeri* | TS 1914 | 4n | Yacanto de Calamuchita → Cerro Linderos | Córdoba | Argentina |
| *cabreraense* | VoS 2122 | 2n | Cerro Cabrera | Alto Paraguay | Paraguay |
| *calochlorum* | MaW 168/239 | 6n | Villa Carlos Paz | Córdoba | Argentina |
| *calochlorum* | TS 311 | 6n | Villa Las Jarillas | Córdoba | Argentina |

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| *calochlorum* | TS 850 | 6n | Tanti | Córdoba | Argentina |
| *calochlorum* | TS 1145 | 6n | El Durazno | Córdoba | Argentina |
| *calochlorum* | TS 1225 | 6n | Bosque Alegre | Córdoba | Argentina |
| *calochlorum* | TS 1428 | 6n | Tanti → Mallin | Córdoba | Argentina |
| *calochlorum?* | TS 24 | 4n | Falda del Carmen → Bosque Alegre | Córdoba | Argentina |
| *calochlorum?* | TS 1431 | 4n | Tanti → Mallin | Córdoba | Argentina |
| *campestre* | TS 82 | 4n | San Pedro de Toyos → Ischílin Viejo | Córdoba | Argentina |
| *campestre* | TS 87 | 4n | Ischílin Viejo → Ojo de Agua | Córdoba | Argentina |
| *campestre* | TS 134 | 4n | Santa Cruz → Inti Huasi | Córdoba | Argentina |
| *campestre* | TS 139 | 4n | Sauce Punco | Córdoba | Argentina |
| *campestre* | TS 144 | 4n | Macha → Villa Tulumba | Córdoba | Argentina |
| *campestre* | TS 145 | 4n | Macha → Villa Tulumba | Córdoba | Argentina |
| *campestre* | TS 149 | 4n | La Estanque → Villa Tulumba | Córdoba | Argentina |
| *campestre* | TS 375 | 4n | Los Terrones | Córdoba | Argentina |
| *campestre* | TS 379 | 4n | Ongamira | Córdoba | Argentina |
| *campestre* | TS 412 | 4n | Los Chañares | Córdoba | Argentina |
| *campestre* | TS 434 | 4n | Copacabana | Córdoba | Argentina |
| *campestre* | TS 447 | 4n | Inti Huasi | Córdoba | Argentina |
| *campestre* | TS 453 | 4n | Santa Cruz | Córdoba | Argentina |
| *campestre* | TS 585 | 4n | Copacabana | Córdoba | Argentina |
| *campestre* | TS 589 | 4n | Copacabana | Córdoba | Argentina |
| *campestre* | TS 610 | 4n | Macha → Los Chañares | Córdoba | Argentina |
| *campestre* | TS 619 | 4n | Sauce Punco → Santa Cruz | Córdoba | Argentina |
| *campestre* | TS 649 | 4n | Villa Tulumba | Córdoba | Argentina |
| *campestre* | TS 915 | 4n | Ongamira | Córdoba | Argentina |
| *campestre* | TS 925 | 4n | Macha | Córdoba | Argentina |
| *campestre* | TS 927 | 4n | Macha | Córdoba | Argentina |
| *campestre* | TS 954b | 4n | Inti Huasi | Córdoba | Argentina |
| *campestre* | TS 959a | 4n | Santa Cruz | Córdoba | Argentina |
| *campestre* | TS 963a | 4n | Santa Cruz | Córdoba | Argentina |
| *campestre* | TS 1094 | 4n | Inti Huasi | Córdoba | Argentina |
| *campestre* | TS 1380 | 4n | La Toma | Córdoba | Argentina |
| *campestre* | TS 1381 | 4n | La Toma | Córdoba | Argentina |
| *campestre* | TS 1413 | 4n | Villa Tulumba | Córdoba | Argentina |

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| *capillense* | MaW 184/280 | 4n | El Puente → El Vallecito | Córdoba | Argentina |
| *capillense* | MaW 285/437 | 4n | Ciénaga del Coro | Córdoba | Argentina |
| *capillense* | MaW 334/512 | 4n | Ongamira | Córdoba | Argentina |
| *capillense* | MaW 436/690 | 4n | Ámbul | Córdoba | Argentina |
| *capillense* | SPE 802-410 | 4n | Las Chacras | Córdoba | Argentina |
| *capillense* | TS 736 | 4n | Jaime → Ámbul | Córdoba | Argentina |
| *cardenasianum* subsp. *armatum* | VoS 996 | 2n | Paichu Centro | Tarija | Bolivia |
| *carminanthum* | SPE 736-380 | 4n | El Rodeo | Catamarca | Argentina |
| *carminanthum* | SPE 739-381 | 4n | El Rodeo | Catamarca | Argentina |
| *carminanthum* | SPE 742-383 | 4n | El Rodeo | Catamarca | Argentina |
| *carminanthum* | VoS 3133 | 4n | El Rodeo | Catamarca | Argentina |
| *carolinense* | TS 526 | 4n | Estancia San Salvador | San Luis | Argentina |
| *castellanosii* subsp. *armillatum* | MaW 427/669 | 2n | Ulapes | La Rioja | Argentina |
| *castellanosii* subsp. *bozsingianum* | WP 343/735 | 2n | Chepes Viejo | La Rioja | Argentina |
| *castellanosii* subsp. *ferocius* | SPE 788-403 | 2n | Tuclame | Córdoba | Argentina |
| *catamarcense* | Tom 708/1 | 2n | Andalgala → Choya | Catamarca | Argentina |
| *catamarcense* fa. *belense* | SPE 496-233 | 2n | Belen | Catamarca | Argentina |
| *catamarcense* fa. *ensispinum* | SPE 414-196 | 2n | Andalgala | Catamarca | Argentina |
| *catamarcense* subsp. *acinacispinum* | SPE 409-194 | 2n | Colpes | Catamarca | Argentina |
| *chacoense* | VoS 260 | 2n | Cerro San Miguel | Santa Cruz | Bolivia |
| *chiquitanum* | VoS 36 | 2n | La Cantera | Santa Cruz | Bolivia |
| *chiquitanum* | VoS 331 | 2n | Chaco | Santa Cruz | Bolivia |
| *chubutense* var. *dubniorum* | TS 1822 | 4n | Puerto Madryn → Punta Loma | Chubut | Argentina |
| *coloradense* | Tom 538/1 | 2n | Sierra Punta Negra | La Rioja | Argentina |
| *denudatum* | Lun 152/1 | 2n | Minas do Camaquã | Rio Grande do Sul | Brazil |
| *denudatum* subsp. *angulatum* | MM 418 | 2n | Serra do Cavera | Rio Grande do Sul | Brazil |
| *erinaceum* | TS 113 | 2n | Cañada de Río Pinto | Córdoba | Argentina |
| *erinaceum* | TS 123 | 2n | San Pedro Norte → Caminiaga | Córdoba | Argentina |
| *erinaceum* | TS 125 | 2n | San Pedro Norte → Caminiaga | Córdoba | Argentina |
| *erinaceum* | TS 130 | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 364 | 2n | Ongamira | Córdoba | Argentina |
| *erinaceum* | TS 398 | 2n | Museo Fader | Córdoba | Argentina |

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| *erinaceum* | TS 400 | 2n | Museo Fader | Córdoba | Argentina |
| *erinaceum* | TS 406 | 2n | Villa Albertina | Córdoba | Argentina |
| *erinaceum* | TS 425 | 2n | Copacabana | Córdoba | Argentina |
| *erinaceum* | TS 449 | 2n | Inti Huasi | Córdoba | Argentina |
| *erinaceum* | TS 454 | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 597 | 2n | Ischilín Viejo | Córdoba | Argentina |
| *erinaceum* | TS 612 | 2n | Sauce Punco | Córdoba | Argentina |
| *erinaceum* | TS 622 | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 941 | 2n | Sierra Copacabana | Córdoba | Argentina |
| *erinaceum* | TS 961a | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 964 | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 990 | 2n | Caminiaga | Córdoba | Argentina |
| *erinaceum* | TS 1342 | 2n | Cañada de Río Pinto | Córdoba | Argentina |
| *erinaceum* | TS 1346 | 2n | Villa Albertina | Córdoba | Argentina |
| *erinaceum* | TS 1348 | 2n | Villa Albertina | Córdoba | Argentina |
| *erinaceum* | TS 1369 | 2n | Inti Huasi → San Pedro Norte | Córdoba | Argentina |
| *erinaceum* | TS 1373 | 2n | Santa Cruz | Córdoba | Argentina |
| *erinaceum* | TS 1385 | 2n | San Pedro Norte | Córdoba | Argentina |
| *erinaceum* | TS 1387 | 2n | San Pedro Norte | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 95 | 2n | Las Palmas → La Higuerita | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 103 | 2n | Ongamira → Río Pinto | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 381 | 2n | Ongamira | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 893 | 2n | Arroyo de la Luna | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 895 | 2n | Ongamira | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 1329 | 2n | Ongamira | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 1338 | 2n | Parador Raices | Córdoba | Argentina |
| *erinaceum* var. *paucisquamosum* | TS 1485 | 2n | Cerro Colchiquin | Córdoba | Argentina |
| *erolesii* | KH 1275 | 2n | Vera | Santa Fe | Argentina |
| *erolesii* | KH 1282 | 2n | Malabrigo | Santa Fe | Argentina |
| *esperanzae* | MaW 425/666 | 2n | Corral de Isaac | La Rioja | Argentina |
| *eurypleurum* | VoS 14 | 2n | Agua Dulce | Nueva Asuncion | Paraguay |
| *eurypleurum* | VoS 20 | 2n | Fortin Palmar de las Islas | Nueva Asuncion | Paraguay |
| *eurypleurum* | VoS 2142 | 2n | Cerro Leon | Alto Paraguay | Paraguay |
| *eytianum* | VoS 58 | 2n | Salinas | Santa Cruz | Bolivia |

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| *ferrarii* | KH 336 | 2n | Villa Mazán | La Rioja | Argentina |
| *ferrarii* | Tom 281/1 | 2n | Sta. Teresita, Sierra de Mazán | La Rioja | Argentina |
| *ferrarii* | TS 1054 | 2n | Villa Mazán | La Rioja | Argentina |
| *fischeri* | MaW 322/489 | 4n | Daniel Donovan | San Luis | Argentina |
| *fischeri* | MaW 323/491 | 4n | El Tala | San Luis | Argentina |
| *fischeri* | MaW 326/495 | 4n | El Volcán | San Luis | Argentina |
| *fleischerianum* | VoS 315 | 2n | Chololó | Paraguari | Paraguay |
| *frankianum* | MaW 250/384 | 4n | San Francisco | Santiago del Estero | Argentina |
| *frankianum* | Tom 730/1 | 4n | Sierra Guasayán → Alto Bello | Santiago del Estero | Argentina |
| *frankianum* | Tom 993/1 | 4n | La Puerta | Catamarca | Argentina |
| *frankianum* | TS 181 | 4n | Santa Catalina | Santiago del Estero | Argentina |
| *frankianum* | TS 182 | 4n | Santa Catalina | Santiago del Estero | Argentina |
| *frankianum* | TS 1403 | 4n | Puesto de Rosario | Santiago del Estero | Argentina |
| *frankianum* | TS 1404 | 4n | Puesto de Rosario | Santiago del Estero | Argentina |
| *frankianum – robustum* | Tom 997/1 | 4n | Ramirez de Velazco | Santiago del Estero | Argentina |
| *friedrichii* | VoS 9/a | 2n | La Patria | Chaco Boreal | Paraguay |
| *friedrichii* | VoS 17/a | 2n | Americo Pico | Nueva Asuncion | Paraguay |
| *friedrichii* | VoS 268 | 2n | Gral. P. Colman | Alto Paraguay | Paraguay |
| *friedrichii* | VoS 335 | 2n | Charagua → Yapiroa | Santa Cruz | Bolivia |
| *friedrichii* subsp. *stenopleurum* | VoS 249 | 2n | Cerro Leon | Alto Paraguay | Paraguay |
| *friedrichii* subsp. *stenopleurum* | VoS 2138 | 2n | Cerro Leon | Alto Paraguay | Paraguay |
| *gaponii* | GN 851a/4200 | 2n | Los Molles | Córdoba | Argentina |
| *gaponii* | Tom 776/2 | 2n | El Potrero | Córdoba | Argentina |
| *gaponii* | Tom 911/1 | 2n | Mina Clavero | Córdoba | Argentina |
| *gaponii* | TS 489 | 2n | La Mudana | Córdoba | Argentina |
| *gaponii* | TS 490a | 2n | Ojo de Agua → La Mudana | Córdoba | Argentina |
| *gaponii* | TS 493 | 2n | La Mudana | Córdoba | Argentina |
| *gaponii* | TS 494 | 2n | Las Palmas → La Mudana | Córdoba | Argentina |

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| *gaponii* | TS 499 | 2n | Taninga → Cuchiyaco | Córdoba | Argentina |
| *gaponii* | TS 500 | 2n | Panaholma | Córdoba | Argentina |
| *gaponii* | TS 828 | 2n | Las Palmas → Los Tuneles | Córdoba | Argentina |
| *gaponii* | TS 832c | 2n | Piedras Pintadas | Córdoba | Argentina |
| *gaponii* | TS 838 | 2n | Guasapampa | Córdoba | Argentina |
| *gaponii* | TS 1030 | 2n | Las Palmas | Córdoba | Argentina |
| *gaponii* | TS 1173 | 2n | Yerba Buena | Córdoba | Argentina |
| *gaponii* | TS 1274 | 2n | Panaholma | Córdoba | Argentina |
| *gaponii* subsp. *geyeri* | GN 376/1260 | 2n | La Sierrita | Córdoba | Argentina |
| *gaponii* subsp. *geyeri* | Tom 1248/1 | 2n | Las Chacras | Córdoba | Argentina |
| *gaponii* subsp. *geyeri* | Tom 1250/1 | 2n | Las Chacras | Córdoba | Argentina |
| *gaponii* subsp. *geyeri* | WP 356/751 | 2n | Villa Cura Brochero | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | RH 3638 | 2n | Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | Tom 926/1 | 2n | Tosno | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 229 | 2n | Guasapampa → Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 231 | 2n | Guasapampa → Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 234 | 2n | Guasapampa → Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 235 | 2n | Guasapampa → Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 237 | 2n | Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 238 | 2n | Guasapampa → Ojo de Agua | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | TS 2050 | 2n | Ciénaga del Coro | Córdoba | Argentina |
| *gaponii* subsp. *macrocarpum* | VG 315/1 | 2n | Ciénaga del Coro | Córdoba | Argentina |
| *gibbosum* | TS 1813 | 4n | Carmen de Patagones | Buenos Aires | Argentina |
| *gibbosum* var. *brachypetalum* | TS 1842 | 4n | San Antonio Oeste | Río Negro | Argentina |
| *gibbosum* var. *brachypetalum* | WP 55/70 | 4n | Carmen de Patagones | Rio Negro | Argentina |
| *gibbosum* var. *brachypetalum* | WP 120/165 | 4n | X Ruta 154, Ruta 22 | La Pampa | Argentina |
| *gibbosum* var. *chubutense* | SAR 513 | 4n | Río Chubut | Chubut | Argentina |
| *gibbosum* var. *chubutense* | TS 1821 | 4n | Mina Gonzalito | Río Negro | Argentina |
| *gibbosum* var. *chubutense* | TS 1840 | 4n | 28 de Julio | Chubut | Argentina |
| *gibbosum* var. *chubutense* | WP 44/55 | 4n | Arroyo de la Ventana | Rio Negro | Argentina |
| *gibbosum* var. *chubutense* | WP 154/241 | 4n | Punta Loma | Chubut | Argentina |
| *gibbosum* var. *ferox* | TS 1834 | 4n | Camarones → Bahía Bustamente | Chubut | Argentina |
| *glaucum* | KH 171 | 4n | Tinogasta | Catamarca | Argentina |
| *glaucum* | MaW 48/49 | 4n | El Salado | Catamarca | Argentina |

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| *glaucum* | RER 51 | 4n | San Blas | La Rioja | Argentina |
| *glaucum* | Tom 282/1 | 4n | Champihuasi → Alpasinche | La Rioja | Argentina |
| *glaucum* | Tom 531/1 | 4n | Salado → Copacabana | Catamarca | Argentina |
| *glaucum* | Tom 675/1 | 4n | San Blas | La Rioja | Argentina |
| *glaucum* | Tom 812/1 | 4n | El Salado | Catamarca | Argentina |
| *griseo-pallidum* | Lau 368 | 2n | Salinas | San José de Chiquitos | Bolivia |
| *guanchinense (rhodantherum)* | KH 354 | 2n | Miranda | La Rioja | Argentina |
| *guanchinense (rhodantherum)* | SPE 515-246 | 2n | Guanchin | La Rioja | Argentina |
| *guanchinense (rhodantherum)* | Tom 660/1 | 2n | Cuesta Guanchin | La Rioja | Argentina |
| *hamatum* | VoS 67 | 2n | Palos Blancos | Tarija | Bolivia |
| *hamatum* | VoS 968 | 2n | Palos Blancos | Tarija | Bolivia |
| *hamatum* | VoS 1929 | 2n | Palos Blancos | Tarija | Bolivia |
| ×*heidiae* | GN 714/2078 | 4n | Los Varelas | Catamarca | Argentina |
| ×*heidiae* | GN 925/3028 | 4n | Humaya | Catamarca | Argentina |
| ×*heidiae* | HV 871 | 4n | Singuil | Catamarca | Argentina |
| ×*heidiae* | SPE 723-373 | 4n | Los Varelas | Catamarca | Argentina |
| ×*heidiae* | SPE 726-374 | 4n | Los Varelas | Catamarca | Argentina |
| ×*heidiae* | SPE 728-375 | 4n | Los Varelas | Catamarca | Argentina |
| ×*heidiae* | SPE 732-377 | 4n | Los Tales | Catamarca | Argentina |
| ×*heidiae* | SPE 735-379 | 4n | El Rodeo | Catamarca | Argentina |
| ×*heidiae* | Tom 979/1 | 4n | Los Varelas → Humaya | Catamarca | Argentina |
| ×*heidiae* | Tom 1109/1 | 4n | Los Varelas → Humaya | Catamarca | Argentina |
| *horridispinum* | MaW 299/454 | 2n | La Mudana | Córdoba | Argentina |
| *horstii* | HU 79 | 4n | Cacapava do Sul | Rio Grande do Sul | Brazil |
| *hossei / mazanense / glaucum?* | MaW 44/45 | 4n | Villa Mazán | La Rioja | Argentina |
| *hossei / glaucum?* | SPE 400-189 | 4n | Aimogasta | Catamarca | Argentina |
| *hossei / mazanense* | SPE 388-184 | 2n | Aimogasta | Catamarca | Argentina |
| *hossei / mazanense / ambatoense?* | MaW 276/425 | 2n | Cuesta de la Cébila | Catamarca | Argentina |
| *hossei / mazanense / ambatoense?* | SPE 387-183 | 2n | Cuesta de la Cébila | Catamarca | Argentina |
| *hypthiacanthum* | KH 450 | 4n | San Carlos | Maldonado | Uruguay |
| *ilseae* | EZ 1031 | 4n | San Marcos Sierras | Córdoba | Argentina |
| *jochumii* | MM 305 | 4n | Las Torres | La Rioja | Argentina |

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| *kieslingii* | Tom 680/1 | 4n | Cuesta de la Cébila | La Rioja | Argentina |
| *kieslingii* | TS 1051 | 4n | Cuesta de la Cébila | Catamarca | Argentina |
| *kieslingii* fa. *alboareolatum* | KH 342 | 4n | El Huaco | La Rioja | Argentina |
| *kieslingii* fa. *castaneum* | TS 1567 | 4n | Anillaco | La Rioja | Argentina |
| *kieslingii* fa. *castaneum* | TS 1574 | 4n | Huaco | La Rioja | Argentina |
| *kroenleinii* subsp. *funettae* | SPE 203-092 | 2n | Sierra de los Quinteros | La Rioja | Argentina |
| *kuehhasii* | SPE 356-057 | 2n | Villa de Maria | Córdoba | Argentina |
| *kuehhasii* | TS 169 | 2n | Villa de Maria → San Miguel | Córdoba | Argentina |
| *kuehhasii* | TS 1407 | 2n | San Miguel | Córdoba | Argentina |
| *kuehhasii* subsp. *corneuspinum* | SPE 371-175 | 2n | Villa Ojo de Agua | Córdoba | Argentina |
| *kuehhasii* subsp. *corneuspinum* | TS 1517 | 2n | Baez → Villa Ojo de Agua | Santiago del Estero | Argentina |
| *kuehhasii* subsp. *corneuspinum* | TS 1518 | 2n | Baez → Villa Ojo de Agua | Santiago del Estero | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | LB 3377 | 2n | Rayo Cortado | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | MaW 226/357 | 2n | Cerro Colordo | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | MaW 386/618 | 2n | San Francisco del Chañar | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | RER 446 | 2n | Rayo Cortado | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | Tom 21/2 | 2n | Caminiaga | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | Tom 497/1 | 2n | Cerro Colorado | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 150 | 2n | San José de la Dormida → Churqui Cañada | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 153 | 2n | Cerro Colorado → Caminiaga | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 470 | 2n | Guayascate | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 638 | 2n | Cerro Colorado | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 653 | 2n | Villa Tulumba | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 660 | 2n | San Miguel | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 665 | 2n | San Francisco del Chañar → Villa de Maria | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 976 | 2n | Cerro Colorado | Córdoba | Argentina |
| *kuehhasii* subsp. *incurvatispinum* | TS 986 | 2n | Guayascate | Córdoba | Argentina |
| *kulhanekii* | TS 1321 | 2n | Cerro Uritorco | Córdoba | Argentina |
| *lamudanaense* | CH 1089 | 2n | La Mudana | Córdoba | Argentina |
| *marekiorum* | VoS 47 | 2n | Naranjos | Santa Cruz | Bolivia |
| *marekiorum* | VoS 48 | 2n | El Bajo | Santa Cruz | Bolivia |

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| *marekiorum* | VoS 49 | 2n | Villa Esperanza | Santa Cruz | Bolivia |
| *marekiorum* subsp. *sanjoseanum* | VoS 40 | 2n | San José | Santa Cruz | Bolivia |
| *marekiorum* subsp. *sanjoseanum* | VoS 932 | 2n | San José | Santa Cruz | Bolivia |
| *marekiorum* subsp. *sanjoseanum* | VoS 2199 | 2n | Santa Cruz | Santa Cruz | Bolivia |
| *marekiorum* var. *guaraniorum* | VoS 946 | 2n | Chochis | Santa Cruz | Bolivia |
| *marekiorum* var. *guaraniorum* | VoS 947 | 2n | Chochis | Santa Cruz | Bolivia |
| *marekiorum* var. *roboreanum* | VoS 45 | 2n | Roboré -> Santiago | Santa Cruz | Bolivia |
| *marekiorum* var. *roboreanum* | VoS 50 | 2n | Verdichterstation | Santa Cruz | Bolivia |
| *marekiorum* var. *roboreanum* | VoS 1886 | 2n | Roboré | Santa Cruz | Bolivia |
| *marianae* | SPE 713-368 | 2n | El Lindero | Catamarca | Argentina |
| *marianae* | Tom 847/1 | 2n | Buena Vista → Agua de Las Palomas | Catamarca | Argentina |
| *marsoneri* | LB 6169 | 2n | Recreo | Catamarca | Argentina |
| *marsoneri* | VoS 830 | 2n | Campo Quijano | Salta | Argentina |
| *marsoneri* | VoS 1391 | 2n | Choya | Santiago del Estero | Argentina |
| *marsoneri* | VoS 1392 | 2n | Choya | Santiago del Estero | Argentina |
| *marsoneri* | VoS 1393 | 2n | Frias | Catamarca | Argentina |
| *marsoneri* | VoS 3159 | 2n | Recreo | Catamarca | Argentina |
| *marsoneri* | VoS 3161 | 2n | Esquiu | Catamarca | Argentina |
| *matoense* | VoS 288 | 2n | Caracol | Mato Grosso do Sul | Brazil |
| *megatae* | VoS 60 | 2n | Salinas → Charagua | Santa Cruz | Bolivia |
| *megatae* | VoS 62 | 2n | Cumbaruy | Santa Cruz | Bolivia |
| *megatae* | VoS 1901 | 2n | Eyti | Santa Cruz | Bolivia |
| *megatae* | VoS 1920 | 2n | Ipitacuape | Santa Cruz | Bolivia |
| *megatae* | VoS 2144 | 2n | Mariscal | Boqueron | Paraguay |
| *megatae* subsp. *holdii* | VoS 34 | 2n | El Tinto → San José | Santa Cruz | Bolivia |
| *megatae* subsp. *holdii* | VoS 927 | 2n | Quimome | Santa Cruz | Bolivia |
| *melanocarpum* | PR 1022b | 2n | Paysandú | Paysandú | Uruguay |
| *mendozaense* | VoS 61 | 2n | Isiporenda | Santa Cruz | Bolivia |
| *mendozaense* | VoS 258 | 2n | Fortín Ravelo | Santa Cruz | Bolivia |
| *mendozaense* | VoS 606 | 2n | Cerro Cabrera | Boqueron | Paraguay |
| *mendozaense* | VoS 1906 | 2n | Amboro | Santa Cruz | Bolivia |

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| *meregallii* | MaW 439/697 | 4n | Merlo → Lutti | Córdoba | Argentina |
| *meregallii* | MaW 440/699 | 4n | Merlo → Lutti | Córdoba | Argentina |
| *meregallii* | Tom 596/2 | 4n | Los Vallecitos | Córdoba | Argentina |
| *meregallii* | TS 741 | 4n | Merlo → Lutti | Córdoba | Argentina |
| *meregallii* | TS 1693 | 4n | Los Vallecitos → Lutti | Córdoba | Argentina |
| *meregallii* | TS 2159 | 4n | Los Vallecitos | Córdoba | Argentina |
| *mesopotamicum* | VoS 1544 | 2n | Mercedes | Corrientes | Argentina |
| *mihanovichii* | VoS 20/a | 2n | Fn. Palmar de las Islas | Nueva Asuncion | Paraguay |
| *mihanovichii* | VoS 27 | 2n | Filadelfia, Colonia Meno | Nueva Asuncion | Paraguay |
| *mihanovichii* | VoS 263 | 2n | Fortín Palmar de las Islas | Alto Paraguay | Paraguay |
| *mihanovichii* | VoS 2129 | 2n | Puerto Casado | Alto Paraguay | Paraguay |
| *mihanovichii* | VoS 2132 | 2n | Madrejon | Alto Paraguay | Paraguay |
| *monvillei* | SPE 004-001 | 4n | Cerro Uritorco | Córdoba | Argentina |
| *monvillei* | SPE 315-148 | 4n | La Cumbre | Córdoba | Argentina |
| *monvillei* | Tom 342/1 | 4n | Sierra de Las Peñas | Córdoba | Argentina |
| *monvillei* | Tom 345/2 | 4n | Sierra de Las Peñas | Córdoba | Argentina |
| *monvillei* | Tom 363/2 | 4n | Copina | Córdoba | Argentina |
| *monvillei* | Tom 367/1 | 4n | Villa Benegas | Córdoba | Argentina |
| *monvillei* | Tom 467/3 | 4n | Cuchilla Nevada | Córdoba | Argentina |
| *monvillei* | Tom 471/4 | 4n | Los Gigantes | Córdoba | Argentina |
| *monvillei* | Tom 480/1 | 4n | Pampa de Olaen | Córdoba | Argentina |
| *monvillei* | Tom 484/3 | 4n | La Cumbre | Córdoba | Argentina |
| *monvillei* | Tom 556/1 | 4n | Villa de Soto → Cuchilla Nevada | Córdoba | Argentina |
| *monvillei* | Tom 559/1 | 4n | Dos Rios | Córdoba | Argentina |
| *monvillei* | Tom 582/1 | 4n | La Cumbrecita | Córdoba | Argentina |
| *monvillei* | Tom 758/2 | 4n | Lutti → Merlo | Córdoba | Argentina |
| *monvillei* | Tom 760/2 | 4n | El Filo, Sierra Comechingones | Córdoba | Argentina |
| *monvillei* | Tom 783/1 | 4n | Río Candelaria | Córdoba | Argentina |
| *monvillei* | Tom 785/2 | 4n | Cantera Mármol Azúl | Córdoba | Argentina |
| *monvillei* | Tom 587/2 | 4n | Yacanto de Calamuchita → Cerro Linderos | Córdoba | Argentina |
| *monvillei* | Tom 1172/2 | 4n | Sierra de Comechingones | Córdoba | Argentina |
| *monvillei* | Tom 1177/1 | 4n | Cerro Linderos | Córdoba | Argentina |
| *monvillei* | Tom 1177/2 | 4n | Cerro Linderos | Córdoba | Argentina |
| *monvillei* | TS 9 | 4n | Berrotáran → Los Poleos | Córdoba | Argentina |

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| *monvillei* | TS 57 | 4n | Molinari → Pampa de Olaén | Córdoba | Argentina |
| *monvillei* | TS 59 | 4n | Pampa de Olaén | Córdoba | Argentina |
| *monvillei* | TS 62 | 4n | La Falda → Olaén | Córdoba | Argentina |
| *monvillei* | TS 66 | 4n | Olaén → El Perchel | Córdoba | Argentina |
| *monvillei* | TS 91 | 4n | Las Palmas → La Higuerita | Córdoba | Argentina |
| *monvillei* | TS 111 | 4n | Río Pinto | Córdoba | Argentina |
| *monvillei* | TS 131 | 4n | Santa Cruz | Córdoba | Argentina |
| *monvillei* | TS 327 | 4n | Tanti | Córdoba | Argentina |
| *monvillei* | TS 353 | 4n | La Cumbre | Córdoba | Argentina |
| *monvillei* | TS 356 | 4n | La Cumbre | Córdoba | Argentina |
| *monvillei* | TS 359 | 4n | La Cumbre | Córdoba | Argentina |
| *monvillei* | TS 546 | 4n | Cerro Uritorco | Córdoba | Argentina |
| *monvillei* | TS 813 | 4n | Los Reartes | Córdoba | Argentina |
| *monvillei* | TS 845 | 4n | San Geronimo | Córdoba | Argentina |
| *monvillei* | TS 881 | 4n | Estancia El Rosario → Paso de Los Libres | Córdoba | Argentina |
| *monvillei* | TS 889 | 4n | La Falda | Córdoba | Argentina |
| *monvillei* | TS 1131 | 4n | Arroyo del Perchel | Córdoba | Argentina |
| *monvillei* | TS 1246 | 4n | Parador de la Montaña | Córdoba | Argentina |
| *monvillei* | TS 1248 | 4n | Parador de la Montaña | Córdoba | Argentina |
| *monvillei* | TS 1287 | 4n | San Gerónimo | Córdoba | Argentina |
| *monvillei* | TS 1438 | 4n | Estancia Rancho Grande | Córdoba | Argentina |
| *monvillei* | TS 1699 | 4n | Villa Berna | Córdoba | Argentina |
| *monvillei* | TS 1701 | 4n | Villa Berna | Córdoba | Argentina |
| *monvillei* | TS 1710 | 4n | Los Reartes → Potrero de Garay | Córdoba | Argentina |
| *monvillei* | TS 1754 | 4n | Ongamira → Ischilin | Córdoba | Argentina |
| *monvillei* | TS 1756 | 4n | Ongamira → Ischilin | Córdoba | Argentina |
| *monvillei* | TS 1758 | 4n | Ongamira → Ischilin | Córdoba | Argentina |
| *monvillei* | TS 1764 | 4n | Estancia El Rosario | Córdoba | Argentina |
| *monvillei* | TS 1888 | 4n | La Cumbrecita | Córdoba | Argentina |
| *monvillei* | TS 1899 | 4n | Parador de la Montaña | Córdoba | Argentina |
| *monvillei* | TS 2080a | 4n | Los Morteritos | Córdoba | Argentina |
| *monvillei* | TS 2122 | 4n | Athos Pampa | Córdoba | Argentina |
| *monvillei* | TS 2130b | 4n | La Esquina | San Luis | Argentina |
| *monvillei* | TS 2135 | 4n | Cerro Morro | San Luis | Argentina |

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| *monvillei* subsp. *gertrudae* | MaW 118/162 | 4n | Tamboreo | San Luis | Argentina |
| *monvillei* subsp. *gertrudae* | TS 531 | 4n | La Carolina | San Luis | Argentina |
| *monvillei* subsp. *gertrudae* | TS 748 | 4n | Merlo → Lutti | Córdoba | Argentina |
| *monvillei* subsp. *gertrudae* | TS 1655 | 4n | Inti Huasi | San Luis | Argentina |
| *monvillei* var. *coloratum* | TS 302 | 4n | La Estancia | Córdoba | Argentina |
| *monvillei* var. *coloratum* | TS 781 | 4n | Bosque Alegre | Córdoba | Argentina |
| *monvillei* var. *coloratum* | TS 789 | 4n | San Clemente → Potrero de Garay | Córdoba | Argentina |
| *monvillei* var. *coloratum* | TS 1191 | 4n | Bosque Alegre | Córdoba | Argentina |
| *monvillei* var. *coloratum* | TS 1214 | 4n | San Clemente → Potrero de Garay | Córdoba | Argentina |
| *monvillei* var. *coloratum* | TS 1235 | 4n | Villa Las Jarillas | Córdoba | Argentina |
| *monvillei* var. *safronovii* | SPE 799-409 | 4n | Las Chacras | Córdoba | Argentina |
| *monvillei* var. *safronovii* | TS 256 | 4n | Ámbul | Córdoba | Argentina |
| *monvillei* var. *safronovii* | TS 738 | 4n | Jaime → Ambul | Córdoba | Argentina |
| *monvillei* var. *safronovii* | TS 1271 | 4n | Ámbul | Córdoba | Argentina |
| *monvillei* var. *safronovii* | TS 1725 | 4n | Villa de Pocho | Córdoba | Argentina |
| *monvillei* var. *steineri* | MaW 80/103 | 4n | Tanti | Córdoba | Argentina |
| *monvillei* var. *steineri* | Tom 468/2 | 4n | Tanti | Córdoba | Argentina |
| *monvillei* var. *steineri* | Tom 469/2 | 4n | Cuchilla Nevada | Córdoba | Argentina |
| *monvillei* var. *steineri* | Tom 573/1 | 4n | Villa Benegas | Córdoba | Argentina |
| *monvillei* var. *steineri* | TS 264 | 4n | Villa Benegas | Córdoba | Argentina |
| *monvillei* var. *steineri* | TS 1722 | 4n | Panaholma → Los Morteritos | Córdoba | Argentina |
| *monvillei x campestre* (natural hybrid) | TS 140 | 4n | Sauce Punco | Córdoba | Argentina |
| *monvillei x campestre* (natural hybrid) | TS 1093 | 4n | Inti Huasi | Córdoba | Argentina |
| *morroense* | LB 306 | 4n | La Toma | San Luis | Argentina |
| *morroense* | LB 326 | 4n | Sierra del Morro, La Toma → La Esquina | San Luis | Argentina |
| *morroense* | LB 4346 | 4n | Rincon Carmen | San Luis | Argentina |
| *morroense* | LB 4354 | 4n | Las Aguadas | San Luis | Argentina |
| *morroense* | MaW 128/173 | 4n | La Puerta | San Luis | Argentina |
| *morroense* | SPE 589-295 | 4n | El Morro | San Luis | Argentina |
| *morroense* | SPE 597-299 | 4n | Cerro Guanaco | San Luis | Argentina |
| *morroense* | Tom 209/1 | 4n | La Troya | San Luis | Argentina |
| *morroense* | Tom 394/2 | 4n | Estancia Maria del Carmen | San Luis | Argentina |
| *morroense* | Tom 409/1 | 4n | Cerros del Rosario | San Luis | Argentina |
| *morroense* | Tom 414/1 | 4n | Sierra del Morro, Cerro Guanaco del Morro | San Luis | Argentina |

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| *mostii* | KH 211 | 2n | Cosquin | Córdoba | Argentina |
| *nataliae* | MaW 313/476 | 4n | La Esquina | San Luis | Argentina |
| *nataliae* | SPE 621-315 | 4n | Los Lobos | San Luis | Argentina |
| *nataliae* | Tom 203/1 | 4n | San Isidro | San Luis | Argentina |
| *nataliae* | Tom 397/1 | 4n | La Sola | San Luis | Argentina |
| *nataliae* | Tom 402/1 | 4n | Pozo del Espinillo | San Luis | Argentina |
| *nataliae* | Tom 419/1 | 4n | Sierra Yulto, Coronel Alzogaray | San Luis | Argentina |
| *nataliae* | Tom 906/1 | 4n | Los Lobos | San Luis | Argentina |
| *neuhuberi* | TS 280 | 2n | Suyuque Nuevo | San Luis | Argentina |
| *nigriareolatum* | SPE 730-376 | 2n | Los Tales | Catamarca | Argentina |
| *nigriareolatum* | SPE 734-378 | 2n | La Puerta | Catamarca | Argentina |
| *nigriareolatum* | SPE 752-388 | 2n | El Portezuelo | Catamarca | Argentina |
| *ochoterenai* subsp. *intertextum* | KH 204 | 2n | La Higuera | Córdoba | Argentina |
| *ochoterenai* subsp. *intertextum* | KH 704 | 2n | Rumi Huasi | Córdoba | Argentina |
| *ochoterenai* subsp. *intertextum* | SPE 790-404 | 2n | Tuclame | Córdoba | Argentina |
| *ochoterenai* subsp. *intertextum* | SPE 795-407 | 2n | Piedras Anchas | Córdoba | Argentina |
| *orientale* subsp. *kainradliae* | TS 1668 | 2n | Los Membrillos | San Luis | Argentina |
| *orientale* var. *vikulovii* | SPE 641-329 | 2n | Yacanto de Calamuchita → Cerro Linderos | Córdoba | Argentina |
| *orientale* var. *vikulovii* | SPE 643-330 | 2n | Yacanto de Calamuchita → Cerro Linderos | Córdoba | Argentina |
| *orientale* var. *vikulovii* | Tom 885/1 | 2n | Villa Champaqui → San Miguel | Córdoba | Argentina |
| *orientale* var. *vikulovii* | TS 1706 | 2n | Yacanto de Calamuchita | Córdoba | Argentina |
| *orientale* var. *vikulovii* | TS 2166 | 2n | Lutti | Córdoba | Argentina |
| *paediophilum* | VoS 22 | 2n | Cerro Leon | Nueva Asuncion | Paraguay |
| *paediophilum* | VoS 2139 | 2n | Cerro Leon | Alto Paraguay | Paraguay |
| *papschii* | SNE 83/249 | 2n | San Javier, La Constancia | Córdoba | Argentina |
| *papschii* | Tom 234/1 | 2n | San Javier, La Constancia | Córdoba | Argentina |
| *papschii* | Tom 1262/1 | 2n | Luyaba | Córdoba | Argentina |
| *papschii* | VG 295/1 | 2n | Luyaba | Córdoba | Argentina |
| *papschii* | VG 296/1 | 2n | Luyaba | Córdoba | Argentina |
| *papschii* | WP 83/111 | 2n | San Javier, Cerro Champaqui | Córdoba | Argentina |
| *paraguayense* | VoS 33 | 2n | Ita Moroti | Cordillera | Paraguay |
| *parvulum* | KH 1338 | 6n | Nina Paula | Córdoba | Argentina |
| *parvulum* | MaW 303/462 | 6n | Cuesta de Brochero | Córdoba | Argentina |
| *parvulum* | SPE 810-415 | 6n | Mina Clavero | Córdoba | Argentina |

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| *parvulum* | SPE 819-421 | 6n | Panaholma | Córdoba | Argentina |
| *parvulum* | TS 259 | 6n | Panaholma | Córdoba | Argentina |
| *parvulum* | TS 261 | 6n | Panaholma | Córdoba | Argentina |
| *parvulum* | TS 263 | 6n | Mina Clavero → Villa Benegas | Córdoba | Argentina |
| *parvulum* | TS 265 | 6n | Nono → Las Rabonas | Córdoba | Argentina |
| *parvulum* | TS 1160 | 6n | Cura Brochero | Córdoba | Argentina |
| *parvulum* | TS 1720 | 6n | Panaholma → San Lorenzo | Córdoba | Argentina |
| *parvulum* | TS 1935 | 6n | Villa Benegas | Córdoba | Argentina |
| *parvulum* | TS 2095 | 6n | Ojo de Agua | Córdoba | Argentina |
| *parvulum* subsp. *agnesiae* | MaW 191/291 | 4n | Ischilín Viejo | Córdoba | Argentina |
| *parvulum* subsp. *agnesiae* | TS 1366 | 4n | Avellaneda | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | Tom 918/1 | 4n | Las Palmas | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | Tom 923/1 | 4n | Est. Guadalupe → Ciénaga del Coro | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 246 | 4n | Las Palmas | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 247 | 4n | Las Palmas → La Mudana | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 248 | 4n | Las Palmas → La Mudana | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 251 | 4n | Las Palmas → La Mudana | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 252 | 4n | Las Palmas → La Mudana | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 740 | 4n | Ámbul | Córdoba | Argentina |
| *parvulum* subsp. *amoenum* | TS 1728 | 4n | La Tablada → Las Palmas | Córdoba | Argentina |
| *parvulum* subsp. *amoenum?* | SPE 817-420 | 4n | Panaholma | Córdoba | Argentina |
| *parvulum* subsp. *huettneri* | MaW 207/325 | 4n | San Pedro Norte | Córdoba | Argentina |
| *parvulum?* | TS 1719 | 4n | Panaholma → San Lorenzo | Córdoba | Argentina |
| *pflanzii* | VoS 2210 | 2n | La Floresta | Santa Cruz | Bolivia |
| *pflanzii* subsp. *argentinense* | MaW 262/398 | 2n | Peñas Azules | Salta | Argentina |
| *pflanzii* var. *lagunillasense* | VoS 57 | 2n | Lagunilla | Santa Cruz | Bolivia |
| *pflanzii* var. *paraguayense* | VoS 8 | 2n | La Patria | Chaco Boreal | Paraguay |
| *pinalii* | TS 371 | 2n | Los Terrones | Córdoba | Argentina |
| *pinalii* | TS 373 | 2n | Los Terrones | Córdoba | Argentina |
| *pinalii* | TS 374 | 2n | Los Terrones | Córdoba | Argentina |
| *platense* subsp. nov. | MS 42 | 2n | Coronda → Arocena | Santa Fé | Argentina |
| *poeschlii* | SPE 584-290 | 4n | La Petra, Rio Quinto | San Luis | Argentina |
| *poeschlii* | Tom 898/1 | 4n | Paso de las Carretas | San Luis | Argentina |
| *poeschlii x fischeri* (natural hybrid) | MaW 146/203 | 4n | Saladillo | San Luis | Argentina |

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| *polycephalum* | Tom 672/1 | 2n | Pituil | La Rioja | Argentina |
| *ponomarevae* | GN 1031/4042 | 4n | El Alto | Catamarca | Argentina |
| *ponomarevae* | JPR 179/550 | 4n | El Alto → Portezuelo | Catamarca | Argentina |
| *ponomarevae* | LB 1227 | 4n | Tintigasta | Catamarca | Argentina |
| *ponomarevae* | LB 1231 | 4n | El Alto | Catamarca | Argentina |
| *ponomarevae* | Tom 70/1 | 4n | El Desmonte | Catamarca | Argentina |
| *ponomarevae* | Tom 71/1 | 4n | El Desmonte | Catamarca | Argentina |
| *ponomarevae* | Tom 962/1 | 4n | Vilismán | Catamarca | Argentina |
| *ponomarevae* | Tom 964/1 | 4n | Vilismán | Catamarca | Argentina |
| *ponomarevae* | Tom 965/1 | 4n | Vilismán | Catamarca | Argentina |
| *ponomarevae* | Tom 970/1 | 4n | Guayamba → Tintigasta | Catamarca | Argentina |
| *ponomarevae* | TS 678 | 4n | El Alto | Catamarca | Argentina |
| *ponomarevae* | TS 1537 | 4n | El Alto | Catamarca | Argentina |
| *ponomarevae* | VG 573/1 | 4n | El Desmonte | Catamarca | Argentina |
| *ponomarevae* | VG 988 | 4n | Vilismán | Catamarca | Argentina |
| *ponomarevae* | WP 236/501 | 4n | El Alto → Portezuelo | Catamarca | Argentina |
| *ponomarevae (baldianum* var. *albiflorum)* | LB 1233 | 4n | El Desmonte | Catamarca | Argentina |
| *ponomarevae (baldianum* var. *albiflorum)* | TS 1535 | 4n | El Alto → El Desmonte | Catamarca | Argentina |
| *ponomarevae (baldianum* var. *albiflorum)* | TS 1539 | 4n | Alijilan | Catamarca | Argentina |
| *prochazkianum* | MaW 405/634 | 2n | Quilino | Córdoba | Argentina |
| *prochazkianum* | MaW 407/640 | 2n | Orcosuni | Córdoba | Argentina |
| *prochazkianum* subsp. *simile* | MaW 70/86 | 2n | Orcosuni | Córdoba | Argentina |
| *pseudo-malacocarpus* | Lau 365 | 2n | Lourdes | Santa Cruz | Bolivia |
| *pseudo-malacocarpus* | VoS 54 | 2n | El Carmen | Santa Cruz | Bolivia |
| *pseudo-malacocarpus* | VoS 942 | 2n | Santa Ana | Santa Cruz | Bolivia |
| *pugionacanthum* | Tom 290/1 | 2n | Cuesta de Belén | Catamarca | Argentina |
| *pugionacanthum* | Tom 707/1 | 2n | Cuesta de Belén | Catamarca | Argentina |
| *quehlianum* | MaW 340/527 | 2n | Capilla del Monte | Córdoba | Argentina |
| *quehlianum* subsp. *occultum* | Tom 974/1 | 2n | Pueblo Pertido de La Quebrada | Catamarca | Argentina |
| *quehlianum* var. *zantnerianum* | KH 700 | 2n | La Falda | Córdoba | Argentina |
| *ragonesei* | HV 888 | 2n | Salinas Grandes | Catamarca | Argentina |
| *reductum* | WP 22/25 | 2n | Sierra Bravard, Cerro Barrancoso | Buenos Aires | Argentina |
| *reductum* var. *leucodictyon?* | WP 12/12 | 4n | Sierra de Tuna, Cerro de las Tunas | Buenos Aires | Argentina |
| *reductum* var. *schatzlianum* fa. *mardelplatense* | WP 59/73 | 2n | Grl. Pueyrredon, Sierra de los Padres | Buenos Aires | Argentina |

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| *reductum?* | WP 19/23 | 4n | Sierra Cura Malal, Estancia La Sofia | Buenos Aires | Argentina |
| *rhodantherum* | Tom 56/1 | 2n | Famatina, Plaza Vieja | La Rioja | Argentina |
| *rhodantherum* | Tom 285/1 | 2n | Pituil → Chañamuyo | La Rioja | Argentina |
| *rhodantherum* | Tom 663/1 | 2n | Chilecito | La Rioja | Argentina |
| *rhodantherum* | VS 806 | 2n | Corrales | La Rioja | Argentina |
| *rhodantherum (guanchinense)* | SPE 524-254 | 2n | Guanchin | La Rioja | Argentina |
| *ritterianum* | HV 1113 | 4n | El Vallecito | La Rioja | Argentina |
| *ritterianum* | MT 14-618 | 4n | Cuesta Al Pique | La Rioja | Argentina |
| *ritterianum* | SPE 517-248 | 4n | Guanchin | La Rioja | Argentina |
| *ritterianum* | SPE 519-250 | 4n | Guanchin | La Rioja | Argentina |
| *ritterianum* subsp. *acentracanthum (= guanchinense - rhodantherum)* | Be 162/665 | 2n | Sierra de Sañogasta (northern foothills) | La Rioja | Argentina |
| *ritterianum* subsp. *acentracanthum (= guanchinense - rhodantherum)* | HUN 466 | 2n | Cuesta de Miranda | La Rioja | Argentina |
| *ritterianum* subsp. *acentracanthum (= guanchinense - rhodantherum)* | MT 11-504 | 2n | Las Trancas | La Rioja | Argentina |
| *ritterianum* subsp. *acentracanthum (= guanchinense - rhodantherum)* | MT 14-619 | 2n | Cuesta Miranda | La Rioja | Argentina |
| *robustum* | TS 681 | 4n | Quilino | Córdoba | Argentina |
| *robustum* | TS 695 | 4n | Quilino | Córdoba | Argentina |
| *saglionis* | VoS 2478 | 2n | Famatina | La Rioja | Argentina |
| *saglionis* subsp. *tilcarense* | VoS 1578 | 2n | Coiruro | Jujuy | Argentina |
| *sanluisense* | MaW 135/186 | 6n | Cerros Largos | San Luis | Argentina |
| *sanluisense* | MaW 135/187 | 6n | Cerros Largos | San Luis | Argentina |
| *sanluisense* | MaW 138/193 | 6n | Las Chacras | San Luis | Argentina |
| *sanluisense* | SPE 607-304 | 6n | Paso Grande | San Luis | Argentina |
| *sanluisense* | SPE 613-310 | 6n | Villa Praga | San Luis | Argentina |
| *sanluisense* | Tom 902/1 | 6n | Naschel → Conlara | San Luis | Argentina |
| *sanluisense* | SPE 608-305 | 6n | Tilisarao | San Luis | Argentina |
| *schickendantzii* subsp. *bergeri* | VoS 3070 | 2n | Quebrachal | Salta | Argentina |
| *schmidianum* | Tom 682/1 | 2n | Copacabana → La Puntilla | Catamarca | Argentina |
| *schmidianum* | Tom 817/1 | 2n | San José | Catamarca | Argentina |
| *schmidianum* | Tom 820/1 | 2n | Sierra de Copacabana | Catamarca | Argentina |
| *schmidianum - catamarcense* | Tom 693/1 | 2n | Cuesta Zapata | Catamarca | Argentina |
| *schmidianum* fa. Cuesta Zapata | Tom 691/1 | 2n | Cuesta Zapata | Catamarca | Argentina |

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|---|---|---|---|---|---|
| *schmidianum* fa. Cuesta Zapata | Tom 692/1 | 2n | Cuesta Zapata | Catamarca | Argentina |
| *schmidianum* subsp. *asperum* | SPE 503-238 | 2n | La Mesada de Los Zárate | Catamarca | Argentina |
| *schmidianum* subsp. *asperum* | Tom 684/1 | 2n | La Gruta | Catamarca | Argentina |
| *schmidianum* subsp. *asperum* | Tom 687/1 | 2n | La Mesada de Los Zárate | Catamarca | Argentina |
| *schmidianum* subsp. *asperum* | Tom 690/1 | 2n | Tinogasta | Catamarca | Argentina |
| *schreiteri* | Lau 439 | 4n | Sierra de Medina | Tucuman | Argentina |
| *schreiteri* | RB 573 | 4n | Sierra del Castillejo | Salta | Argentina |
| *schreiteri* | SPE 440-212 | 4n | La Candelaria | Salta | Argentina |
| *schreiteri* | VoS 2406 | 4n | La Candelaria | Salta | Argentina |
| *schroederianum* subsp. *paucicostatum* | LB 6054 | 2n | Curuzu Cuatia | Corrientes | Argentina |
| *schroederianum* subsp. *paucicostatum* | LB 6062 | 2n | Perugorria | Corrientes | Argentina |
| *schroederianum* subsp. *paucicostatum* | VoS 1535 | 2n | Perugorria | Corrientes | Argentina |
| *sibalii* | KH 91 | 4n | Lihuel Calel | La Pampa | Argentina |
| *sibalii* | WP 29/37 | 4n | Sierra Chica | La Pampa | Argentina |
| *spec.* Cerro Colorado | LB 1135 | 4n | Macha | Córdoba | Argentina |
| *spec.* Cerro Colorado | MaW 224/355 | 4n | Churqui Cañada | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 151 | 4n | San José de la Dormida → Churqui Cañada | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 474 | 4n | Santa Elena | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 655 | 4n | Cerro Colorado | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 975 | 4n | Cerro Colorado | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 984 | 4n | Santa Elena | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 985 | 4n | Churqui Cañada | Córdoba | Argentina |
| *spec.* Cerro Colorado | TS 1396 | 4n | Cerro Colorado | Córdoba | Argentina |
| *spec.* Cerro Colorado | VoS 779 | 4n | Churqui Cañada | Córdoba | Argentina |
| *spec.* Ojo de Agua | MaW 390/623 | 4n | Villa Ojo de Agua | Córdoba | Argentina |
| *spec.* Ojo de Agua | SPE 374-177 | 4n | Villa Ojo de Agua | Córdoba | Argentina |
| *spec.* Ojo de Agua | TS 1401 | 4n | Villa Ojo de Agua | Santiago del Estero | Argentina |
| *spec.* Ojo de Agua | TS 1519 | 4n | Baez → Villa Ojo de Agua | Santiago del Estero | Argentina |
| *spec.* Ojo de Agua | TS 1520 | 4n | Villa Ojo de Agua | Santiago del Estero | Argentina |
| *spec.* San Fernando del Valle de Catamarca | SPE 744-384 | 4n | San Fernando del Valle de Catamarca | Catamarca | Argentina |
| *spec.* San Fernando del Valle de Catamarca | SPE 748-385 | 4n | San Fernando del Valle de Catamarca | Catamarca | Argentina |

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|---|---|---|---|---|---|
| *spec.* San Fernando del Valle de Catamarca | VoS 3142 | 4n | San Fernando del Valle de Catamarca | Catamarca | Argentina |
| *spec.* Santa Fé | ex Ariel Piñal | 2n | Calchaquí | Santa Fè | Argentina |
| *spec.* Santa Fé | Tom 1183/1 | 2n | Calchaquí | Santa Fè | Argentina |
| *spec.* Santa Fé | Tom 1185/1 | 2n | Calchaquí | Santa Fè | Argentina |
| *spegazzinii* | SPE 476-224 | 2n | Cafayate | Salta | Argentina |
| *striglianum* | STO 547/1 | 2n | El Carrizal | Mendoza | Argentina |
| *striglianum* | TS 1859 | 2n | San Rafael | Mendoza | Argentina |
| *striglianum* subsp. *aeneum* | MaW 317/481 | 2n | La Calera | San Luis | Argentina |
| *sutterianum* | LB 3171 | 6n | Tilisarao | San Luis | Argentina |
| *sutterianum* | SPE 826-426 | 6n | Tilisarao | San Luis | Argentina |
| *sutterianum* | SPE 833-430 | 6n | La Punilla | San Luis | Argentina |
| *sutterianum* | TS 504 | 6n | Villa Larca | San Luis | Argentina |
| *sutterianum* | TS 508 | 6n | Villa del Carmen | San Luis | Argentina |
| *sutterianum* | TS 765 | 6n | Achiras | Córdoba | Argentina |
| *sutterianum* | TS 776 | 6n | La Cruz → Villa Amancay, Rio Tercero | Córdoba | Argentina |
| *sutterianum* | TS 2167 | 6n | Lutti | Córdoba | Argentina |
| *sutterianum* subsp. *arachnispinum* | TS 10 | 4n | Berrotáran → Los Poleos | Córdoba | Argentina |
| *sutterianum* subsp. *arachnispinum* | TS 767 | 4n | Elena | Córdoba | Argentina |
| *sutterianum* subsp. *arachnispinum* | TS 768 | 4n | Elena | Córdoba | Argentina |
| *sutterianum* subsp. *dolezalii* | TS 4 | 6n | Berrotáran | Córdoba | Argentina |
| *sutterianum* subsp. *dolezalii* | TS 5 | 6n | Berrotáran | Córdoba | Argentina |
| *sutterianum* subsp. *dolezalii* | TS 6 | 6n | Berrotáran | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | SPE 649-333 | 4n | Yacanto de Calamuchita | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | Tom 882/2 | 4n | El Bigua, La Merced | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | Tom 908/1 | 4n | Merlo, Piedra Blanca | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | TS 770 | 4n | Berrotáran → La Cruz | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | TS 1204 | 4n | Las Caleras | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | TS 1247 | 4n | Parador de la Montaña | Córdoba | Argentina |
| *sutterianum* subsp. *tetraploideum* | TS 1901 | 4n | Parador de la Montaña | Córdoba | Argentina |
| *taningaense* | P 212 | 2n | Taninga | Córdoba | Argentina |
| *taningaense* | TS 245 | 2n | Taninga → Las Palmas | Córdoba | Argentina |
| *taningaense* | TS 1729 | 2n | La Tablada → Las Palmas | Córdoba | Argentina |
| *taningaense* | TS 1731 | 2n | Las Palmas → Taninga | Córdoba | Argentina |
| *taningaense* | TS 2066 | 2n | Las Cañadas | Córdoba | Argentina |

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|---|---|---|---|---|---|
| *taningaense* subsp. *fuschilloi* | TS 297 | 2n | La Cruz → Villa Amancay, Rio Tercero | Córdoba | Argentina |
| *taningaense* var. *lukasikii* | MaW 101/133 | 2n | Cerro Morro, La Esquina | San Luis | Argentina |
| *taningaense* var. *lukasikii* | MaW 131/178 | 2n | La Puerta | San Luis | Argentina |
| *taningaense* var. *lukasikii* | TS 1877 | 2n | San José del Morro, La Esquina | San Luis | Argentina |
| *taningaense* var. *lukasikii* fa. *emilii* | Tom 144/1 | 2n | Estation de Fomento Ganadero | San Luis | Argentina |
| *tillianum* | WR 227 | 2n | Poman, Sierra de Ambato | Catamarca | Argentina |
| *triacanthum* | Tom 930/1 | 2n | Paso Viejo | Córdoba | Argentina |
| *triacanthum* | Tom 951/1 | 2n | Casa de Piedra, Virgin de Valle | Catamarca | Argentina |
| *uebelmannianum* | VoS 1757 | 2n | Pampa de La Viuda | La Rioja | Argentina |
| *uruguayense* | Lun 126/1 | 2n | Sepultura | Artigas | Uruguay |
| *valnicekianum* | MaW 346/538 | 2n | Copacabana | Córdoba | Argentina |
| *valnicekianum* | SPE 040-014 | 2n | Capilla del Monte | Córdoba | Argentina |
| *walteri* | HT 1139 | 2n | San Pedro del Norte | Córdoba | Argentina |
| *zegarrae* | LB 6043 | 2n | Comarapa | Santa Cruz | Bolivia |
| *zegarrae* | VoS 499 | 2n | Chilon | Santa Cruz | Bolivia |
| *zegarrae* | VoS 2096 | 2n | Saipina | Santa Cruz | Bolivia |

Table 3: Summary list of Gymnocalycium species with level of ploidy based on literature data and investigations of the working group SCHÜTZIANA (taxa with white background require further investigations).

diploid, 2n  tetraploid, 4n  hexaploid, 6n

| Species | Level of Ploidy |
|---|---|
| *achirasense* | 2n |
| *acorrugatum* | 2n |
| *affine* | 4n |
| *albiareolatum* | 4n |
| *alenae* | 2n |
| *amerhauseri* | 2n |
| *andreae* | 2n |
| *angelae* | 2n |
| *anisitsii* | 2n |
| ×*applanatum* | 6n |
| *arzbergeri* | 2n |
| *baldianum* | 2n |
| *basiatrum* | 2n |
| *bayrianum* | 2n |
| *berchtii* | 4n |
| *bodenbenderianum* | 2n |
| *borthii* | 2n |
| *bruchii* | 4n |
| *buenekeri* | 4n |
| *cabreraense* | 2n |
| *calochlorum* | 4n/6n |
| *campestre* | 4n |
| *capillense* | 4n |
| *cardenasianum* | 2n |
| *cardenasianum* subsp. *armatum* | 2n |
| *carminanthum* | 4n |
| *carolinense* | 4n |
| *castellanosii* | 2n |
| *catamarcense* | 2n |
| *chacoense* | 2n |
| *chiquitanum* | 2n |
| *chubutense* var. *dubniorum* | 4n |
| *delaetii* | 2n |
| *denudatum* | 2n |
| *erinaceum* | 2n |
| *erolesii* | 2n |
| *esperanzae* | 2n |
| *eurypleurum* | 2n |
| *eytianum* | 2n |
| *ferrarii* | 2n |

| Species | Level of Ploidy |
|---|---|
| *fischeri* | 4n |
| *fleischerianum* | 2n |
| *frankianum* | 4n |
| *friedrichii* | 2n |
| *gaponii* | 2n |
| *gibbosum* | 4n |
| *glaucum* | 4n |
| *griseo-pallidum* | 2n |
| *guanchinense (rhodantherum)* | 2n |
| *hamatum* | 2n |
| ×*heidiae* | 4n |
| *horridispinum* | 2n |
| *horstii* | 4n |
| *hypthiacanthum / uruguayense* | 4n / 2n |
| *ilseae* | 4n |
| *jochumii* | 4n |
| *kieslingii* | 4n |
| *kroenleinii* subsp. *funettae* | 2n |
| *kuehhasii* | 2n |
| *kulhanekii* | 2n |
| *lamudanaense* | 2n |
| *marekiorum* | 2n |
| *marianae* | 2n |
| *marsoneri* | 2n |
| *matoense* | 2n |
| *megatae* | 2n |
| *mendozaense* | 2n |
| *meregallii* | 4n |
| *mesopotamicum* | 2n |
| *mihanovichii* | 2n |
| *monvillei* | 4n |
| *morroense* | 4n |
| *mostii* | 2n |
| *nataliae* | 4n |
| *neuhuberi* | 2n |
| *nigriareolatum* | 2n |
| *ochoterenai* | 2n |
| *orientale* | 2n |
| *paediophilum* | 2n |
| *papschii* | 2n |

| Species | Level of Ploidy |
|---|---|
| *paraguayense* | 2n |
| *parvulum* | 6n |
| *parvulum*, all subspecies | 4n |
| *pflanzii* | 2n |
| *pinalii* | 2n |
| *poeschlii* | 4n |
| *ponomarevae* | 4n |
| *prochazkianum* | 2n |
| *pseudo-malacocarpus* | 2n |
| *pugionacanthum* | 2n |
| *quehlianum* | 2n |
| *ragonesei* | 2n |
| *reductum* | 2n / 4n |
| *rhodantherum (guanchinense)* | 2n |
| *ritterianum* | 4n |
| *robustum* | 4n |
| *rosae* | 4n |

| Species | Level of Ploidy |
|---|---|
| *saglionis* | 2n |
| *sanluisense* | 6n |
| *schickendantzii* | 2n |
| *schmidianum* | 2n |
| *schreiteri* | 4n |
| *schroederianum* | 2n |
| *sibalii* | 4n |
| *spegazzinii* | 2n |
| *striglianum* | 2n |
| *sutterianum* | 6n |
| *sutterianum* subsp. *arachnispinum* | 4n |
| *sutterianum* subsp. *dolezalii* | 6n |
| *sutterianum* subsp. *tetraploideum* | 4n |
| *taningaense* | 2n |
| *tillianum* | 2n |
| *uebelmannianum* | 2n |
| *zegarrae* | 2n |

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