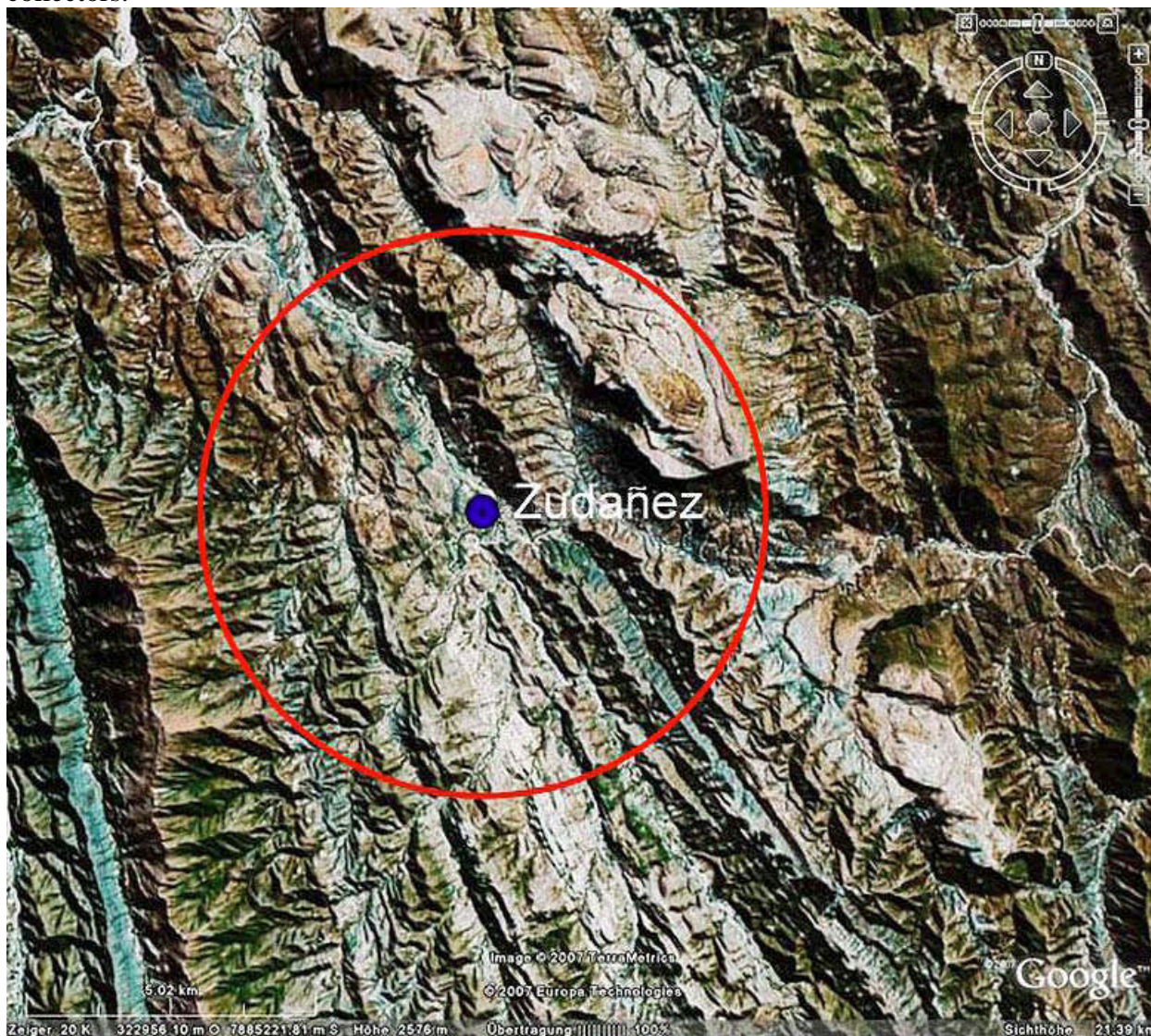


## The *Sulcorebutias* of Zudañez

If you look around the provincial town Zudañez along an arc with a radius of 5 kilometers, you find an amazing collection of *Sulcorebutias* within this circle. The following article describes these populations, without any claim to completeness. Basically, I will relate my own discoveries, but also discuss the discoveries of other collectors.



Undoubtedly the most spectacular *Sulcorebutia* near Zudañez is that which Walter Rausch found and was named after him, *Sulcorebutia rauschii* Frank (**R289**). It comes from a mountain ridge called Cerro Ayrampo located east of Zudañez. Already there was such an accumulation of forms and such a beauty of different clones within Rausch's collections that *S. rauschii* quickly became a favorite of many cactus lovers. So beautiful is it that collectors of other cacti have *rauschii* as their only *Sulcorebutia*. In addition to the **R289**, the typeform with greenish-purple epidermis and short, black spines, there are also forms with pure green epidermis and in all color gradations between, to purple appearance and to those with bright purple skin color.





Looking toward Zudañez from a hill south of the Cerro Ayrampo

The spine colors of *S. rauschii* range from black to red and yellow spines. In particular Rausch's plant with yellow spines is a sought-after collector's item, although it has only a small and totally inconspicuous flower. The clone with tasseled flowers, and that with hairy flowers, are much sought-after collector's items too. However, it cannot be denied that the latter is no *Sulcorebutia*, but rather a *Mediolobivia*.

Of course, even after Rausch many cactus lovers searched for *S. rauschii* and they also found it. We now know that the occurrence of this type is not limited to the two highest peaks of the Cerro Ayrampo, but that also on the slopes of the mountain there are several small populations, which apparently have no connection with each other. So it happens that in the past years, there was also found a small population, in addition to "normal" *rauschii*s, of plants with almost white spines (eg, **G263**, **VZ50a**), which do not really look like *S. rauschii*.

On the mountain ranges south of the Cerro Ayrampa one finds a completely different range of *Sulcorebutia* forms, so that anyone ascending these mountains is not able to understand the relationship among them. The first *Sulcorebutias* one encounters are tiny, group-forming plants with dark green, sometimes purple bodies and long, white spines (**G340** and **340a**). Of these plants only a few examples were known for many years under the collector's numbers **GR21** and **JD330**. Both are finds of Gianfranco Rovida. At times they were called *S senilis* or *gerosenilis* or until they received the name "*hertusii*".

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One of the many forms of *Sulcorebutia rauschii* R289



The normal form of *Sulcorebutia rauschii* G155a with olive-reddish epidermis



*Sulcorebutia rauschii* G155 with light green epidermis



*Sulcorebutia rauschii* G263 with violet epidermis



*Sulcorebutia rauschii* G263 with light epidermis and almost white spines.



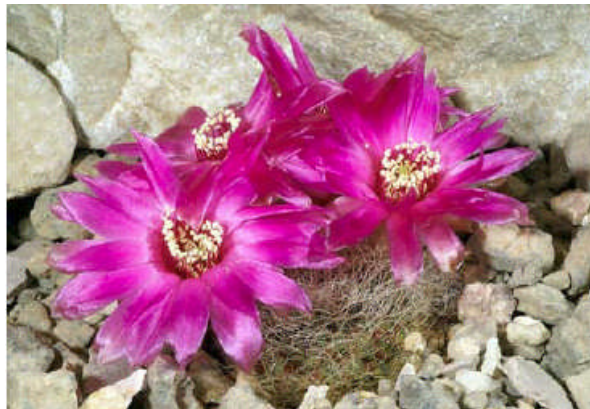
*Sulcorebutia tarabucoensis* ssp. *hertusii* JD330-7 - originally found by Gianfranco Rovida

After several revisions the valid name is now *Sulcorebutia tarabucoensis* ssp. *hertusii* (Halda et Horáček) Gertel et Wahl (2004). This taxon, however, not only describes the typical white-haired, sometimes yellowish hairy plants, but a variety of forms from the entire region south of Zudañez. The few images can show only a small part of this wealth of forms. Some of them are without doubt the plants of the small populations which are found alongside the further ascent to the top of the mountain above the location of typical *hertusii*.





*Sulcorebutia tarabucoensis ssp. hertusii* G340a - a group of densely hairy plantlets on location



*Sulcorebutia tarabucoensis ssp. hertusii* GR21/4  
- The original discovery of Rovida



*Sulcorebutia tarabucoensis ssp. hertusii* G341 --  
a pale green variety, perfectly uniform in habit,  
which is found somewhat above the typical form

Even after climbing some additional 50 meters of altitude, where one finds only isolated *Sulcorebutias*, the next population (**G341**) appears significantly changed. There are much fewer and shorter spines, and the epidermis is light green, without any shade of purple. Again, another 100m higher there is a small site of *Sulcorebutias* with purple epidermis and relatively short, pectinate, white to amber-colored spines (**G342**). These plants are still quite small, but with not nearly as many offsets as *S. hertusii* itself. Another 100m later we find the trend of the last population continued. The Sulcos (**G343**) are now quite large - we have seen specimens of 5 cm in diameter – rarely offsetting, and claw-like adpressed spines ranging from white to dark brown.

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Taking into account all of intermediate forms found, they form a kind of development line and it is clear that these forms are only ecotypes of *S. tarabucoensis* ssp. *hertusii*. However, when only considering the individual small populations separately, one could easily consider them to be at least 3 different species. To increase the confusion, there is found at the top on a nearby hill, barely 100 meters from **G343**, a further different shape (**G344**) with tiny, budding bodies and very dense white, adpressed spination.



*Sul*

*corebutia* spec. G342 and G343 - totally different plants, which it is hard to combine with *S. tarabucoensis* ssp. *hertusii*, but which occur only a few 100 m above

Similarly variable as on this mountain, there are different populations on every mountain range, to the south to south-west of Zudañez off the Cordillera Mandinga. You could say that every little hill has its own distinctive *Sulcorebutia* population. However, I have nowhere else observed that so many different forms occur on a single mountain! Mostly all plants of a location are relatively uniform with a certain range of variation. Most of these *Sulcorebutias* bloom more or less bright purple.

At the edge of the Cordillera Mandinga itself, where there are altitudes up to and over 3000m, one sometimes finds *Sulcorebutias* with yellow and red flowers, which will eliminate the last doubt about the close relationship to *S. tarabucoensis*. Swoboda was the first to bring to Europe the such plants with his field numbers **HS125** and **HS125a**.

North of Zudañez *Sulcorebutias* are known from only a few localities. Only on the northern slopes of Cerro Ayrampo were *Sulcorebutias* found in some places, with similarities with forms from the environment of *S. tarabucoensis* ssp. *hertusii* (**G345**). These plants can hardly be distinguished from the above-mentioned **G344**. Here it is interesting to know that between *S. rauschii* occurring in the southern area of the Cerro Ayrampo and the just mentioned *Sulcos* there is a zone of approximately 5 km where no *Sulcorebutias* have been found at all. We have observed this fact while walking across the entire ridge of Ayrampo in 1995, and several years earlier.





Sulcorebutia spec. G344 something grows only 200m away from the G343 at the same level

Hansjörg Jucker had the same experience while making the trip in the opposite direction, ie from south to north.

Also within the afore-mentioned radius around Zudañez, lying east of the Cerro Ayrampo, is the very striking Cerro Calle Calle, a massive table mountain with repellent and steep cliffs at the top. Although so unpromising, as it seems at first glance, this mountain is not barren. It is even populated, and today a pretty good road leads up and continues over large parts the summit plateau. After the road has overcome the steep walls and has reached the summit plateau, we see a little further up the small town Calle Calle. Here Alfred Lau, many years ago collected field number **L389** which now carries the name *Sulcorebutia tarabucoensis* var *callecalleensis* (F. Brandt) Augustin et Gertel. This plant has not been found for many years. The reason for this became clear during my 1991 and 2001 trips, when together with Erwin Herzog and Ralf Hillmann I searched for hours without success up there, and later with my wife together in several places of the mountain unsuccessfully sought for these plants. Even relatively accurate information on several sites helped us little further. Only after several hours, when we wanted to abandon the search, we found the tiny plantlets (**G261**), more or less by accident. Apart from their size of up to 1cm Ø, they were withdrawn totally into the ground, and there were no flowers – without a little luck, not to be found. To my knowledge is no one knows Cerro Calle Calle better than my Dutch friend Johan de Vries. He searched the summit plateau of Cerro Calle Calle during several trips and found a number of different localities.

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Overlooking the mighty Cerro Calle Calle from neighboring Cerro Salvintayoj Khasa



Also just south of Zudañez one finds Forms of *Sulcorebutia tarabucoensis ssp hertusii* (G203)



Little resemblance to *Sulcorebutia tarabucoensis ssp. hertusii*, but from neighboring hills of the location of G203, to the south of Zudañez

From him, we know that *S. tarabucoensis* var *callecalleensis* has very different forms. The well-known forms, similar to **L389** have a relatively light green epidermis with short, pectinate adpressed, bright spines. The flowers are nearly all yellow-red, some with shimmering blue tips of the petals. Some of these flowers appear to have almost three-coloured, which of course makes them particularly attractive. However, there also small populations of plants with darker, reddish shaded epidermis with almost pure red flowers (eg **VZ56**). Elsewhere, there are only yellow to yellow-orange-colored flowers (**VZ195**). Another find (**VZ196**) has purple flowers with yellow throat, a combination of colors which is not known to me in this manner from any other Sulcorebutia.





Similar to G344 from the southeast of Zudañez was the discovery of G345, reminiscent of *Sulcorebutia gemmae*, from the northern part of the Cerro Ayrapa



The first discovery of *Sulcorebutia tarabucoensis* var *callecalleensis* was L389



A form of *Sulcorebutia tarabucoensis* var *callecalleensis* EM351 with a magnificent flower



*Sulcorebutia tarabucoensis* var *callecalleensis* G261 comes from below the village street Calle Calle

All these different colored flowers appear particularly attractive due to their usually deep red stamens, and often with a green style. Some clones however, have - everything else would be too easy - yellow stamens and yellow to off-white style. Markus a few years ago found *S. tarabucoensis* var *callecalleensis* (**EM351**), plants with relatively long and white to yellowish spines. There are clones with "stunning" flowers in the collections. With the many different forms of *S. tarabucoensis* var *callecalleensis* a small but very fine collection Sulcorebutia could be made from these alone. It is interesting that each of these small populations is almost one hundred percent uniform both in habit and in the flower.

From this brief outline it will hopefully be realized that the environment of Zudañez represents one of the most interesting centers of diversity of the genus Sulcorebutia. If you at a circle only slightly larger, the variety of shapes gets almost unmanageable and an overview would already fill a small book. There is hardly a year in the country in which travelers have not discovered new and interesting sites in the area.

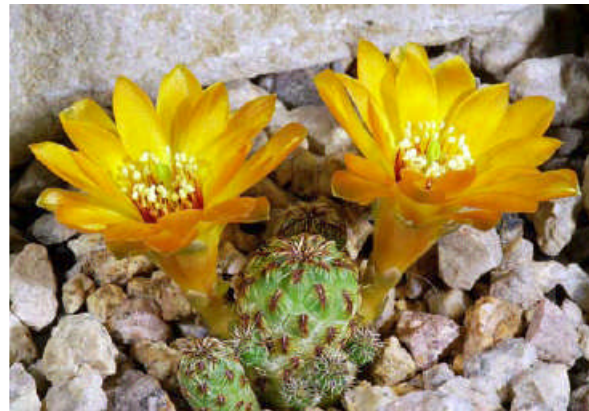




The same plant flowering in two different years *Sulcorebutia tarabucoensis* var *callecalleensis* VZ56b/13 - perhaps one of the most charming Sulcorebutia flowers.



*Sulcorebutia tarabucoensis* var *callecalleensis* VZ56 with bright red flowers



*Sulcorebutia tarabucoensis* var *callecalleensis* VZ195 with yellow flowers - a discovery of De Vries at the southwest corner of the mountain



*Sulcorebutia tarabucoensis* var *callecalleensis* VZ196 - another discovery of de Vries, uniformly purple flowers with yellow throat

One can now, of course, as Hunt et al. do, lump all these Sulcorebutias into a big pot, ie combine them under a single specific name, not gaining more consistency by bringing them into this group. Certainly the lovers of these beautiful cacti do not go down this path.

**Literature:**

Gertel, W. & Wahl, R. (2004): Observations the first descriptions by Josef J. Halda, Kakteen und andere Sukkulente 55 (1): 10 - 14

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