Talking about Sulcorebutias

John Pilbeam discusses some of the more recently introduced Sulcorebutias that are gradually finding their way into the hands of cactus growers. Photography by Bill Weightman.

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My introduction to this lovely, rewarding genus of south American cacti was at one of the GB Society shows at Westminster many years ago. I was stopped in my meandering envious contemplation of the exhibits by a plant in the Rebutia class. It was a low mound about 15cm across of smallish heads, with wonderfully neat spination in comb formation, coloured biscuit yellow-brown. The spines were on elongated areoles, and the last few deep yellow flowers of what had clearly been a generous year, were still hanging on. I didn't know it at the time, but I had just fallen in love with my first Sulcorebutia.

Not that the plant knew it either, since at this time it was still regarded as a Rebutia, and Curt Backeberg's naming of this genus, with the sole species S. steinbachii, had passed relatively unnoticed. At this time, the late 1950s, Backeberg's magnum opus, the six-volume Die Cactaceae was in the offing, and the name was to be ratified therein. Little could he have realised how the genus was to burgeon with new discoveries and such enthusiasm for one genus as has only been matched surely by devotees of Mammillaria.

Martin Cardenas, a native of Bolivia, had already described many Rebutias which were clearly referable to this new genus, and they were duly combined over the following years. Walter Rausch did sterling work for the genus in the sixties and seventies, traipsing around Bolivia (Sulcorebutias discovered so far are confined to this country), gathering hitherto undiscovered species for our delight. Other collectors beat a path, often the same one, in the mountains to bring further clones into cultivation, and to find a few more that warranted formal recognition. Among these were Friedrich Ritter, Alfred Lau, Wolfgang Krahn, Roberto Vasquez, Karel Knize, and, more recently, Heinz Swoboda. The last named is responsible for many plants in our collections at present with his initials and number on the label, but unfortunately little else. Certainly some of his finds have emerged as distinctive collectors' items, but many are rediscoveries of previously described taxa.

It is interesting to see how the various collectors compare as far as species discovered is concerned, and the table below shows that Cardenas and Rausch far outstrip other collectors, at least in named species.

As can be seen Ritter and Lau account for only half a dozen species between them, while Cardenas and Rausch are neck and neck at just under 20 each. The other collectors are, in this analogy,'also-rans'.

Karel Knize has put up several new names in his catalogues, but only his S. albida has been recognized, described as S. albissima by Fred Brandt, an unfortunate choice of name since it is certainly not the whitest, and it varies from off-white through creamy-yellow shades to brown. Other undescribed catalogue names of Knize's are S. arquensis, S. ayopayana, S. bicolor, S. camachoi, S. cupreata, S.mairanana, S. rojasii, S. tominense, S. vanbaelii, S. zudanezii. It will be interesting over the next few years to see if any of them emerge as good names; some are already clearly referable elsewhere. The outstanding one of these which I think has real merit is S. cupreata, with strong spines and large flowers to endear itself to the Sulcorebutia enthusiast. It has been somewhat summarily dismissed by the pundits as merely a form of S. flavissima, which in turn it is suggested merges with S. mentosa. Such a concept, the yellow spined S. flavissima equalling the black spined S. mentosa, takes some swallowing, but having

Sulcorebutia **species discovered by the six major collectors of the genus**

Cardenas	Rausch	Ritter	Lau	Knize	Swoboda
arenacea breviflora candiae canigueralii caracarensis glomeriseta glomerispina inflexiseta krugeri menesesii pulchra taratensis tiraquensis torotorensis totorensis tunariensis vizcarrae zavaletae	alba cochabambina crispata flavissima frankiana krahnii losenickyana markusii mizquensis oenantha pampagrandensis « perplexiflora » rauschii santaginiensis tarabucoensis unguispina vasqueziana	mentosa tarijensis « lepida » verticillacantha	cylindrica purpurea	albissima « cupreata »	augustinii fischeriana mariana swobodae

Variation in collected plants of *Sulcorebutia albissima* and *S. santaginiensis* in the collection of Willi Fischer

seen in the magnificent Sulcorebutia collection of Willi Fischer (the master propagator at Kakteen Centrum Oberhausen in Germany) the incredible variation in these and the other species possibly referable here, S. swobodae and S. albissima, with individual plants varying from off-white to pale yellow through every shade of brown to nearly black, and from stiff, sharp, needle-like spines to the softest, flexible bristles, this concept is not so difficult. Having said that, from an enthusiast's point of view all these variations of all these species are worth a place if you can get them, and grouped together they make a fascinating, and intriguing composition of colour and texture.

Surprisingly few of the many collections by Swoboda have emerged as good species, or even varieties, but the few which have done so, are distinct indeed, and well worth seeking out, i.e. S. augustinii (HS152), S. fischeriana (HS79), S. mariana (HS15) and S. swobodae (HS27). And there are a few others worth growing too, including the neglected HS151, described as having affinity to S. augustinii. But one of his numbers is a real stunner, or should I say a pair

A field collected plant of WR599, which Brandt chose as the type for *Sulcorebutia perplexiflora*

of stunners (see next paragraph), as it has stirred up the controversy over the species S. pulchra; it has been suggested that HS78a is the 'true' S. pulchra!

What we have in good faith been growing for years under this name, Walter Rausch's WR593 and WR599, identified as such by him, won't do it seems, as Cardenas's original description of this species calls for, among other things, bright magenta flowers. Certainly Rausch's plants (and for that matter Lau387 which is also usually ascribed here) have invariably red flowers. The photo accompanying Cardenas's description in the US society's journal, shows about 11 or 12 wispy, adpressed spines on low rounded tubercles, described as straw yellow, and 3 to 4mm long. This is in line with Rausch's plants, but not really with HS78a, which in most plants I have seen are much longer and a gingery-brown. Coming to the flowers again, Cardenas calls for flowers 2.5cm wide and 5cm (!) long, much bigger than flowers on Rausch's plants, but matching those on HS78a - and on HS78. This last number applies to much shorter spined, low-growing plants, a lot nearer Cardenas's body and spine description of S. pulchra. If HS78 and HS78a (both from Presto) represent variation in the same species, and they have much in common, then it may well be the case that Cardenas's original S. pulchra (reported from between Rio Grande and Presto) has indeed been rediscovered. As I indicated in my book Sulcorebutia and Weingartia - A Collectors Guide, if this is correct then the proper name at species level to apply to Rausch's WR593 and WR599 (and probably Lau387) is Fred Brandt's S. perplexiflora, which he applied more narrowly just to WR599.

At the time of writing the book I had not seen S. cylindrica with magenta flowers, but I have since grown several plants of this species, courtesy of Wolfgang Krahn, his collection number WKr671, and this is now becoming more widely available. I have found that there seems to be far less tendency for this magenta flowered form to cluster, compared with the yellow flowered form, which seems ready to bolster up the flagging central stem after it is only 10cm tall. Two plants I had from Krahn have now reached about 20cm tall, with still no sign of an offset, and they are both resolutely evading any casual support I provide, since I prefer not to tie my plants to sticks if possible. But I think the time has come perhaps to allow them to do what comes naturally and sprawl over the edge of the pot, which I can do if I put them on the front of a shelf. What I must remember to do, is to place a large pebble on the top of the pot to act as a counterbalance, as the last time I tried this, with a Cochemiea poselgeri, it eventually grew to outbalance the pot of compost with dire consequences for plants below it.

Another aspect of growing Sulcorebutias which has puzzled me over the years, is the difficulty I have in setting good quantities of seed on my plants. I know they are different clones, they

Sulcorebutia pulchra ? HS78– low growing, and producing offsets at or below ground level

produce flowers in abundance, with pollen aplenty, insects are excluded, I am not without experience in setting seed on other genera, and yet year after year I get from hundreds of flowers, a handful of berries, if any at all on some. In travelling around the country I have had similar reports from other Sulcorebutia addicts. This last year I did have moderately better results than before, with the best set on those species which flower early, when temperatures are still comparatively low. Having heard from Steven Brack that he has great difficulty in setting seed on both Sulcorebutia and Rebutia (which he has ascribed to the high temperatures prevailing when they are flowering) and from someone who has travelled in the habitats at the time of flowering when conditions were cold and clammy with cloud, leads me to believe that this could well be the cause of my failure. This year I will try light misting and an attempt to keep the temperature down when trying to effect pollination. And what on earth is attracted in the wild to pollinate these ground level flowers with such an unattractive, musty, earthy odour - beetles?

Sulcorebutia pulchra ? HS78a - with longer wispy spines variable in colour, and a taller habit than HS78

Which leads to the question of how best to build up a collection of Sulcorebutia, presuming the bug has bitten. Certainly, you should try to obtain authentic plants, preferably vegetatively propagated from well documented material. But this is not so easy to come by, and you will certainly find some gaps in your collection. Until such time as you can obtain a properly identified plant it is worth having a go at raising plants from seed. Most seed merchants offer measly packets of 10 (they obviously have trouble too!), I find that germination from purchased seed is often not too good, with about 50% results on average. If it is going to germinate it will usually do so within two weeks or so, and, like Lobivia and Mediolobivia, makes elongated seedlings, as though reaching for the light from an early age. I have found good results with entirely enclosed conditions for at least the first six months. Refrain from pricking the seedlings out too early, six months is quite soon enough, and it is probably safer to leave them in place for a year. Be careful not to damage the quite substantial root they will mostly have formed by this time, as many are thick rooted plants, and will do as much growing underground in the first year or two as above. Flowering can be expected after two years, longer with the larger growing species.

I ought at this point to sound a note of warning about seed and seed-raised plants. There is now a greater variety than ever before becoming available, some of it with field-collection numbers attached. No doubt some of this is produced conscientiously from originally field collected plants of close affinity within the species, but many plants I have raised in the last few years from purchased seed shows that the conscience of some is firmly sat upon, or worse, it is clear that casual pollination by insects has not been prevented. The attachment of field numbers to seed or seed-raised plants is in any ease questionable. Ideally these numbers should be attached only to vegetatively produced propagations from authentic material. Second best is field collected seed, but chances of this are remote. A poor third best is careful interpollination of different clones of field collected plants bearing the same basic number, e.g. Lau389-1 and Lau389-2 etc., but even this would upset purists.

So what it comes down to, if you wish to build a serious collection of this genus, is that you should try to obtain vegetatively propagated plants from authentic material, or, at least be sure that seed or seed-raised plants have the sort of origins that I am suggesting above. Ask when you purchase plants what their origins are; most nurserymen are honest enough to tell you I should think, but the answer may just be this or that seed supplier, and the answer to the same question directed to them may be less easy to elicit.

Above all whatever sort of collection of this beautiful genus you decide to have, enjoy them, for they will surely reward you a hundredfold.

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