

THE CACTUS FILE HANDBOOK

2

Rebutia

by John Pilbeam

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Cover picture: *Rebutia pygmaea* 'diersiana'. Photograph by Bill Weightman

INTRODUCTION

Since the publication of *Sulcorebutia & Weingartia – A Collector's Guide* in 1985, it has been on the cards that my pen would turn towards a book on another love I have had for many years, the genus *Rebutia*. And so here it is.

On first taking up the interest in this genus afresh or perhaps more intently, I was surprised to see how the numbers of new species had built up. Although I had consciously or subconsciously recorded them individually as I had read the new descriptions over the years in various publications, I had not realised how many they had amounted to following both Friedrich Ritter's and Walter Rausch's discoveries in Bolivia and northern Argentina. Between them these two tireless seekers of things new in the cactus world described nearly 90 different *Rebutia* taxa. In the main their descriptions are well done, with clear accompanying photographs, and a very clear idea of what they have described can be gained from the various journals in which they have appeared. But many of these journals are not easily available to most collectors, and as most of these descriptions postdate the standard reference book containing descriptions of all species of cacti, Backeberg's 20 year old *Cactus Lexicon*, there are many names appearing in collections from passed on cuttings and seed propagations for which there is no readily accessible and informative reference.

Most of the newly described taxa have appeared in cultivation by way of good, reliable, commercial sources. Unfortunately there has also been seed made available with or without field numbers, the resulting plants from which do not stand up when comparison is made with original descriptions or original material, and this is to be deplored and taken as a warning that not everything acquired should be taken at its face value.

When the plants and localities of many of the new taxa are compared there appear to be some very close relatives among them. But the purpose of this book is not to evaluate too stridently the species newly described; it is a guide for collectors of *Rebutia*, to show what is potentially available, to help identify the plants already in their collections, and to give some idea of the extent of the genus, and species' relationships. Died-in-the-wool lumpers should obtain a copy of the *CITES Cactaceae Checklist*, but it is not a book for those of a nervous disposition, and it has no illustrations.

The genus *Rebutia* has been a popular one with collectors for many years, both with beginner and longer-term enthusiast. For the beginner it represents often one of the first cactus plants that he or she has success in bringing to bloom, since they flower readily and at an early age. Another early attraction they have is their tendency to offset prolifically, enabling the practice of the art of propagation by cuttings, as well as freely producing seed which, if not harvested and subjected to the rigours of the seed-raising propagator, will obligingly germinate and grow without assistance or hindrance by the side of mature plants. For beginner and longer-in-the-tooth collector there is the prospect of about 130 different names to set about gathering together, and more and more of those named in recent years are becoming available all the time.

With a comprehensive, well-identified collection of this genus, relationships become apparent, from similarities in the general aspect and growth habits of the plants, more particularly from comparison of the flowers, both in their appearance, structure and flowering time. The purist should strive to obtain plants propagated vegetatively from original type material or at least field collected plants with good data, and many such plants are available. But be warned that the inclusion of a field-collector's number on a plant offered for sale does not necessarily mean that it has been so carefully sourced, as seed is commonly offered commercially bearing these numbers; the plants raised from such seed will probably be offered with these numbers attached, but by their very nature, they are of questionable value. Most nurseries or collectors who are making plants available will willingly disclose the source of their plants if asked, and it is worth asking! Include such details on your plant labels at least, or in your records, and pass them on with any propagations you distribute.

A final word of exhortation: if you are intending to use seed you have produced on your own plants, ensure that you have controlled the pollination carefully – there are enough species already without introducing more confusion with carelessly produced hybrids; and include details of their parentage with plants passed on to other collectors – otherwise all is chaos.

John Pilbeam 1997

ACKNOWLEDGEMENTS

As with my previous publications I first must acknowledge with gratitude the unwavering patience of Bill Weightman in photographing my plants over a period of years. Many of them he has been asked to photograph several times, the first time as an insurance when newly obtained, in case the plant did not survive, and later as it made a more mature and more colourful subject. And Mick Cotter has repaid cuttings passed on to him some years ago, by growing them well and supplying several of the photographs used herein.

I must thank particularly Dieter Supthut for making available to me propagations from the many species deposited in the Stadtische Sukkulentensammlung Zurich of which he is the curator.

Mats Winberg has been helpful too in supplying photographs and information about his travels in recent years, particularly with regard to *Mediolobivia* species, and some of the new forms he has discovered are exciting.

Brian Bates too has been helpful in his wanderings on the continent among enthusiasts' collections, and in Bolivia among the wild plants, and I am grateful to him for plant material and information unstintingly passed on. Also for help with photographs I would like to thank Ralf Bauer, John Brickwood, Graham Charles, Johann Joschko and Wolfgang Krahn.

Charlotte Walton has been more than helpful with translation of German texts, again over a period of some years, both of the printed word, and importantly of the marginal notes (made with a forthright fountain-pen) by Friedrich Ritter in the margin of his copy of Backeberg's *Die Cactaceae*, which came into my possession when he sold his library before his very late retirement to the Canary Islands.

Thanks too are due to Gordon Rowley who gave useful advice and answers from his extensive library to some of the knottier points I had to contend with.

And I must thank the team at Cirio Publishing Services for their usual painstaking work and imaginative use of the words and pictures I have provided.

Lastly I must thank the many enthusiasts for this lovely genus who have offered encouragement over the years while they have waited patiently for this book.



One of the forms of *Rebutia pygmaea* growing in habitat near Iruya close to the borders of Salta and Jujuy in Argentina

GEOGRAPHY AND TAXONOMY

These are mostly high mountain plants from Bolivia and northern Argentina exclusively, where they occur often as single stems in hostile conditions, on rocky slopes.

If the three subgenera of this genus are taken separately, they overlap in their distribution to a certain extent, with the subgenus *Rebutia* the most southerly, from about 24° S to 27° S, principally in the northern part of Argentina (see map 1). The two other subgenera, *Aylostera* and *Mediobolivia* occur mainly in Bolivia (with the latter the most widespread) stretching from 17° S to 25° S (see maps 2 and 3).

The reported localities for species are included in the descriptions in the main body of the book, for the convenience of those who like to plot their plants on maps, and to help those lucky enough to find their way into these areas, to find the plants, and perhaps identify them, but there does seem to be some overlapping in species as well as subgenera.

Compared with some other South American cactus genera, the distribution of *Rebutia* is small, but its range in terms of height is tremendous, from about 1,000 to nearly 4,500 metres (3,300 to nearly 15,000 feet) altitude.

The narrow confines of many species' distribution and the variety of forms in a comparatively small area in the wild, lead to speculation about the need for different names for what are clearly closely related species or varieties, and the recent moves towards a more wide view of the variability of species in the Cactaceae tend to support a much broader view of taxa than we have had in the past, with considerable reduction in the number of species, and even genera.

From a collector's point of view this leads to a wholly unsatisfactory state of affairs, since what is preferred is a handle for what appear to be distinct, apparently different plants. For instance I can recognize most 'varieties' of *R. pygmaea* at ten paces, let alone on close examination. And I have no trouble separating my *Sulcorebutia* from my *Rebutia*, or even for that matter my *Mediobolivia* from *Rebutia* and *Aylostera*, but this is perhaps taking my splitting instincts too far.

Ritter and Rausch have done the collector proud in the last thirty years, erecting new names (often at specific level in the first instance) for many of the delightful forms we now have in cultivation, and I would be the last to see all of them discredited or disappear altogether into synonymy. For this reason I have not pronounced to any large extent on the apparent validity or invalidity of the names they have erected, but have ensured that what is pictured and described follows the original description closely. To achieve this I have used for illustration, as far as possible, authenticated plants, often from original field collected plants, and many from type collections. Unfortunately some of Ritter's discoveries seem not to have come into cultivation, and now that he is no longer with us, it seems unlikely that they will ever be satisfactorily identified. This is not helped at all by the fact that on a check recently of herbarium specimens deposited by Ritter at Utrecht, some of them were not found there (*Englera* 16,1995); they may of course have been lost, but the doubt remains as to whether they were deposited, if not the names are invalid.

To enable the broader view to be taken if preferred, I have included for each taxon the view of the genus as expressed in the recently published *CITES Cactaceae Checklist*, which is as radical as any that has been expressed in a considerable time. When one compares the view taken therein with studies in the past, which resulted in quadrinomials to retain the names of yore for the collector, the complete turnaround in a space of less than 50 years is quite extraordinary.

A better understanding of the relationships of plants should be sought by extensive field exploration, but too often in a genus such as this, the more the field worker sees the more confused he becomes.

A particular problem arises with the species *R. haagei* and *R. pygmaea*. The former is not mentioned in the 1992 *CITES Cactaceae Checklist*, the type and all those varieties (mostly erected or combined by Walter Rausch) which were formerly species, being referred to *R. pygmaea*. Since no account is taken in this publication of varieties it is to be assumed that they are all subsumed

to a greater or lesser degree beneath *R. pygmaea*, which taking an extreme lumping point of view means that they all disappear completely as synonymous with *R. pygmaea*, along with existing varieties of that species, or taking the splitter's view *R. pygmaea* is now host to something like 20 varieties! Either route is not very satisfactory, but because many (which were thought of as individual enough to start their career in print as separate species by the way) are distinctive enough to be of interest to collectors and enthusiasts for this genus, I have included them under *R. pygmaea*, with accompanying details and photographs. I have also included under *R. pygmaea* (as *R. pygmaea* 'haagei'), the neglected *R. haagei*. From personal correspondence I have learned that it was left out of the 1992 *CITES Cactaceae Checklist* in error. Mats Hjertson sets out reasons for combining the two admirably in *Taxon* 43:455-457 (1994).

Other species of Ritter's which were tenuously described, sometimes from a single plant, and which have apparently not found their way into cultivation are to be found in the chapter *Superfluous or dubious names and Hybrids*.

RECORDED DISTRIBUTION

Listed below are the Departments of Bolivia and States of Argentina showing those *Rebutia* species recorded in them (this does not mean of course that they might not stray into neighbouring territories).

Argentina

Jujuy: *R. atrovirens*; *R. aureiflora*; *R. buiningiana*; *R. einsteinii* & var. *gonjiani*; *R. euanthema* & var. *tilcarensis*; *R. fabrisii* & var. *aureiflora*, & var. *nana*; *R. fiebrigii*; *R. jujuyana*; *R. kariusiana* ?; *R. krainziana* ?; *R. marsoneri*; *R. nigricans*; *R. pseudodeminuta*; *R. pygmaea* & 'elegantula', & 'eos', & 'haagei', & 'pelzliana', & 'tafnaensis'; *R. steinmannii* 'costata', & 'major'; *R. wessneriana*.

Salta: *R. atrovirens* 'ritteri'; *R. aureiflora*; *R. deminuta*; *R. einsteinii*; *R. hoffmannii*; *R. jujuyana*; *R. kieslingii*; *R. krainziana* ?; *R. nigricans*; *R. padcayensis*, *R. pseudodeminuta*; *R. pseudominuscula*; *R. pygmaea*, & 'haagei', & 'mudanensis', & 'nazarenoensis'; *R. senilis*; *R. spegazziniana*; *R. steinmannii* 'christinae'; *R. violaciflora*; *R. xanthocarpa*; *R. walteri*.

Tucuman: *R. minuscula*; *R. spinosissima*.

Bolivia

Chuquisaca: *R. albopectinata*; *R. atrovirens* 'huasiensis', & 'raulii', & 'yuquinensis'; *R. brunescens*; *R. cintiensis*; *R. fiebrigii* var. *densisetata*; *R. leucanthera*; *R. mamillosa*; *R. nogalesensis*; *R. pygmaea* 'atrovirens', & 'canacruzensis', & 'diersiana', & 'friedrichiana', & 'minor', & 'pallida', & 'violaceo-staminata', & 'violascens'; *R. rubiginosa*; *R. schatzliana*; *R. simoniana*; *R. steinmannii* 'applanata', & 'camargoensis', & 'leucacantha', & 'tuberculata'; *R. sumayana*; *R. tarvitaensis*; *R. tuberosa*.

La Paz: *R. steinmannii*.

Oruro: *R. pygmaea* 'knizei', & 'orurensis'; *R. steinmannii*.

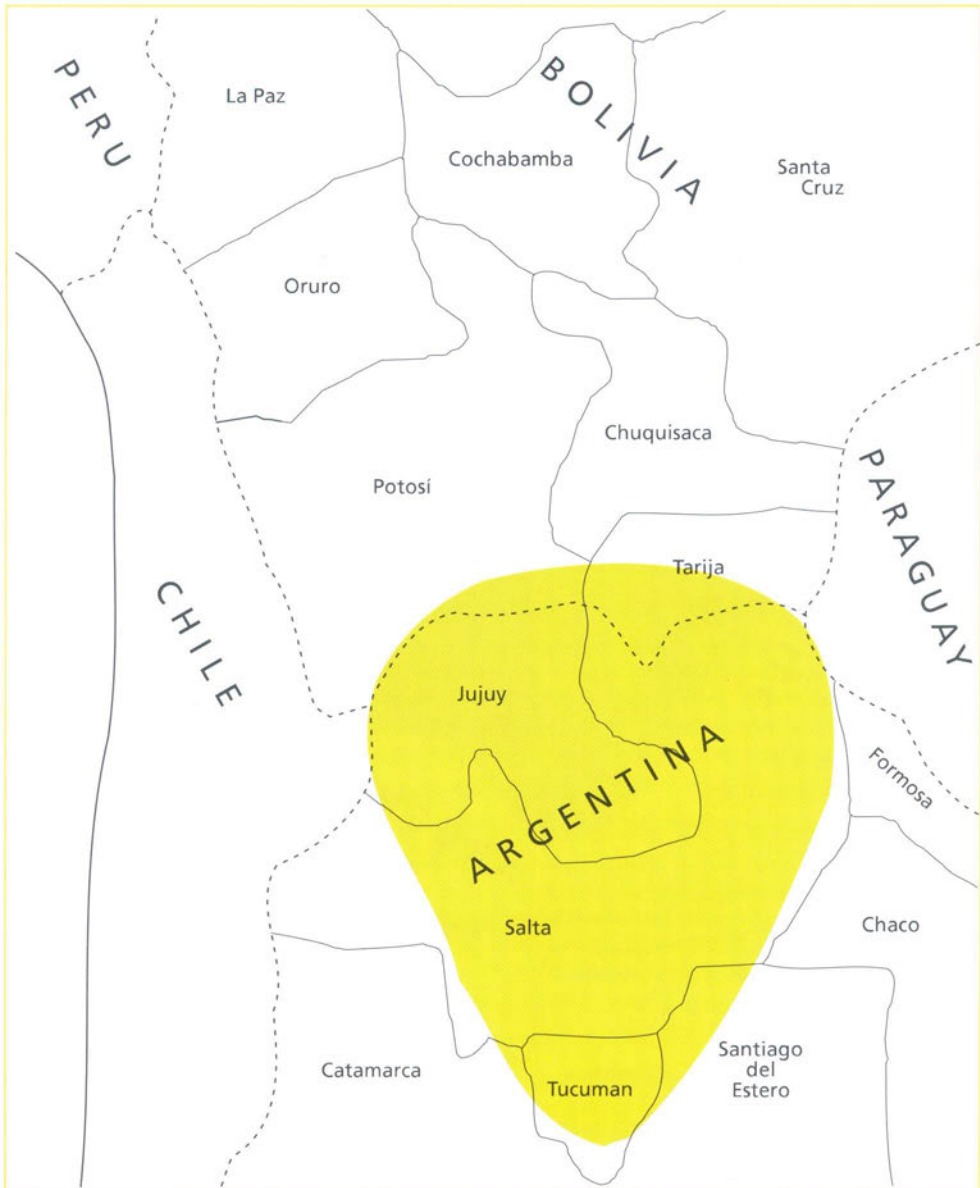
Potosi: *R. atrovirens* 'haefneriana'; *R. pygmaea* & 'polypetala'; *R. steinmannii*, & 'brachyantha', & 'cincinnata', & 'costata', & 'parvula', & 'rauschii'; *R. torquata*; *R. tropaeolipicta*.

Santa Cruz: *R. donaldiana*; *R. vallegrandensis*.

Tarija: *R. albiareolata*; *R. albiflora*; *R. albipilosa*; *R. atrovirens* 'pseudoritteri', & 'yuncharasensis', & 'zecheri'; *R. brunneoradicata*; *R. cajasensis*; *R. euanthema*; *R. fiebrigii*; *R. flavistyla*; *R. fulviseta*; *R. fusca*; *R. heliosa* & var. *cajasensis*, & var. *condorensis*; *R. kupperiana*; *R. mixticolor*; *R. muscula*; *R. narvaecensis*; *R. nitida*; *R. padcayensis*; *R. paucicostata*; *R. paucicostata*; *R. perplexa*; *R. pulchella*; *R. pulvinosa*; *R. pygmaea* 'colorea', & 'crassa', & 'iscayachensis'; *R. robustispina* & var. *minor*; *R. spegazziniana*; *R. spinosissima*; *R. steinmannii* 'melanocentra'; *R. supthutiana*; *R. tamboensis*; *R. tarijensis*; *R. vulpina*; *R. wahliana*.

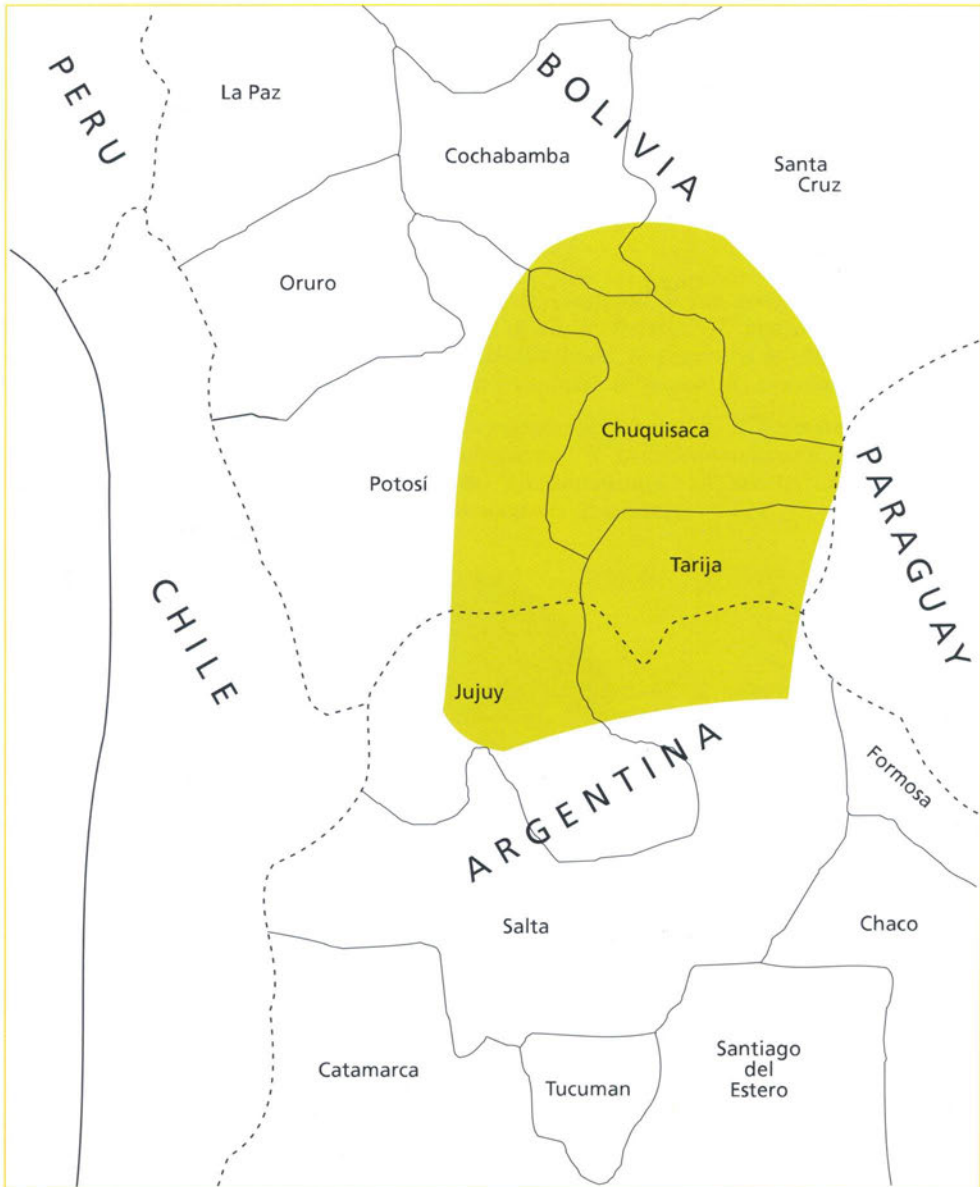
Distribution map 1 — *Rebutia* subgenus *Rebutia*

This map is based upon the known, recorded habitat distribution of the members of the subgenus *Rebutia* (i.e. *R. fabrisii*, *R. kariusiana*, *R. krainziana*, *R. marsoneri*, *R. minuscula*, *R. padcayensis*, *R. senilis*, *R. violaciflora*, *R. wessneriana*, *R. xanthocarpa*.)



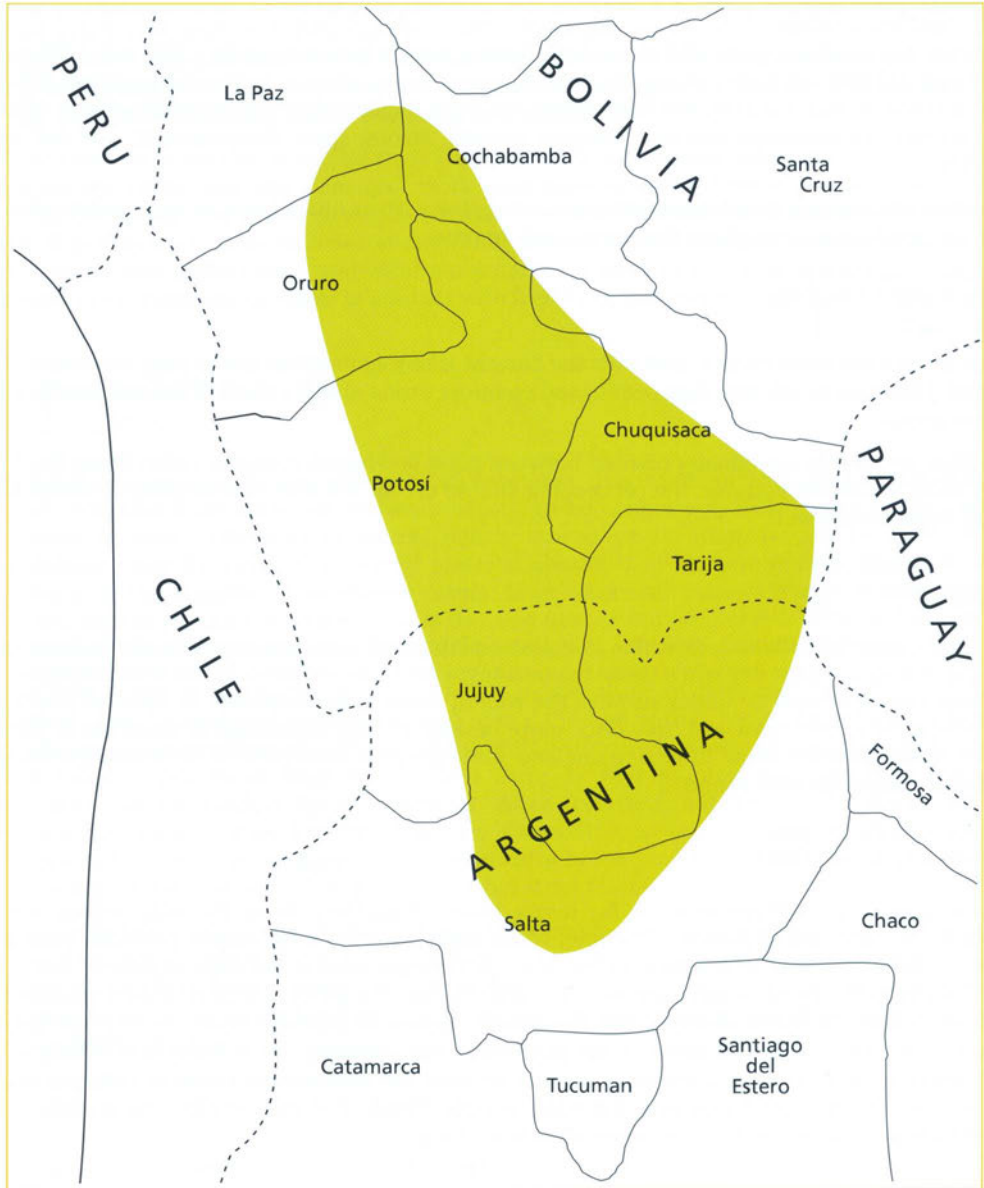
Distribution map 2 — *Rebutia* subgenus *Aylostera*

This map is based upon the known, recorded habitat distribution of the members of the subgenus *Aylostera* (i.e. *R. albiareolata*, *R. albiflora*, *R. albipilosa*, *R. albopectinata*, *R. brunescens*, *R. buiningiana*, *R. cajasensis*, *R. cintiensis*, *R. deminuta*, *R. donaldiana*, *R. fiebrigii*, *R. flavistyla*, *R. froehlichiana*, *R. fulviseta*, *R. fusca*, *R. heliosa*, *R. hoffmannii*, *R. jujuyana*, *R. kieslingii*, *R. kupperiana*, *R. mamillosa*, *R. muscula*, *R. narvaecensis*, *R. nitida*, *R. nogalesensis*, *R. patericalyx*, *R. perplexa*, *R. pseudodeminuta*, *R. pseudominuscula*, *R. pulchella*, *R. pulvinosa*, *R. robustispina*, *R. rubiginosa*, *R. schatzliana*, *R. simoniana*, *R. spegazziniana*, *R. spinosissima*, *R. sumayana*, *R. supthutiana*, *R. tamboensis*, *R. tarijensis*, *R. tarvitaensis*, *R. tuberosa*, *R. vallegrandensis*, *R. vulpina*, *R. wahliana*, *R. walteri*.)



Distribution map 3 — *Rebutia* subgenus *Mediolobivia*

This map is based upon the known, recorded habitat distribution of the members of the subgenus *Mediolobivia* (i.e. *R. atrovirens*, *R. aureiflora*, *R. brunneoradicata*, *R. einsteinii*, *R. euanthema*, *R. leucanthema*, *R. mixticolor*, *R. nigricans*, *R. pauciareolata*, *R. paucicostata*, *R. pygmaea*, *R. steinmannii*, *R. torquata*, *R. tropaeolipicta*.)



Reported localities in the *Commentary on species* chapter give first the country, followed where known by the state (Argentina) or department and province (Bolivia); then follows the more particular location cited when the plant was described or from where it has since been reported.

CULTIVATION

Growing most *Rebutia* species is not at all difficult, but to grow them well requires some care and attention to their needs. While they will tolerate being left to fend for themselves in the same pot for years, and still bloom well each year, if they are potted on regularly, and pests are fended off, they will reward you with attractive and abundant new growth, and consequently many more flowers.

Light

These are plants which grow wild in the high Andes, mostly between about 2,500 and 4,500 metres (8,200 and 15,000ft) altitude, where the light they receive is intense, high in ultra-violet. With this in mind I have found that they will take all the sunshine English skies can provide without blinking. Full exposure to sunshine ensures compact growth, strong spine development, and full flower potential.

I grow them in a sunny glasshouse with no shading, but with as much fresh air as possible to ensure good air circulation throughout the spring and summer.

Compost

This is largely personal choice, and with the current lobby against the use of peat for conservation reasons, I hesitate to tell you that peat-based compost forms about a third of the mixture that I use for this genus.

The other two thirds are equally divided between good soil-based compost (John Innes No. 3) and gritty sand. Whatever you use, the pH reading should err on the acid side of neutral, which seems to suit these plants well.

Temperature

Their high mountain habitat indicates that these plants will take temperatures down to or below freezing, if they are kept dry when these temperatures are to be endured. In the wild remember that although they may well be under snow in the winter, water is not available to them as it is frozen. Only when the snows thaw will they once more be able to take advantage of moisture in the form of melt water from the snow. Indeed in England some growers have them in unheated greenhouses or garden frames all year round.

Watering

Rebutia species in cultivation make far larger plants than they do in the wild, where water is available for very limited periods. The melt water mentioned above probably provides most of the water available to them at any time in the year, as they are mostly too high to benefit much from rain. Condensation from clouds may well also play its part. If a gritty compost is used watering may be given heavily in warm weather, but the plants should be allowed nearly to dry out between douses, and if the soil is still moist in the pots when the watering can is ready and willing in your hand, leave them to dry for a few days more. Certainly the commonest cause of collapse in these plants is too frequent attention with the water supply. Think of where they live, on steeply sloping ground where what water there is never stands for long.

Potting on

Although they will suffer infrequent potting on, suffer is the word, and too often I have seen *Rebutia* plants crying out for fresh soil and a larger container than that which is giving them the plant equivalent of bunions. Apart from enabling them to develop their best potential in growth the increase in size and the number of stems will also increase the number of flowers produced, and a large *Rebutia* clump in full flower is a wonderful sight. Most species do quite well in a half-pot or pan, of less depth than the width, even for the thick-rooted species, which do not really push their roots more than 10cm or so down into the soil. For the first few years at least, they should be repotted every year, and once they have reached a 10cm pot, every two or three years will do, but no longer if their best potential is to be realized. When they are larger, the same sized pot they have been in will sometimes do, if they have not outgrown it above ground, and the soil can be shaken from the roots, to allow fresh soil to be placed around them.

The best time for repotting is during their rest period, in late winter, when the old soil is easily shaken off the roots, and any damaged roots have time to callus before you start watering in earnest in the spring. Use nearly dry compost so that you do not start the roots off into premature growth. If perforce you have to repot at any other time of year, during the growing season, do so with minimum root disturbance, and withhold water for a week or two after repotting, in case any roots have been damaged, as water in contact with freshly broken roots could lead to fungal attack.

Propagation

Preferably if you are a purist you will seek out vegetative propagations from original material, and these are available from nurseries and enthusiasts, to be sought out. But beware of the careless application of field collection numbers, which nowadays is often tagged to seed offered commercially. Only the original collected material should bear these numbers, and it is worth enquiring from the supplier of numbered plants, from where his material came. If field collected clones are used to produce seed then this is the next best to obtain, but it is seldom that one sees conscientious conditions in commercial nurseries for good, controlled seed production.

Seed is best sown in the early spring, when a temperature of between 15 and 20°C can be maintained. Sow in enclosed conditions, and water the soil with a fungicide solution when the seeds are sown. Germination should take place within two or three weeks, and the plants can be kept enclosed in polythene bags for the first three or four months, watering only when the condensation on the bags reduces somewhat. After this time, slit the bag to allow some air circulation, and remove them from the bag after six months, when, if as large as small peas, they can be pricked out into trays to grow on. If sown early in the year they should be large enough to tolerate a dry winter rest, say from early December until March.

Offsets can be taken from your plants, cutting at the narrowest point of attachment. Allow to dry for a few days, before placing on dry compost for a week or two. As soon as roots appear, or in any case after about three weeks, water the soil well, and the roots should take up moisture to swell the cutting. Keep out of direct sun until the plants are clearly growing, and even then reintroduce them to sunlight gradually.

Pests

The worst pest for *Rebutia* is red spider mite, which will readily attack the soft epidermis of these plants. The effect of such an attack is a browning of the surface, especially around the growing point, but eventually all over the plant. If their presence is suspected the plant should be examined in good light with a strong magnifying glass (x5 magnification or more), when the tiny mites may be seen crawling around the surface. Another indication is the presence of fine spider-like webbing

between the spines, revealed if the plant is held up against the light. Frequent spraying with clean rainwater or distilled water, at least once a week during the growing season will discourage the pest, which prefers dry conditions, but spraying regularly, three or four times a year, with an insecticide which specifies red spider mite among its victims, is the best preventative. Once an attack has been suffered, plants badly affected should be removed and discarded well away from the collection, and a spraying programme should be set up for a twelve month period, to be sure of clearing the pest, and its subsequent hatchings, which will rapidly replace those of the previous generation which you have killed, since there is no guarantee of any insecticide killing the eggs they have laid.

Other pests include mealy-bug, both that which affects the top, exposed part of the plant, and the insidious root mealy bug, which attacks below ground. Brushing away the pests with an old paintbrush is a good start, well away from other plants of course, and preferably into a bag which can be then disposed of, followed by a sequence of spraying against recurrence of the pest, from those which escape the brush, and the eggs which will undoubtedly hatch to give you fresh problems. In the case of root mealy-bug, complete removal of the soil from the roots is recommended, which should then be washed and rinsed in an insecticide solution, before drying and replacing in fresh soil and pots. Better still, if your rooting technique is good, cut off the roots completely, and dispose of them, brush off the base of the plant to remove any lurking pests, dry them off after a light dusting with hormone rooting powder (for its fungicidal properties more than anything else), and reroot in fresh soil and clean pots, of course.

Do not underestimate the capabilities of that insidious recent pest of cacti, the sciara or mushroom fly. It favours peat composts, and since most John Innes formula composts contain an element of peat, these flies are liable to be present in any professional mix we use, or for that matter any home-produced mixture which includes peat.

Their effect when present with seedlings is completely devastating, and they can wipe out a complete sowing in no time at all. And they will also attack mature plants, and in bad cases can result in the complete demolition of a large clump of your favourite plants (they always pick those plants you would most like them not to).

Putting the compost you use in a microwave on a high setting for three minutes seems to do for this pest in the first instance, and is a good discipline as a preventative measure. Once the pest is apparent in your collection however every opportunity should be taken to attack the flying insects when seen, since this is when they are most vulnerable. Insecticides are effective and should be sprayed at the insects when in flight, and around plants affected, as they tend to take evasive action beneath the top dressing or in the top layer of soil. This will also kill any of the larvae which have not yet entered the flesh of your plants. The effect of systemic insecticides on these larvae once they have entered the tissues is questionable. When a plant has lost its roots, scrape away the rot until clean white flesh is reached; the larvae will often be apparent as you get to this, and all trace of brown or orange rot in the plant tissues should be removed. Dust with a fungicide, such as is contained in hormone rooting powders, leave to dry for a week or so, before rooting in fresh (microwaved) compost.

CLASSIFICATION

Moves are afoot to broaden the already broad view taken in recent years by taxonomists of the genera of the family Cactaceae. For the purpose of this book, the genus *Rebutia* is taken to embrace those species more usually attributed to it in recent decades, i.e. *Rebutia* in the narrow sense, *Aylostera* and *Mediolobivia* (the latter also known as *Digitorebutia*). In spite of recent moves to amalgamate the genus *Sulcorebutia*, that genus is regarded as separate and so is not included in these covers.

Backeberg in his *Die Cactaceae* Vol. 3 (1959) and later works favoured three separate genera for the plants which are included herein:

Rebutia (as defined by K. Schumann, Monatschr. Kakt.-Kunde, 5:102 1895);

Aylostera (as defined by Spegazzini, An. Soc. Cient. Argent. 96:75 1923);

Mediolobivia (as defined by Backeberg, Blätt. Kakt.-Forsch. 2:(3) 1934).

Ritter and Rausch followed Donald, see below, in regarding the three as one genus, and the first two of the three former genera as subgenera, the last as a section, favouring the prior name at this rank of *Digitorebutia* instead of *Mediolobivia*, which has priority at generic level.

Albert Buining and John Donald in 1963 (*Sukkulentenkunde*) and 1965 (*Cactus & Succulent Journal of Great Britain*) pulled the three together as one genus, *Rebutia*, amending Schumann's original definition of the genus as follows:

"Plants relatively small, flattened globose to globose or cylindrical, simple or somewhat caespitose, offsets without adventitious roots; ribs scarcely distinguishable, spiralled or vertically directed, mostly resolved into small round or hexagonal tubercles; areoles round to oval in the centre of the tubercle, felted, initially without spines; spines always straight, never hooked, bristly, adpressed or outstanding, often pectinate; flowers funnellform rarely campanulate, arising only from the sides or base of the plant, never from the crown; flower tube narrow, sometimes very short and then broader, with scales on the outer side, scale axils naked to woolly and even bristly; seeds small, from 1.5mm to 2mm large, black or brown, shiny or dull, cap formed. Habitat: S. America in the eastern Andes between 1,500-5,000m above sea level from N. W. Argentine to S. Bolivia."

The genus was divided into two subgenera, *Rebutia* and *Aylostera*, and further divided into six sections. Beneath subgenus *Rebutia*, were sections *Rebutia*, *Setirebutia* and *Cylindrorebutia*, and under subgenus *Aylostera* were sections *Aylostera*, *Digitorebutia* and *Mediorebutia*.

Buining and Donald's key to the subgenera and sections is as follows:

- A. Receptacle, style and filaments not fused together; scale axils naked or hairy but lacking fine bristles; flower tube relatively broad. *Subgenus Rebutia*
- B. Flower funnellform; body globose to applanate
- C. Scale axils naked or almost naked; flowers self fertile; body globose or applanate up to 6cm high and broad *Section Rebutia*
- CC. Scale axils hairy; flower self sterile; body globose *Section Setirebutia*
- BB. Flower campanulate; body very cylindrical, more or less violet tinted . . . *Section Cylindrorebutia*
- AA. Receptacle, style and filaments partly or wholly fused together; scale axils hairy and bristly, or bristly; receptacle relatively narrow *Subgenus Aylostera*
- D. Scale axils with hairs and bristles; flower self fertile; body globose to applanate *Section Aylostera*
- DD. Scale axils with hairs (often only a few); flowers self sterile; body applanate to globose to short cylindrical
- E. Body short cylindrical, small, often lilac tinted, seeds brown *Section Digitorebutia*
- EE. Body more applanate to globose; relatively large, up to 6cm high and 10cm broad, not or rarely lilac tinted; seeds black *Section Mediorebutia*

Mediorebutia (*R. marsoneri*, *R. wessneriana*, *R. krainziana* and *R. kariusiana* herein) has long been embraced within the section *Rebutia*. The sections *Setirebutia* and *Cylindrorebutia* consisted of only one species each (*R. aureiflora* and *R. einsteinii*), and Rausch in his book, *Lobivia* 85, submerged these two sections/species beneath a broader concept of *Digitorebutia* (albeit as an even broader view of *Lobivia*); Rausch's view of the placing of these two species is accepted (but not as *Lobivia*), and the sections *Setirebutia* and *Cylindrorebutia* are here combined with *Digitorebutia*. However the more familiar name *Mediolobivia* is almost universally used at present for this part of the genus. Unfortunately it cannot be used if the term section is used, as *Digitorebutia* has preference. I am therefore using the division subgenus for what is now generally regarded as an acceptable three-way division for this genus, i.e. subgenus *Rebutia*, subgenus *Aylostera* and subgenus *Mediolobivia*.

The species allocated to the different subgenera are as follows:

Subgenus *Rebutia*

R. fabrisii, *R. kariusiana*, *R. krainziana*, *R. marsoneri*, *R. minuscula*, *R. padcayaensis*, *R. senilis*, *R. violaciflora*, *R. wessneriana*, *R. xanthocarpa*.

Subgenus *Aylostera*

R. albiareolata, *R. albiflora*, *R. albipilosa*, *R. albopectinata*, *R. brunescens*, *R. buiningiana*, *R. cajasensis*, *R. cintiensis*, *R. deminuta*, *R. donaldiana*, *R. fiebrigii*, *R. flavistyla*, *R. froehlichiana*, *R. fulviseta*, *R. fusca*, *R. heliosa*, *R. hoffmannii*, *R. jujuyana*, *R. kieslingii*, *R. kupperiana*, *R. mamillosa*, *R. muscula*, *R. narvaecensis*, *R. nitida*, *R. nogalesensis*, *R. patericalyx*, *R. perplexa*, *R. pseudodeminuta*, *R. pseudominuscula*, *R. pulchella*, *R. pulvinosa*, *R. robustispina*, *R. rubiginosa*, *R. schatzliana*, *R. simoniana*, *R. spegazziniana*, *R. spinosissima*, *R. sumayana*, *R. supthutiana*, *R. tamboensis*, *R. tarijensis*, *R. tarvitaensis*, *R. tuberosa*, *R. vallegrandensis*, *R. vulpina*, *R. wahliana*, *R. walteri*.

Subgenus *Mediolobivia*

R. atrovirens, *R. aureiflora*, *R. brunneoradicata*, *R. einsteinii*, *R. euanthema*, *R. leucanthema*, *R. mixticolor*, *R. nigricans*, *R. pauciareolata*, *R. paucicostata*, *R. pygmaea*, *R. steinmannii*, *R. torquata*, *R. tropaeolipicta*.



Rebutia xanthocarpa growing in habitat at Quebrada del Toro on the borders of Salta and Jujuy in Argentina

IOS/CITES CLASSIFICATION PROPOSALS

More recent rationalization of both genera and species has been published in the *CITES Cactaceae Checklist*, 1992 (compiled by David Hunt of the Royal Botanic Gardens at Kew).

As far as species of *Rebutia* (excluding *Sulcorebutia* species) are concerned many are reduced beneath only 19 'accepted species', with a further 9 listed as 'provisionally accepted' (I suspect in pollsters' parlance these constitute the 'don't knows'). The listing is only of species, and does not include an indication of which subgenus or section they belong to, nor is any account taken of the placing of varieties already described, nor an indication of whether species declared synonymous with others are considered to be totally subsumed or warrant subspecies consideration, and nothing has emerged in print since to indicate the thinking behind these pronouncements.

I have included in the chapter *Commentary on Species* the placing according to this recent publication for each taxon, which serves more than anything to give a view (not necessarily my own) on species' relationships. The groupings are here summarized.

In the subgenus *Rebutia* (although not defined as such), 3 species are fully recognized:

R. margarethae, beneath which 2 other species are placed: *R. padcayensis*, *R. singularis*; (but since *R. padcayensis* has priority over the other two, this should have been the preferred name)

R. marsoneri, beneath which 2 other species are placed: *R. hyalacantha*, *R. krainziana*;

R. minuscula, beneath which 8 other species are placed: *R. carminea*, *R. chrysacantha*, *R. fabrisii*, *R. graciliflora*, *R. grandiflora*, *R. kariusiana*, *R. senilis*, *R. violaciflora*.

A further three are provisionally recognized:

R. permutata, which stands on its own;

R. wessneriana, beneath which 1 other species is placed: *R. calliantha*;

R. xanthocarpa, which stands on its own.

In the subgenus *Aylostera*, 10 species are recognized:

R. albopectinata, beneath which 1 other species is placed: *R. schatzliana*;

R. deminuta, beneath which 1 other species is placed: *R. pseudominuscula*;

R. fiebrigii, beneath which 8 other species are placed: *R. albipilosa*, *R. cajasensis*, *R. cintiensis*, *R. donaldiana*, *R. ithyacantha*, *R. pulchella*, *R. tamboensis*, *R. vallegrandensis*;

R. fulviseta, which stands on its own;

R. heliosa, beneath which 2 other species are placed: *R. narvaecensis*, *R. perplexa*;

R. pseudodeminuta, beneath which nine other species are placed: *R. albiareolata*, *R. buiningiana*, *R. kupperiana*, *R. minutissima*, *R. nitida*, *R. nogalesensis*, *R. robustispina*, *R. sanguinea*, *R. wahliana*;

R. pulvinosa, beneath which 1 other species is placed: *R. albiflora*;

R. simoniana, which stands on its own;

R. spegazziniana, beneath which 11 other species are placed: *R. froehlichiana*, *R. fusca*, *R. mamillosa*, *R. patericalyx*, *R. rubiginosa*, *R. sumayana*, *R. tarijensis*, *R. tarvitaensis*, *R. tuberosa*, *R. vulpina*, *R. zecheri*;

R. spinosissima, beneath which 2 other species are placed: *R. archibuiningiana*, *R. hoffmannii*.

A further 7 species are provisionally recognized: *R. brunescens*, *R. flavistyla*, *R. jujuyana*, *R. kieslingii*, *R. muscula*, *R. permutata*, *R. walteri*.

In the subgenus *Mediolobivia*, 6 species are fully recognized:

R. aureiflora, beneath which 3 other species are placed: *R. euanthema*, *R. oculata*, *R. sarothroides*;

R. einsteinii, beneath which 2 other species are placed: *R. aurantida*, *R. gonjianii*;

R. huasiensis, which stands on its own;

R. pygmaea, beneath which 26 other species are placed: *R. brunneoradicata*, *R. canacruzensis*, *R. carmeniana*, *R. christinae*, *R. colorea*, *R. diersiana*, *R. friedrichiana*, *R. gracilispina*, *R. haagei* (omitted in error), *R. iridescens*, *R. lanosiflora*, *R. mixta*, *R. mudanensis*, *R. nazarenoensis*, *R. odontopetala*, *R. orurensis*, *R. pallida*, *R. pauciareolata*, *R. paucicostata*, *R. rosalbiflora*, *R. rutiliflora*, *R. salpingantha*, *R. torquata*, *R. villazonensis*, *R. violascens*, *R. yuquinensis*;

R. ritteri, beneath which 4 other species are placed: *R. iscayachensis*, *R. mixticolor*, *R. raulii*, *R. tropaeolipicta*;

R. steinmannii, beneath which 9 other species are placed: *R. brachyantha*, *R. camargoensis*, *R. cincinnata*, *R. costata*, *R. eucaliptana*, *R. poecilantha*, *R. potosina*, *R. rauschii*, *R. suphuthiana*.

None are recognized provisionally in this subgenus, and in particular *R. haagei*, beneath which Walter Rausch had recognized 10 further varieties, is not mentioned (in error, I understand), although it can be deduced from the allocation of the aforementioned varieties, that it is regarded as synonymous with *R. pygmaea*. If this is so, it increases Rausch's headcount of varieties beneath *R. pygmaea* to 22!

R. atrovirens is banished (or rather returned) to *Lobivia atrovirens*, beneath which three other species (*R. eos*, *R. leucanthema* and *R. nigricans*) are placed and of course also referred to the genus *Lobivia* (they are herein regarded as *Rebutia*, in the subgenus *Mediolobivia*).

And the species *Lobivia famatimensis* becomes *Rebutia famatinensis*, but I could not begin to guess why.

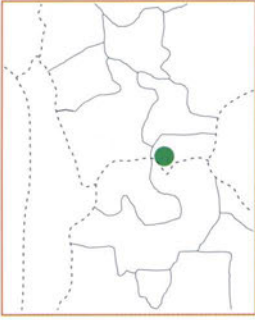
You will not perhaps be surprised to find some disagreements between these placings and the author's concepts of relationships in the chapter entitled *Commentary on Species*.

For convenience there is a contents list overleaf of the species included in the main part of this book, the *Commentary on Species*.

Synonyms and dubious names, together with some better hybrids, are listed at the end of the book, see page 117.

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Rebutia albiareolata

R. albiareolata Ritter, Kakt.u.a.Sukk.28(4):78 (1977); Kakt. Südamer.2:612, fig.529 (1980); CITES Cact. Checklist 124 (1992) = *R. pseudodeminuta*

Subgenus *Aylostera*

As the name implies this is a species whose most prominent feature is its prominent white areoles. Although in the 1992 *CITES Cactaceae Checklist* it is referred to *R. pseudodeminuta*, it is different in several respects from this well-known, old species. This is particularly so in its habit, maintaining a globular to flat-globular shape to the stem, compared with the globose to elongated stems of *R. pseudodeminuta*. The flowers too owe more to scarlet to pure red than the more reddish-orange flowers of the older species.

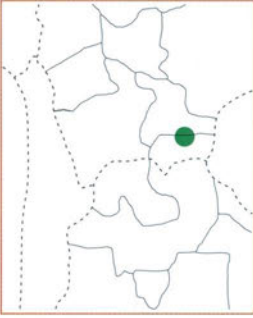
It was described as solitary (it clusters slowly in cultivation), globose, clear green bodied with reddish tints, stems 3 to 5cm wide, with thick roots, ill defined ribs, oblong areoles, 1 to 2mm wide, with copious white wool for which the species is named. There are 10 to 14 radial spines, white, 6 to 10mm long, with several stronger central spines, 8 to 15mm long, all spines minutely pubescent. Flowers are scarlet, the ovary with white wool and bristles, the stigma 4-lobed and yellowish, petals 17 to 20mm long, 4 to 6mm broad, usually striped, the inner scarlet, outer carmine.

Reported from Bolivia, Tarija, Arque, at Padcaya, growing with *R. kupperiana*, but with no apparent hybrids between the two discovered.

Collector's number referred here is FR 761 (deposited at Utrecht and Zurich).

Rebutia albiareolata
FR 761





Rebutia albiflora

R. albiflora Ritter & Buining, *Taxon* 12(1):29 (1963); Buining & Donald, *Cact. Succ. J. GB* 27(4):78 (1965); Backeberg, *Kakteenlex.* 70 (1970); *Cact. Lex. (Engl.ed.)* 77 (1978); Ritter, *Kakt. Südamer.* 2:616-7, fig.550 (1980); CITES *Cact. Checklist* 124 (1992) = *R. pulvinosa*; Eggl et al, *Englera* 16:383 (1995)

Subgenus *Aylostera*

From the moment of its introduction, in the early 1960s, this species has proved an individual, accommodating and attractive one.

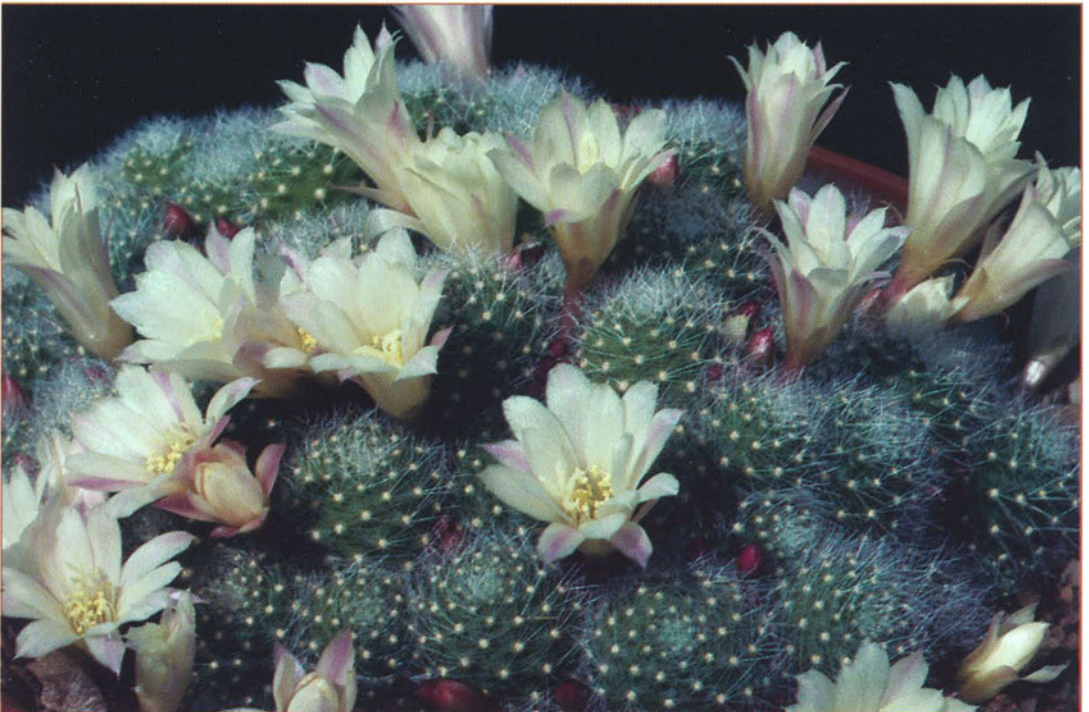
It clusters into dense, white-spined mats of tiny stems, each about 2cm in diameter, globose to elongated as the clump compresses the lower part of the stems. Areoles are small and oval, with white or yellowish wool. Spines are almost indistinguishable from each other as radial or central, but are recorded as 15 radial and about 5 central, all white, hairfine and flexible; the radials are 3 to 5mm long, the centrals to 15mm long and brownish at base. Flowers are 2.5cm long and wide, white or pale pink, with very narrow flower tubes, stigma white.

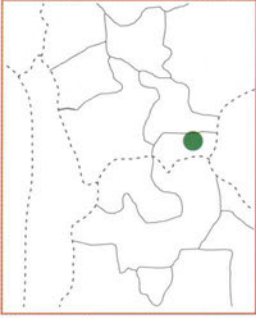
Reported from a sub-tropical area in Bolivia, in north-east Tarija, Rio Pilaya; gorge of Santa Rosa (?); by Knize from Nogales, at 2,300m (7,550ft) altitude.

Collectors' numbers referred here are FR 766a (reportedly deposited at Utrecht, but recently not found there); KK 1956.

This species was crossed some years ago with *R. heliosa* to produce an attractive hybrid, quite widespread commercially, recently called *R. cv. Sunrise* – see page 146. The author and others have also used it to produce hybrids with other species, see *Superfluous or dubious names and Hybrids* chapter starting on page 117.

Rebutia albiflora





Rebutia albipilosa

R. albipilosa Ritter, Taxon 12:28 (1963); Buining & Donald, Cact. Succ. J. GB 27(3):59 (1965) – amended description; Backeberg, Kakteenlex. 70 (1970); Cact. Lex. (Engl.ed.) 77 (1978); Ritter, Kakt. Südamer. 2:617-8, figs. 551-2 (1980); CITES Cact. Checklist 124 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

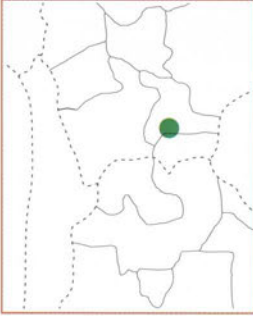
This is a beautiful, finely spined species, but is often misidentified in cultivation, see below. It has long, extremely fine and soft spines, compulsively strokable, and makes a somewhat untidy cluster of quite large stems. Once seen it is unmistakable, and the illustrations in Ritter's *Kakteen in Südamerika*, volume 2, leave no doubt as to its correct identification. It is described as having globular stems, becoming columnar with age, clustering, but sparingly, dark green in colour, 4 to 5cm in diameter, and to about 10cm or so tall. The 21 to 25 ribs are discernible only with difficulty because of the dense spination. Areoles are round or oval, with white spines numbering about 25 to 35, intermingled, radials and centrals barely distinguishable, soft, hair-like and somewhat curving, white, the radials 10 to 25mm long, centrals 20 to 40mm long, sometimes brown tipped, although this is often applied to a somewhat different plant with more affinity to *R. vallegrandensis*. Flowers are orange-red to red, with very long, narrow tubes 3.5 to 4.5cm long, 2.5 to 3cm wide, stigma white.

Reported from Bolivia, Tarija, O'Connor, Narvaez.

Rebutia albipilosa

Collectors' numbers referred here are FR 754 (deposited at Utrecht); WR 784a, 858; KK 839.





Rebutia albopectinata

R. albopectinata Rausch, Kakt.u.a.Sukk.23(9):236-7 (1972); Cact. Lex. (Engl.ed.) 305 (1978) – as *Mediolobivia*; Donald, Ashingtonia 3(5&6):142 (1979); Ritter, Kakt. Südamer. 2:606,fig.519, col.pl.11 (1980); Gröner, Kakt.u.a.Sukk. 36(6):124 (1985); Rausch, Lobivia 85:147 (1987); Pot, Succulenta 66(10):194 (1987); CITES Cact. Checklist 90,124 (1992) = good species; Bauer, Kakt.u.a.Sukk 44(6)&(7):122, 138 (1993); Egli et al, Englera 16:380 (1995)

Subgenus *Aylostera*

This is an attractively spined, slow-growing species making small clusters of stems in time, often still seen labelled as *R. densipectinata*, a name not described, usually applying to darker spined plants collected by Knize.

It is described as solitary (it clusters in cultivation), globose (tending to somewhat flat-topped conical), to 1.5cm wide, with grey-green stem colour. Roots are thick and fleshy. There are up to 16 ribs, straight to slightly spiralling. Areoles are oval, small, 1mm long, with white or more usually bright orange-brown short wool. Radial spines number 13, in pairs directed sideways, with one lower one pointed downwards, short, to 3mm long, lying flat to and densely clothing the body, white, with thicker base tinged brown. Central spines are often not present, but up to 2 are sometimes seen, to 1mm long, similar to the radials, standing outwards. Flowers are red, 5cm long, 4.5cm wide, with pink ovary and slender tube, with rust-red scales and white hairs and bristles; outer petals are violet-pink with green midstripe, inner petals red, stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, near Culpina, at 3,400m (10,400ft) altitude.

Collectors' numbers referred here are WR 312 (deposited at Zurich, not Vienna, as cited); FR 758.

Rebutia albopectinata
WR 312





Rebutia atrovirens

R. atrovirens (Backeberg) Pilbeam, comb. nov., Backeberg, *Kaktus ABC* 242,414 (1935) – as *Lobivia atrovirens*; Buining, *Succulenta* 22:52(1940) – as *Digitorebutia atrovirens*; Krainz, *Sukkulentenk.* 1:18 (1947) – as *Mediolobivia atrovirens*; Donald, *Cactus* 9:40,39 (1954) – as *Mediolobivia haagei* var. *atrovirens*; Backeberg, *Die Cact.* 3:1506,fig.4160 (1959) – as *Mediolobivia pectinata* var. *atrovirens*; Buining & Donald, *Sukkulentenk.* 7/8: 99-104 (1963) – as *R. pygmaea* fa. *atrovirens*; Rausch, *Lobivia* 85:12-13,137 (1987) – as *Lobivia atrovirens*; CITES *Cact. Checklist* (1992) = *Lobivia atrovirens*

Subgenus *Mediolobivia*

Rausch in his latest work rejects the previous combinations with *R. pectinata/haagei/pygmaea*, albeit regarding them all as *Lobivia* in the broad sense, and combines six later described species hereunder, as well as erecting two new varieties. Which makes this a very variable species divided into nine varieties including the type. As for *R. pygmaea* and *R. steinmannii* below, I have not made the formal combinations here, not wishing to get too botanical, nor acknowledge what after all are really variations on the species, not warranting recognition, except as collectors' plants, for which Rausch has provided us with convenient handles.

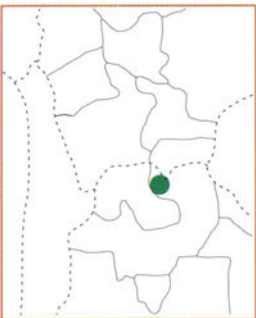
The identity of the type is in considerable doubt, and perhaps the best idea of what Backeberg described very briefly in 1936 can be gained from the photograph in his major work, *Die Cactaceae*, in which he adds to the original description that the flowers are "feuerrot (reinrot)" fiery red (pure red).

Taking the original Latin and Danish descriptions of 1936 together with the German description of 1959, we have a description of the type as follows:

Stem elongated, shining dark green in the new growth, to 7cm tall, 2cm in diameter, with about 15 more or less straight ribs, vertical and clearly defined. Spines are all radial, 9 to 12, needle-like to brittle, to 2 to 3mm long, bulbous at base, curving in to the body, whitish, brownish in the upper part. Flowers are fiery red (pure red), looking from the photograph in *Die Cactaceae* to be about 4cm long and wide.

Habitat from the original description is Argentina, Salta to Jujuy, from high mountains.

Collector's numbers referred here are: MN 0130, 0134, 0234.



'*haefneriana*' Cullman, *Kakt.u.a.Sukk.*6:119 (1955) – as *Mediolobivia haefneriana*; Backeberg, *Die Cact.* 3:1510 (1959) – as *Mediolobivia haefneriana*; Backeberg, *Kakteenlex.* 271 (1970) – as *Mediolobivia haefneriana*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia haefneriana*; Rausch, *Lobivia* 85:12-13 (1987) – as *Lobivia atrovirens* var. *haefneriana*; CITES *Cact. Checklist* 90 (1992) = *Lobivia atrovirens*

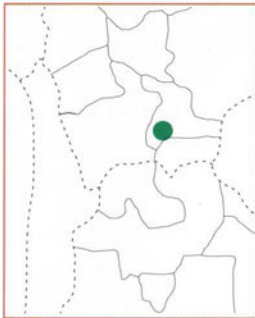
This is similar to the type, but with grey-green, olive-green, brown or violet tinted body, and more or less brown spines, with darker or brighter red flowers.

atrovirens
'haefneriana'

Reported from Bolivia, Potosi, Llalagua - Potosi to Iscayachi.

Collectors' numbers referred here are WR 208a, 515; KK 797.

Rebutia atrovirens
'haefneriana' WR 515



'huasiensis' Rausch, *Kakt.u.a.Sukk.*28(2):25 (1977); Rausch, *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *huasiensis*; *CITES Cact. Checklist* (1992) = good species.

Described as scarcely 1cm in diameter in habitat, dark grey-green in body colour with violet tints, and brown to black spines. Referring to Rausch's original description as a species (of *Aylosteral*), gives body up to 3cm in diameter, ribs about 13, areoles with white wool, spines all radial, 7 to 9, 3 to 5mm long, thin, brown, later grey. Flowers are 3.5cm long and wide, red with pinkish-white and greenish striping on the outer petals.

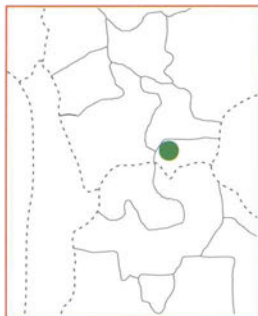
Reported from Bolivia, Chuquisaca, Inca Huasi, near Culpina, at 3,300m (10,100ft.) altitude.

Collector's numbers referred here are WR 313, (deposited at Zurich) 313a.

atrovirens
'huasiensis'



Rebutia atrovirens
'huasiensis' WR 313



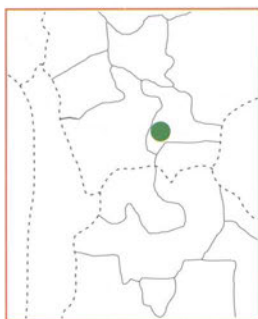
'*pseudoritteri*' Rausch, *Lobivia* 85:13,137,fig.538 (1987) – as *Lobivia atrovirens* var. *pseudoritteri*; Ritter, *Kakt. Südamer.* 2:603,fig. 538 (1980) – as *R. ritteri*; non Wessner, (see var. *ritteri* below)

This has been known in cultivation for some time as *R. ritteri*. Rausch renamed it on transfer to *Lobivia atrovirens* var. *pseudoritteri*, because Wessner had previously described *L. ritteri*, which Rausch reduced similarly to varietal status beneath this species (see '*ritteri*' below). It is described as having a yellow-green and brown tinted body colour, with longer, curved spines.

Reported from Bolivia, Tarija, Abra de Sama (Iscaiyachi); Argentina, Jujuy, La Quiaca, Sama.

Collectors' numbers referred here are FR 1123; WR 506 (deposited at Zurich).

atrovirens
'pseudoritteri'



(Left) *Rebutia atrovirens* '*pseudoritteri*' WR 506
(Right) *Rebutia atrovirens* '*raulii*' WR 485

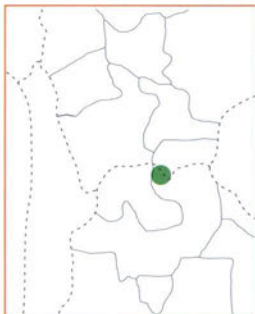
'*raulii*' Rausch, *Kakt.u.a.Sukk.* 31(6):170-1 (1980) – as *R. (Digitorebutia) raulii*; *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *raulii*; CITES *Cact. Checklist*1992) = *R. ritteri*

Described as globular, to 4cm in diameter, with constantly green body colour, clearly defined strong tubercles, and red flowers, smaller than the type, only 3cm long.

Reported from Bolivia, Chuquisaca, Nor Cinti, north of Camargo, at the Rio Honda.

Collector's numbers referred here are WR 485 (deposited at Zurich), 493-

atrovirens
'raulii'



'ritteri' Wessner., Beitr. z. Sukk. u. -pfl.4:3 (1938) – as *Lobivia ritteri*; Backeberg, Die Cact. 3:1517,fig.1473 (1959) – as *Mediolobivia*; Krainz, Sukkulente. 1:19 (1947) – as *Mediolobivia ritteri*; Backeberg, Kakteenlex. 272 (1970) – as *Mediolobivia ritteri*; Cact. Lex. (Engl.ed.) 307 (1978) – as *Mediolobivia ritteri*; Rausch, *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *ritteri*; CITES Cact. Checklist 90, 126 (1992) = good species. M. Föger, Kakt.u.a. Sukk. 44(3):60 with fig. (1993)

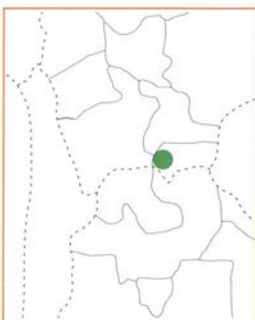
As indicated earlier under '*pseudoritteri*' this is not the plant commonly grown as *R. ritteri* (which is usually var. *pseudoritteri*). It is described as having brown spines with black tips, and broader flowers than the type.

Reported from Argentina, Salta, on the road from La Quiacha near Santa Victoria.

Collectors' numbers referred here are Lau 411; WR 520, 700a; KK 859 (also referring to *R. tuberosa*), 1232.

atrovirens
'ritteri'

Rebutia atrovirens
'ritteri' WR 520



'yuncharasensis' Rausch, *Lobivia* 85:13,137 (1987) – as *Lobivia atrovirens* var. *yuncharasensis*

Described by Rausch in his book, *Lobivia 85*; unfortunately no illustration of the plant is included among the very good colour illustrations it contains. Rausch describes it as differing in its thick tubercles and brown-violet colouring, as well as having small, brighter coloured flowers. It is little in circulation as yet.

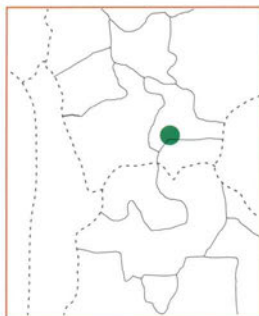
Reported from southern Bolivia, Tarija, at Yunchara.

Collector's number referred here is WR 91 (deposited at Zurich).

atrovirens
'yuncharasensis'

Rebutia atrovirens
'yuncharasensis' WR 91





**atrovirens
'yuquinensis'**

Rebutia atrovirens
'yuquinensis' WR 632

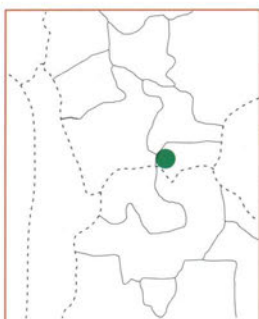
'yuquinensis' Rausch, *Kakt.u.a.Sukk.*, 31(10):307 (1980) – as *R. (Digitorebutia) yuquinensis*; *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *yuquinensis*; *CITES Cact. Checklist* 126 (1992) = *R. pygmaea*

Described as a good species by Rausch in 1980, but then combined beneath this species, albeit as a *Lobivia*, in his broader view of the genus. Differs in its greener body colour with violet tints, and peculiar, smoky-red coloured flowers. The referral in the *CITES Cactaceae Checklist* to *R. pygmaea* is not understood.



Reported from Bolivia, Chuquisaca, Sud Cinti, Yuquina, at 3,200m (9,800ft) altitude.

Collector's number referred here is WR 632 (deposited at Zurich).



**atrovirens
'zecheri'**

Rebutia atrovirens
'zecheri' WR 650

'zecheri' Rausch, *Succulenta* 56(2):30, fig.p29 (1977) as *R. (Aylosteria) zecheri*; *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *zecheri*; *CITES Cact. Checklist* 126 (1992) = *R. spegazziniana*

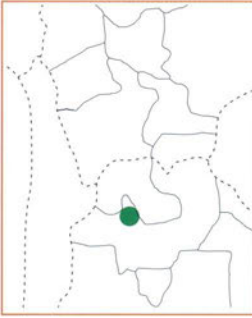
In full flower with its dark red, full-petalled blooms this is a stunning sight. It was described by Rausch originally as a species, and combined here in his book *Lobivia 85* (as a *Lobivia* of course).

His original description gives a dark grey-green body, with 12 ribs, areoles with pale brown wool. Spines are all radial, 7 to 9, rarely 10, with 6 or 8 radiating, sideways pointing and one pointing downwards, and a rare, odd one pointing upwards, to 5mm long, yellowish to brown, with thicker, darker base. Flowers are red, 3cm long, 2.5cm wide. The referral in the *CITES Cactaceae Checklist* to *R. spegazziniana* is not understood.

Reported from Tarija, Iscayachi, near Pueblo Viecho, at 3,000m (9,850ft).

Collector's number referred here is WR 650 (deposited at Zurich).





Rebutia aureiflora

R. aureiflora Backeberg, Kakteenfr.124 (1932); Kaktus-ABC 246 (1935) – as *Mediolobivia*; Krainz, Sukkulentenk. 1:20 (1947) – as *Mediolobivia*; Die Cact. 3:1485 (1959) as *Mediolobivia*; Kakteenlex. 270 (1966) as *Mediolobivia*; Cact.Lex. (Engl.ed.) 305 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:33 (1987) – as *Lobivia einsteinii* var. *aureiflora*; CITES Cact. Checklist 90, 124 (1992) = good species

Subgenus *Mediolobivia*

Rausch combined this species in his latest book with *R. einsteinii*, as a variety, albeit as a *Lobivia*, but it is here regarded as a good species.

R. aureiflora has somewhat sparingly clustering stems at first, (some plants cluster heavily in cultivation), and extremely variable spination, bristle-like, sometimes densely clothing the stems (the subsumed *R. nidulans*), sometimes sparse, and with occasional very much longer spines arising from odd areoles here and there. The flowers vary too from mostly golden-yellow to red (var. *sarothroides*, var. *rubelliflora*, var. *rubriflora*), or lilac-pink (var. *kesselringiana*). With such variation it is difficult to give a general description, but it forms clumps of globular to sometimes elongated stems, each about 3cm or so in diameter, coloured dull green to brownish-green with reddish tints. Areoles have sparse, whitish or brownish wool. Radial spines number about 15 to 20, bristle-like, flexible, to 6mm long or longer, brownish-yellow to brown. Central spines number 3 to 4 or more, especially in maturity, 10mm long, later longer with random spines to 6cm or more, similar in colour and texture to the radials. Flowers are golden yellow, red or lilac-pink (see below) usually with white throat, about 4cm long and wide, stigma yellowish-white.

Rebutia aureiflora

Reported from northern Argentina, Salta, Quebrada del Toro, Chorillos and near Yacones.



Collectors' numbers referred here are FR 407; WR 158, 680, 802; MN 0112.

Umpteen varieties have been described under this species, but few are recognized or in cultivation today (see page 117). Rausch retained var. *elegans* in his combination with *R. einsteinii*, but it is here regarded as just another of the many variations of this variable species.

Collectors' plants worth growing are:

aureiflora
'kesselringiana'

'kesselringiana' Cullman, Sukkulentenk. 2:26-7 with fig.(1948) – as *Mediolobivia kesselringiana*
With lilac-pink flowers.



(Right)

Rebutia aureiflora
'kesselringiana'

(Bottom left)

Rebutia aureiflora
'nidulans'

(Bottom right)

Rebutia aureiflora
'sarothroides'

aureiflora
'nidulans'

'nidulans' Fric & Kreuzinger, Verzeichnis 26 (1935), as *Setirebutia*; Backeberg, *Die Cact.* 3:1486-7 (1959) – as *Mediolobivia*

With extremely long, brownish-yellow spines, and a more columnar, less freely clustering habit, flowers golden yellow.

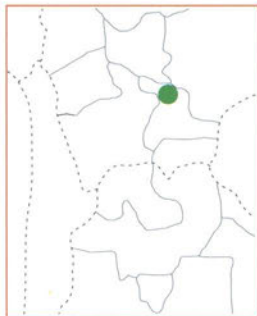
aureiflora
'sarothroides'

'sarothroides' (Werdermann) Backeberg, *Die Cact.* 3:1491, fig.1450 (1959) – as *Mediolobivia*; Werdermann, *Fedde Rep. Spec. Nov.* 34, fol.272 (1936); *Blüh. Kakt. Sukk.* pl.106 (1936) – as *R. sarothroides*

With fiery red flowers, but otherwise the habit of the type.

Since these three are merely flower colour or spine variations, with no more justification for retention than the many other names attached to this species, they are best simply labelled *R. aureiflora* '*kesselringiana*', '*nidulans*', and '*sarothroides*'.





Rebutia brunescens

R. brunescens Rausch, Kakt.u.a.Sukk. 23(9):235-236 (1972); Backeberg, Cact. Lex. (Engl.ed.) 305 (1978) – as *Mediolobivia*; *Lobivia* 85:147 (1987); CITES Cact. Checklist 90, 124 (1992) = provisionally accepted species

Subgenus *Aylostera* (originally ascribed to *Digitorebutia*, but changed by Rausch to *Aylostera* on publication of his book *Lobivia 85*)

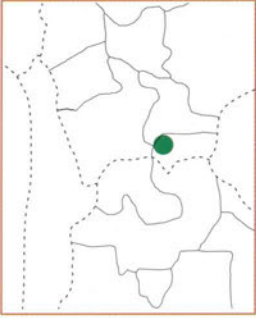
As the name implies this is not a particularly startling species, being overall “brownish” (*brunescens*), with red flowers, but it will appeal to collectors who like dark bodied plants, and it will make a clump of smallish stems each about 3 to 5cm in diameter, to fill a 20cm pan in five years or so. It is described as solitary (as indicated above it clusters in cultivation), globose, to about 5cm wide, with brownish-violet coloured stems, dark green around the areoles, with 13 to 14 ribs, straight to slightly spiralling. Areoles are oval, 2 to 3mm long, with brown wool. Radial spines number 11 to 13 in 5 or 6 sideways-pointing pairs, with one pointing downwards, straight and also brown. Central spines are sometimes not present, or there are up to 2, to 10mm long, stronger than the radials, thicker at the base, and (wait for it) brown. Flowers are red, 4cm long, 3cm wide, with ovary and receptacle whitish-pink, with green to brown scales and white hair and bristles, outer petals pink with green midstripe, inner petals bright red, stigma yellow.

Reported from Bolivia, Chuquisaca, near Tarabuco, at 3,500m (10,700ft) altitude.

Collectors’ numbers referred here are WR 480 (deposited in Vienna and Zurich), 480a; Lau 383.



Rebutia brunescens
Lau 383



Rebutia brunneoradicata

R. brunneoradicata Ritter, Kakt.u.a.Sukk. 28(4):77-78 (1977); Kakt. Südamer. 2:604,fig.516 (1980); CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Subgenus *Mediolobivia*

This slow growing, shortly columnar species is often misidentified commercially. Rausch makes no mention of it in his book *Lobivia 85*, in which he deals with this subgenus (as *Lobivia*). Reference to Ritter's illustration in his book *Kakteen in Südamerika* shows a plant intermediate between *R. pygmaea*, as the *CITES Cactaceae Checklist* suggests, and *R. atrovirens*, as Mats Winberg favours. In cultivation it makes a slowly spreading, low cluster of little-finger sized stems, and flowers freely.

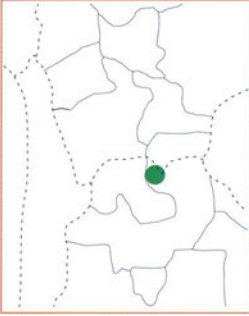
It is sparingly clustering, 1 to 2cm wide and growing three times as tall in cultivation, with long, brown, thick, fleshy roots, 9 to 12 ribs, ill defined. Spines are all radial, 8 to 12 in number, 2 to 3mm long, sideways pointing, blackish-brown to brown, thin and bristle-like. Flowers are carmine to red, with scarlet to purple outer petals, ovary with very narrow scales, white wool and bristles, flower tube is 7 to 8mm long, pale purple, stigma greenish-yellow.

*Rebutia
brunneoradicata*
FR 1109

Reported from Bolivia, Tarija, Mendez, at San Antonio.

Collector's number referred here is FR 1109 (deposited at Utrecht).





Rebutia buiningiana

R. buiningiana Rausch, Kakt.u.a.Sukk. 23(4):98-99 (1972); Backeberg, Cact. Lex. (Engl.ed.) 434 (1978); CITES Cact. Checklist 124 (1992) = *R. pseudodeminuta*

Subgenus *Aylostera*

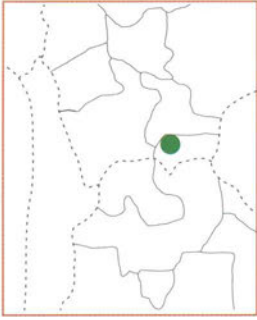
Rausch described this species before Ritter unknowingly used the same name for another, subsequently changed by Ritter to *R. archibuiningiana*, in order to retain the tribute to Buining (see page 117). Rausch described it as solitary, rarely clustering (although it does so slowly in cultivation), globular, to 5cm in diameter. Stems are clear greyish green, with up to 20 spiralling ribs. Areoles are round to oval, about 2mm wide, with white to brown wool. Radial spines number 14 to 16, widely spreading, 6 to 10mm long, thin, fragile, glassy white. There are 2 to 3 central spines, in a vertical row, stronger than the radials, to 14mm long, white, thickened at the base, and brown at the base and tips. Flowers are orange-pink, with clear pink outer petals, 3.5cm long, 3cm wide, fading after a day or two to an individual soft, pale orange; ovary and receptacle orange-pink with brown scales and white hair and bristles, stigma yellow.

Reported from Argentina, Jujuy, near Iruya, at 2,700m (8,850ft) altitude.

Collectors' numbers referred here are WR 511 (deposited at Vienna and Zurich); KK 860.

Rebutia buiningiana
WR 511





Rebutia cajasensis

R. cajasensis Ritter, Succulenta 56(3):64 (1977); Kakt. Südamer. 2:612-3, figs.533-4 (1980); CITES Cact. Checklist 124 (1992) = *R. fiebrigii*; Egli et al, Englera 16:476 (1995)

Subgenus *Aylostera*

This is a strongly growing species, producing prolific amounts of flowers. It was seen much more commonly in cultivation 15 years or so ago, soon after being described, than it is these days, which may be a reflection on its uninspiring spination, but its free flower production makes it worth growing.

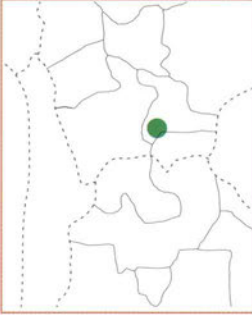
It was described as solitary, but in cultivation it clusters untidily, with globular to shortly columnar stems 3cm tall and wide, later taller, and with about 18 ribs. Areoles are oblong, with brownish wool. Radial spines number 10 to 11, straight, roughened, 2 to 3mm long, yellowish, later white, directed sideways. Central spines number 1 to 3, stronger than the radials, 3 to 5mm long, brown. The spination is somewhat sparse compared with most prickly-spined *Aylostera*. Flowers are vermilion to bright blood red, freely produced over a long period, stigma white.

Reported from Bolivia, Tarija, Mendez, near Cajas.

Rebutia cajasensis
FR 1141

Collector's number referred here is FR 1141 (reportedly deposited at Utrecht, but recently not found there; also deposited at Zurich).





Rebutia cintiensis

R. cintiensis Ritter, Ashingtonia 2(10):206 (1978); Kakt. Südamer. 2:620, fig. 557 (1980); CITES Cact. Checklist 124 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

This is dubiously separate from *R. fiebrigii*, and even Ritter said that it was a close relative of that species. It is even closer in appearance to *R. robustispina*. It makes a fairly even clump to fill a 15cm pot in about five years or so, nearly as tall as it is wide. Growing in strong light brings out the best in spine development, which can be an attractive feature of this species if well developed, and will ensure flowers on every one of the 50 or more stems which a plant of some five years or more growth will have developed, making a grand show.

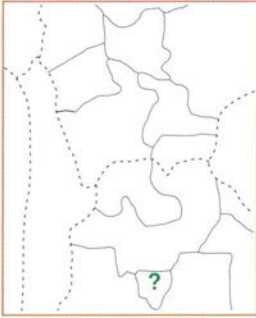
It was described as globular, green bodied, 4 to 5cm in diameter, with about 18 ribs. Areoles have thick white wool. Radial spines number about 12 to 15, 5 to 7mm long, thin, white. Central spines are much stronger and longer, numbering 4 to 8, upstanding, 15 to 30mm long, fox-red. Flowers are fiery red, tipped vermilion, the outer petals purplish, 3.5cm long, stigma white.

Reported from Bolivia, Chuquisaca, Nor Cinti, to the north of Camargo; Sud Cinti, near La Cueva; Culpina; Tarija, Inga Huasi.

Rebutia cintiensis
WR 503a

Collectors' numbers referred here are FR 765, 938 (deposited at Utrecht); WR 321, 503a.





Rebutia deminuta

R. deminuta (Weber) Britton & Rose, The Cact. 3:48 (1922); Weber, Bull. Mus. Hist. Nat. Paris 386 (1904) – as *Echinopsis*; Backeberg, Kaktus ABC 274 (1935) – as *Aylostera*; Krainz, Sukkulentenk. 1:20 (1947) – as *Aylostera*; Backeberg, Die Cact. 3:1530, fig.1484 (1959) – as *Aylostera*; Kakteenlex. 70 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 78 (1978) – as *Aylostera*; CITES Cact. Checklist 124 (1992) = good species

Subgenus *Aylostera*

This old species, described over 90 years ago, is not nearly so often seen these days as it was some 30 years or so ago, when it was commonplace in hobbyists' collections. However, with no field collectors in recent years willing to attach this name to their findings, and doubts surrounding the original reported habitat (see below), its true identity is uncertain.

It was described originally as globular to short-cylindric, 5 to 6cm tall, with 11 to 13 ribs, somewhat spiralled, more or less tuberculate, spines numerous (10 to 12), somewhat rigid (white, with brown tips or all brown); flowers 3cm long, inner petals red to orange, outer petals purple, with white stigma-lobes.

Plants commonly in cultivation for many years, have stems usually to no more than about 3cm wide and offsetting evenly and readily to make a dark greenish-brown bodied cluster to about 15cm in five years or so. The bright, blood-red flowers with their prominent yellowish-white stamens and stigmas are produced plentifully and will often cover the top of the plant completely in their exuberance.

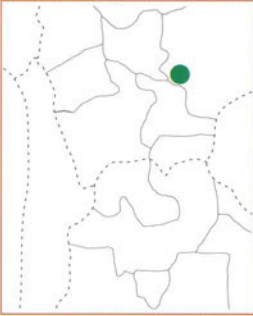
Rebutia deminuta



The original description reported the locality as Argentina, Tucuman, Trancas, but this is doubted, as subsequent attempts to find it there have been unsuccessful, and the area has been said not to look like a *Rebutia* habitat at all. If it were correct, then it would be by far the most southerly occurring *Aylostera*. For this reason it has not been considered for inclusion in the maps denoting the range of *Aylostera* on page 6.

Although Karel Knize ascribes his collection number KK 847 to this species, this is open to question; he collected this plant in Bolivia, Tarija, at Narvaez.

For var. *pseudominuscula* see under *R. pseudominuscula*.



Rebutia donaldiana

R. donaldiana Lau & Rowley, *Ashingtonia* 1(7):76-8 (1974); & 1(6):64 (1974); CITES Cact. Checklist 124 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

This is a distinctive, long red-brown spined species, with clear orange flowers produced generally later than most *Aylostera* species. It makes a somewhat uneven, untidy clump of stems, getting to about 10cm tall or more.

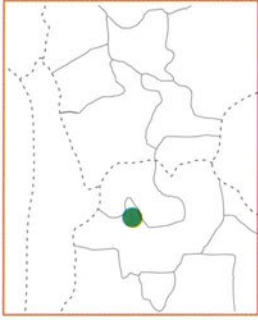
It was described as having deep green body colouring, with globose to short-cylindrical stems, freely clustering (somewhat unevenly), to 8cm wide, 10cm tall. Ribs number 16 to 18, with oval, brown-woolled areoles. Radial spines number 10 to 12, 5 to 15mm long, the lower placed being shorter, thinner and white, while the upper radial spines are stronger, longer and brown. There are 4 to 6 central spines, 20 to 25mm long, stronger than the radials, deep chestnut brown, yellow in the lower half when first emerging at the crown of the stem. Flowers are a good, solid orange colour, with a long, narrow, dull pinkish-orange tube, 4.5cm long, 3cm wide, stigma white.

Reported from Bolivia, Santa Cruz, Vallegrande, Pucara, at 2,400m (7,850ft) altitude, growing in crevices in steep granite rocks facing north.

Rebutia donaldiana
Lau 348

Collector's number referred here is Lau 348 (deposited at Heidelberg).





Rebutia einsteinii

R. einsteinii Fric, Moeller's Deutsch. Gärtnerz. 63:23,267 (1931); Backeberg, Die Cact. 3:1500, fig.1454 (1959) – as *Mediolobivia schmiedcheniana* var. *einsteinii*; Subik & Pazout, Succulenta 49(3):35-42 (1970); Backeberg, Kakteenlex. 272 (1970) – as *Mediolobivia schmiedcheniana* var. *einsteinii*; Cact. Lex. (Engl.ed.) 308 (1978) – as *Mediolobivia schmiedcheniana* var. *einsteinii*; Donald, Ashingtonia 2(6):107 et seq. (1976); Rausch, Lobivia 85:28-34 (1987) – as *Lobivia*; CITES Cact. Checklist 124 (1992) = good species; Pilbeam, Cactus File 2(4):25 (1995)

Subgenus *Mediolobivia*

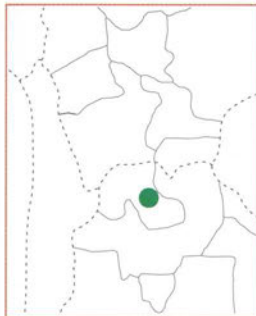
This is a variable species. It is short-cylindrical, clustering more or less prolifically, with bristly spines and lovely pastel yellow flowers. The type, *R. einsteinii* var. *einsteinii*, which embraces several former varieties allocated to the species as well as *R. aurantida*, is cylindrical, to 2 to 3cm or so wide, and to about 15cm tall eventually, clustering from the sides unevenly, coloured dull brownish green. Areoles are oval with light brown wool. Radial spines number about 10 or 11, 5 to 7mm long, brown at first, later grey, fine and bristle-like. Central spines develop later, being absent at first, 3 to 10 or more in number, similar to the radials, brown, thickened at the base. Flowers are a subtle shade of pastel yellow with darker midstripe, 2.5cm wide or larger, stigma white or greenish-white, but recently reported by Mats Winberg also to have flowers coloured red or orange.

Reported from Argentina, Jujuy; Quebrada del Toro, Las Cuevas-Cachinal, Iturbe, Purmamarca; Salta, Ing. Maury, Santa Rosa de Tastil, Alfarcito, at 2,800 to 3,200m altitude.

Rebutia einsteinii
Lau 477

Collectors' numbers referred here are WR 509, 509a, 794; Lau 476, 477, 533; MN 0100, 0103, 0106, 0110, 0147, 0171b, 0188, 0194, 0195, 0214, 0220.





einsteinii
var. gonjianii

var. gonjianii (Kiesling) Donald, *Ashingtonia* 1(7):83 (1974); Kiesling, *Bol. Soc. Arg. Bot.*15:132-5 (1973) – as *R. gonjianii*; Rausch, *Lobivia* 85:32 (1987); CITES Cact. Checklist 125 (1992) = *R. einsteinii*; Pilbeam, *Cactus File* 2(4):25 (1995)

This is an extraordinary, most attractive, small-stemmed variety of this species, which presents some difficulties in cultivating well. Care not to overwater it at any time must be exercised, and the use of extra grit in the potting mixture (about 50/50) is recommended.

It has short-cylindrical stems, about 1 to 1.5cm wide, not much taller in the wild, but becoming tall in cultivation, up to about 10cm, and clustering from the sides, dark green to purplish-brown; the stems surmount quite extraordinarily thick roots. Spines are very short, 2 to 8mm long, 8 arranged pectinately, flat to the stem, with occasionally one longer one at the top of the areole, up to 15mm long. Flowers are similar to the type, pastel yellow or very pale orange, stigma yellow, but Mats Winberg has recently also reported plants with salmon-coloured flowers.

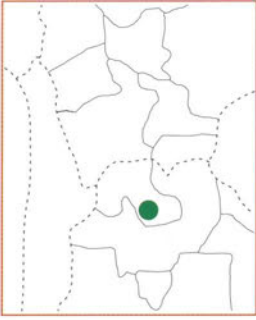
Reported from Argentina, Jujuy, Quebrada de Humahuaca, at 3,200m (10,500ft) altitude.

Collectors' numbers referred here are WR 578; MN 0171a, 0211.

Rebutia einsteinii
var. gonjianii WR 578

For other former varieties etc. of *R. einsteinii* (or *R. schmidcheniana*, a name which was mistakenly taken to precede *R. einsteinii*) referred to synonymy with the type, see page 123.





Rebutia euanthema

R. euanthema (Backeberg) Buining & Donald, Sukkulentenk. 7/8:102 (1963); Backeberg, Blatt. f. Kakteenf. 9 (1935) – as *Lobivia*; Kaktus-ABC 240 (1936) – as *Lobivia*; Krainz, Sukkulentenk. 1:19 (1947) – as *Mediolobivia*; Backeberg, Die Cact. 3:1511, figs. 1463-5 (1959) – as *Mediolobivia*; Kakteenlex. 271 (1970) – as *Mediolobivia*; Cact. Lex. (Engl.ed.) 306 (1978) – as *Mediolobivia*; Ritter, Kakt. Südamer. 2:600 (1980); Rausch, *Lobivia* 85:36 (1987) – as *Lobivia*; CITES Cact. Checklist 90, 124 (1992) = *R. aureiflora*

Subgenus *Mediolobivia*

This is a small growing species, notable for its long, white, curling and interlacing spines. It clusters sparingly, with stems to 3cm wide, and to 5cm tall, but usually somewhat smaller, with about 10 ribs. Spines are all radial, about 12 in number, glassy-white, reddish-brown at base, to 1cm long, flexible, straight and curving this way and that untidily. Flowers are reddish with yellowish-red throat, outer petals carmine, stigma pale greenish-white. The referral in the *CITES Cactaceae Checklist* to *R. aureiflora* is not understood.

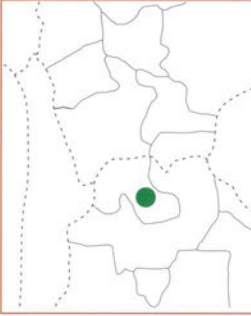
Reported from Argentina, Jujuy, the lower part of the Quebrada de Humahuaca, Leon, Volcan, Tumbaya, at 3,450m (8,050ft) altitude.

Collectors' numbers referred here are WR 214, 218a, 522, 751; FR 402 ?; Lau 520; KK 871, 973; MN 0046.

Rebutia euanthema

Rausch dismisses former referrals here, see below, but erects a new variety as follows:





**euanthema
var. tilcarensis**

var. *tilcarensis* Rausch, *Lobivia* 85:36,138-9 (1987)

Described as having a globose to somewhat cylindrical stem, sparingly clustering, pale glaucous-green, the lower stem often violet tinted, 25mm wide, with 13 to 14 ribs, straight and vertical. The 9 spines are all radial, glassy white, brown at base, straight, appressed to the stem, sideways pointing in 4 pairs, with 1 directed downwards, 4 to 5mm long. Areoles have white wool. Flowers are 4cm long and wide, red, obscurely striped lengthwise in the petal centres, stigma green.

In my experience this is a plant which tends to grow stems about twice as large as the type, and to offset more reluctantly and more randomly, as indicated by Rausch.

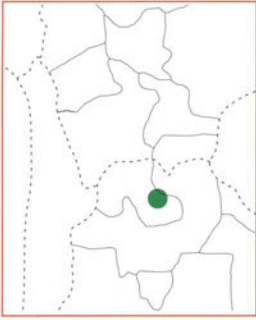
Reported from Argentina, Jujuy, at the summit of mountains near Tilcara, at 3,100 to 3,200m (10,150 to 10,500ft) altitude.

Collectors' numbers referred here are WR 700 (deposited at Zurich), 823; MN 0163.

For other varieties etc. referred to synonymy with the type, see page 124.



Rebutia euanthema
var. *tilcarensis* WR 700



Rebutia fabrisii

R. fabrisii Rausch, Kakt.u.a.Sukk. 28(3):52-3 (1977); CITES Cact. Checklist 124 (1992) = *R. minuscula*

Subgenus *Rebutia* (although originally classified as *Aylostera*, subsequent opinion has indicated that this is properly subgenus *Rebutia*)

This is a tiny-bodied species, clustering heavily, which led to its original unpursued name of *R. prolifera*.

It was described as freely offsetting, forming clumps of 100 stems or more, globose to 2cm in diameter, with up to 14 ribs. Areoles are oval with white wool. Radial spines number about 20, 2 to 7mm long, glassy white to yellowish with brown tips. Central spines are similar, to 10 in number. Flowers are red (but see variety below), 3cm long, 2.5cm wide, the outer petals with brown midstripe, stigma whitish. The referral to *R. minuscula* in the *CITES Cactaceae Checklist* is not understood.

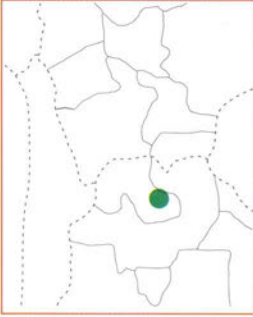
Reported from Argentina, Jujuy, between Santa Ana and Valle Colorado, at 2,500m to 2,800m (7,600 to 8,600ft) altitude.

Collectors' numbers referred here are WR 688 (deposited in Zurich); MN 0126.

Rebutia fabrisii
var. *fabrisii* WR 688

Rausch described a yellow flowered variety at the time, and some eight years later a smaller growing form:





fabrisii
var. aureiflora

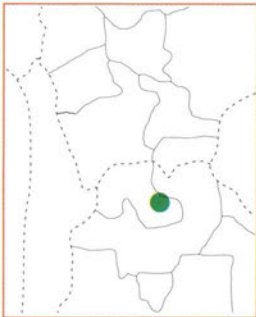
Rebutia fabrisii
var. *aureiflora* WR 687

var. *aureiflora* Rausch, Kakt.u.a.Sukk. 28(3):53 (1977)

Differs from the type in having smaller, yellow flowers and, in one form, longer sausage shaped stems, sprawling untidily about.

Reported from the same area, but between Valle Colorado and Valle Grande, at 2,000m (5,100ft) altitude.

Collectors' numbers referred here are WR 687 (deposited in Zurich); MN 0123.



fabrisii
var. nana

Rebutia fabrisii
var. *nana* WR 688a

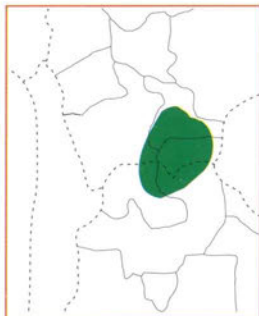
var. *nana* Rausch, Succulenta 64(5):101 (1985)

As indicated above this is a consistently smaller growing variety, with globose stems to 1cm wide, about 15 ribs, round areoles with white wool. Radial spines number 12 to 14, to 1mm long, white, bristle-like, with none to three similar central spines, somewhat shorter. Flowers, fruit and seed are similar to the type, but smaller, the flowers red, 2.5cm long and wide.

Reported from Argentina, Jujuy, in the high area near Santa Ana, at 3,400m (10,400ft) altitude; Cortaderas, but only a few km. from the type, with which it overlaps, according to Mats Winberg (personal communication).

Collectors' numbers are WR 688a (deposited in Zurich); MN 0135.





Rebutia fiebrigii

R. fiebrigii (Gürke) Britton & Rose, Stand. Cycl. Hort. Bailey 5:2915 (1916); Gürke, Notiz. Bot. Gart. Mus. Berlin 4:183 (1905) – as *Echinocactus*; Britton & Rose, The Cact. 3:46 (1922); Backeberg, Kaktus-ABC 274 (1936) – as *Aylostera*; Krainz, Sukkulentenk. 1:20 (1947) – as *Aylostera*; Backeberg, Die Cact. 3:1526, fig.1479 (1959) – as *Aylostera*; Kakteenlex. 70 (1970) as *Aylostera*; Cact. Lex. (Engl.ed.) 78 (1978) – as *Aylostera*; Ritter, Kakt. Südamer. 2:618-9, fig.555 (1980); CITES Cact. Checklist 124 (1992) = good species

Subgenus *Aylostera*

This is a well-known fast-growing species with a dense covering of long, variously coloured spines, usually white to yellowish with brown tips. Other species with which it is considered there is a relationship (according to the *CITES Cactaceae Checklist*) are *R. albipilosa*, *R. cajasensis*, *R. cintiensis*, *R. donaldiana*, *R. ithycantha* (see below), *R. pulchella*, *R. tamboensis* and *R. vallegrandensis*. It was described as globose, depressed at the apex, to 5cm tall (it will make a larger stem in cultivation, to about 10cm tall and 5cm wide, clustering from around the base and sides to form a clump). Spines were described as 30 to 40, bristle-like, 1cm long, white, the longest at the apex, brownish and 2cm or more long, needle-like. Flowers are 2cm long, slender, funnel-shaped, red, stigma white.

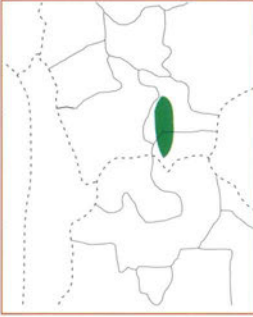
Rebutia fiebrigii
FR 84



Reported from Bolivia, Tarija at Escayacje (Iscayachi), at 3,600m (11,800ft) altitude; Chuquisaca, Sucre, La Hacienda Rellini; Sud Cinti and east to the borders of Chuquisaca and Cochabamba; Argentina, Jujuy, at La Quiaca; Salta, at Salta, Valle Grande – Valle Colorado, Iruya, at 1,450 to 2,700m (4,750 to 8,850ft) altitude.

Collectors' numbers referred here are FR 83a, 84, 84a, 755; WR 311a, 503, 697b, 739a, 782, 918; Lau 323, 393, 920, 945; MN 0064, 0088, 0122, 0124, 0127, 0128, 0129, 0140, 0180, 0231, 0246; KK 855.

The only varietal name which is considered to be significantly different from the type is:



var. *densisetata* (Cullman) Oeser, Kakt.u.a.Sukk. 27(2):28-30 (1976); Triebel, Kakt.u.a.Sukk. 27(9):205 (1976); Cullman, Sukkulentenk. 6:25 (1957) – as *R. fiebrigii* fa. *densisetata*; Backeberg, Die Cact. 3: 1526 (1959) – as *Aylosteria*; Kakteenlex. 70 (1970) – as *Aylosteria*; Cact. Lex. (Engl.ed.) 78 (1978) – as *Aylosteria*; Donald, *Ashingtonia*, 2(9):181-4 (1977); Ritter, Kakt. Südamer. 2:619 (1980)

This is, as indicated by the name, a variety noted for its dense spination, the central and radial spines difficult to distinguish, but centrals white with amber tips, slightly stronger than the approximately 50 radial spines, which are pure white. Flowers are reddish-orange, about 4cm wide, stigma white.

fiebrigii
var. densisetata

The density of spination, hiding the body completely, makes it a most distinctive collector's plant. It is considerably different in appearance from the type, and if the description had been made later, perhaps by someone with more of a 'splitting' tendency in nomenclature, it could easily have swelled the ranks of the *Aylosteria* brigade by one more full ranked species.

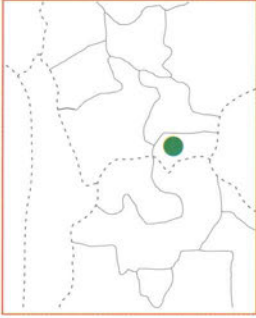
Reported by Ritter from Bolivia, Chuquisaca, Oropeza, north of the town of Sucre, near the Sieta Cascades in the valley near the road from Hacienda Hura Khatalla to the Estancia Chujchi Khasa, at 2,800m (9,200 ft) altitude; and from the Hacienda Ressini; La Merced and below; Sud Cinti, La Torre; by Rausch from Bolivia, Tarija, near Tarija.

Rebutia fiebrigii
var. *densisetata* FR 83

Collectors' numbers referred here are FR 83, 390; WR 89; KK 848, 853.

See page 125 for *R. fiebrigii* var. *vulpes*.





Rebutia flavistyla

R. flavistyla Ritter, *Ashingtonia* 3(1):12 (1978); Ritter *Kakt. Südamer.* 2:615, fig.548 (1980) – in error as *R. flavistylus*; CITES *Cact. Checklist* 124 (1992) = provisionally accepted species; Pilbeam, *Cactus File* 2(6):15 (1995)

Subgenus *Aylostera*

This is one of the most attractively flowered of the several orange flowered species which have been discovered in the comparatively recent past, giving a welcome break in colour from the predominantly red flowers of this genus which held sway for many years. It also has a neat, low-growing habit, making regular, low clusters of dark green stems, with fine, glassy white spines. Until it flowers it could be just any low, clustering *Rebutia*, but the freely produced flowers are really rich and unusual in their coloration, making it one of the most distinctive of recent discoveries.

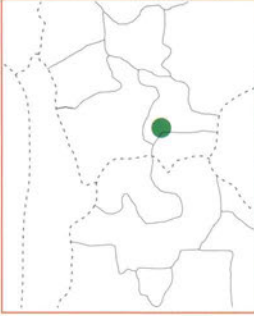
It was described as solitary in the wild, but it makes flattish clumps readily in cultivation, with green stems, 4 to 5cm wide, not quite as tall, with 15 to 27 ribs. Areoles are oval, with pale yellow to white wool. Radial spines number 15 to 22, yellowish later white, thin, 5 to 10mm long, central spines several and similar to the radials. Flowers are a striking reddish-orange, about 3cm long and wide, with lemon yellow style and stigma, from which the name arises.

Reported from Bolivia, Tarija, Mendez, below Cajas; also at Rio Cajas and the Cajas gorge.

Collector's number referred here is FR 756 (deposited at Utrecht).

Rebutia flavistyla
FR 756





R. froehlichiana

R. froehlichiana Rausch, *Succulenta* 54(12):225-226 (1975) – as *R. fröhlichiana*; Donald, *Ashingtonia* 3(3 & 4):81, fig.18 (1978); CITES Cact. Checklist 124 (1992) = *R. spegazziniana*; Bauer, *Kakt.u.a.Sukk.* 44(6)&(7): 122, 138 with fig. (1993)

Subgenus *Aylostera*

This species has taken some years to start to filter into collections, since its description over 20 years ago.

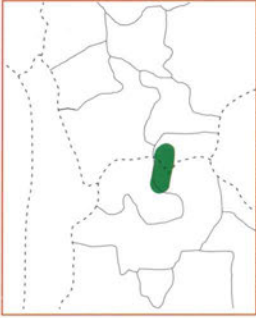
It is described as solitary, although in cultivation it clusters slowly, globose, to 2.5cm wide, with 13 to 14 ribs. Areoles are oval, to 2mm long, with white wool. Radial spines number about 11, to 5mm long, bristle-like, glassy white to yellow with brown tips and brown, thicker base. Central spines number 1 or 2, to 5mm long, brown to black, stronger than the radials and a little curving. Flowers are orange-red, 3cm long, 2.5cm wide, stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, near Yuquina, at 3,200m (10,500ft) altitude.

Rebutia froehlichiana
WR 649

Collector's number referred here is WR 649 (deposited at Zurich).





Rebutia fulviseta

R. fulviseta Rausch, *Kakt.u.a.Sukk.* 21(2):29 (1970); Backeberg, *Cact. Lex. (Engl.ed.)* 78(1978) – as *Aylostera*; Donald, *Ashingtonia* 3(2):29 (1978); CITES *Cact. Checklist* 124 (1992) = good species

Subgenus *Aylostera*

This is a handsome, dark green to brown bodied, clustering plant, with dark red flowers, which makes an outstanding addition to a collection of this genus.

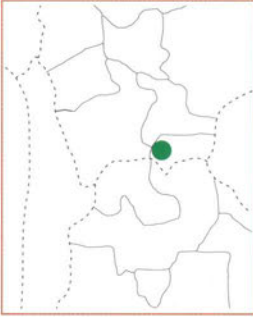
It was described as simple or clustering, 15mm tall, 10mm wide (to about 5cm or more tall and to about 3cm wide in cultivation), dark green with reddish-violet tones. Ribs number up to 16, areoles are round to oval, with brown wool. There are 10 to 12 radial spines, spreading, and 1 to 3 central spines, pointing outwards from the body, making a bristly plant; spines are all finely bristle-like, 6 to 10mm long, ochre yellow to red-brown, darker tipped. Flowers are 25mm long and wide, dark red, with white filaments, style and stigma.

Reported from Bolivia, Tarija, Arque, near Padcaya, at 2,200m (7,220ft) altitude; Argentina, Salta, around Santa Victoria to Caspala, to Santa Ana, east of Humahuaca.

Rebutia fulviseta
WR 319

Collector's numbers referred here are WR 319 (deposited at Vienna and Zurich), 583.





Rebutia fusca

R. fusca Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:614, fig.547 (1980); CITES Cact. Checklist 124 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

As the name implies this is a species with an overall brown aspect, and with very short spines lying close to the body. It is a very distinctive, easily recognizable species in cultivation, from this close-spined aspect, which makes the stems easily handled when repotting, unlike many *Rebutia* species, whose spines are brittle, breaking off easily and sitting uncomfortably in the ends of fingers and thumbs. But even frequent repotting in the early years seems not to hurry along this very slow growing species which, after about seven or eight years' growth will still grace at most only a 10cm pot.

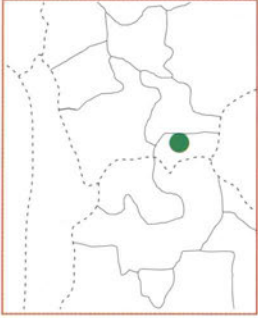


It was described as usually solitary, although in cultivation it clusters slowly and sparsely, with stems 2 to 4cm wide, and up to 8cm tall or more, with 13 to 17 ill-defined ribs. Areoles have brown wool. Radial spines number 8 to 14, pectinate, 1.5 to 3mm long, lying flat to the body, red, sometimes yellow, with red at the base, often with 1 or 2, thicker, central spines, red to nearly black, 2 to 3mm long. Flowers are orange-red to scarlet, 2 to 3cm long and wide, stigma very pale green. It is sometimes seen misnamed *R. vulpina*, an altogether more bristly and more globular species.

Reported from Bolivia, Tarija, Mendez, to the west of Tarija; pass region east of Cuesta de Sama; great ascent from Tarija.

Collectors' numbers referred here are FR 940 (deposited at Utrecht); WR 496.

Rebutia fusca
FR 940



Rebutia heliosa

R. heliosa Rausch, *Kakt.u.a.Sukk.* 21(2):30 (1970); Anlauff, *Kakt.u.a.Sukk.* 26(5):116 (1975); Backeberg, *Cact. Lex. (Engl.ed.)* 78 (1978) – as *Aylosteria*; Donald, *Ashingtonia* 3(5 & 6):141 (1979); CITES *Cact. Checklist* 125 (1992) = good species; Bauer, *Kakt.u.a.Sukk.* 44(6)&(7):122, 138 (1993); Pilbeam, *Cactus File* 1(9):20-22 (1993)

Subgenus *Aylosteria*

This individual species rapidly became popular after its introduction to cultivation, and a large clump is a stunning sight in or out of flower.

Described as solitary in the wild, it clumps quite rapidly in cultivation, with stems to 20mm tall or more, 25mm wide, with up to an incredible 38 ribs, on which the tiny areoles and spines are geometrically arranged in spirals. Areoles have prominent brown wool. The 24 to 26 spines are all radial, tiny, at 1mm long, lying flat to the body, white, at the base brown. Flowers are orange, 4.5 to 5.5cm long with narrow tube, 4cm wide, with white stigma.

Although it does make a clump in cultivation, as mentioned above, it is a difficult species to keep growing well, and a hand-sized clump is often as large as many growers achieve before problems force them to start again from scratch with pieces retrieved. The most common cause of problems seems to be, as usual, overwatering.

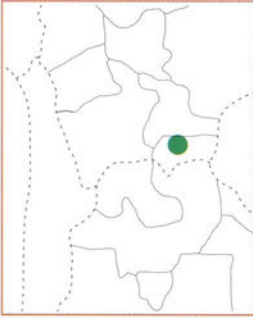
Reported from Bolivia, Tarija, near Tarija on the road to Narvaez, at 2,400 to 2,500m (7,300 to 7,600ft) altitude.

Collectors' numbers referred here are WR 314 (deposited at Vienna and Zurich); KK 844.

Two varieties have been described as follows:

Rebutia heliosa
WR 314





heliosa
var. cajasensis

(Below) *Rebutia heliosa*
var. *cajasensis* Lau 405

var. *cajasensis* Donald, *Ashingtonia* 3(5/6):144,fig.20 (1980); Bauer l.c.; Pilbeam, l.c.

This and the following variety are often confused through a mix up of plants distributed under the collection numbers Lau 401 and Lau 405, but they are quite different in appearance.

This variety is taller growing, with usually a smoother, more yellowish-brown to brown cast than the following variety (which has more prominent tubercles, more whitish, shorter spines and usually darker red flowers).

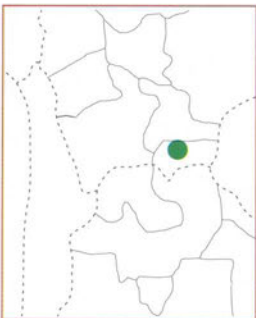
It has stems to 4cm tall, 3cm wide, grey-green, with 25 to 30 ribs. Areoles are small, narrow, with dark brown wool. Spines are all radial, 10 to 12 in number, 3 to 5mm long, thin, white to pale yellow or brown. Flowers are variable, from orange-red to crimson, similar in shape to the type.

Reported from Bolivia, Tarija, in the Cajas Pass, at 2,500m (7,600ft).

Collector's number referred here is Lau 405 (deposited at Kew and Zurich).



(Above) *Rebutia heliosa*
var. *condorensis* Lau 401



heliosa
var. condorensis

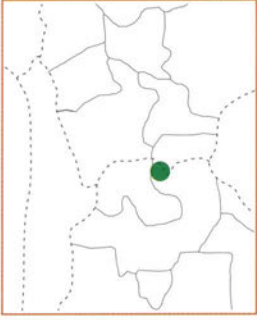
var. *condorensis* Donald, *Ashingtonia* 3(5/6):143,fig.19 (1980); Bauer, l.c.; Pilbeam, l.c.

This is a quite different looking variety from the type, at first mistakenly determined by Donald to be akin to *R. albopectinata*, but subsequently he decided to erect it as a variety of *R. heliosa* on the basis of its similar habit and its identical, if differently coloured, flower.

The grey-green stems are larger than the type, to 4cm wide, 3cm tall, with 30 to 40 ribs. Areoles are elongated with yellowish-brown wool. Spines are all radial, 12 to 16 in number, thin, pectinate, white to brownish-yellow, to 4mm long. Flowers are red to crimson-purple, quite strikingly dark in colour, style and stigma yellowish-white.

Reported from Bolivia, Tarija, in the Condor Pass, at 2,500m (7,600ft).

Collector's number referred here is Lau 401 (deposited at Kew and Zurich).



Rebutia hoffmannii

R. hoffmannii Diers & Rausch, *Kakt.u.a.Sukk.* 28(5):105-6 (1977); CITES Cact. Checklist 125 (1992) = *R. spinosissima*

Subgenus *Aylostera*

This is a handsome, densely and finely spined species with very attractively coloured flowers in orange with violet-pink outer petals. In cultivation it makes the usual large, hand-sized cluster of globular heads expected in most species in this subgenus. Good exposure to strong light (full sun in Great Britain) will bring out the best in spine development, which is one of the most attractive features of this species. The closely set spines completely obscure the plant body and are like a yellow version of the well-known *R. muscula*. The delicately coloured flowers deserve close scrutiny, for their subtle hues, most attractively blended, to rival the most discerning of fashion-conscious dressers.



Diers and Rausch described it as often solitary in the wild, globular becoming longer than wide as it ages, and clustering. Stems are up to about 35mm in diameter, bright green. Ribs number about 23. Areoles are round, with whitish-brown wool. Radial and central spines are barely distinguishable, spreading and standing outwards, about 40 in number, bristly, 5 to 10mm long, glassy-white, often with brown tips, giving an overall yellowish-brown aspect, neatly dense and short, as though clipped. Flowers are orange, the outer petals violet-pink, 40mm long, 45mm wide, throat, anthers and style white, stigma yellow.

Reported from Argentina, Salta, near Santa Victoria.

Collector's number referred here is WR 521a (deposited at Zurich).

Rebutia hoffmannii
WR 521a



Rebutia jujuyana

R. jujuyana Rausch, Kakt.u.a.Sukk. 24(7):147-8 (1973); Backeberg, Cact. Lex. (Engl.ed.) 78 (1978) – as *Aylostera*; CITES Cact. Checklist 125 (1992) = provisionally accepted species

Subgenus *Aylostera*

This species has come on to the commercial scene only in the last ten years or so, and has had an immediate impact from the dense covering of long, amber yellow spines which pick it out among the crowd like a blonde in China. It grows vigorously in the manner of *R. fiebrigii*, to which it appears most closely related, and if given strong light (full sun in Great Britain) will, as it reaches its maximum size, make a really dense tuft of very long spines at the crown of the stem. It forms clusters eventually, but is slow to do so, again in the style of *R. fiebrigii*.

It is described as simple (clustering slowly in cultivation), globose, to 3.5cm wide, green, with up to 18 ribs. Areoles round, 2mm wide, with white to yellow wool. Radial spines number about 18 to 20, bristle-like, to 10mm long, yellowish. Central spines number 5 to 7, to 15mm long, needle-like, brittle, thicker than radials, yellow with brown tips. Flowers are orange, 3.5cm long and wide, outer petals violet-pink with orange margins, tube pink and narrow, throat of flower white, stigma white.

Reported from Argentina, widespread in Jujuy, in the Quebrada de Humahuaca, and Salta, south of Santa Victoria.

Rebutia jujuyana
WR 220

Collectors' numbers referred here are WR 220 (deposited at Zurich, not as cited at Vienna), 643, 734, 786, 781; Lau 545.





Rebutia kariusiana

R. kariusiana Wessner, Kakt.u.a.Sukk. 14:149 (1963); Backeberg, Kakteenlex. 384 (1970); Cact. Lex. (Engl. ed.) 436 (1978); Donald, Ashingtonia 2(3):51 (1975); Rausch, Ashingtonia 2(9):178-9 (1977); CITES Cact. Checklist 125 (1992) = *R. minuscula*; Pilbeam, Cactus File, 2(2):6,8 (1994)

Subgenus *Rebutia*

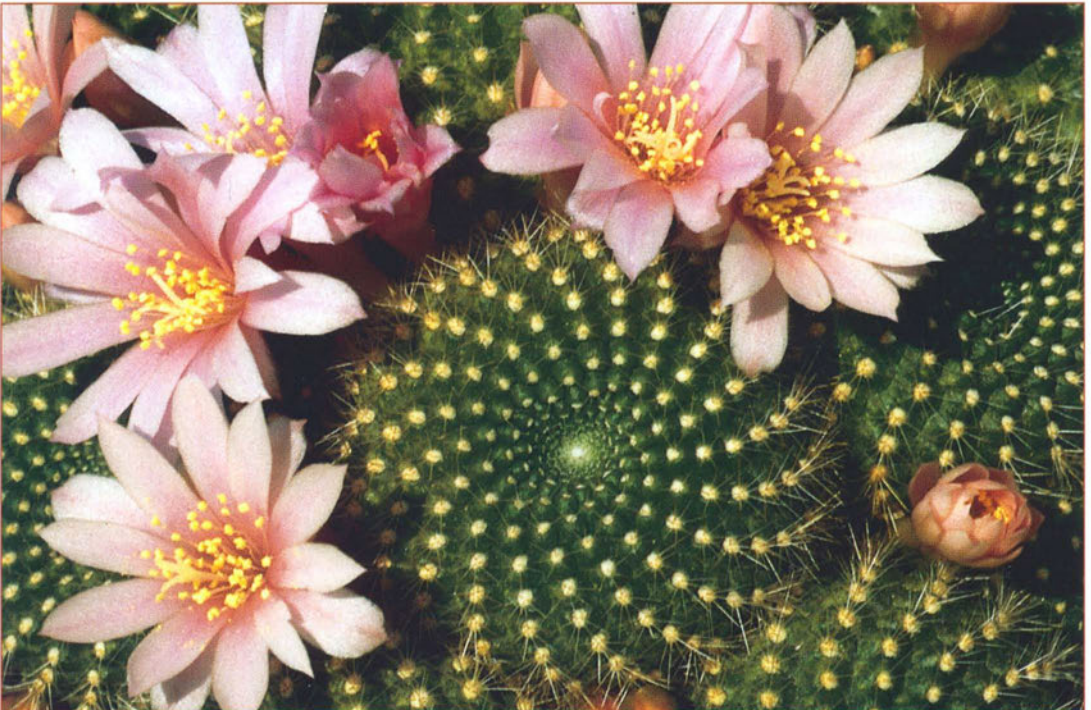
This was originally a single plant in a batch of *R. marsoneri*, collected in about 1950, subsequently bred selectively, and perpetuated because of its wonderful, unusual, pale pink flower colour. It has been variously ascribed, usually beneath *R. minuscula*, but its habit and history clearly indicate affinities with its original collected companions with yellow flowers, *R. marsoneri*.

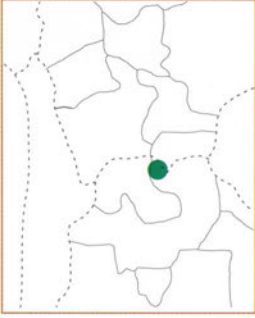
It makes a low cluster of stems, each about 5cm or so broad, and less than this tall, with a sunken growing centre. Spines are white, thin bristle-like, about 15 in number, 4 of which are centrals, variable in length, from about 4 to 20mm or so, varying from plant to plant. Flowers are a lovely shade of pale pink, although deeper pink flowered or even white flowered forms are sometimes seen in cultivation; stigma white.

This species probably comes from the same area as *R. marsoneri*, i.e. Argentina, Jujuy, but it has not been re-discovered in the field since its original collection.



(Top) *Rebutia kariusiana* – white flowered form
(Bottom) *Rebutia kariusiana*





Rebutia kieslingii

R. kieslingii Rausch, Kakt.u.a.Sukk. 28(8):177 (1977); CITES Cact. Checklist 125 (1992) = provisionally accepted species

Subgenus *Aylostera*

This has proved to be an attractive, densely spined, fairly slow-growing species apparently related to *R. fiebrigii*, although usually flowering later in the season in cultivation and with much shorter spines than in that well-known species. All the plants I have seen in cultivation, and these are almost invariably raised from seed, which has been offered commercially for some years, have had the clear, pure orange flowers pictured and described originally by Rausch. But in that original description Rausch did mention that of ten collected plants one had red flowers, and the coloured photograph accompanying the description features both flower colours. The red-flowered plant was similar to the described orange-flowered form in all other respects.

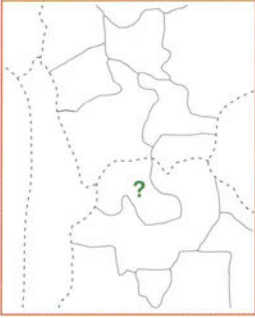
It was described as solitary (it clusters slowly in cultivation), globular, to 4cm in diameter, green, with about 17 ribs, spiralling, areoles with white wool. There are about 25 radial spines, bristle-like, glassy-white, 5 to 7mm long, and 3 to 5 central spines, stronger, yellow, 7mm long. Flowers are orange, 4cm long, 2.5cm wide, the style white, stigma yellow.

Reported from Argentina, Salta, near Caspala, at 3,200m (10,500ft) altitude.

Rebutia kieslingii
WR 694

Collectors' numbers referred here are WR 694 (deposited at Zurich), 779; MN 0148 (?).





Rebutia krainziana

R. krainziana Kesselring, Sukkulentenk. 2:23 with figs. (1948); Backeberg, Die Cact. 3:1543, fig. 1492 (1959); Krainz, Die Kakteen 15:CVc with fig. (1960); Backeberg, Kakteenlex. 384 (1970); Cact. Lex. (Engl. ed.) 436 (1978); Kakt. Südamerika 2:623 (1980); CITES Cact. Checklist 125 (1992) = *R. marsoneri*

Subgenus *Rebutia*

Although there is some doubt as to the standing of this name, what is generally grown, pictured in the literature, and recognized by hobbyists is an attractive, very short spined plant with prominent, white-woolled areoles showing up the spiralling form wonderfully.

It was described as flat-globose, rarely short-columnar, clustering, stems about 4 to 5cm tall, 3 to 4cm wide, dull green, with spiralling ribs; areoles large, white woolled. Spines are all radial, 8 to 12, white, mostly lying flat to the body. Flowers are shining, dark red, with sometimes nearly violet midstripe to the petals, yellowish in the throat, about 3cm long, 4cm wide; stigma yellowish-white. This matches up well with plants in circulation and the general concept of this species, but there are plants now sold widely commercially under this name with sometimes longer spines, less dark body colouring, and differently coloured flowers (orange, yellow or white), which until recently I thought had been produced by some clever hybridizing. However, it has very recently been reported from Argentina, Jujuy, with flowers coloured red, orange and yellow; these reports are as yet no more precise.

The International Succulent Institute distributed this species in 1960 (ISI-399), as "UCBG 50.2175 propagated from the type plant from the Zurich Succulent Collection, originally collected in Bolivia by F. Ritter."

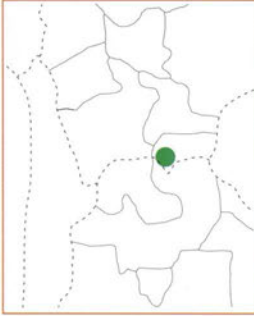
Rebutia krainziana

Reported from Bolivia, without locality by Kesselring, the plants described as coming from the German nursery H. Winter, and said to be imported from Ritter. However Ritter suggested that it more probably

originated from Argentina, and denied being the finder. As indicated above, it seems that he is about to be proved correct.



It will be interesting to see over the next few years, as, hopefully, the recently discovered plants of this species are propagated and become available, just how much this species varies both in spination and flower colour. It is possible, of course, that the variations seen commercially over the last few years have had more respectable origins than I thought, but this remains to be seen.



Rebutia kupperiana

R. kupperiana Boedeker, Monatsschr. Deutsche Kakt. Ges. 276-8 (1932); Backeberg, Kaktus-ABC 275 (1936) – as *Aylostera*; Krainz, Sukkulentenk. 1:20 (1947) – as *Aylostera*; Die Kakteen 4: CVc (1957); Backeberg, Die Cact. 3:1528 (1959) – as *Aylostera*; Backeberg, Die Cact. 3:1530, fig.1484 (1959) – as *Aylostera*; Kakteenlex. 70 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 78 (1978) – as *Aylostera*; Ritter, Kakt. Südamer. 2:611-2, fig.532 (1980); CITES Cact. Checklist 125 (1992) = *R. pseudodeminuta*; Egli et al, Englera 16:381 (1995)

Subgenus *Aylostera*

This is a popular, colourfully spined and fiery red flowered species.

It makes large clusters to about 15cm wide or more, of globular stems to about 3cm in diameter or more, dark green with bronze tints, and with about 15 ribs. Areoles are nearly round, with short, yellowish wool. Radial spines number 13 to 15, unequal to 5mm long, white, the upper part brown, needle-like. Central spines number 1 to 3 (sometimes 4) upstanding, thicker and stronger than the radials, straight, wholly dark brown, to 12mm long or longer. Flowers are about 4cm long, 3.5cm wide, fiery orange-red, stigma white.

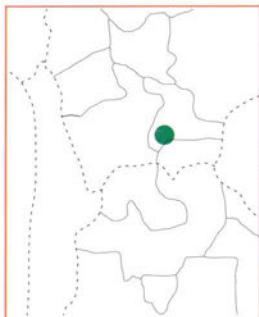
Reported from Bolivia, Tarija, Arque, near Padcaya, at 2,500m (8,200ft) altitude.

Collectors' numbers referred here are FR 762, 762a, 762b; WR 324; Lau 407; KK 1052.

For var. *spiniflora* see page 129.

Rebutia kupperiana





Rebutia leucanthema

R. leucanthema Rausch, *Kakt.u.a.Sukk.* 26(6):125 with fig. (1975); Ritter, *Kakt. Südamer.* 2:607 (1980); CITES *Cact. Checklist* 125 (1992) = *Lobivia atrovirens*; Pilbeam, *Cactus File* 2(2):6-7 (1994); Eggli et al, *Englera* 16:384 (1995)

Subgenus *Mediolobivia*

Although the habit of this species is somewhat at variance with most other species, there are sufficient similarities to convince me that it is not, as indicated in the *CITES Cactaceae Checklist*, a *Lobivia*, any more than any of the other species in the subgenus *Mediolobivia*, which is where I think this species belongs, rather than in subgenus *Aylostera*, where Rausch initially placed it.

It is one of the few white flowered species, although it occurs also rarely with pink flowers. The contrast with the dark body colour makes for a most attractive collector's plant. It is described as solitary (it clusters

sparingly in cultivation), globose to short-cylindrical, to 7cm tall, 3.5cm wide, dark green to violet coloured, with thick fleshy roots and 13 to 14 spiralling ribs. Areoles are oval, brown. Radial spines number 7 or 8, to 6mm long, curving in somewhat to the body, dark brown, darker at base. The one central spine, not always present is black, to 7mm long, tending to point upwards. Flowers are white or pink, 2.5cm long and wide, inner petals white or pink with white base, outer petals pinkish with brown midstripe, stigma green.

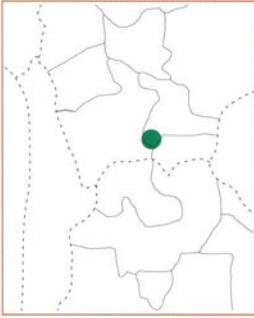
Reported from Bolivia, Chuquisaca, Nor Cinti, Cana Cruz, at 3,600m (11,000ft) altitude; and at Ingahuasi; and Sud Cinti, La Cueva.

Collector's number referred here is WR 305 (deposited at Zurich, not Vienna, as cited).

For var. *cocciniflora* see page 129.



Rebutia leucanthema
WR 305



Rebutia mamillosa

R. mamillosa Rausch, Succulenta 51(4):69 (1972); Backeberg, Cact. Lex. (Engl.ed.) 436 (1978); Ritter, Kakt. Südamer. 2:610,fig.524 (1980); CITES Cact. Checklist 125 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

R. mamillosa is not by any means a common plant in cultivation correctly identified.

It was described as sparingly clustering, with globose stems, 2cm in diameter, becoming taller in cultivation, coloured dark greenish-brown, with 14 to 16 ribs, distinctly broken into prominent tubercles. Areoles are oval, with brown wool. Radial spines number 8 to 10, in 3 or 4 pairs directed sideways, with one pointing upwards and one downwards, to 4mm long, yellow with brown tips, thin and bristle-like; the bicouling of the spines is distinctive. There is one similar central spine, not always present, 2mm long, brown. Flowers are red, 4cm long and wide, outer petals brownish-pink with greenish midstripe, throat violet-pink, stigma white to greenish.

Reported from Bolivia, Chuquisaca, Sud-Cinti, west of Camargo, at 3,300m (10,800ft) altitude; Potosi, Sud Chicas, far west of Impora, and east of Mal Paso.

Collectors' numbers referred here are WR 302 (deposited at Zurich, not as cited at Vienna); FR 341b.

For var. *australis* and var. *orientalis* see page 130.

Rebutia mamillosa
WR 302





Rebutia marsoneri

R. marsoneri Werdermann, Kakteenk. 1937:2 with fig.(1937); Kakt. Sukk Pfl. 31:Taf.123 (1937); Krainz, Sukkulentenk. 1:21 (1947); Die Kakteen 14:CVC with fig. (1960); Backeberg, Die Cact. 3:1549 (1959); Kakteenlex. 384 (1970); Cact. Lex. (Engl.ed.) 436 (1978); Donald, Ashingtonia 2(4):67 (1976); CITES Cact. Checklist 125 (1992) = good species

Subgenus *Rebutia*

This is a well-known, early-flowering species, one of the few with yellow flowers, purple-brown in the bud stage.

It has flat-globular stems, up to about 5 or 6cm wide in cultivation, dark green. Spines number about 30 to 35, the centrals practically indistinguishable from the radials, thin, bristle-like, whitish, the upper spines longer, varying in length from a few millimetres (sometimes seen labelled as var. *brevispina*) to about 1.5 to 2cm long (var. *vatteri*). Flowers are golden-yellow, purplish-brown in the bud, about 4cm long and wide, stigma whitish.

I saw recently a photograph taken by Johann (Hans) Joschko of this species in the wild, where it was growing pendulously from a vertical rock-face, with stems several times longer than wide, looping downwards under its own weight, the upper part of the stem still straining upwards.

Reported from Argentina, Jujuy.

Collector's number referred here is WR 818.

For varieties etc. referred to synonymy with the type see page 131.

Rebutia marsoneri





Rebutia minuscula

R. minuscula Schumann, Monatsschr. Kakteenk. 5:102 (1895) – as *Echinopsis*; Backeberg, Kaktus-ABC 277 (1936); Krainz, Sukkulentenk. 1:21 (1947); Die Kakteen 14:CVc with fig.(1960); Backeberg, Die Cact. 3:1534, fig.1487 (1959); Buining & Donald, Sukkulentenk. 7/8:96-107 (1963); Cact. Succ. J. GB 27(2):36-37 (1965); Backeberg, Kakteenlex. 384 (1970); Cact. Lex. (Engl.ed.) 437 (1978); CITES Cact. Checklist 125 (1992) = good species

Subgenus *Rebutia*

This is the type species of the genus, and is still occasionally seen recommended in general books with a section on cacti, in ignorance of the wealth of more worthy species now available. But it should be accorded the respect the type species deserves, and it has recently been recollected and so more authentic plants are available. It is quite extraordinary that the new collections are very close in appearance to this much inbred species which has been around in collections for the last 40 years or more from largely home-produced plants.

It has globular to flat-globular, green stems, about 4cm in diameter, with about 25 to 30 short, whitish, bristle-like spines, 2 to 3mm long or up to 8mm. Flowers are bright pinkish-red, to 4cm long, 2.5cm wide, stigma white.

Reported from Argentina, Tucuman, probably the most southerly of the genus.

Collectors' numbers referred here are WR 681a; Lau 442 ?



minuscula
'grandiflora'

'*grandiflora*' (Backeberg) Krainz, Die Kakteen 14:CVc (1960) – as var. *grandiflora*; Backeberg, Kaktus-ABC 277,416 (1936) – as *R. grandiflora*; Krainz, Sukkulentenk. 1:21 (1947) – as *R. grandiflora*; Backeberg, Die Cact. 3:1535,fig.1488 (1959); Kakteenlex. 384 (1970) – as *R. grandiflora*; Cact. Lex. (Engl.ed.) 435 (1978) – as *R. grandiflora*; Donald, Ashingtonia 2(11):43 (1975) – as subsp. *grandiflora*; CITES Cact. Checklist 125 (1992) = *R. minuscula*

This is a minor variation still seen in cultivation and offered commercially today, noteworthy for its long-tubed, large, carmine flowers, to 6.5cm long and about 3.5 to 4cm wide.

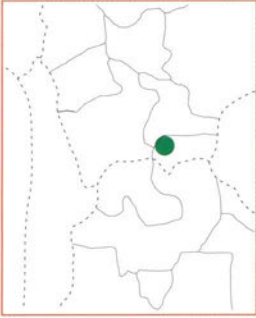
Reported from Argentina, Salta, Quebrada Escoipe, near Cachipampa.

Collector's number referred here is KK 1242.

For other varieties ascribed to this species see page 132.



(Top) *Rebutia minuscula*
(Bottom) *Rebutia minuscula* 'grandiflora'



Rebutia mixticolor

R. mixticolor Ritter, Kakt.u.a.Sukk. 28(4):77 (1977); Kakt. Südamer. 2:604,fig.507 (1980); Pilbeam, Cactus File 1(3):4 (1991); CITES Cact. Checklist 125 (1992) = *R. ritteri*

Subgenus *Mediolobivia*

This has crept sparingly into cultivation, mainly in Britain from some plants imported by Sargent, nurseryman of the Isle of Wight, around the time when it was described. Its beautiful flower for which it was named makes it worth seeking out. If I had to amalgamate it with any other species, it seems to me to be closest to *R. pygmaea*.

It is by no means fast-growing, and will take ten years or so to make a hand-sized clump of short stems. It clusters evenly from near the base of the stem, making steady progress sideways but little in a vertical direction, the stems no more than about 3 or 4cm tall if grown in strong light. And this is essential to produce this attractive, stumpy growth, good spine development and an abundance of the really wonderful harmony of colours in the freely produced flowers.

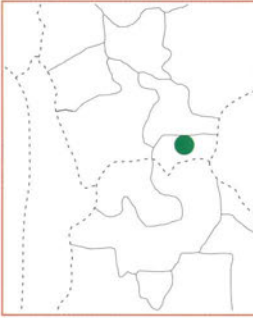
It was described as solitary (it clusters slowly in cultivation), 2 to 4cm wide, becoming violet in sunshine, low-growing, taller in cultivation, with 11 to 13 ribs. Areoles are 2mm long, nearly bare. Spines are all radial, to 11 in number, radiating, 3 to 7mm long, brown later white. Flowers are a mixture of colours, orange-red and purple on a paler pinkish-yellow base, 3 to 4cm long, stigma yellowish-green.

Rebutia mixticolor
FR 1108

Reported from Bolivia, Tarija, Mendez, San Antonio.

Collector's number referred here is FR 1108 (deposited at Utrecht).





Rebutia muscula

R. muscula Ritter & Thiele, *Taxon* 12(1):28-9 (1963); Donald, *Cact. Succ. J. GB* 27(4):78 (1965); Backeberg, *Kakteenlex.* 70 (1970) – as *Aylostera*; *Cact. Lex. (Engl.ed.)* 78 (1978) – as *Aylostera*; Ritter, *Kakt. Südamer.* 2:618, fig.553 (1980); CITES *Cact. Checklist* 125(1992) = provisionally accepted species

Subgenus *Aylostera*

This is one of the most stunningly spined *Rebutia* discoveries, with soft, short, white, close-cropped, bristle-like spines completely obscuring the plant body, aptly named 'muscula', which means 'mouse-like'.

The stems are globular, 3 to 4cm in diameter, later elongating as the plant clusters somewhat untidily, green, with 25 to 40, poorly defined ribs. Areoles are shortly oval, with white wool. Radial and central spines are indistinguishable, very thin and soft, about 30 to 50 in number, 2 to 4mm long, closely set, giving the impression of a white fur covering, hence the specific name. Flowers are light orange, 3.5cm long, 3cm wide, stigma white.

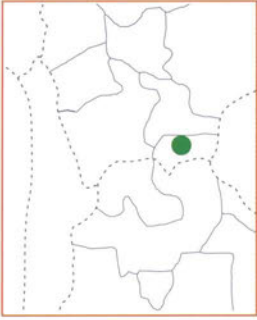
Reported by Ritter from Bolivia, Tarija, O'Connor, at Narvaez, where it is rare; in the Tambo gorge; north of Tarija; also at Arque, Padcaya; Mendez, Cajas; and by Knize at Piedra Larga, at 2,300m (7,550ft) altitude.

Collectors' numbers referred here are FR 753 (deposited at Utrecht); KK 842, 1151 and 1301 (*R. muscula* var. *nivosa* nom. nud.).

Rebutia muscula

See page 133 for var. *luteo-albida*.





Rebutia narvaecensis

R. narvaecensis (Cardenas) Donald, *Ashingtonia* 1(2):21 (1973) – as *R. narvaecense*; Cardenas, *Cact. Succ. J. (US)* 43(6):245 (1971) – as *Aylostera narvaecense*; Backeberg, *Cact. Lex. (Engl.ed.)* 78 (1978) – as *Aylostera*; Donald & Brederoo, *Ashingtonia* 3(5/6):140-153 (1979); Kohler, *Kakt.u.a.Sukk.* 35(11):251 (1984); CITES *Cact. Checklist* 125 (1992) = *R. heliosa*; Pilbeam, *Cactus File* 1(9):20-22 (1993)

Subgenus *Aylostera*

This has proved to be one of the most beautiful species, and is deservedly popular in cultivation, although still often seen under the invalid and undescribed name, '*R. espinosae*'. It was described by Cardenas in 1971, and has rapidly become widespread since its comparatively recent introduction, to the extent that it is now raised in its thousands in the commercial market, such an impact does its stunning display of white to pink flowers make when they are freely produced.

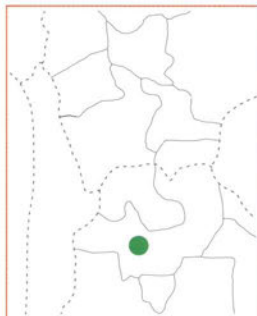
Cardenas's description was of a globose stem, 3 to 3.5cm tall, 2.5 to 3.5cm wide, yellowish green with depressed apex and about 18 spiralling ribs, areoles with prominent white wool. The radiating spines about 10 to 20, narrow needle-like, 2 to 5mm long (white to brownish), centrals and radials indistinguishable. Flowers are numerous, about 4cm long and wide, pale pinkish-lilac, stigma white.

Reported from Bolivia, Tarija, O'Connor, near Narvaez, at 2,700m (8,860ft).

Collectors' numbers referred here are Cardenas 6331 (deposited in Bolivia, at the Herbarium Cardenasianum), KK 841, 852 (some plants in circulation under this number are referable to *R. albopectinata*), 1150, 1302, 1518.

Rebutia narvaecensis
KK 1150





Rebutia nigricans

Rebutia nigricans (Wessner) Pilbeam, comb. nov., Wessner, Beitr.z. Sukk.u.-Pfl. 51 (1940) – as *Lobivia*; Krainz, Sukkulentenk. 1:19 (1947) – as *Mediolobivia*; Die Cact. 3:1518,fig.1475 (1959) – as *Mediolobivia*; Kakteenlex. 271 (1970) – as *Mediolobivia*; Cact. Lex. (Engl.ed.) 307 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:100 (1987) – as *Lobivia*; CITES Cact. Checklist 76, 90, 125 (1992) = *Lobivia atrovirens*

Subgenus *Mediolobivia*

This is a low-growing, clustering species, reduced to synonymy with *R. atrovirens* in the 1992 *CITES Cactaceae Checklist*, but considered distinct by noteworthy *Rebutia* scribes in the past, and generally a taller growing, laxer clustering species than *R. atrovirens*. Rausch ascribed three other varieties than the type in his latest work, two of which were formerly regarded as species.

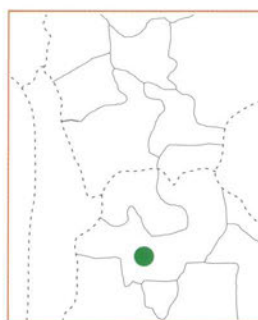
What constituted the type is difficult now to determine, but it was described as solitary or making small groups with globular stems, to 2cm or more in diameter, dark green with brownish-violet tones, with 11 ribs. Areoles have brown wool. There are 8 to 12 radial spines, spreading, to 10mm long, shining bronze coloured, with one directed upwards. Flowers are fiery red, 2cm long and wide, stigma white.

Reported from Argentina, Salta, from Cachipampa and near Cachinal; Chorillos, at 2,900 to 3,250m (9,500 to 10,650ft) altitude; Piedra del Molino at 3,750 to 3,950m (12,300 to 12,950ft) altitude; Jujuy, at 3,800m (12,500ft) altitude.

Collectors' numbers referred here are WR 14; Lau 541, 541c; MN 0082, 0084, 0116, 0117, 0147(?); KK 1466.

'albspina' Rausch, *Lobivia* 85:100,142 (1987) – as *Lobivia nigricans* var. *albspina*

Described by Rausch as solitary or sparingly clustering, globose, to 35mm in diameter, glaucous. Ribs number about 12, straight to a little spiralling; areoles oval, white. The 11 radial spines are all white, spreading and lying back against the stem. Flowers are shining, dark, ruby red, 3cm long 2.5cm wide, exterior petals green with pink edges, throat and filaments white, style and stigma clear green.



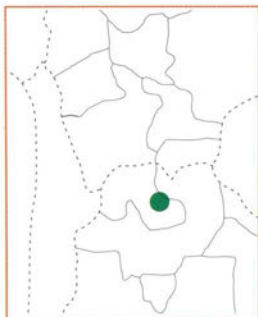
nigricans
'albspina'



Reported from Argentina, Salta, Cuesta de Obispo.

Collectors' numbers referred here are WR 771 (deposited at Zurich), and possibly Lau 541a.

Rebutia nigricans
'albspina' WR 771



nigricans
'carmeniana'

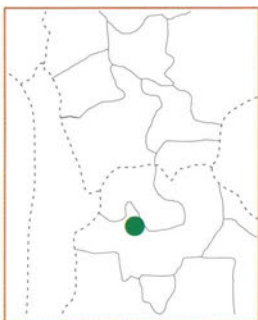
Rebutia nigricans
'carmeniana' WR 690

'carmeniana' Rausch, Kakt.u.a.Sukk. 29(5):105 (1978) – as *R. carmeniana*; *Lobivia* 85:100 (1987) – as *Lobivia nigricans* var. *carmeniana*

This differs in its green body colouring with greyish-violet tones, and thinner, interwoven, whitish-yellow spines, numbering 14 to 16, with occasionally one central spine. Flowers are blood-red, 1.5cm long, 1.2cm wide.

Reported from Argentina, Salta, in ravines near Caspala, at 3,100m (10,200ft); Jujuy, Valle Colorado - Santa Ana, at 3,350m (11,500ft) altitude.

Collectors' numbers referred here are WR 690 (deposited at Zurich); MN 0131, 0151.



nigricans
'peterseimii'

Rebutia nigricans
'peterseimii' WR 162

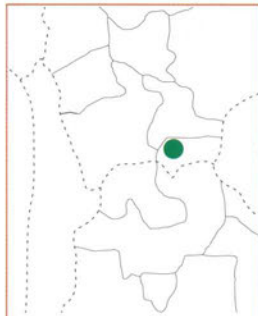
'peterseimii' Fric, Verzeichnis, (1931/32) – as *R. peterseimii*; *Kaktusar* 3:15 (1932) – as *R. peterseimii*; Fric & Kreuzinger, Verzeichnis. 31 (1935) – as *Rebulobivia peterseimii*; Fric & Kreuzinger, Succ. 22:38 (1938) – as *Digitorebutia peterseimii*; Backeberg, Die Cact. 3:1519 (1959) – as synonymous with *Medioblobivia nigricans*; Buining & Donald, Cact. Succ. J. GB 27(2): 40 (1965) – as *R. ritteri* var. *nigricans* fa. *peterseimii*; Rausch, *Lobivia* 85:100 (1987) – as *Lobivia nigricans* var. *peterseimii*; CITES Cact. Checklist (1992) – not listed

A longer spined form, and not certainly identified in cultivation.

Reported from Argentina, Salta, Quebrada del Toro.

Collector's number referred here is WR 162.





Rebutia nitida

R. nitida Ritter, *Ashingtonia* 3(1):14 with fig. (1978); *Kakt. Südamer.* 2:615 (1980); CITES *Cact. Checklist* 125 (1992) = *R. pseudodeminuta*; Egli et al, *Englera* 16:383 (1995)

Subgenus *Aylostera*

This is an unprepossessing species in cultivation, with weak spination, green bodies, and standard reddish-orange flowers. The name means shining or polished, which seems from the description to refer to the spines. If they impressed Ritter in the wild, they are a disappointment in cultivation. However, if grown in strong light, the best is made of the spination, and compensation in the form of an abundance of flowers is achieved. Maybe it was a shining array of flowers which shone out at Ritter when he described it.

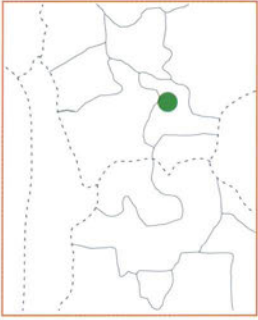
It was described as sparingly clustering in the wild (fairly freely in cultivation), with globular, green stems, about 2cm wide, with about 7 ribs. Areoles have brownish wool. Radial spines number 8 to 10, needle-like, shining white, 3 to 5 mm long. Central spine is solitary, brown, shorter than the radials. Flowers are red, stigma white.

Reported from Bolivia, Tarija, Mendez, at or above Cajas.

Collector's number referred here is FR 769 (reportedly deposited at Utrecht, but recently not found there).

Rebutia nitida
FR 769





Rebutia nogalesensis

R. nogalesensis Ritter, Kakt.u.a.Sukk.28(4):78 (1977); Kakt. Südamer. 2:609 (1980); CITES Cact. Checklist 125 (1992) = *R. pseudodeminuta*

Subgenus *Aylostera*

This is an undistinguished bristly species, with little to differentiate it from related species like *R. pseudodeminuta* and *R. nitida*.

It was described as solitary, broader than tall. Radial spines number 10 to 12, white, lying flat, 3 to 6mm long, central spines up to 5, thicker, red-brown, pointing outwards, 4 to 6mm long. Flowers were not described, but plants in cultivation have red flowers, stigma white.

Reported from Bolivia, Chuquisaca, Azurduy, Tarvita.

Collector's number referred here is FR 768 (deposited at Utrecht).

Rebutia nogalesensis
FR 768



Rebutia padcayensis
WR 521





Rebutia padcayensis

R. padcayensis Rausch, Kakt.u.a.Sukk. 21(4):65 (1970); Donald, Ashingtonia 3(3 & 4):fig.31(1978); 3(5 & 6):154 (1979); Ritter, Kakt. Südamer. 2:625 (1980); CITES Cact. Checklist 125 (1992) = *R. margarethae*

Subgenus *Rebutia*

Although described over 25 years ago, this species has been slow to come generally into cultivation named as such, but it is clearly synonymous with *R. singularis* and *R. margarethae* from the same area, the last mentioned having appeared in cultivation quite widely. But *R. padcayensis* does pre-date both of these species, so that their reduction to synonymy beneath *R. margarethae* in the *CITES Cactaceae Checklist* (see above) seems to be incorrect, although *R. margarethae* is by far the most commonly used name.

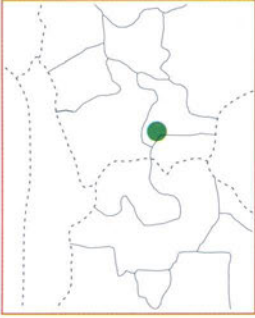
The description which follows takes account of all three species as originally described. Stems are solitary or clustering, flat-globose, to about 4cm or more wide, 2.5cm tall, with clear to greyish green (to purplish) body colouring, and with 14 to 17 ribs. Spines are all radial, numbering 7 to 15, 3 to 20mm long, bristle-like, yellowish-white, tipped brown, later greyish, with occasionally a similar central spine. Flowers are red with white throat, with a greenish midstripe on the outer petals, 3 to nearly 5cm long and wide, stigma white, but later plants found have varied from crimson, through shades of red, orange and yellow, stigma white.



Reported from (*R. padcayensis* and *R. singularis*) Bolivia, Tarija, west of Padcaya, at 2,400 to 2,900m (7,850 to 9,500ft) altitude (Cara del Diablo); (*R. margarethae*) Argentina, Salta, near Santa Victoria, at 3,500m (11,500ft) altitude, but also reported from as low as 2,200m (7,220ft); (*R. singularis*) Bolivia, Tarija, Arque, Padcaya.

Collectors' numbers referred here are WR 322 (*R. padcayensis*, deposited at Vienna and Zurich), WR 521 (*R. margarethae*, deposited at Vienna); FR 1423 (*R. singularis*, deposited at Utrecht); WR 518; Lau 413, 544, 544a, 550, 554.

Rebutia padcayensis
Lau 544a
(See also illustration
on facing page)



Rebutia patericalyx

R. patericalyx Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:611, figs.530,531 (1980); CITES Cact. Checklist 125 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

Ritter's original description was one of several hurriedly published in *Kakteen und andere Sukkulente* in 1977, in anticipation of the forthcoming publication of his four-volume work *Kakteen in Südamerika*. No illustrations accompanied these descriptions, and even those photographs included in his subsequent work, mostly in monochrome, left a lot to be desired as an aid to identification.

Plants in cultivation under this name rarely match up to the original description, being usually raised from commercial seed which has often been wrongly identified, and this is sadly often the case with Ritter plants.

It is described as solitary to sparingly clustering, 1.3 to 3cm wide, with green body colouring, and with 13 to 16 ill-defined ribs. Areoles are 1 to 2mm long, with white wool. Spines number 12 to 15, with tiny pubescent hairs visible only with a magnifying glass, pale yellow to white, pointing sideways, 3 to 6mm long, sometimes with one similar central spine. Flowers are scarlet, the ovary with white wool and bristles, about 3.5cm or more long and wide.

Rebutia patericalyx
FR 757

Reported from Bolivia, Chuquisaca, Sud Cinti, La Cueva.

Collector's number referred here is FR 757 (deposited at Utrecht).





Rebutia pauciareolata

R. pauciareolata Ritter, Kakt.u.a.Sukk. 28(4):77 (1977); Kakt. Südamer. 2:604,fig.515 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Subgenus *Mediolobivia*

This small-growing species has more in common with *R. atrovirens* than with *R. pygmaea* as indicated in the *CITES Cactaceae Checklist*. Its habit of growth is slowly spreading sideways from the base, rather than offsetting around the stem at and above the base as in *R. pygmaea*.

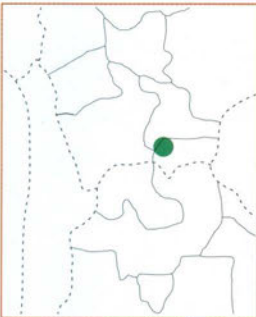
Rebutia pauciareolata FR 1121



It was described as solitary, low-growing, 1 to 1.8cm wide, with olive green coloured body, and 10 to 11 ill-defined ribs, areoles 1mm long, as the name implies insignificant, and with little wool. Radial spines number 4 to 8, thin, brown or blackish, the base clear, 1.5 to 2.5mm long, pointing sideways. Flowers are red, the ovary with white wool and hairs, stigma yellow, again showing more in common with *R. atrovirens*.

Reported from Bolivia, Tarija, Mendez, San Antonio, where it is rare.

Collector's number referred here is FR 1121 (deposited at Utrecht).



Rebutia paucicostata

R. paucicostata Ritter, Kakt.u.a.Sukk. 28(4):77 (1977); Kakt. Südamer. 2:603,figs.514,537 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Subgenus *Mediolobivia*

This is a species close to *R. pygmaea*, and perhaps should be combined with this species.

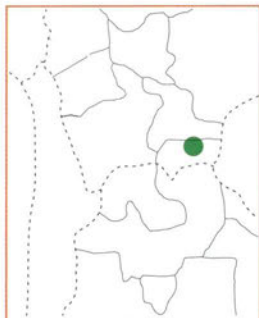
It is described as solitary, 2 to 2.5cm wide, with 8 to 10 ribs, markedly notched. Spines are all radial, 8 to 12 in number, 4 to 8mm long, white with brown base, thin, upstanding, but often somewhat curving. Flowers are reddish-orange to scarlet, 3 to 4cm long, the ovary with sparse white wool and 1 or 2 white bristles, stigma green.



Reported from Bolivia, Tarija, Mendez, San Antonio.

Collectors' numbers referred here are FR 936 (deposited at Utrecht); KK 1152.

Rebutia paucicostata
FR 936



Rebutia perplexa

R. perplexa Donald, *Ashingtonia* 3(5 & 6):150, fig.29 (1980); l.c. 1(2):21 (1973) – in error as *R. narvaecense*; Gröner, *Kakt.u.a.Sukk.*34(1):20 (1983); CITES Cact. Checklist 125(1992) = *R. heliosa*; Pilbeam, *Cactus File* 1(9):20-22 (1993)

Subgenus *Aylostera*

Close to *R. albiflora*, *R. narvaecensis* and *R. pulvinosa*, this species was at first wrongly identified by Donald as *R. narvaecensis*. In acknowledging the error he chose the name 'perplexa' to indicate his feeling at confusing the two.

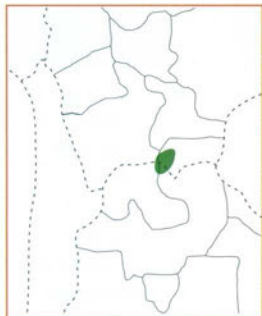
It was described as clumping, with many, small, globular to short-cylindric stems, 12 to 15mm wide, 15 to 20mm tall, bright grass-green. Ribs number 16 to 18, with very small, round areoles, with brown wool. Spines are very short, numerous, about 20, 1 to 2mm long, yellow to brown, 4 or 5 more centrally placed. The stunning flowers are deep lilac-pink becoming paler as they age, 3 to 3.5cm long, 2.5 to 3cm wide, with white stigma-lobes.

The exact locality is unrecorded, but believed by Lau to be close to Rio Pilaya in Tarija, Bolivia.

Rebutia perplexa

Collector's number referred here is Lau 329a (deposited at Kew and Zurich).





Rebutia pseudodeminuta

R. pseudodeminuta Backeberg, Deutsche Kakteenfr.2:7 (1933); Backeberg, Kaktus-ABC 275 (1936) – as *Aylostera*; Krainz, Sukkulentenk. 1:20 (1947) – as *Aylostera*; Backeberg, Die Cact. 3: 1526, fig.1480 (1959) – as *Aylostera*; Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; CITES Cact. Checklist 125 (1992) = good species
Subgenus *Aylostera*

This is a well-known, widespread species, with considerable variation in length and coloration of the bristly spines covering the plant body, which has led to a number of names being erected to encompass this variation, as well as some older Backeberg varieties. Some have been validly described, others merely offered as catalogue names as further populations have been discovered. The *CITES Cactaceae Checklist* recently published refers several species to this older name, but with no indication as to their standing either as subspecies or synonymy, viz. *R. albiareolata*, *R. buiningiana*, *R. kupperiana*, *R. minutissima*, *R. nitida*, *R. nogalesensis*, *R. robustispina*, *R. sanguinea* and *R. wahliana*. The type is described as leaf-green, with stems becoming elongated, to 10cm wide, clustering. Radial spines number about 10, fine bristle-like, radiating, 3 to 7mm long, glassy white, the upper brown tipped. Central spines 2 or 3, at first yellowish, later brown tipped, the upper to 15mm, the others 5 to 7mm long. Flowers are red with darker midstripe, 3cm long, stigma white.

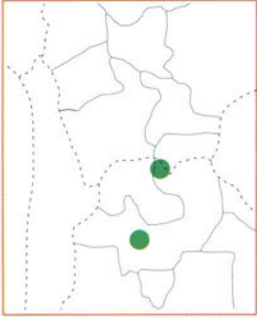
Reported from northern Argentina, Salta at 3,500m (11,500ft) altitude; and in Jujuy, Santa Victoria pass, north-west of Antilla, and Volcan; also from Bolivia, Tarija, Piedra Larga, Iscayachi.

Collectors' numbers referred here are WR 697, 697a, 770a; Lau 522, 550a, 561; MN 0045a, 0199; KK 846.

For varietal names of this species see page 137.

*Rebutia
pseudodeminuta*





Rebutia pseudominuscula

R. pseudominuscula (Spegazzini) Britton & Rose, The Cact. 3:47, fig. 58 (photograph from Spegazzini) (1922); Spegazzini, Anal. Mus. Nac. Buenos Aires 3(4):488 (1905) – as *Echinopsis*; Backeberg, Kaktus-ABC 274 (1936) – as *Aylostera deminuta* var. *pseudominuscula*; Krainz, Sukkulantenk. 1:20 (1947) – as *Aylostera*; Donald, Nat. Cact. Succ. J. 12:9 (1957) – as *R. deminuta* var. *pseudominuscula*; Backeberg, Die Cact. 3:1529 (1959) – as *Aylostera*; Krainz, Die Kakteen 15:CVC with fig. (including Spegazzini's original description) (1960) – as *R. deminuta* var. *pseudominuscula*; Backeberg, Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 77 (1978) – as *Aylostera*; CITES Cactaceae Checklist 125 (1992) = *R. deminuta*

Subgenus *Aylostera*

This species was described originally as small, subcylindric, 5cm tall, 3.5cm in diameter, dark, shining green, solitary or clustering at the base, with 13 ribs; spines bristle-like, small, whitish, 7 to 14 radial, 1 to 4 central; flowers numerous, small, 2.5cm long, dull, dark red (see footnote*), stigma white.

This accords well with plants in cultivation today collected in the locality cited in the original description, and it is apparent from other reported localities that it is a successful, widespread species.

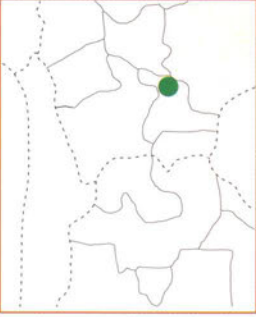
Reported originally from Argentina, Salta, in mountains at 3,500m (11,500ft) altitude; subsequently from this state, from Santa Victoria, at 2,200m (7,200ft); Obispo; Yacones; Escoipe, at 2,400m (7,875ft).

Collectors' numbers referred here are WR11, 679 (var. *puyilensis* n.n.), 680a, 835; MN 0021.

* The colour given in Spegazzini's original Latin description was 'atropurpureus'. This is defined in Stearn's *Botanical Latin*, 3rd ed. p.243, 249 (1983), as "dark" (atro) "dull red with a slight dash of blue" (purpureus), not as you might think, dark purple. This definition, contemporary (6 years earlier) with Spegazzini's description, is taken from Jackson's review of the Latin terms used in botany to denote colour (*J. Bot. (London)* 37:96-106, 1899), which, as Stearn says, summarize 19th century usage.



*Rebutia
pseudominuscula*



Rebutia pulchella

R. pulchella Rausch, Kakt.u.a.Sukk. 23(12):340 (1972); Backeberg, Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; Egli & Taylor, IOS Index Names Cact. 194 (1991); CITES Cact. Checklist 125 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

This is a striking species for its dense white spines and contrasting bright orange flowers, probably close to *R. fiebrigii*, as suggested by the 1992 *CITES Cactaceae Checklist*. But this is an individual, collector's plant, for the somewhat more clear, glassy-white spines, barely brown-tipped, and the solidly coloured flowers with a leaning more towards the red end of the orange range than most species allied to *R. fiebrigii*

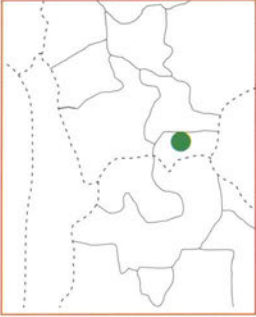
It is described as solitary (it clusters slowly in cultivation), globose, to 5cm wide, with up to 23 ribs. Areoles are round, 2mm wide, with white wool. Radial spines number about 26, to 5mm long, spreading, bristle-like, white and brittle. Central spines number 4 to 7, to 10mm long, spreading to upstanding, sharp, needle-like, white with brown tips. Flowers are shining orange, with white throat, the outer petals whitish, 3cm long and wide, stigma white.

Reported from Bolivia, Chuquisaca, to the north of Padilla, at 2,200m (7,200ft) altitude.

Rebutia pulchella
Lau 346

Collectors' numbers referred here are WR 320 (deposited at Vienna but recently not found there, also at Zurich), 597; Lau 346, 346a, 346b.





Rebutia pulvinosa

R. pulvinosa Ritter & Buining, Taxon 12:29 (1963); Donald, Cact.Succ. J. GB 27(4):79-80 (1965); Backeberg, Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; Ritter, Kakt. Südamer. 2:616,fig. 549 (1980); CITES Cact. Checklist 125 (1992) = good species; Egli et al, Englera 16:382 (1995)

Subgenus *Aylostera*

This is a densely clustering, free-flowering species, discovered at the same time and in the same area as *R. albipilosa*, *R. albiflora* and *R. muscula*.

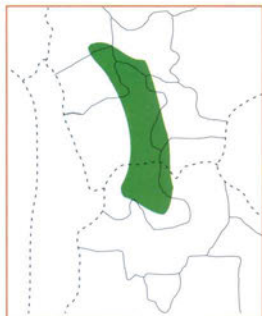
It is described as having stems globose to short-cylindrical, 2.5 to 3cm wide, prolifically clustering, bodies light green, with about 12 ribs. Areoles have creamy white wool. Radial spines number 15 to 22, fine, white, to 3mm long, the longer spines at the sides of the areoles. Central spines number about 6, sometimes more, 2mm long, straight, a little stronger than the radials, white or brownish, the base thickened and brown. Flowers are orange, about 1.5cm long and wide, stigma white. The plant pictured in Ritter's *Kakteen in Südamerika* is one with much longer spines than described; the plant widespread in cultivation, with short spines according with the description and freely produced, small orange flowers seems to be correctly identified.

Reported from Bolivia, Tarija, in the north-east in a gully off the Rio Pilaya, in warm, sub-tropical conditions.

Rebutia pulvinosa
FR 766

Collector's number referred here is FR 766 (reportedly deposited at Utrecht, but recently not found there).





Rebutia pygmaea

R. pygmaea (Fries) Britton & Rose, The Cact. 3:47 (1922); Fries, Nov. Act. Soc. Sci. Upsala 4, 1/1:120 pl.8, f. 1 to 3 (1905) – as *Echinopsis*; Backeberg, Kaktus-ABC 241 (1936) – as *Lobivia*; Die Cact. 3:1502 et seq. (1959) – as *Mediolobivia*; Kakteenlex. 272 (1970) – as *Mediolobivia*; Cact. Lex. (Engl.ed.) 307 (1978) – as *Mediolobivia*; Ritter, Kakt. Südamer. 2:593, fig.492 (1980); Rausch, *Lobivia* 85:109 (1987) – as *Lobivia*; CITES Cact. Checklist 90, 125 (1992) = good species; M.L.Hjertson, *Taxon* 43:455 (1994)

Subgenus *Mediolobivia*

This, if the recent pronouncements in the *CITES Cactaceae Checklist* are to be believed, is an extremely variable species, embracing not only the popular *R. haagei*, but also the 20 varieties of *R. haagei* and *R. pygmaea* combined or erected in Rausch's book *Lobivia 85* (albeit as *Lobivia*), many of which were considered individual enough to warrant species status when first described (mostly by Ritter and Rausch). Also included in the *CITES Cactaceae Checklist* are several species not swept into either by Rausch in his book *Lobivia 85*, viz. *R. brunneoradicata*, *R. carmeniana*, *R. christinae*, *R. gracilispina*, *R. iridescens*, *R. lanosiflora*, *R. mixta*, *R. odontopetala*, *R. pauciareolata*, *R. paucicostata*, *R. rosalbiflora*, *R. rutiliflora*, *R. salpingantha*, *R. torquata*, *R. villazonensis*, *R. yuquinensis*. See comments under each of these names either in this chapter or *Superfluous or dubious names and Hybrids*.

Rebutia pygmaea
WR 335

As many are desirable collectors' plants they are all discussed herein, but it must be said that there are probably as many other unnamed forms which could also be included, as the findings in recent years by Mats



Winberg bear witness. Perhaps the best way for collectors to acknowledge the variety of this species, and the best way for me to acknowledge their individuality without becoming too botanical in combining the Rausch combinations, let alone those suggested by the CITES list, is to label them as neither varieties nor forms, but merely in quotation marks after the all-embracing name *R. pygmaea*, and this I have done below. I leave to the reader the option to do the same for those also pronounced synonymous in the CITES list, which I have not included here, but see comments under each of these names before doing so. The discredited *R. haagei* is included as *R. pygmaea 'haagei'* for what is one of the most popular collectors' plants in this complex.

The type, *R. pygmaea*, referring back to Fries and Britton & Rose, is described as “simple, ovoid to short-cylindric, 1 to 3cm long, 1.2 to 2cm in diameter, or sometimes branched with 2 to many short joints from a much thickened root; tubercles small, more or less arranged into 8 to 12 spiraled rows; areoles narrow, somewhat lanate; spines all radial, 9 to 11, short, appressed, 2 to 3mm long, acicular, somewhat swollen at the base; flowers from the lower part of the plant, somewhat curved at base, becoming nearly erect, 18 to 25mm long, rose-purple; scales on ovary and flower-tube small, hairy in their axils; fruit globular, 6mm in diameter. Type locality: Yavi, of Jujuy, Argentina. Distribution: Bolivia and northwestern Argentina. We have studied living plants collected by Dr. Rose at Oruro, Bolivia.” This last sentence probably refers to what is called in this publication *R. pygmaea* ‘*orurensis*’.

Reported since from Bolivia, Potosi, Sud Chicas, Villazon; La Paz, Avilez, ‘Copacabana’; Argentina, Jujuy, La Quiaca; 11km south of Abra Pampa. Also from all the localities cited below for the variations, of course.

Collectors’ numbers referred here are FR 57a, 1107; WR 38a, 304, 333b (var. *setifera* n.n.), 333c (var. *spectabilis* n.n.), 335, 335a, 506a, 576, 576a, 579, 676 (var. *rutiliflora*), 677a, 825, 828, 906, 909, 910; Lau 519, 541b (var. *longispina* n.n.); MN 0031, 0058, 0132, 0142, 0146, 0152, 0156, 0157, 0158, 0162, 0168, 0170, 0171, 0173, 0175, 0184, 0185, 0186, 0189, 0191, 0193, 0196, 0212, 0223, 0224, 0225, 0227, 0228, 0229, 0229a, 0233, 0236a, 0237, 0244; KK 637, 798, 970 (var. *gracilis* n.n.), 972 (var. *challapatana* n.n.), 974, 1465, 1467, 1491, 1893.



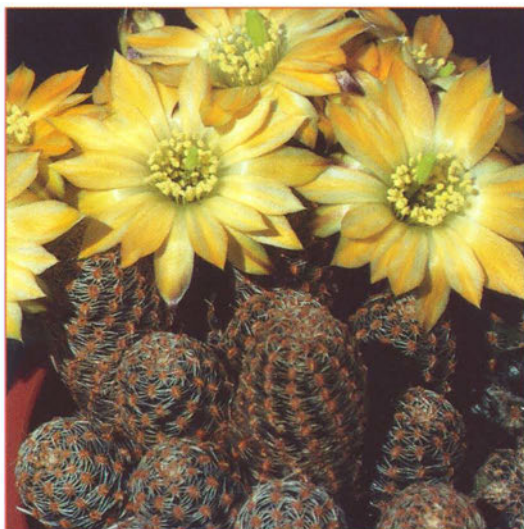
‘*atrovirens*’ Kakt.u.a.Sukk. 26(2):26 (1975) – as *R. diersiana* var. *atrovirens*. Syn. *Lobivia pygmaea* var. *nigrescens* nom inval., Rausch, *Lobivia* 85:116 (1987)

Described as differing from ‘*diersiana*’ in its dark green to violet body colour, and yellow to dark brown woolled areoles and spines the same colour. This is a beautifully coloured variation, the yellow woolled areoles being most distinctive, together with its striking yellow flowers. Rausch changed the name to var. *nigrescens* on amalgamating it with *R. pygmaea* to avoid confusion with *R. atrovirens*, which was briefly combined with

R. pygmaea in 1963 by Buining and Donald as *R. pygmaea* fa. *atrovirens*. But this was invalid as ‘*atrovirens*’ was the prior name for this taxon at varietal level.

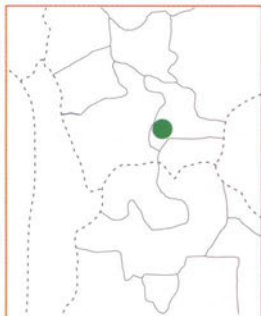
Reported from Bolivia, Chuquisaca, Cinti, above Salitre near Culpina, at 3,200m (10,500ft) altitude.

Collector’s number referred here is WR 633 (deposited at Zurich, not Vienna as cited, as *R. diersiana* var. *atrovirens*).



pygmaea
‘*atrovirens*’

Rebutia pygmaea
‘*atrovirens*’ WR 633



'*canacruzensis*' Rausch, *Kakt.u.a.Sukk.* 27(3):49 (1976) – as *Rebutia canacruzensis*; *Lobivia* 85:56 (1987) – as *Lobivia haagei* var. *canacruzensis*; CITES *Cact. Checklist* 124 (1992) = *R. pygmaea*

Differentiated by its pale shell-pink flower with deeper pink throat. The original description included the information that it grows to 4cm tall, 2.5cm wide, with stem coloured greyish-green with purple tints, and with 10 to 11 ribs. Areoles are oval, 1mm long, with white and brown wool. Spines are all radial, 11 in number, short, to 3mm long, bristle-like, not overlapping, glassy white, brown at base. Flowers are 3.5cm long, 2.5cm wide, pink fading to almost white on sunny days, with an obscure, darker, narrow midstripe to the petals.

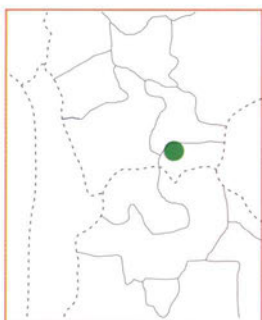
pygmaea
'canacruzensis'

Reported from Bolivia, Chuquisaca, Nor Cinti, near Cana Cruz, at 3,700m (11,250ft) altitude.

Collector's number referred here is WR 642 (deposited at Zurich, as *R. canacruzensis*).



(Left) *Rebutia pygmaea* '*canacruzensis*' WR 642
(Right) *Rebutia pygmaea* '*colorea*'



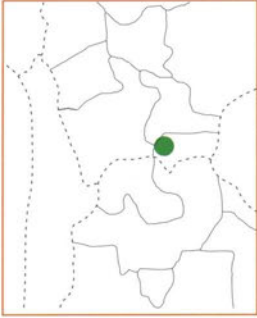
'*colorea*' Ritter, *Kakt.u.a.Sukk.* 28(4):78 (1977) – as *R. colorea*; *Kakt. Südamer.* 2:605, fig.517 (1980) – as *R. colorea*; Rausch, *Lobivia* 85:116 (1987) – as *Lobivia pygmaea* var. *colorea*; Pilbeam, *Brit. Cact. Succ. J.* 8(1):19-20 (1990); CITES *Cact. Checklist* 124 (1992) = *R. pygmaea*

Noted for its very individual, beautifully coloured flowers and vigorous growth, this variation has dark olive-green to brownish-violet body colouring, stems 1 to 2cm wide, becoming short-cylindrical, with 9 to 11 ribs, spines all radial, 6 to 8, pectinate, flowers bright, electric carmine to purple.

Reported from Bolivia, Tarija, Mendez, San Antonio and Abra de Same, near Iscayachi, at 3,500m (11,500ft) altitude.

pygmaea
'colorea'

Collectors' numbers referred here are FR 1106 (deposited at Utrecht, as *R. colorea*); WR 660.

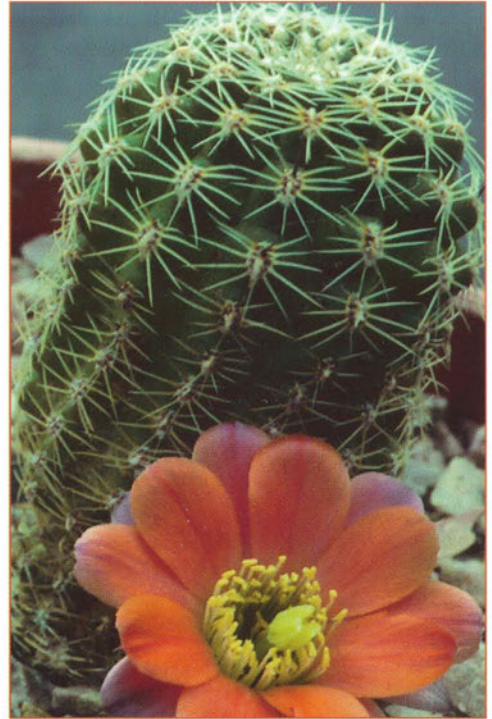


'*crassa*' Rausch, *Lobivia* 85:56 (1987) – as *Lobivia haagei* var. *crassa*

This is larger growing than the type, with stems to 3cm in diameter, 11 to 12 ribs, areoles with white wool, glassy white, brown at base, and larger, 4cm long and wide, red-orange flowers.

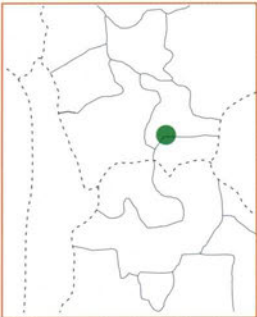
Reported from Bolivia, Tarija, in high regions near Cuesta de Sama, at Iscayachi.

Collector's numbers referred here are WR 501 (deposited at Zurich, as *Lobivia haagei* var. *crassa*), 777, 843.



pygmaea
'crassa'

(Right) *Rebutia pygmaea*
'*crassa*' WR 501
(Bottom) *Rebutia pygmaea*
'*diersiana*' WR 631



'*diersiana*' Rausch, *Kakt.u.a.Sukk.* 26(2):25 (1975) – as *R. diersiana*; Ritter, *Kakt. Südamer.* 2:596, fig.498-9 (1980); Rausch, *Lobivia* 85:116 (1987); Pilbeam, *Cactus File* 1(3): cover & 5 (1991); CITES *Cact. Checklist* 124 (1992) = *R. pygmaea*

Clustering sparingly (Rausch's original description is accompanied by a striking habitat picture of five solitary plants embedded in fragmented shale), this is a small growing, beautiful form with clear yellow flowers. Stems are grey-green, to 3cm tall, 2cm wide (longer in cultivation), with white- to dark brown-woolled areoles. Spines are all radial, 11 in number,

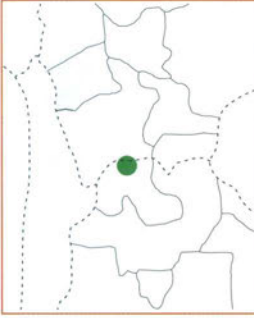
to 2mm long, glassy white. Flowers are yellow to golden-yellow, 2.5cm long and wide, the exterior petals pink to violet-pink tipped.

Reported from Bolivia, Chuquisaca, Sud Cinti, Yuquina near Culpina, at 3,200m (10,500ft) altitude; Potosi, Sud Chicas, Mal Paso (FR 1113).

Collectors' numbers referred here are WR 631 (deposited at Zurich, not Vienna as cited, as *R. diersiana*), 676; FR 1113 (deposited at Utrecht, as *R. rutiliflora*).



pygmaea
'diersiana'



'*elegantula*' Rausch, *Lobivia* 85:56,140 (1987) – as *Lobivia haagei* var. *elegantula*; (syn. *R. oligitififormis* Hort.)

This is little different from the type, but was described as a smaller, more clustering form, with globose stems to a little elongated, to 8mm wide, with 12 ribs, areoles with brown wool, radial spines numbering 10 to 11, bristle-like, glassy white, and flowers 2.5cm long and wide, similar to the type.

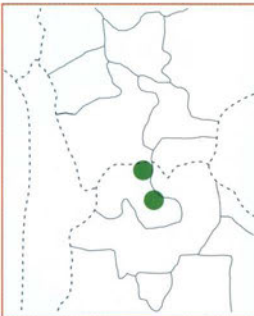
Reported from Argentina, Jujuy, Rio San Juan de Oro.

Collector's number referred here is WR 502 (deposited at Zurich, as *Lobivia haagei* var. *elegantula*).

pygmaea
'*elegantula*'



Rebutia pygmaea
'*elegantula*' WR 502



'*eos*' Rausch, *Kakt.u.a.Sukk.* 21(1):9 (1970) – unnamed; *Succulenta* 51(1):1-3 (1972) – as *Rebutia eos*; Simon, *Stachelpost* 8(3):33 (1972); Donald, *Ashingtonia* 1(7&8):78,88 (1974); Backeberg, *Cact. Lex. (Engl.ed.)* 306 (1978) – as *Medioblobivia eos*; Gröner, *Kakt.u.a.Sukk.* 34(6):144 (1983); *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *eos*; CITES *Cact. Checklist* 124 (1992) = *Lobivia atrovirens*; Pilbeam, *Cactus File* 2(2):7-8 (1994)

pygmaea
'*eos*'



Rebutia pygmaea
'*eos*' WR 333

This is beautiful, and much sought after, often badly misidentified in commerce and consequently in cultivation.

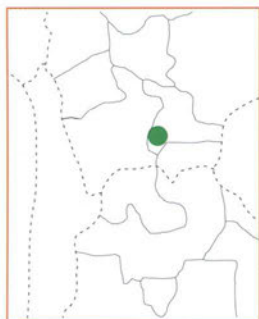
It was described as having small, short-cylindrical stems, 2.5cm tall, 2cm wide (larger in cultivation), brownish-green, with 12 to 13 ribs. Areoles are oval, 2mm long, with brown wool. Radial spines number 8 to 10, to 6mm long, bristle like, brownish-grey, brown and

thicker at base, well spaced out, and not neatly pectinate as in the frequent masquerader. There is one central spine, to 5mm long, stronger than the radials, brown to black, directed upwards. Flowers are white to pale whitish-pink, with an occasional deep pink stripe in random petals, very distinctive, 4cm long, 3.5cm wide, with light green stigma.

Reported from Argentina, Jujuy, near Tafna, at 3,600m (11,800ft) altitude; also (maybe incorrectly) near Humahuaca at 3,500m (11,500ft.)

Collectors' numbers referred here are WR 333 (deposited at Vienna, as *R. eos*); Lau 541c?

Rausch's combination of Ritter's *R. rosalbiflora* is not accepted here, see p. 140.



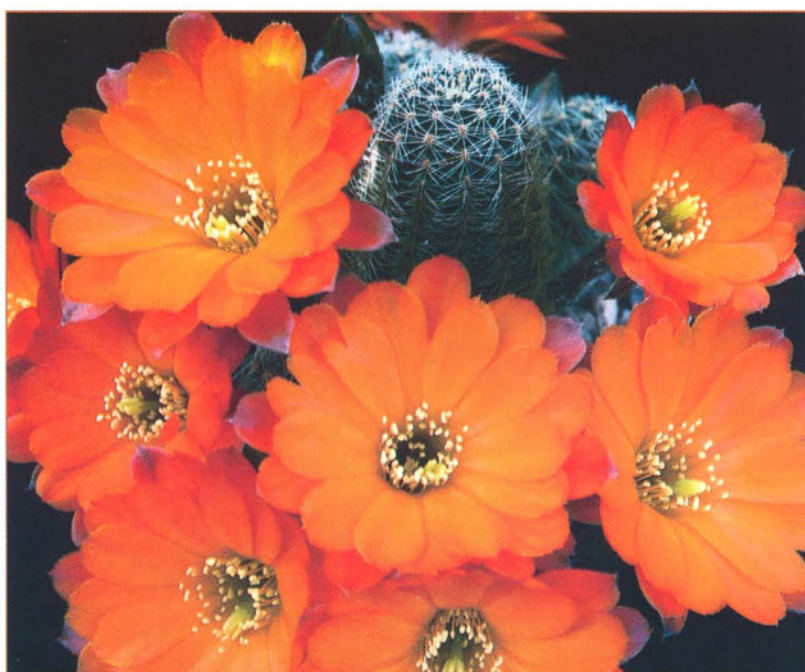
'*friedrichiana*' Rausch, *Succulenta* 55(6):101,103 (1976) & 56(2):30 (1977); Ritter, *Kakt.u.a.Sukk.* 28(4):76 (1977) – as *R. odontopetala*; *Kakt. Südamer.* 2:598,figs.505,508-9 (1980) – as *R. friedrichiana*; Rausch, *Lobivia* 85:116 (1987) – as *Lobivia pygmaea* var. *friedrichiana*; Eriksson, *Kaktus (Odense)* 23(4):81 (1988) – as *R. pygmaea* var. *friedrichiana*; CITES *Cact. Checklist* 124 (1992) = *R. pygmaea*

This is one of the largest variations, with stems to 5cm tall, 3cm wide, grey-green with violet tones. Areoles have yellowish wool. Spines are all radial, 11 to 13 in number, to 4mm long, white, bristle-like, lying flat. Flowers are light, reddish-orange, 3cm long and wide, stigma green.

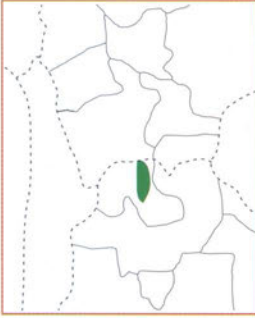
pygmaea
'friedrichiana'

Reported from Bolivia, Chuquisaca, Sud Cinti, near La Cueva, at 3,500m (11,500 ft) altitude.

Collectors' numbers referred here are WR 646 (deposited at Zurich, as *Rebutia friedrichiana*), 646a; FR 757a (deposited at Utrecht, as *R. odontopetala*).



Rebutia pygmaea
'*friedrichiana*' WR 757a



pygmaea
'haagei'

'haagei' Fric & Schelle, Kaktusar 1:88 (1930) – as *R. haagei*. Backeberg, Kaktus-ABC 243,415 (1936) as *Lobivia neohaageana*; Krainz, Sukkulentenk. 1:19 (1947) – as *Mediolobivia haagei*; Backeberg, Die Cact. 3:1502 (1959) – as synonymous with *Mediolobivia pygmaea*; Ritter, Kakt. Südamer. 2:593 (1980); Rausch, *Lobivia* 85:56-7 (1987) – as *Lobivia haagei*; CITES Cact. Checklist (1992) – not listed (in error)

Described as clustering, grey-green or bright glaucous-green, with 10 to 11 ribs, about 10 to 12 thin, bristle-like spines, glassy-white, reddish at the base, to 3mm long; flower to 4cm long and wide.

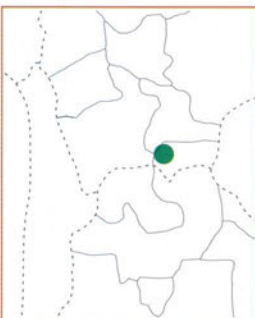
Plants commonly in cultivation under this name (or rather under the name *R. haagei*) make many heads, grey to greyish-brown, shortly columnar or rather conical with flattened apex, to about 2cm in diameter, sometimes smaller, in some forms larger. Spines are all radial, thin, bristle-like, short, about 2 or 3mm long. Flowers are usually pale salmon pink, about 3 to 5cm long and wide, sometimes displaying a range of hues from red to palest pink, most attractively (particularly collection numbers Lau 519 and FR 57), stigma white.



Rebutia pygmaea
'haagei' FR 57

Reported by Backeberg from Argentina, Salta, and by Ritter from Jujuy, Iturbe; and by others from Jujuy, at Humahuaca, at 3,500 to 3,800m (11,500 to 12,500ft) altitude; and at La Quiaca, Sama.

Collectors' numbers referred here are Lau 431, 519; FR 57; WR 35, 35a, 35b, 295a (var. *amblypetala*), 507, 507a, 577, 690a, 745, 750, 752, 776, 825a.



pygmaea
'iscayachensis'

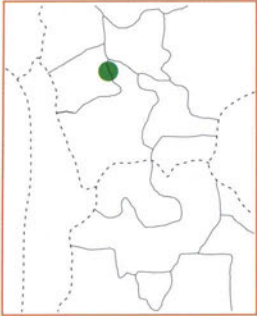
'iscayachensis' Rausch, *Succulenta* 56(1):1,3 (1977) – as *R. iscayachensis*; Ritter, Kakt. Südamer. 2:605, fig.543 (1980); Rausch, *Lobivia* 85:116 (1987) – as *Lobivia pygmaea* var. *iscayachensis*; CITES Cact. Checklist 125 (1992) = *R. ritteri*

Described as similar to '*colorea*', but with larger tubercles, longer spines and larger flowers. Stems are globose to short-cylindrical, 2cm in diameter, dark green with brownish-violet tones, and 11 ribs. Areoles with brown wool. Spines are all radial, 8 or 9 in number, 2 to 3mm long, yellowish, brown at base. Flowers are red with violet-pink midstripe, 3.5cm long and wide, with green stigma.

Reported from Bolivia, Tarija, Mendez, above Cana Cruz, near Iscayachi, at 3,500m (11,500ft) altitude.

Collectors' numbers referred here are WR 355b (deposited at Zurich, as *R. iscayachensis*); FR 1120, 1122.

Rebutia pygmaea
'iscayachensis' WR 335b



'knizeii' Rausch, *Lobivia* 85:116, 143-4 (1987) – as *Lobivia pygmaea* var. *knizeii*

Described as sparingly clustering, stems short-cylindrical, to 2cm tall, 1.5cm wide, grey-green with violet tones, and with 10 ribs. Areoles with white and brown wool. Radial spines number 12, in 5 pectinate pairs and with one pointing upwards and one downwards, glassy yellowish-brown, the base brown and thicker. There is one central, brown, 4mm long. Flowers are yellow, 3cm long and wide.

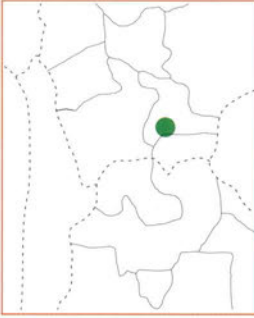
Reported from Bolivia, Oruro, Challapata, near Pazna, at 3,800m (12,450ft) altitude.

Collectors' numbers referred here are WR 676a (deposited at Zurich, as *Lobivia pygmaea* var. *knizeii*); KK 969.

pygmaea
'knizeii'



Rebutia pygmaea
'knizeii' WR 676a



'minor' Rausch, Succulenta 58(11):257-9 (1979) – as *R. diersiana* var. *minor*; Lobivia 85:116 (1986) – as *Lobivia pygmaea* var. *minor*

The attraction of this the smallest variation lies in its dark coloured stems, ratified by the dark areoles and spines, and contrasted with the clear yellow flowers.

It was described as having stems 2cm tall, and to 1.3cm wide (a little taller in cultivation), sparingly clustering, greyish-green with violet-brown tones, and with 10 ribs. Areoles have dark brown wool. Spines are all radial, 9 to 11 in number, dark violet-brown, later grey, lying flat to the stem. Flowers are yellow.

Reported from Bolivia, Chuquisaca, Sud Cinti at Yuquina near Culpina, at 3,600m (11,800ft) altitude.

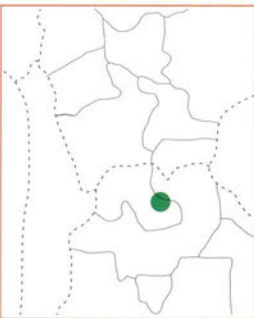
Collector's number referred here is WR 630 (deposited at Zurich, as *R. diersiana* var. *minor*).

pygmaea
'minor'



(Left) *Rebutia pygmaea* 'minor' WR 630

(Right) *Rebutia pygmaea* 'mudanensis' WR 689



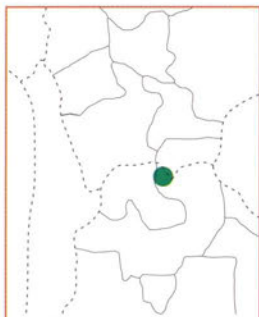
'mudanensis' Rausch, Kakt.u.a.Sukk. 27(8):169 (1976) – as *Rebutia mudanensis*; Lobivia 85:57 (1987) – as *Lobivia haagei* var. *mudanensis*; CITES Cact. Checklist 125 (1992) = *R. pygmaea*

This is beautifully white spined, with more robust, fatter stems than the type, and clustering less rapidly. It is described as having stems to 4cm tall, 3cm wide, with 13 ribs. Areoles have white to brown wool. Radial spines number 12, glassy white, light brown tipped. There is an occasional solitary central spine, stronger. Flowers are pale orange-pink, 3.5cm long and wide, stigma green.

Reported from Argentina, Salta, east of Mudana near Santa Ana, at 3,500 to 4,300m (11,500 to 14,000ft) altitude.

Collector's number referred here is WR 689 (deposited at Zurich, as *R. mudanensis*).

pygmaea
'mudanensis'



'nazarenoensis' Rausch, *Succulenta* 58(8):186 (1979) – as *Digitorebutia nazarenoensis*; *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *nazarenoensis*; CITES Cact. Checklist 125 (1992) = *R. pygmaea*

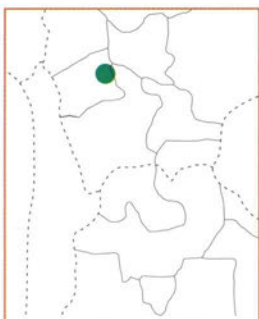
Similar to the foregoing, with more prominent tubercles, somewhat more outstanding spines and a darker orange coloured flower.

Reported from Argentina, Salta, near Nazareno, at 3,350m (11,000ft); Jujuy, Cortaderas at 3,150m (10,350ft) altitude.

Collectors' numbers referred here are WR 484 (deposited at Zurich, as *Digitorebutia nazarenoensis*); MN 0136.

pygmaea
'nazarenoensis'

(Left) *Rebutia pygmaea* 'nazarenoensis' WR 484
(Right) *Rebutia pygmaea* 'orurensis' WR 210



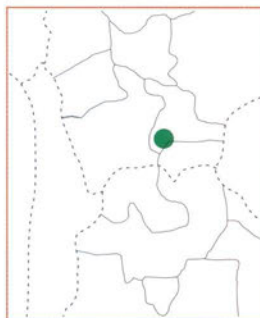
'orurensis' (Backeberg) Donald, *Cactus* (Paris) 9:39 (1954) – as *Mediolobivia haagei* var. *orurensis*; Backeberg, *Kaktus-ABC* 243,415 (1936) – as *Lobivia orurensis*; Buining, *Succulenta* 22:52 (1940) – as *Digitorebutia orurensis*; Backeberg, in *Fedde Rep. Spec. Nov.* 51:65 (1942) – as *M. orurensis*; Krainz, *Sukkulentenk.* 1:19 (1947) – as *M. orurensis*; Backeberg, *Die Cact.* 3:1505 (1959) – as *M. pectinata* var. *orurensis*; *Kakteenlex.* 271 (1970); *Cact. Lex. (Engl.ed.)* 307 (1978) – as *M. pectinata* var. *orurensis*; Ritter, *Kakt. Südamer.* 2:594,fig.496 (1980); Rausch, *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *orurensis*; Sida, *Kaktusy* (Brno) 26(1):19 (1990); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Differentiated by its flowers, which have two zones of colour. It is strongly clustering, less compactly than the type, with green stems. Areoles have white wool. Spines are all radial, to 12, white with brown base. Flowers are distinctly two toned, pale pink in the throat and red in the upper part of the petals.

Reported from Bolivia, Oruro, Poopo, near Oruro, at 3,800m (12,500ft) altitude.

Collectors' numbers referred here are FR 339; WR 210; KK 968.

pygmaea
'orurensis'



pygmaea
'pallida'

'pallida' Rausch, Succulenta 56(10):234 (1977) – as *Rebutia pallida*; *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *pallida*; CITES Cact. Checklist 125 (1992) = *R. pygmaea*

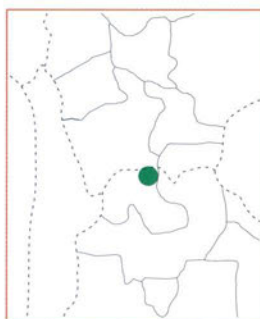
Mainly differentiated by its pallid orange flowers, this variation has short-cylindrical stems, 3cm tall, 2cm wide, with 13 to 14 ribs. Spines are all radial, numbering 9, to 3mm long, lying flat, bristle-like, glassy white, brown at base. Flowers are pink with pale orange-yellow, broad midstripe, becoming even paler in the throat, 2cm long and wide, outer petals pink with brown midstripe, stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, around La Cueva at 3,500m (11,500ft) altitude.

Collector's number referred here is WR 645 (deposited at Zurich, as *R. pallida*).



Rebutia pygmaea
'pallida' WR 645



pygmaea
'pelzliana'

'pelzliana' Rausch, *Lobivia* 85:57,140 (1987) – as *L. haagei* var. *pelzliana*

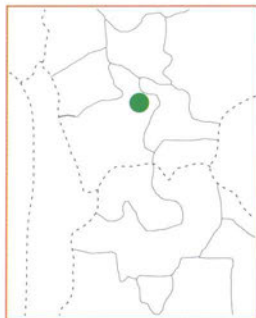
Described as having stems 3cm tall and 2cm wide, with 13 ribs. Areoles have white to brown wool. Radial spines number 8 to 12, brittle, yellowish-brown, brown at base. Flowers are 3cm long, 3.5cm wide, clear red.

Reported from Argentina, Jujuy, near Tafna, at 3,600m (11,800ft) altitude.

Collector's number referred here is WR 333a (deposited at Zurich, as *Lobivia haagei* var. *pelzliana*).



Rebutia pygmaea
'pelzliana' WR 333a



pygmaea
'polypetala'

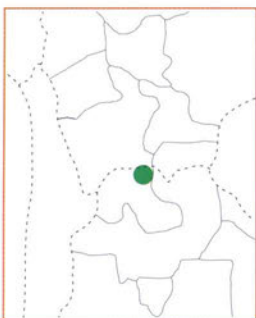
Rebutia pygmaea
'polypetala' WR 301

'polypetala' Rausch, *Lobivia* 85:116,143-4 (1987) – as *Lobivia pygmaea* var. *polypetala*

Described as short-cylindrical, stems to 2cm wide, grey-green, with 11 ribs. Areoles with brown wool. Spines all radial, numbering 10 to 12, to 3mm long, brownish-yellow to yellow, brown at base. Flowers are orange-red with many petals, 3.5cm long and wide.

Reported from Bolivia, Potosi, Cuchu Ingenio at 3,700m (12,150ft) altitude.

Collector's number referred here is WR 301 (deposited at Zurich, as *Lobivia pygmaea* var. *polypetala*)



pygmaea
'tafnaensis'

Rebutia pygmaea
'tafnaensis' WR 508a

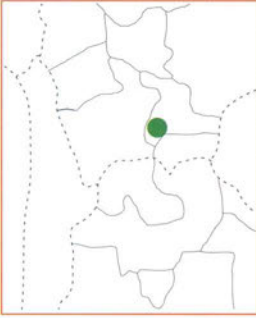
'tafnaensis' Rausch, *Lobivia* 85:116,144 (1987) – as *Lobivia pygmaea* var. *tafnaensis*

Described as sparingly clustering, globose to short-cylindrical, 1.5cm wide, stems pale grey-green, violet tinted, with 10 ribs. Areoles have brown wool. Spines are all radial, numbering 10 to 12, to 5mm long, yellowish-white, bristle-like, base thicker and brown. Flowers are reddish-orange, 3cm long and wide.

Reported from Argentina, Jujuy, near Tafna, at 4,000m (13,100ft) altitude.

Collector's number referred here is WR 508a (deposited at Zurich, as *Lobivia pygmaea* var. *tafnaensis*).





pygmaea
'violaceostaminata'

'*violaceostaminata*' Rausch, *Lobivia* 85:116, fig.p.143 (1987) – as *R. pygmaea* var. *violaceostaminata*

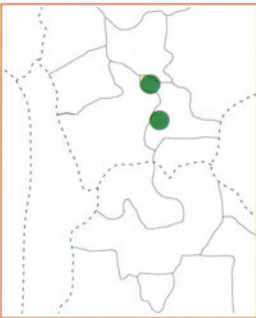
Described as having stems to 2cm wide, globose, grey-green, with violet tints., and 10 to 12 ribs. Areoles have brown wool. Radial spines number 11 to 13, to 5mm long, yellow, base thicker and brown. Central spines not present, or up to 3, short, thicker, brown. Flowers are orange, 2.5cm long, 3cm wide, with, of course, violet stamens.

Reported from Bolivia, Chuquisaca, Sud Cinti, near La Cueva, at 3,300m (10,800ft) altitude.

Collector's number referred here is WR 742 (deposited at Zurich, as *Lobivia pygmaea* var. *violaceostaminata*).



Rebutia pygmaea
'violaceostaminata'
WR 742



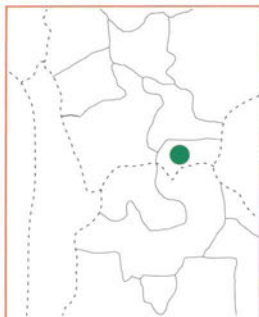
pygmaea
'violascens'

'*violascens*' Ritter, *Kakt.u.a.Sukk.* 28(4):76 (1977) – as *R. violascens*; *Kakt. Südamer.* 2:595, fig.497 (1980) – as *R. violascens*; Rausch, *Lobivia* 85:57 (1987) – as *Lobivia pygmaea* var. *violascens*; *CITES Cact. Checklist* 126 (1992) = *R. pygmaea*

There are many misnomers in cultivation with this label, owing more to *R. atrovirens*, an altogether larger stemmed, shiny dark green bodied species, with dark blood-red flowers. It is only in the last year or two that seed has come on to the market yielding *R. pygmaea*-like plants. Disappointingly it is the body colour which gave rise to the name '*violascens*', and the flowers waited for with bated breath are not violet, but pale 'kressenrot' (red). As implied the stems are described as dark brown with violet tints, 2 to 3cm wide and a little taller, with 10 to 13 ribs (or up to 16). Spines are all radial, 8 to 10 in number, pectinate, 2 to 5mm long, at first brown, later white, thin and flexible. Flowers are 3 to 4cm long and wide, pale pinkish-red.

Reported from Bolivia, Chuquisaca, Nor Cinti, to the north of Camargo, and south of Lecori; Cochabamba, Macha; Potosi, Llallagua.

Collectors' numbers referred here are FR 352 (deposited at Utrecht as *R. violascens*); WR 295.



Rebutia robustispina

R. robustispina Ritter, *Succulenta* 56(3):64-65 & 56(8)189 (1977); *Kakt. Südamer.* 2:613, fig. 541 (1980); CITES Cact. Checklist 126 (1992) = *R. pseudodeminuta*



Rebutia robustispina
FR 763

Subgenus *Aylostera*

This is a thickly and quite strongly spined species, described as often solitary, although it clusters in cultivation, with globular, green bodies, 1.3 to 5cm broad, with about 16 ribs. Areoles are almost round, with white or brownish wool. Radial spines number 10 to 15, slender, white, 3 to 7mm long, straight. Central spines are stronger than the radials, numbering 2 to 6, brown, 10 to 25mm long. Flowers are fiery red, with vermilion outer petals, about 4 to 4.5 cm long and 3 or 4cm wide, stigma yellowish.

As with all the strongly spined *Rebutia* species, exposure to strong light

(full sun in Britain) enables this species to give of its best, both in development of the maximum length and strength of spines and its full complement of flowers.

Reported from Bolivia, Tarija, mountains north of Tarija; upper Tambo gorge; Arque, Padcaya.

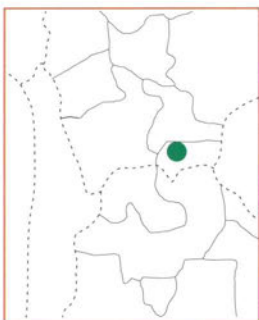
Collectors' numbers referred here are FR 763 (deposited at Utrecht); WR 88. Ritter described at the same time a smaller growing variety, as follows:

var. minor Ritter, *Succulenta* 56(3): 65 & 56(8): 189 (1977); *Kakt. Südamer.* 2: 613, fig. 542 (1980)

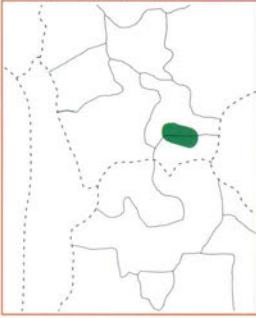
This is merely a smaller version of the type, with correspondingly smaller stems, spines and flowers. It was described as up to 35mm wide in the body, with spines at first brownish, later greyish; flowers smaller than the type, vermilion to red.

Reported from Bolivia, Tarija, Mendez, at or above Cajas.

Collectors' numbers referred here are FR 763a (deposited at Utrecht); WR 655.



robustispina
var. minor



Rebutia rubiginosa

R. rubiginosa Ritter, Taxon 12(1):29 (1963); Buining & Donald, Cact. Succ. J. GB 27(3):58-9 (1965); Backeberg, Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; Ritter, Kakt. Südamer. 2:608,fig.523 (1980); CITES Cact. Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

This is a distinctive species (sometimes confused with *R. fulviseta* in the trade) the stems often becoming quite dark chestnut-brown, which complements well the brightly coloured flowers.

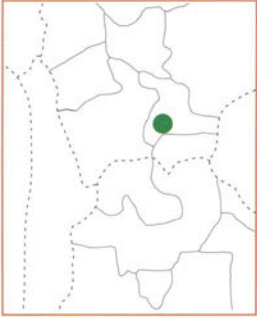
The description is of a dark green bodied plant, with stems about 2 to 3cm wide, flat-globular, solitary, sprouting later, areoles with brownish wool. Radial spines number about 12, 3 to 6mm long, central spines about 4, longer and stronger than the radials, all rust-coloured, fine needle-like. Flowers are 3cm long and wide, bright carmine, stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, below Challamarca, in mountains at 2,800m (9,200ft) altitude; and from Bolivia, Tarija, O'Connor, Narvaez, at 1,000 to 1,300m (3,300 to 4,250ft) altitude.

Rebutia rubiginosa
Lau 402

Collectors' numbers referred here are FR 767 (deposited at Utrecht); Lau 402; KK 861.





Rebutia schatzliana

R. schatzliana Rausch, Kakt.u.a.Sukk. 26 (11): 244 (1975); Donald, Ashingtonia 3(5 & 6):148, fig.25 (1979); CITES Cact. Checklist 126 (1992) = *R. albopectinata*; Bauer, Kakt.u.a.Sukk. 44(6)&(7): 122, 138 with figs. (1993)

Subgenus *Aylostera*

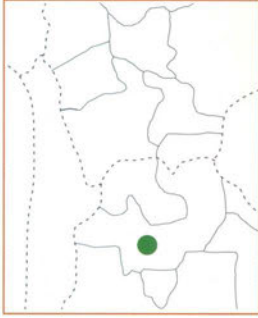
This is a slow growing species, which has been available for some years, if sparingly, from fellow enthusiasts as cuttings, but not commercially as either plants or seed. Having obtained several plants from widely different sources I have consistently failed to set seed in spite of diligent transfer of the pollen amongst them. All this leads me to believe that it may well be the case that only one clone has come into cultivation, although the photograph accompanying the original description appears to show several. It was described as solitary, although it slowly clusters in cultivation, globose to short-cylindrical, to 1.5cm wide, green, with 21 ribs. Areoles have brown wool. Radial spines number 17 to 19, pectinate, lying flat to the body, 1 to 2mm long, glassy white to honey yellow, slightly pubescent. There is usually no central spine, but occasionally there is one, similar to the radials. Flowers are orange, 3cm long, 2.5cm wide, the outer petals pink with brown midstripe, the inner petals shining orange, with pinkish-white throat, stigma greenish.

Reported from Bolivia, Chuquisaca, Nor Cinti, near Pucara, at 3,200m (10,500ft) altitude.

Collector's numbers referred here are WR 640 (deposited at Zurich), 641.

Rebutia schatzliana
WR 640





Rebutia senilis

R. senilis Backeberg, Kakteenfr. 1:123 (1932); Kaktus-ABC 277 (1936); Krainz, Sukkulentenk. 1:21 (1947); Backeberg, Die Cact. 3:1545, figs.1493-8 (1959); Buining & Donald, Sukkulentenk. 7/8:96-107 (1963); Cact. Succ. J. GB 27(2):38 (1965); Backeberg, Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978); CITES Cact. Checklist 126 (1992) = *R. minuscula*

Subgenus *Rebutia*

This species, undoubtedly most popular, widely grown, floriferous and extremely variable, has attracted a number of names beneath specific rank to define variations in flower colour and spination. These date from the 1930s to the 1950s and were mostly erected by Backeberg. None seem to have been based on field data to justify their separation at even *forma* level, and most of those now in cultivation under these names are several, if not many, generations removed from their original parentage, wild or otherwise.

However, Lau ascribes his field collection number 560 to var. *lilacinorosea*, and there are recent reports of var. *kesselringiana* being discovered in the wild. From a collector's point of view only a few are worth bothering with: the type in its longer spined manifestation is a beauty; var. *kesselringiana*, with its yellow flowers, and the reputed sport of this variety with white flowers, cv. Rose of York (see page 143), are undoubtedly worth obtaining; var. *lilacinorosea* is a good colour break from the usual red of the species; the others are of academic interest only, being minor variations of the type. See page 142 for details.

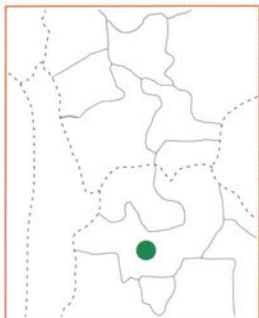
Rebutia senilis



R. senilis has a globular stem, described as to 8cm tall, 7cm wide, clustering to form a mound of stems, usually less tall than wide, with green body colour, and with a dense covering of long, white spines. Areoles are white-woolled, and the 25 or so spines up to 3cm long, fine, bristle-like. Flowers are 3.5cm wide, and about the same length, carmine-red, stigma white.

Reported from northern Argentina, Salta, high in the Quebrada Escoipe; Castellanos near Salta; road to Cachi, river crossing; Chorillos, at 2,100m (6,900ft) altitude.

Collectors' numbers referred here are FR 941, 941a; WR 167, 661, 706, 706a, 706b, 706c, 769, 785; MN 0022, 0113, 0221; KK 1243.



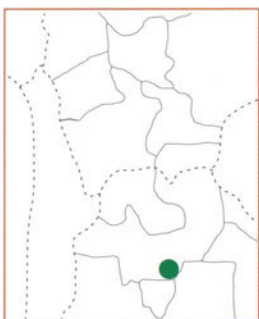
senilis
'kesselringiana'

var. *kesselringiana* Bewerunge, Sukkulentenk.1:9 (1947); Krainz, Sukkulentenk. 1:22 (1947); Donald, Cactus (Paris), 9:40,39 (1954) – as *R. chrysacantha* var. *kesselringiana*; Backeberg, Die Cact. 1545,fig.1497 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978); Ashingtonia 2(3):50-53 (1975) – as *R. senilis* subsp. *chrysacantha* fa. *kesselringiana*

The name tacked on to *R. senilis*, perhaps as *R. senilis* '*kesselringiana*' is good enough for this distinct collector's plant, with white spines, sometimes with a yellowish cast, and yellow flowers emerging from green buds. Its occurrence in the wild has recently been reported (personal communication from Mats Winberg).



Rebutia senilis
'kesselringiana'



senilis
'lilacinorosea'

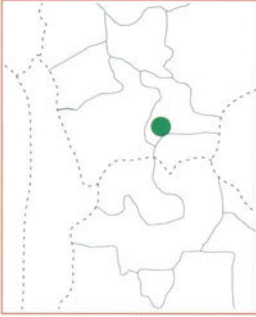
var. *lilacinorosea* Backeberg, Kaktus-ABC 278,416 (1936) ; Krainz, Sukkulentenk. 1:22 (1947); Die Cact. 3:1545,fig.1495 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978); Donald, Ashingtonia 2(3):50-53 (1975) – as *R. senilis* subsp. *senilis* fa. *lilacinorosea*

R. senilis '*lilacinorosea*' will do for this attractive colour variant, with white spines and rich lilac-pink flowers.

Collector's number referred here is Lau 560, so that this variety at least is known to occur in the wild, specifically in Argentina, Salta, 10km north-west of Antilla, at 1,300 to 1,500m (4,250 to 4,900ft) altitude.



Rebutia senilis
'lilacinorosea'



Rebutia simoniana

R. simoniana Rausch, *Kakt.u.a.Sukk.* 35(9):204 (1984); CITES Cact. Checklist 126 (1992) = good species; Pilbeam, *Cactus File* 2(5):15 (1995)

Subgenus *Aylostera*

This has not appeared widely commercially as yet, but is now getting into circulation. It is a slow-growing species, making a small cluster of stems, each about the size of a large marble. Growing it in strong light brings out the best in spine development, both in their density and strength, and their colouring, with more of a yellow cast developing, to complement beautifully the yellowish-orange of the flowers. It really is an individual species, with no obvious relationships, and this is supported by the 1992 *CITES Cactaceae Checklist* pronouncing it as a good species, although this may have been indicative of its comparatively recent discovery and lack of lengthy growing experience of the compilers or advisors.

It is described as solitary, globose, to 25mm in diameter, clear green, with 13 ribs. Areoles are round to oval, with white to pale brown wool. Radial spines number 11 to 13, to 5mm long, brittle, glassy white. Central spines number 1 to 4, to 7mm long, stronger, with brown tips. Flowers are clear orange yellow, 3.5cm long and wide, outer petals with greenish-violet midstripe on the backs of the petals, stigma yellowish-white.

Reported from Bolivia, Chuquisaca, Sud Cinti, south of and above La Cueva, at 3,500m (11,500ft) altitude.

Rebutia simoniana
WR 739

Collector's number referred here is WR 739 (deposited at Zurich).





Rebutia spegazziniana

R. spegazziniana Backeberg, Kakteenfr. 2:6 (1933); Kaktus-ABC 276 (1936) – as *Aylostera*; Krainz, Sukkulentenk. 1:21 (1947) – as *Aylostera*; Die Kakteen 6:C.Vc with fig. (1957); Backeberg, Die Cact. 3:1530, fig.1485 (1959) – as *Aylostera*; Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex.(Engl. ed.)79 (1978) – as *Aylostera*; CITES Cact. Checklist (1992) = good species

Subgenus *Aylostera*

The *CITES Cactaceae Checklist* (1992) sinks several species under this older name, but without indication as to their standing either as subspecies or synonymy; they include *R. froehlichiana*, *R. fusca*, *R. mamillosa*, *R. patericalyx*, *R. rubiginosa*, *R. sumayana*, *R. tarijensis*, *R. tarvitaensis*, *R. tuberosa*, *R. vulpina* and *R. zecheri*. The placing of some of these species hereunder is not understood.

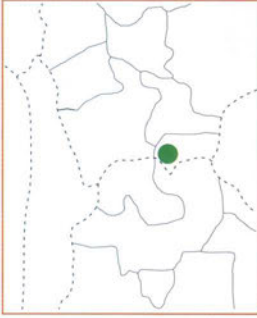
This is a neatly short-spined, short-columnar, heavily clustering plant, with yellowish-green or darker greyish-green body colour, the stems getting to 10cm or so tall, and about 2.5cm wide. Radial spines number about 14, to 4mm long, thin, appressed, pale yellowish, but variable in the light of more recently found variations of this species, as too are the central spines, originally described as numbering mostly 2, only 2mm long, yellowish with brown tips. Flowers are about 4cm wide, dark, shining, blood-red, stigma white.

Reported from Argentina, Salta, from near Santa Victoria, at 2,900m (9,500ft) altitude; Bolivia, Tarija, at the town of Tarija and near Iscayachi. Collectors' numbers referred here are WR 492, 495, 654a (large form), 740, 859a, 920, 921, 922 (var. *boliviensis* n.n.); KK 856.

See page 145 for var. *atroviridis*.

Rebutia spegazziniana





Rebutia spinosissima

R. spinosissima Backeberg, Blatt. f. Kakteenfr. 8 with fig. (1935); Kaktus-ABC 275 (1936) – as *Aylostera*; Krainz, Sukkulentenk. 1:21 (1947) – as *Aylostera*; Die Kakteen 15:Cvc with fig. (1960); Backeberg, Die Cact. 3:1531,fig.1486 (1959) – as *Aylostera*; Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; CITES Cact. Checklist 126 (1992) = good species

Subgenus *Aylostera*

There seems little doubt that we should use this older name for what has been in cultivation for a number of years as *R. archibuiningiana* (see page 117), not to be confused with *R. buiningiana*, a quite different taxon. This is one of the most attractive, larger, clump-forming species, with dense colourful spination, and freely produced, complementary orange flowers.

It is a clustering, more or less globular stemmed species, becoming short-columnar with age, to about 6cm tall and broad. There are about 11 to 13 ribs, and about 10 to 12 spines, white with brown tips, sometimes all brown, to 6mm long. Flowers are 3cm long and wide, reddish to orange, stigma white.

Reported from northern Argentina, Salta, at 2,500m (8,200ft) altitude; as well as from Bolivia, Tarija, Arque, near Padcaya; and at nearby Cara del Diablo, by Lau and Rausch, these plants having more orange yellow spines and nearly pure orange flowers (*R. archibuiningiana*).

Rebutia spinosissima
WR 318

Collectors' numbers referred here are WR 318, 778, 859, 916, 917; FR 764, 1430?; Lau 404.





Rebutia steinmannii

R. steinmannii (Solms-Laubach) Britton & Rose, The Cact. 3:47 (1922); Solms-Laubach, Bot Zeitschr. 55:133 (1907) – as *Echinocactus*; Backeberg, Kaktus-ABC 243 (1936) – as *Lobivia*; Krainz, Sukkulentenk. 1:19 (1947) – as *Mediolobivia*; Backeberg, Die Cact. 3:1528 (1959) – as *Aylosteria*; Donald, Ashingtonia 3(3 & 4):81-3 (1978); Ritter, Kakt. Südamer. 2:601, fig.506 (1980); Rausch, *Lobivia* 85:128-130, 145-6 (1987) – as *Lobivia*; CITES Cact. Checklist 126 (1992) = good species

Subgenus *Mediolobivia*

This is an extremely variable species, as shown by the many varieties combined or erected by Rausch in his book *Lobivia* 85. There is some considerable doubt as to the identity of the plant originally described in 1907 as *Echinocactus steinmannii*, but it has been taken in recent years to equate to Backeberg's *Lobivia eucaliptana*, described in 1935, regarded herein as a *Rebutia*. This well-known species (under the last mentioned name) forms the basis of the description below. It matches closely the original 1907 description of *E. steinmannii*. The species has short-cylindrical stems, clustering, to 2cm or more tall, and 1.5cm or more wide, with 8 to 10 ribs. Areoles have whitish to brown wool. Spines are all radial, numbering 8 to 11, thin, flexible, somewhat wispy and intertwining, to about 10mm long, yellowish white. Flowers are bright fiery red, about 2cm long and wide.

Rebutia steinmannii
FR 340

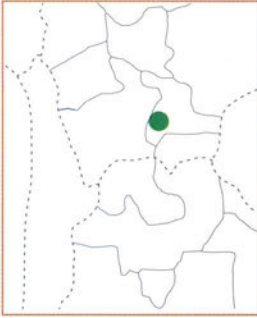
Reported from Bolivia, in an area between Oruro and Cochabamba, and at Eucaliptos, at 4,000m (13,100ft) altitude; La Paz, Aroma, Chij(g)muni; La Paz, Yaco; Potosi, Lallagua; Potosi, 10km west of Cuchu Ingenio; Oruro, Huanuni.



Collectors' numbers referred here are FR 340 (*R. eucaliptana*), 341; WR 208, 454, 494; KK 971 (*R. eucaliptana*).

Rausch sinks 7 former species here (see below), including *R. eucaliptana*, as well as erecting 6 new varieties, giving a total (including the type) of 13 varieties for the species. As with *R. pygmaea* above, these are variations hardly warranting consideration as varieties, and for the same reasons, they are not here formally amalgamated, merely indicated as variations from the type by adding the varietal names, but in single quotation marks.

These former varieties are pictured and described in the following pages.



steinmannii
'applanata'

Rebutia steinmannii
'applanata' WR 486

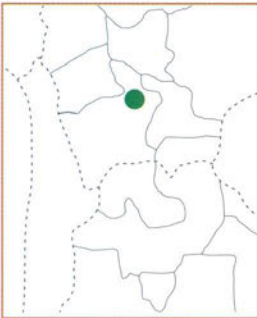
'applanata' Rausch, *Lobivia* 85:129,145 not illustrated (1987) – as *Lobivia steinmannii* var. *applanata*

Described as forming small clusters, stems are flattish-globose, to 3cm in diameter, grey-green, with 11 to 12 ribs. Areoles have brown wool. Radial spines number about 12, 6 to 8mm long, glassy white. Central spines only 1, sometimes not present, to 10mm long, glassy white, tipped brown. Flowers are large, orange-red, 5cm long, 4cm wide.



Reported from Bolivia, Chuquisaca, north of Camargo, Rio Honda, at 3,600m (11,800ft) altitude.

Collector's number referred here is WR 486 (deposited at Zurich, as *Lobivia steinmannii* var. *applanata*).



steinmannii
'brachyantha'

Rebutia steinmannii
'brachyantha' WR 297a

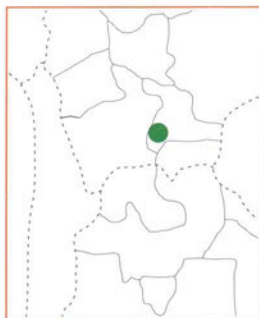
'brachyantha' Wessner, *Kakt.u.a.Sukk.* 9:129,207 (1937) – as *Lobivia brachyantha*; Buining, *Succulenta* 22:53 (1940) – as *Digitorebutia brachyantha*; Krainz, *Sukkulentenk.* 1:19 (1947) – as *Mediolobivia brachyantha*; Donald, *Cactus* 9:40,39 (1954) – as *Mediolobivia costata* var. *brachyantha*; Backeberg, *Die Cact.* 3:1521,fig. 1476 (1959) – as *Mediolobivia brachyantha*; Buining & Donald, *Cact. Succ. J. GB* 27(2):39 (1965) – as *R. brachyantha*; Backeberg, *Kakteenlex.* 270 (1970) – as *Mediolobivia brachyantha*; *Cact. Lex. (Engl.ed.)* 305 (1978) – as *Mediolobivia brachyantha*; Rausch, *Lobivia* 85:129 (1987) – as *Lobivia steinmannii* var. *brachyantha*; *CITES Cact. Checklist* 90, 124 (1992) = *R. steinmannii*

Described as smaller than the type, clustering heavily, with greyish-brown spines, and smaller, bright orange flowers, only 2cm long. It is pictured in Backeberg's *Die Cactaceae*, and the plant in the photograph corresponds well with Wessner's original description of a plant with 12 ribs and 7 to 9 spines.



Reported from Bolivia, Potosi, near Potosi.

Collector's number referred here is WR 297a.



steinmannii
'camargoensis'

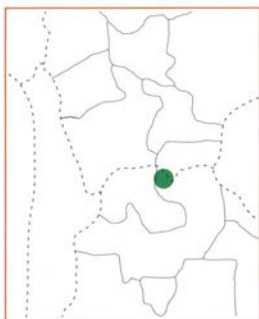
'camargoensis' Rausch, *Succulenta* 55(3):41-2 (1976) – as *R. camargoensis*; Donald, *Ashingtonia* 3(3 & 4):83 (1978) – as *R. camargoensis*; Ritter, *Kakt. Südamer.* 2:625 (1980); *Lobivia* 85:129,152 (1987) – as *Lobivia steinmannii* var. *camargoensis*; CITES *Cact. Checklist* 124 (1992) = *R. steinmannii*; Eggli et al, *Englera* 16:230 (1995)

Stems are 2.5cm tall and wide, green, with 13 to 14 ribs. Areoles have white wool. Radial spines number 16 to 20, to 10mm long, yellow, interlacing. Central spines similar to radials, 1 to 2, to 20mm long. Flowers are red, 1.5cm long, 2.5cm wide.

Reported from Bolivia, Chuquisaca, Nor Cinti, west of Camargo, at 3,200m (10,500ft) altitude; 37km. north of Camargo (FR 341c).

Collectors' numbers referred here are WR 311 (deposited at Zurich, not Vienna, as cited, as *R. camargoensis*); FR 341c.

Rebutia steinmannii
'camargoensis' WR 311



steinmannii
'christinae'

'christinae' Rausch, *Kakt.u.a.Sukk.* 26(7):145 with fig. (1975) – as *Rebutia christinae*; *Lobivia* 85:129,152 (1987) – as *Lobivia steinmannii* var. *christinae*; CITES *Cact. Checklist* 124 (1992) = *R. pygmaea*

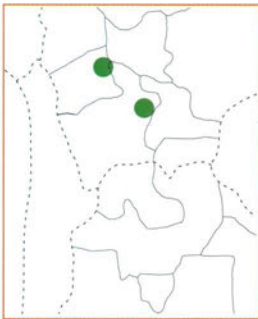
This is a striking, densely, yellow spined variant, making a low clustering plant in cultivation, somewhat lower in aspect than most other varieties. The *CITES Cactaceae Checklist* referral to *R. pygmaea* is not understood.

It is described as solitary in the wild (as indicated it clusters in cultivation), globose, to 25mm in diameter, with clear green body colour, and thick roots. There are 12 or 13 ribs, straight to slightly twisting, with oval areoles, white to dark brown woolled. The 14 to 16 interlacing radial spines are glassy white to pale yellow, to 7mm long, thickened and brown at base. There is one central spine, to 5mm long, pale yellow, the base thickened and dark brown, also dark brown at the tips of the spines. Flowers are orange, the exterior of the petals pink with whitish-green midstripe, 3cm long and wide.

Reported from Argentina, Salta, between Nazareno and Rodeo, at 3,500m (11,500ft) altitude.

Collector's number referred here is WR 492a (deposited at Vienna, as *R. christinae*).

Rebutia steinmannii
'christinae' WR 492a



steinmannii
'cincinnata'

'*cincinnata*' (Rausch) Ritter, *Kakt. Südamer.* 2:602, fig. 536 (1980) – as *R. steinmannii* var. *cincinnata*; Rausch, *Kakt.u.a.Sukk.* 27(1):4 (1976) – as *R. cincinnata*; *Lobivia* 85:129, fig. p.126 (1987) – as *Lobivia steinmannii* var. *cincinnata*; CITES *Cact. Checklist* 124 (1992) = *R. steinmannii*

This is a dark bodied, notably fine, white-spined version of the species.

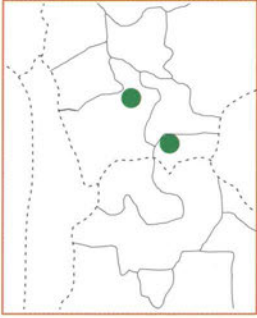
Described as simple (making low clusters in cultivation), with stems to short-globose, 20mm wide, dark, blackish-green, and with thick roots. The prominent vertical ribs number 10 or 11, with oval areoles, white to light brown woolled. The 11 spines are all radial, to 7mm long, thin, bristle-like, irregularly curving, glassy white, the base light brown. Flowers are bright orange-red, the outer petals pink with brown midstripe.

Reported from Bolivia, Potosi, near Cuchu Ingenio, at 3,600m (11,800ft) altitude; Oruro, Huanuni; Copachunco.

Collectors' numbers referred here are WR 300 (deposited at Zurich, as *R. cincinnata*); FR 351.



Rebutia steinmannii
'cincinnata' WR 300



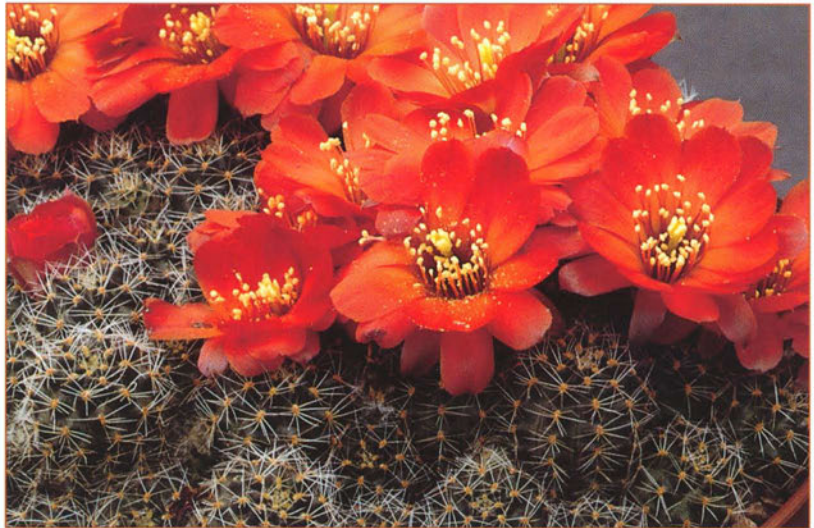
steinmannii
'costata'

'costata' Werdermann, Not. Bot. Gart. Mus. Berlin Nr.112, XII:25 (1934) – as *Rebutia costata*; Buining, Succ. 22:53 (1940) – as *Digitorebutia costata*; Krainz, Sukkulentenk.1:19 (1947) – as *Mediolobivia costata*; Backeberg, Die Cact. 3:1513,fig.1470 (1959) – as *Mediolobivia costata*; Kakteenlex. 270 (1970) – as *Mediolobivia costata*; Cact. Lex. (Engl.ed.) 306 (1978) – as *Mediolobivia costata*; Rausch, Lobivia 85:129, with fig. p.127 (1987) – as *Lobivia steinmannii* var. *costata*; CITES Cact. Checklist 90, 124 (1992) = *R. steinmannii*

Described as having deep green stems (about 3cm tall and 2cm wide in cultivation), with 8 or 9 straight ribs (a low count for this species). Spines are usually all radial, about 11 or 12, 7mm long, with an occasional similar central spine (greyish-brown, thin, bristle-like). Flowers are 3 to 3.5cm long and wide, orange-red, edged carmine, vividly coloured. Again reference to Backeberg's *Die Cactaceae* gives a good idea of the plant originally described, the photograph in this work matching the original description well.

Reported from Bolivia, Potosi, near Potosi (WR 71); Tarija, Cajas.

Collector's numbers referred here are WR 71, 508 (var. *nilsonii* n.n.), 508b, 842.



Rebutia steinmannii
'costata' WR 508b



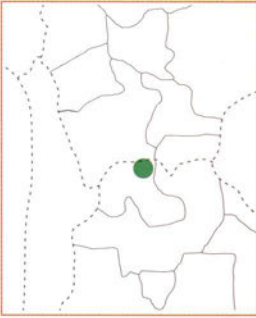
steinmannii
'leucacantha'

'leucacantha' Rausch, Lobivia 85:129,145-6, not illustrated (1987) – as *Lobivia steinmannii* var. *leucacantha*

This variation is only just becoming available in cultivation. It is described as solitary to sparsely clustering in the wild, short-cylindric, 2cm in diameter, glaucous, with thick roots. There are 10 straight ribs, with round to oval areoles, dark brown woolled. The 11 spines are all radial, 6mm long, bristle-like, spreading, a little curving and interlacing, and white (hence the name). Flowers are orange, the exterior of the petals violet-pink with green stripe, the throat whitish, filaments clear pink, style and stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, above La Cueva, at 3,700m (12,100ft) altitude.

Collector's number referred here is WR 644 (deposited at Zurich, as *Lobivia steinmannii* var. *leucacantha*).



steinmannii
'major'

'major' Rausch, *Lobivia* 85:129,146 with fig. (1987) – as *Lobivia steinmannii* var. *major*

As might be expected from the name, this is a larger growing variety, and in cultivation generally more quickly growing to a clump to fill a 15cm pan in only about five years.

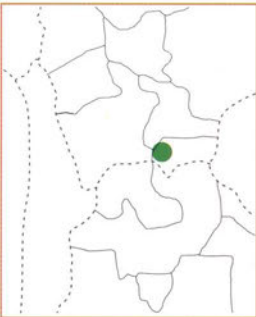
Described as solitary to sparingly clustering in the wild, globose to short-cylindrical, to 6cm tall, 3.5cm wide, yellowish-green, with fleshy roots. There are 10 to 12 ribs, straight to slightly twisting, with oval areoles, fairly dark brown woolled. There are 14 bristle-like, interlacing radial spines, to 10mm long, glassy-yellow, the base thickened and dark brown. The similar central spines number 1 to 3, to 15mm long, pale yellowish. Flowers are 3cm long and wide, red grading to orange within, the exterior of the petals violet-pink with olive-green midstripe, the throat whitish grey, filaments white, pink at base, style green, stigma yellow-green.

Reported from Argentina, Jujuy, near Tafna, at 3,600m (11,800ft) altitude.

Collector's number referred here is WR 334 (deposited at Zurich, as *Lobivia steinmannii* var. *major*).



Rebutia steinmannii
'major' WR 334



steinmannii
'melanocentra'

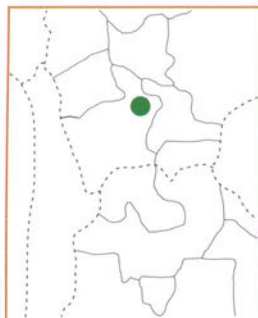
'melanocentra' Rausch, *Lobivia* 85:129, 146, not illustrated (1987) – as *Lobivia steinmannii* var. *melanocentra*

Erected by Rausch in his latest book, but unfortunately not pictured, it has not been commercially available at the time of writing. It was differentiated particularly by its brown-tipped radial spines with even darker, blackish central spines.

It is described as solitary to sparingly clustering, globose to short-cylindric, up to 4cm tall, 3cm wide, glaucous with violet tints, and fleshy roots. There are 12 straight ribs, with oval areoles, dark brown. There are 10 radial spines, spreading and interlacing, to 8mm long, bristle-like, yellowish white tipped dark brown. The single central spine is dark brown to black, up to 15mm long. Flowers are as for the type, that is bright, fiery red, 2cm long and wide.

Reported from Bolivia, Tarija, from Iscayachi to the west, at 3,600m (11,800ft) altitude.

Collector's number referred here is WR 744 (deposited at Zurich, as *Lobivia steinmannii* var. *melanocentra*).



**steinmannii
'parvula'**

'parvula' Rausch, *Lobivia* 85:129,146, with fig. p.146 (1987) – as *Lobivia steinmannii* var. *parvula*

This is a delightful variation, with yellowish-white, neatly pectinate spines.

It was described as solitary to sparingly clustering, with globose to short-cylindric stems, 10 to 15mm wide. There are 10 or 11 straight, vertical ribs, with oval areoles, with white wool. The 11 spines are all radial, symmetrically paired with the odd one at the bottom pointing downwards, glassy, yellowish-white, to 5mm long. Flowers are bright orange, the exterior petals violet-pink with greenish-brown midstripe, 3cm long and wide, the throat pink to white, filaments pink, style and stigma green.

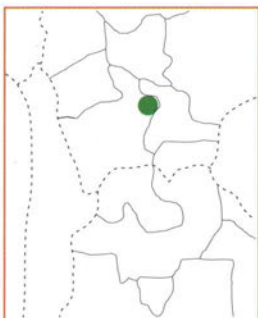
Reported from Bolivia, Potosi, Cuchu Ingenio at 3,800m (12,500ft) altitude.

Collector's number referred here is WR 296 (deposited at Zurich, as *Lobivia steinmannii* var. *parvula*).



(Left) *Rebutia steinmannii* 'parvula' WR 296

(Right) *Rebutia steinmannii* 'rauschii' WR 297



**steinmannii
'rauschii'**

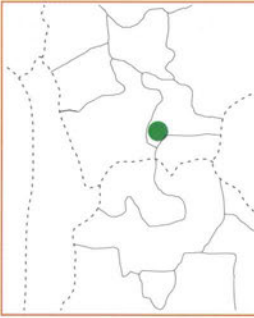
'rauschii' Zecher, *Kakt.u.a.Sukk.* 28(4):73, with fig. (1977) – as *Rebutia rauschii*; Rausch, *Lobivia* 85:129,151 (1987) – as *Lobivia steinmannii* var. *rauschii*

Small growing, with correspondingly small bright orange flowers; in fact all parts of the plant are a little smaller than others placed here.

It was described as solitary to sparingly clustering, globose to short-cylindric, 15 to 20mm tall, 15mm wide, glaucous, with fleshy roots. Ribs are straight to slightly twisting, with white wool. There are 7 to 9 radial spines, widely spreading, 2 to 3mm long, bristle-like, glassy white, with no central spines. Flowers are vivid orange, the exterior petals orange-pink with dark brownish-green midstripe, 2cm long and wide, the throat white, filaments whitish-pink, style and stigma green

Reported from Bolivia, Potosi, near Huari-Huari, at 3,600m (11,800ft) altitude.

Collector's number referred here is WR 297.



**steinmannii
'tuberculata'**

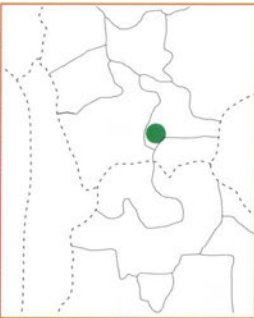
'*tuberculata*' Rausch, *Lobivia* 85:129,145, with fig.p.143 (1987) – as *Lobivia steinmannii* var. *tuberculata*

Distinguished by Rausch by its ribs being distinctly divided into tubercles, this variation does not seem to have been commercially available yet at the time of writing.

It was described as solitary to sparingly clustering, with globose stems, 15mm in diameter, clear green. There are 12 ribs, straight, and clearly divided into tubercles, with oval areoles, 2mm long, with white wool. The 10 or 11 spines are all radial, widely spreading, to 5mm long, glassy white and deep reddish-brown and thicker at the base. Flowers are red, with whitish throat, the exterior petals pink with mid-brown stripe and tips, 3.5cm long and wide, the filaments clear pink, style and stigma green.

Reported from Bolivia, Chuquisaca, Sud Cinti, near La Cueva.

Collector's number referred here is WR 743 (deposited at Zurich, as *Lobivia steinmannii* var. *tuberculata*).



Rebutia sumayana

R. sumayana Rausch, *Succulenta* 65(4):74-5 (1986); CITES Cact. Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

This is a very recently described species, but it is getting into circulation in collections. It makes small, somewhat uneven clusters of short-spined stems, and needs exposure to high light levels to bring out the best in stem shape, and best development of the short spines; in poor light the stems are liable to elongate unduly, and the spination is weak.

Rebutia sumayana
WR 738

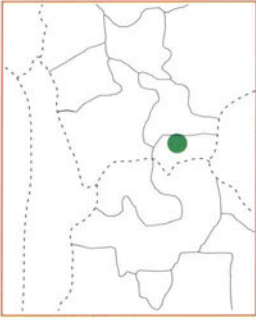
It is described as solitary to sparingly clustering, globose to egg-shaped, to 2cm in diameter, light green, with about 16 ribs. Areoles are round to a little oval, with white to dark brown wool. The 9 to 13 radial spines are

bristle-like, white, sometimes dark brown, 2 to 3mm long. There is one central spine, not always present, directed upwards, to 4mm long, white, sometimes brown to black. Flowers are orange-red, 3cm long, 2.5cm wide, stigma greenish-white.

Reported from Bolivia, Chuquisaca, Sud Cinti, near Sumaya, at 3,200m (10,500ft) altitude.

Collector's numbers referred here are WR 738 (deposited at Zurich), 826a.





Rebutia supthutiana

R. supthutiana Rausch, *Kakt.u.a.Sukk.* 27(6):121 (1976); Donald, *Ashingtonia* 3(5 & 6):146, fig.24 (1979); CITES *Cact. Checklist* 126 (1992) = *R. steinmannii*; Bauer, *Kakt.u.a.Sukk.* 44(6)&(7):122, 138 with fig. (1993)

Subgenus *Aylostera*

This species has only in recent years started to get into cultivation. It is an attractive, brown-bodied plant, bearing a superficial resemblance to *R. pygmaea* 'iscayachensis' in its colouring and flowers.

It is described as solitary, globose, to 3.5cm wide, blue-greyish green or brownish, with thick fleshy roots, and about 15 ribs. Areoles are oval, 2mm long, with brown wool. Radial spines number 11 to 13, lying close to the body or upstanding, 3 to 5mm long, thin to bristle-like, glassy white, thickened and brown at base. There is one central spine, sometimes not present, to 5mm long, similar to the radials. Flowers are bright red, 5cm long, 4cm wide, with pink ovary and tube, outer petals brown with pink edges, and stigma green.

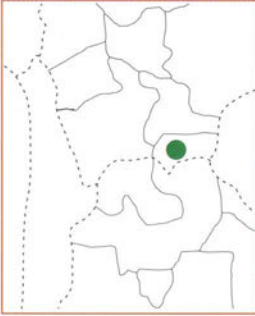
The referral by the 1992 *CITES Cactaceae Checklist* to *R. steinmannii*, and consequential move from *Aylostera* to *Mediolobivia* is not understood. Ralf Bauer (ref. above) is of the opinion that it is more closely related to the *R. heliosa* complex.

Rebutia supthutiana
WR 629

Reported from Bolivia, Tarija, O'Connor, at Tambo.

Collector's numbers referred here are WR 629 (deposited at Zurich), 741.





Rebutia tamboensis

R. tamboensis Ritter, *Ashingtonia* 2(10):207 (1977); *Kakt. Südamer.* 2:621, fig.558 (1980); CITES Cact. Checklist 126 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

Many plants in circulation under this name form small clusters of globular stems, with usually a yellowish aspect to the spination, and freely produced rings of flowers veering more towards the orange end of the red part of the spectrum. And although Friedrich Ritter's field number is attached to both plants and seed of this species offered in commerce for some years, I have some doubts as to the resulting plants' true identity.

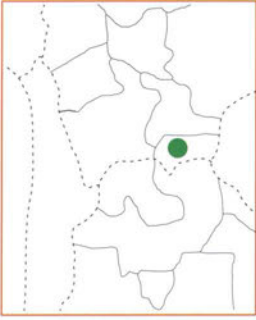
It was described as solitary (it clusters in cultivation), globular, bright green, to 6cm wide, with about 26 ribs (later amended by Ritter to about 20), the areoles with copious white wool. Radial spines number 12 to 18, white, very fine, 5 to 10mm long, spreading. Central spines number 4 to 6, thick, needle-like, stronger than the radials, reddish-brown, white at base (the overall effect in cultivation is of a white-spined plant with spines tipped brown), 15 to 25mm long, straight and upstanding. Flowers are 16 to 20mm long, red to scarlet, with rose-purple flower-tube, stigma white or pale yellow.

Reported from Bolivia, Tarija, O'Connor, east of Tarija, at the upper end of the Tambo gorge; road from Lunacas to Tambo at the bottom of the gorge, at 2,500m (8,200ft) altitude.

Rebutia tamboensis
FR 1142

Collectors' numbers referred here are FR 1142 (deposited at Utrecht and at Zurich), Lau 585.





Rebutia tarijensis

R. tarijensis Rausch, Kakt.u.a.Sukk. 26(9):195 (1975); Ritter, Kakt. Südamer.2:607,fig. 539 (1980); CITES Cact. Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

For some time now there has been considerable confusion between this species, almost unknown in cultivation, and its namesake in the genus *Sulcorebutia*, which has been readily available. And I have had more than once the question "But isn't this the same as?" referring to either. The answer to which is "No, they are quite different, and there is one in each genus." They do, of course, come from the same area in Bolivia. The *Rebutia* has only recently become available reliably identified.

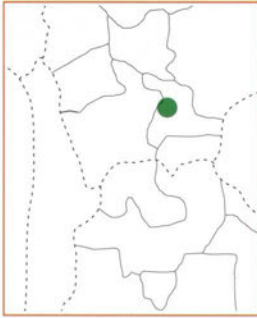
Rausch described this species as solitary (it clusters slowly in cultivation), with green stems, 2 to 4.5cm wide, with about 12 ribs. Areoles have white wool. The 8 to 10 spines are all radial, brown, 3 to 5mm long, fairly insignificant. Flowers are vermilion to scarlet-red, 4cm long, with purplish outer petals, stigma white.

Reported from Bolivia, Tarija, east of Tarija, at 2,600m (8,550ft) altitude; and, by Friedrich Ritter in vol. 2 of his *Kakteen in Südamerika*, in the mountain range north of Tarija.

Rebutia tarijensis
FR 1140

Collectors' numbers referred here are WR 87 (deposited at Zurich), 860a; FR 1140; Lau 410.





Rebutia tarvitaensis

R. tarvitaensis Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:608, figs.521-2 (1980); Köhler, Kakt.u.a.Sukk. 33(1):20 (1982); Pullen, Succulenta 66(12):264 (1987); CITES Cactaceae Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

This is by far, and noticeably, the largest flowered species in the genus, with flowers of about 6cm long and wide, freely produced, and almost invariably completely covering the plant in blooms at flowering time. As with almost all *Rebutia* species, exposure to strong light will ensure good flower production. It will also keep the stems from elongating to an unsightly extent, which they will do if kept out of sunlight for any undue length of time; ideally they will take all the sunlight you are able to give them, at all times of year.

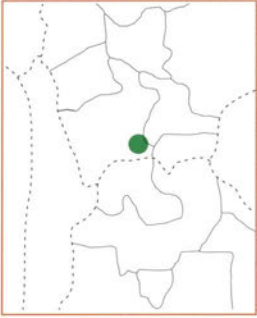
It is slow-growing with elongating stems, 2 to 3cm in diameter, and to 6cm or more long, clustering sparingly to form loose clumps of thick-finger-like stems, each with 13 to 15 ill-defined ribs and low crowded tubercles. Areoles are closely placed, with yellowish-brown wool. The 7 to 10 spines are all radial, 2.5 to 5mm long, lying close to the body, red-brown, later grey. Flowers are bright orange-red, noticeably large, to 6cm wide, often completely hiding the plant when in full flower, stigma white.

Reported from Bolivia, Chuquisaca, Azurduy, at Tarvita.

Collector's numbers referred here are FR 772, 773 (deposited at Utrecht), 935.

Rebutia tarvitaensis
FR 773





Rebutia torquata

R. torquata Ritter & Buining, *Succulenta* 56(3):63 & 58(8):188 with fig. (1977); Ritter, *Kakt. Südamer.* 2:597, figs. 504, 535 (1980); Cullman, Götz & Gröner, *Encyclopedia of Cacti* 286 (1984); Pilbeam, *Cactus File* 1(3):4-5 (1991); CITES *Cact. Checklist* 126 (1992) = *R. pygmaea*

Subgenus *Mediolobivia*

This species is characterised by its very defined, sometimes twisting ribs and very short spines, not overlapping between the ribs at all. In cultivation it makes a very handsome clump of finger-like stems, clustering evenly from near the base, but taking up to 10 years or so to fill a 12cm pot. The huge, clustering plant featured in *The Cactus File* (ref. above) was photographed in the succulent collection at Zurich in the care of Dieter Supthut and Urs Eggli, and I was astonished at its size, until I learned that it was a grafted plant.

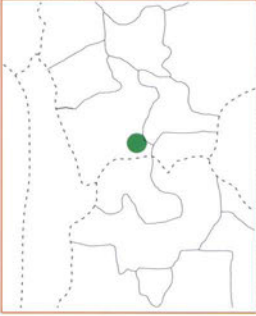
Ritter and Buining described it as having a green, solitary stem, 2 to 3cm wide, with 8 to 10 ribs, distinctly notched. Areoles have white wool. Spines are all radial, 6 to 10, directed sideways, only to 2mm long, white with red-brown, thicker base. Flowers are about 3cm long, fiery red with prominent pale yellow throat, stigma green.

Rebutia torquata
FR 1117

Reported from Bolivia, Potosi, Sud Chicas, Mal Paso.

Collector's number referred here is FR 1117 (deposited at Utrecht).





Rebutia tropaeolipicta

R. tropaeolipicta Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:606,fig.518 (1980); CITES Cact. Checklist 126 (1992) = *R. ritteri*

Subgenus *Mediolobivia*

This is probably one of the most misspelled species in the genus, but it can be more easily remembered if the meaning of the name is borne in mind: 'tropaeoli' (nasturtium red); 'picta' (coloured). It is often misidentified in cultivation, the usual misnomer being a plant clearly referable to *R. atrovirens* 'pseudoritteri'. A glance at the photograph in Ritter's *Kakteen in Südamerika* (ref. above) reveals its more close affinity to *R. pygmaea*, where it should be combined, rather than, as indicated in the 1992 *CITES Cactaceae Checklist*, with *R. (atrovirens) ritteri*.

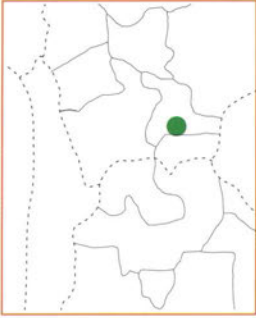
It is described as solitary (it clusters in cultivation), with stems about 2cm wide, becoming two or three times as tall, with about 12 ribs. Areoles are almost bare, but have a little brown wool in youth. Spines are all radial, 10 to 14, pectinate, short, 1.5 to 3.5mm, brown with darker base. Flowers are as indicated nasturtium red, i.e. bright, fiery red, 3.5 to 4cm long, the outer petals pale purplish, stigma yellow.

Reported from Bolivia, Potosi, Sud Chicas, Mal Paso.

Rebutia tropaeolipicta
FR 1114

Collector's number referred here is FR 1114 (deposited at Utrecht and Zurich).





Rebutia tuberosa

R. tuberosa Ritter, Taxon 12(1):28-9 (1963); Backeberg, Kakteenlex. 71 (1970) – as *Aylostera*; Cact. Lex. (Engl.ed.) 79 (1978) – as *Aylostera*; Ritter, Kakt. Südamer.2: 609-10, col. pl. 14 (1980); CITES Cact. Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

This is a species which has been in cultivation for over 30 years from Ritter plants imported soon after its description, but it is often misidentified, perhaps due to the questionable identification of the two Karel Knize collection numbers referred here. It makes a somewhat uneven, untidy clump of thick, short-columnar stems, with fine, insignificant spines, and needs full exposure to strong light to prevent it becoming unduly columnar, and to make the most of its spination. There is some subtle coloration in the flower which bears close examination to appreciate fully.

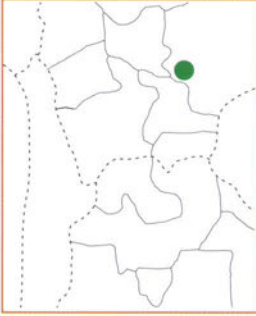
It was described as clustering, with flat-globular stems 2 to 4cm wide, becoming in cultivation short-columnar, with about 13 ribs. Spines are yellow-brown to brown, fine needle-like, straight, the radials from 4 to 12 with two to over 5mm long, mostly pointing sideways; with one similar, more dark coloured, central spine. Flowers are a little more than 3cm long, about 2.5cm wide, vermilion with pale violet outer petals.

Reported from Bolivia, Chuquisaca, Sud Cinti, below Challamarca, in mountains, at 2,600m (8,500ft) altitude; La Cueva.

Collectors' numbers referred here are FR 770 (deposited at Utrecht); (FR 770a was reported to be a natural hybrid between this species and *R. rubiginosa*); KK 859 (also referring to *R. ritteri*), 862(?).



Rebutia tuberosa
FR 770



Rebutia vallegrandensis

R. vallegrandensis Card., Cact. Succ. J. (US). 42(1):35 (1970); Reischütz, Kakt.u.a.Sukk. 23(12):346 (1972); Backeberg, Cact. Lex. (Engl.ed.) 438 (1978); CITES Cact. Checklist 126 (1992) = *R. fiebrigii*

Subgenus *Aylostera*

The original description of this species, accompanied by a very out-of-focus monochrome photograph, was oddly said to be ‘characterized clearly by its few hairs on the ovary and the tube and the differentiation of the perianth segments in two distinct whorls’. Cardenas added that he was given by Rausch two specimens of a plant like that described, from the same region, but did not know whether Rausch had described this taxon. Evidently he had not, and the plants of Rausch’s collection apparently were those that he allocated his collection number WR 274. Most plants in cultivation seem to have originated from these Rausch collections.

It was described as globose to short-cylindric, depressed at the apex, 4 to 6cm tall, 4 to 5cm wide, fresh green. The spines number about 30, interlacing, 3 to 10mm long, very thin, bristle-like. Flower are bright, blood red, the outer petals magenta, 2 to 5cm long, stigma yellow.

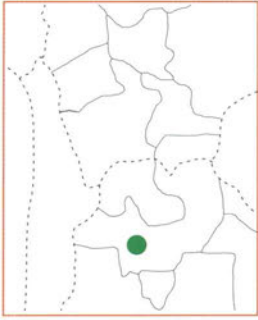
Reported from Bolivia, Santa Cruz, Vallegrande, near Candelaria on the way to Rio Piraymiri, at 2,000m (6,550ft) altitude).

Collectors’ numbers referred here are Card. 6307 (deposited in the Cardenas Herbarium, in Bolivia); WR 274; Lau 353.

Rebutia vallegrandensis
WR 274

(This name is sometimes wrongly applied to the short-spined plant found at Valle Grande by Alfred Lau (Lau 351), for which the name *R. pumila* n.n. was intended but never implemented – see page 138 for illustration.)





Rebutia violaciflora

R. violaciflora Backeberg, Blatt. f. Kakteenf. 8 with fig.(1935); Kaktus-ABC 278 (1936); Krainz, Sukkulentenk. 1:22 (1947); Donald, Cactus (Paris) 9: 39 (1954); Backeberg, Die Cact. 3:1549,fig.1499 (1959); Die Kakteen 14:CVc with fig. (1960); Buining & Donald, Sukkulentenk. 7/8:96-107 (1963); Cact. Succ. J. GB 27(2):37 (1965); Backeberg, Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 438 (1978); CITES Cact. Checklist 126 (1992) = *R. minuscula*

Subgenus *Rebutia*

Although this species was reduced to subspecific level beneath *R. minuscula* some 25 years ago by Buining and Donald, both nurseries and collectors have consistently retained the name at specific level. With the clear differences between the two in body, spination and flowers, and their fairly arbitrary amalgamation, not based on field studies, or other acceptable, explained criteria, their separate standing is maintained herein.

It is a well-known and popular species with collectors, with clustering, brown to yellowish-brown spines varying in length, particularly with regard to some recent introductions from field collected plants which have attractive, long spination. In cultivation stems are flat-globular, to about 5cm in diameter, green, with about 20 bristle-like, yellowish-brown spines, to 2.5cm long, variable in length and colour, with stronger central spines. Flowers are about 3 to 3.5cm long and wide, bright, electric pink-violet, a wonderful, vibrant colour, stigma white.

Reported from Argentina, Salta, Yacones; and Escoipe, at 3,100m (10,200ft) altitude.

Collectors' numbers referred here are WR 681; KK 840.

Rebutia violaciflora





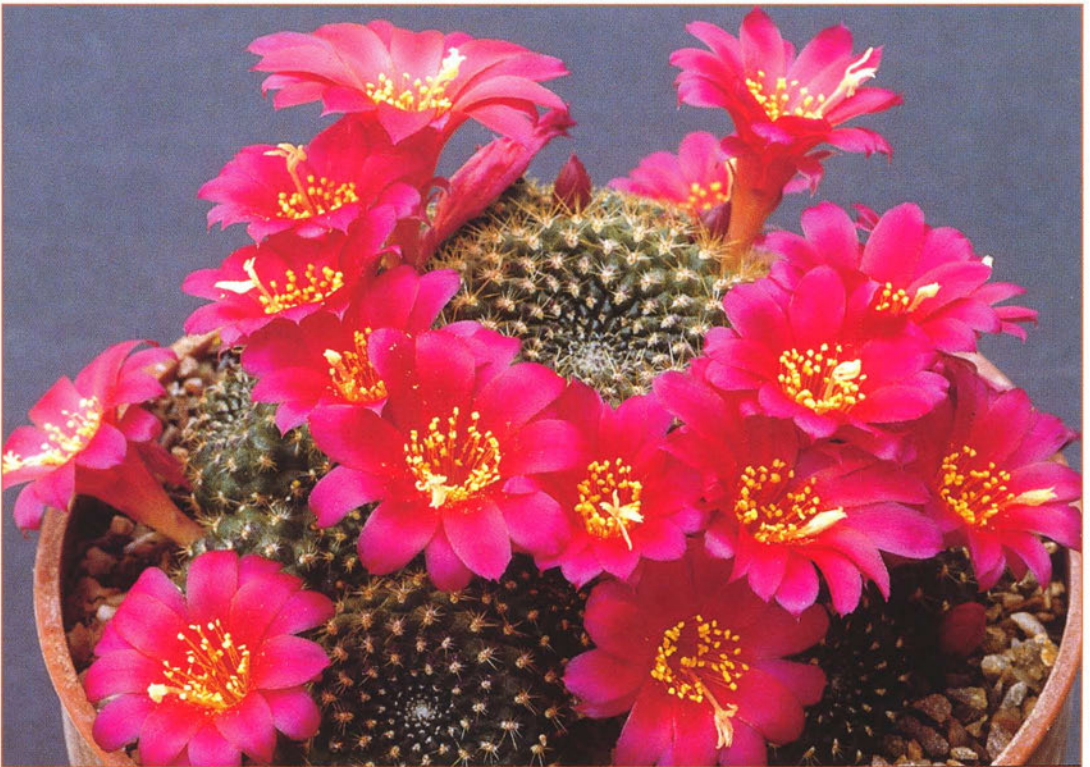
violaciflora
var. knuthiana

var. *knuthiana* (Backeberg) Donald, *Kakt.u.a.Sukk.* 8(2):24-27 (1957); Donald, *Cactus (Paris)* 9:40,39 (1954); Backeberg in Backeberg & Knuth, *Kaktus-ABC* 277,416 (1936); *Die Cact.* 3:1550 (1959); *Kakteenlex.* 385 (1970); *Cact. Lex. (Engl.ed.)* 438 (1978)

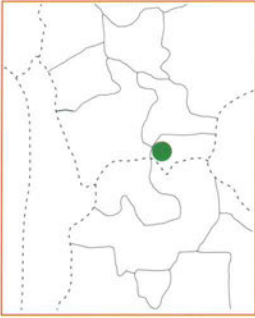
When I first started an interest in this family in the late 1940s there were very few plants available at all, and *Rebutia* species could just about be numbered in double figures. Those available included *R. minuscula*, *R. marsoneri*, *R. deminuta*, *R. krainziana*, *R. senilis* in several forms, and *R. violaciflora*. As well as these, this variety of the last mentioned species was also available and highly regarded for the wonderful flower colour, a deep pinkish-carmine. It has spines at the shorter end of the range of spine length for this species, but is otherwise similar. It is rarely seen or acknowledged nowadays, but with its extremely attractive flower colour it is worth seeking out, especially as it has been found more recently in the wild, see references below, and is being propagated and made available commercially. It would perhaps be better regarded as just a variation, and labelled *R. violaciflora* 'knuthiana'.

Reported from Argentina, Salta, El Aquilar, 3,800m (12,450ft) altitude.

Collectors' numbers referred here are WR 801; KK 1096.



Rebutia violaciflora
var. *knuthiana*



Rebutia vulpina

R. vulpina Ritter, Succulenta 56(3):66 & 56(8):191 with fig.(1977); Kakt. Südamer. 2:614,fig. 546 (1980); CITES Cact. Checklist 126 (1992) = *R. spegazziniana*

Subgenus *Aylostera*

Often misidentified in cultivation (the plants circulated under this name frequently being referable to *R. fusca*), this is a clustering, globular species, with stems 3 to 5cm wide, with about 20 ribs. Areoles have white wool. Radial spines number 10 to 14, thin, white, standing out, roughened, 3 to 15mm long. Central spines number 1 to 7, red-brown. Flowers are bright red, the petals tipped scarlet, stigma white.

Reported from Bolivia, Tarija, Mendez, west of Tarija.

Collectors' numbers referred here are FR 939 (deposited at Utrecht); WR 860, 919.



Rebutia vulpina
FR 939



Rebutia wahliana

R. wahliana Rausch, Succulenta 64(12):257 (1985); CITES Cact. Checklist 126 (1992) = *R. pseudodominata*

Subgenus *Aylostera*

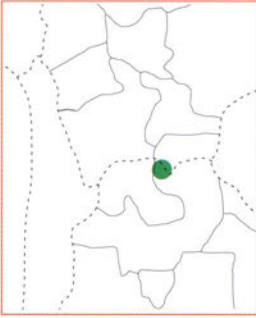
This fairly new species is described as solitary, although plants in cultivation cluster freely, globular, to 3cm in diameter, clear green, with about 14 ribs. Areoles have brown, later grey, wool. Spines are all radial, 7 to 9 in number, to 8mm long, yellowish-white, brown tipped and brown and thicker at base, thin and flexible. Flowers are clear red, 2.5cm long, 3.5cm wide, stigma greenish-white.

Reported from Bolivia, Tarija, at Cuesta de Sama.

Collector's number referred here is WR 654 (deposited at Zurich).



Rebutia wahliana
WR 654



Rebutia walteri

R. walteri Diers, Kakt.u.a.Sukk. 40(8):186 (1989); CITES Cact. Checklist 126 (1992) = provisionally accepted species

Subgenus *Aylostera*

Described as solitary, only very seldom clustering in the wild, this recently erected species will no doubt cluster as readily as all the *Aylostera* do after a short time in cultivation. It produces its striking, orange flowers as readily as, and more precociously perhaps, than most species, as quite young seedlings have produced a ring of flowers within two years of germination.

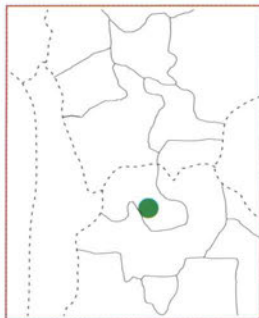
The stem was described as 1.5 to 2cm in the wild, to about 5cm in diameter in cultivation, dark green, with flattish tubercles and fibrous roots. Ribs number 15 to 22, more or less spiralling, with round to slightly oval areoles, with yellowish-white wool. The radial and central spines are difficult to distinguish from each other, mostly there are 15 to 22, sometimes more, thin, spreading, about 3mm long (to 18mm long in cultivation!), the outer spines whitish with brown tips, the inner brown with darker tips, the longer spines placed in the upper part of the areole. Flowers are wide funnel shaped, 3 to 4cm long, to 5cm wide, bright orange with dark orange to violet-pink or violet-red stripe and tips to the petals, stigma white to yellowish.

Reported from northern Argentina, Salta, Santa Victoria, at about 2,500 to 2,700m (8,200 to 8,850ft) altitude.

Collectors' numbers referred here are Hoffmann 1960a (deposited at Cologne); WR 784.



Rebutia walteri
WR 784



Rebutia wessneriana

R. wessneriana Bewerunge, Sukkulentenk. 2:24 with fig. (1948); Hilberath, Kakt.u.a.Sukk. 2(2):16 (1951); Backeberg, Die Cact. 3:1551 (1959) in error as synonymous with *R. hyalacantha*, over which *R. wessneriana* has priority; Krainz, Die Kakteen 14:CVc with fig. (1960); Backeberg, Kakteenlex. 384 (1970); Cact. Lex. (Engl. ed.) 438 (1978); CITES Cact. Checklist 126 (1992) = good species

Subgenus *Rebutia*

This species is here regarded separately from *R. krainziana*, with which it has sometimes been linked, and the numerous subspecific names attached here are regarded as synonymous with the type, and merely representing a variable species. In any case many of the names were erected to point up minor differences found in plants of often dubious origin, such as spine or flower colour variation, regarded these days as of little significance unless related to discrete field populations.

It makes a large, flat-globose, green stem to 7cm tall, 8cm wide, slowly clustering. There are about 25 bristle-like spines, to 20mm long, white, brownish at the tips, the radials and centrals indistinguishable. Flowers are blood red, violet at the tips of the petals, to 5.5cm wide, stigma white.

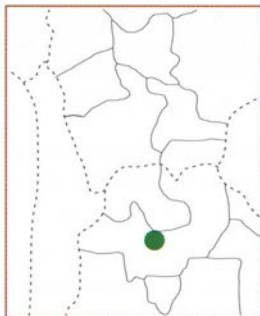
Reported from Argentina, Jujuy, Volcan, plants from Frau Winter in Frankfurt, imported from Stümer or Marsoner.

Collectors' numbers referred here are Bewerunge (collection) 734 (cotype deposited at Zurich); FR 58; WR 234, 819 (*berylloides*); Lau 557; MN 0045.

Rebutia wessneriana

See page 149 for list of associated names.





Rebutia xanthocarpa

R. xanthocarpa Backeberg, Kakteenfr. 1:131 (1932); Kaktus-ABC 278,416 (1936); Krainz, Sukkulentenk. 1:22 (1947); Die Kakteen 14:CVc with fig. (1960) Backeberg, Die Cact. 3:1540 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 438 (1978); CITES Cact. Checklist 126 (1992) = provisionally accepted species

Subgenus *Rebutia*

This is a small-stemmed species, clumping in cultivation to form hand-sized clumps in a few years. It is distinguished from others in this subgenus by its generally smaller, green to bluish-green stems, and short-tubed, small flowers, varying from red to pink and pale magenta.

The type was described as having stems about 5cm wide, with 15 to 20 fine glassy-white spines, to only 1 or 2mm long, with about 4 upper spines yellowish and somewhat stronger, to 7mm long. Flowers about 2cm long, carmine red, the inner petals brighter.

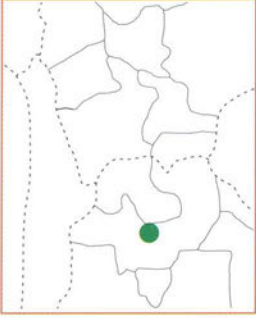
Reported from Argentina, Salta, Chorillos, at 2,700 to 3,000m (8,850 to 9,850ft) altitude.

Collectors' numbers referred here are WR 1; MN 0115, 0198, 0200; KK 1244.

Here again many names have been erected to indicate the variability of this species, most of which are of little significance, reflecting merely variation in spines or flower colour. But different flower colour variations are worth seeking out perhaps, although most are minor variations of the type. One in particular I would regard as worth attention for its subtle flower colour, quite different from the bright red of the type – see overleaf.

Rebutia xanthocarpa





'salmonea' Backeberg, Kaktus-ABC 279 (1936); Cact. Succ. J. (US) 23(3):83 (1951); Krainz, Sukkulente. 1:22 (1947); Backeberg, Die Cact. 3: 1542 (1959); Buining & Donald, Sukkulente. 7/8:99-104 (1963); Backeberg, Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 439 (1978)

This is worth retaining for its wonderfully coloured, salmon-pink flowers, but in view of the variability of the species should more appropriately be labelled merely as *R. xanthocarpa* 'salmonea'.

See page 150 for superfluous varietal names, including var. *citricarpa* Fric ex Backeberg, var. *coerulescens* Backeberg, var. *dasyphrisa* (Werdermann) Backeberg, var. *elegans* Backeberg, var. *luteirosea* Backeberg and var. *violaciflora* Backeberg.

xanthocarpa
'salmonea'



Rebutia xanthocarpa
'salmonea'

Superfluous or dubious names and Hybrids

R. 'Alabaster' Kunzmann, Kakt.u.a.Sukk.24(7):161 (1973)

A hybrid with white flowers having a pink midstripe; one of the plants produced as a result of a cross made between the existing hybrid R. cv. 'Meisterstucke' and *R. kariusiana*. It has not appeared commercially in recent years, and seems to have sunk without trace since its description in 1973.

R. *almeyeri* W. Heinrich in Backeberg, Kakteenlex. 383 (1966), nom.inval.; Cact. Lex. (Engl.ed.) 434 (1978) nom.inval.; CITES Cact. Checklist (1992) – not listed

This is a species briefly described, the plant's origins unknown. It was said to differ from others similar to it in its little offsetting, flat-globular body with brilliant orange-red flowers with light yellow throat, yellow bordered petals and yellow style. Plants appear in cultivation from time to time, owing more to the subgenus *Aylosteria* than *Rebutia* as described.

R. *archibuiningiana* Ritter, Ashingtonia 3(1):14-15 (1978); & 1(6):66 (1974) – illustration of Lau 404 – as *R. buiningiana*; Kakt. Südamer. 2:621,fig.554 (1980); CITES Cact. Checklist 124 (1992) = *R. spinosissima*

There is little doubt, in spite of the interesting way that the name of this species arose (see below), that this is the same as *R. spinosissima*, described by Backeberg over 40 years previously. Friedrich Ritter had this species scheduled for description as *R. buiningiana*, but Rausch used the name first for a quite different taxon, pre-empting Ritter's proposed tribute to Albert Buining. However Ritter managed to retain the tribute to Buining, describing it as *R. archibuiningiana*, the Greek prefix from *archaios* meaning 'old' (i.e. former) *buiningiana*.

R. *arenacea* Cardenas, Cact. Succ. J. (US) 23(3):94 (1951); Backeberg, Kakteenlex. 383 (1970); Cact. Lex. (Engl. ed.) 434 (1978); CITES Cact. Checklist 124 (1992) = good species

More usually known as *Sulcorebutia*.

R. *auranitida* (Wessner) Buining & Donald, Sukkulentenk.7/8:101 (1963); Wessner, Kakt.u.a.Sukk.9:130, 207 (1937) – as *Lobivia*; Krainz, Sukkulentenk. 1:18 (1947) – as *Mediolobivia*; Backeberg, Die Cact. 3:1522, pic.1477 (1959); Rausch, *Lobivia* 85:28 (1987) = *Lobivia einsteinii*; CITES Cact. Checklist 90, 124 (1992) = *R. einsteinii*

Referred to *R. einsteinii*.

var. *flaviflora* Backeberg, Descr. Cact. nov. 31 (1956) – as *Mediolobivia*

Referred to *R. einsteinii*.

var. *gracilis* Wessner, Kakt.u.a.Sukk.9:130 (1937) – as *Lobivia*

Referred to *R. einsteinii*.

R. *aureiflora*

(See also main text, page 25)

All the following names are referred to synonymy with *R. aureiflora*:

var. *albilongiseta* Backeberg, Blatt. f. Kakteenfr.2 (1934) – as *Mediolobivia*

var. *albiseta* Backeberg, Blatt. f. Kakteenfr. 2 (1934); Kaktus-ABC 246 (1936) – as *Mediolobivia*

R. aureiflora (continued)

- var. **blossfeldii** (Werdermann) Donald, *Ashingtonia* 2(5):88 (1976); Werdermann, *Fedde Rep. Spec. Nov.* 39:273 (1936) – as *R. blossfeldii*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia rubriflora* var. *blossfeldii*
- var. **boedekeriana** Backeberg, *Blatt. F. Kakteenfr.* 2 (1934); *Die Cact.* 3:1488, fig. 1445 (1959) – as *Mediolobivia*
- var. **brevispina** Backeberg, *10 Jahr. Kakt. for.* 33 (1937) – as *Mediolobivia*, nom. nud.
- var. **brunneispina** Backeberg, *Kaktus-ABC* 246 (1936) – as *Mediolobivia*, nom. nud.
- var. **calenduliflora** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **carminata** Backeberg, *Die Cact.* 3:1491 (1959), nom. nud.
- var. **compactiflora** Wessner, *Kakteenk.* 32 (1940) – as *Mediolobivia blossfeldii* var. *compactiflora*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *M. rubriflora* var. *compactiflora*
- var. **disciformis** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **duursmaiana** Backeberg, *Blatt. f. Kakteenfr.* 9 (1934); *Die Cact.* 3:1492, fig. 1451 (1959) – as *Mediolobivia*
- var. **elegans** (Backeberg) Buining & Donald, *Sukkulentenk.* 7/8:100 (1963); Backeberg, *Blatt f. Kakt.* 9 (1934); *Die Cact.* 3:1492, fig. 1452 (1959) – as *Mediolobivia elegans*
- var. **erythrantha** Backeberg, *Die Cact.* 3:1491 (1959), nom. nud.
- var. **gracilis** Backeberg, *Blatt. f. Kakteenfr.* 9 (1934); *Die Cact.* 3:1492 (1959) – as *Mediolobivia*
- var. **grandiflora** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **haertlingiana** Hort., *Kat. -Stadt. Sukkslg. Zurich*, nom. nud.; Backeberg, *Die Cact.* 3:1492 (1959) – as *Mediolobivia*
- var. **leucolutea** Backeberg, *Descr. Cact. Nov.* 30 (1956); *Die Cact.* 3: 1487, fig. 1444 (1959) – as *Mediolobivia*
- var. **lilacinostoma** Backeberg, *Kaktus-ABC* 246 (1936); *Descr. Cact. Nov.* 30 (1956) – as *Mediolobivia*
- var. **longiflora** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **longiseta** Backeberg, *Blatt f. Kakt.* 2 (1934) – as *Mediolobivia*
- var. **melanotricha** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **multiflora** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*
- var. **nigrilongiseta** Wessner, *Kakteenk.* 33 (1940) – as *Mediolobivia blossfeldii* var. *nigrilongiseta*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *M. rubriflora* var. *nigrilongiseta*
- var. **roseiaurata** Kreuzinger, *Verzeichnis* 26 (1935) – as *Setirebutia*

R. aureiflora (continued)

var. **rubelliflora** Backeberg, Die Cact. 3:1490, fig. 1446 (1959); Kaktus-ABC 247,415 (1936) – as *Mediolobivia*

var. **rubriflora** Backeberg, Die Cact. 3:1490, fig. 1448 (1959); Kaktus-ABC 247,415 (1936) – as *Mediolobivia*

var. **semicolumnaris** Kreuzinger, Verzeichnis 26 (1935) – as *Setirebutia*

var. **turbiniiformis** Kreuzinger, Verzeichnis 26 (1935) – as *Setirebutia*

R. aureispina nom. nud.

A Karel Knize catalogue name, collection number KK 843. Plants grown in cultivation seem referable to *R. robustispina* or *R. pseudodeminuta*.

R. binnewaldiana W. Heinrich in Backeberg, Kakteenlex. 383 (1966), nom. inval.; Donald, Succulenta 51(12):222 (1972); Cact. Lex. (Engl. ed.) 434 (1978) nom. inval.; CITES Cact. Checklist (1992) – not listed

Another of Heinrich's species, poorly and invalidly described, from Bolivia, Huari Huari, something akin to *R. wessneriana* apparently, long disregarded.

R. blossfeldii Werdermann, Fedde Rep. Spec. Nov. 34, fol. 273 (1936); Buining, Kakteenk. 1940: 32 (1940) – as *Mediolobivia*; Krainz, Sukkulantenk. 1:20 (1947) – as *Mediolobivia rubriflora* var. *blossfeldii*; Donald, Ashingtonia 2(5):88 (1976) – as *R. aureiflora* var. *blossfeldii*; CITES Cact. Checklist (1992) – not listed

Referred to *R. aureiflora*.

var. **compactiflora** Wessner, Kakteenk. 32 (1940)

Referred to *R. aureiflora*.

var. **nigrilongiseta** Wessner, Kakteenk. 32 (1940)

Referred to *R. aureiflora*.

R. boedekeriana Backeberg, Blatt. fur. Kakteenfr. 9 (1934); Kaktus-ABC 246 (1936) – as *Mediolobivia*; Krainz, Sukkulantenk. 20 (1947) – as *Mediolobivia*

Referred to *R. aureiflora*.

R. brachyantha (Wessner) Buining & Donald, Sukkulantenk. 7/8: 102 (1963); Wessner, Kakt.u.a.Sukk. 9:129, 207 (1937) – as *Lobivia*; Rausch, Lobivia 85:129 (1987) – as *R. steinmannii* var. *brachyantha*; CITES Cact. Checklist 124 (1992) = *R. steinmannii*

Referred to *R. steinmannii* '*brachyantha*'.

R. brunneispina Backeberg, Kaktus-ABC 246 (1936)

Referred to *R. aureiflora*.

R. buiningiana Ritter, Kakt. Südamer. 2: 622 (1980), nom. nud.

As indicated above Rausch's use of this name had priority, and Ritter subsequently renamed this taxon as *R. archibuiningiana*.

R. caineana Cardenas, Cact. Succ. J. (US) 38(4):143(1966); CITES Cact. Checklist 124 (1992) = good species

More usually known as *Sulcorebutia breviflora*, but *S. caineana* is now considered to be the prior specific name.

R. calliantha Bewerunge, Sukkulentenk., 2:25 (1948); Hilberath, Kakt u.a.Sukk. 2(2):16 (1951); Backeberg, Die Cact. 3: 1552,fig.1500(1959); Kakteenlex. 383 (1970); Cact. Lex. (Engl.ed.) 434 (1978); CITES Cact. Checklist 124 (1992) = *R. wessneriana*

Referred to *R. wessneriana*.

var. **berylloides** Buining & Donald, Sukkulentenk. 7/8:103 (1963), nom. inval.

Referred to *R. wessneriana*.

fa. **brevisetata** (Backeberg) Buining & Donald, Sukkulentenk. 7/8:104 (1963); Backeberg, Kaktus-ABC 278, 416 (1936) – as *R. senilis* var. *brevisetata*

Referred to *R. krainziana*.

fa. **hyalacantha** (Backeberg) Buining & Donald, Cact. Succ. J. GB 27(2):41 (1965); Backeberg, D.Kakteenfr. 131(1932) – as *R. senilis* var. *hyalacantha*

Referred to *R. wessneriana*.

var. **kariusiana** (Wessner) Buining & Donald, Cact. Succ. J. GB 27(2):41 (1965); Wessner, Kakt.u.a.Sukk. 14:149 (1963) – as *R. kariusiana*

Referred to *R. kariusiana*.

var. **krainziana** (Kesselring) Buining & Donald, Sukkulentenk. 7/8:103 (1963)

Referred to *R. krainziana*.

var. **krainziana** fa. **brevisetata** (Backeberg) Buining & Donald, Cact. Succ. J. GB 27(2): 41 (1965)

Referred to *R. krainziana*.

R. camargoensis Rausch, Succulenta 55(3):41-42 (1976); Rausch, Lobivia 85:129 (1987) – as *Lobivia steinmannii* var. *camargoensis*; CITES Cact. Checklist 124 (1992) = *R. steinmannii*

Referred to *R. steinmannii* 'camargoensis'.

R. canacruzensis Rausch, Kakt.u.a.Sukk. 27(3):49-50 (1976); Lobivia 85: 56(1987) – as *Lobivia haagei* var. *canacruzensis*; CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. pygmaea* 'canacruzensis'.

R. canaletas nom. nud.

A Karel Knize catalogue name, collection number KK 1565. Plants in cultivation are close to *R. fiebrigii*.

R. candiae Cardenas, Cact. Succ. J. (US) 33:112 (1961); CITES Cact. Checklist 124 (1992) = *R. arenacea*

More usually known as *Sulcorebutia*.

R. canigueralii Cardenas, Cact. Succ. J. (US) 36(1):26 (1964); CITES Cact. Checklist 124 (1992) = good species

More usually known as *Sulcorebutia*.

R. caracarensis Cardenas, Cact. Succ. J. (US) 42:37-38 (1970); CITES Cact. Checklist 124 (1992) = *R. canigeralii*

More usually known as *Sulcorebutia*.

R. carmeniana Rausch, Kakt.u.a.Sukk. 29(5):105-6 (1978); Rausch, Lobivia 85:100 (1987) as *Lobivia nigricans* var. *carmeniana*; CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. nigricans* 'carmeniana'.

R. carminata Backeberg, Blatt f. Kakteenf. (1935); Krainz, Sukkulente. 1:20 (1947) – as *Mediolobivia*; CITES Cact. Checklist (1992) – not listed

Referred to *R. aureiflora*.

R. carminea Buining, Succulenta 23:27 (1941); Krainz, Sukkulente. 1:21 (1947); CITES Cact. Checklist 124 (1992) = *R. minuscula*

Referred to *R. violaciflora*.

R. christinae Rausch, Kakt.u.a.Sukk. 26(7):145-146 (1975); Lobivia 85: 129 (1987) – as *Lobivia steinmannii* var. *christinae*; CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. steinmannii* 'christinae'.

R. chrysacantha Backeberg, Kaktus-ABC 276,416 (1936) ; Krainz, Sukkulente. 1: 21 (1947); Die Kakteen 14:CVc with fig.(1960); Kakt. u.a.Sukk.2:3 with fig. (1950); CITES Cact. Checklist 124 (1992) = *R. minuscula*

Referred to *R. senilis*.

var. **elegans** (Backeberg) Backeberg, Die Cact. 3:1539 (1959); Kaktus-ABC 279 (1935 – as *R. xanthocarpa* var. *elegans*)

Referred to *R. senilis*.

var. **iseliniana** (Krainz) Donald, Cactus (Paris) 9:40, 39 (1954), nom. inval.; Krainz, Schweizer Garten 284 (1946) – as *R. senilis* var. *iseliniana*

Referred to *R. senilis*

var. **kesselringiana** (Bewerunge) Donald, Cactus (Paris) 9:40, 39 (1954), nom. inval.; Bewerunge, Sukkulente. 1:9 (1947) – as *R. senilis* var. *kesselringiana*

Referred to *R. senilis* 'kesselringiana'.

R. cincinnata Rausch, Kakt.u.a.Sukk. 27(1):4-5 (1976); Lobivia 85:129 (1987) – as *Lobivia steinmannii* var. *cincinnata*; CITES Cact. Checklist 124 (1992) = *R. steinmannii*

Referred to *R. steinmannii* 'cincinnata'.

R. colorea Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:605 (1980); Rausch, Lobivia 85:116 (1987) – as *Lobivia pygmaea* var. *colorea*; CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. pygmaea* 'colorea'.

R. columnaris (Wessner)Krainz, Sukkulente. 1:19 (1947) – as *Mediolobivia*; Wessner, Beitr. z. Sukkulente. 4 (1940) – as *Lobivia*

Referred to *R. einsteinii*.

R. conoidea Wessner, Beitr. a.Sukk.u.-pflege 1940:3 (1940) – as *Lobivia*; Krainz, Sukkulente. 1: 19 (1947) – as *Mediolobivia*

var. **columnaris** (Wessner) Backeberg, Die Cact. 3:1498 (1959) – as *Mediolobivia*; Wessner, l.c. – as *Lobivia*; CITES Cact. Checklist 90 (1992) = *R. einsteinii*

Both referred to *R. einsteinii*.

R. corroana Cardenas Cact. Succ. J. (US) 43(6):244 (1971); CITES Cact. Checklist 124 (1992) = *R. neocumingii*

More usually known as *Weingartia corroana* or regarded as synonymous with *Weingartia neocumingii*.

R. costata Werdermann, Notizbl. Berlin 12:25 (1934); Buining, Succulenta 22:53 (1940); Backeberg, Die Cact.3:1513-4, fig.1470 (1959) – as *Mediolobivia*; Ritter, Kakt. Südamer.2:600 (1980); Rausch, Lobivia 85:129 (1987) – as *Lobivia steinmannii* var. *costata*; CITES Cact. Checklist 90, 124 (1992) = *R. steinmannii*

Referred to *R. steinmannii* '*costata*'.

fa. **eucaliptana** (Backeberg) Buining & Donald, Sukkulentenk. 7/8:102 (1963); Rausch, Lobivia 85:128 (1987) = *Lobivia steinmannii*

Referred to *R. steinmannii*.

fa. **pilifera** Buining & Donald, Cact. Succ. J. GB 27(2):40 (1965), nom. inval.

Referred to *R. euanthema*.

R. cylindrica (Donald & Lau) Donald, Bradleya 5:93 (1987); CITES Cact. Checklist 124 (1992) = good species

More usually known as *Sulcorebutia*.

R. dasyphrissa Werdermann, Bluh. Kakt.u.a.Sukk. Pfl.,fig.103 (1935); Krainz, Sukkulentenk. 1:21(1947); CITES Cact. Checklist (1992) – not listed

Referred to *R. xanthocarpa*.

R. decrescens nom. nud.

A Karel Knize catalogue name, collection number KK 1924.

R. deminuta var. **pseudominuscula** (Spegazzini) Donald, Nat. Cact. Succ. J. 12:9 (1957)

With no real idea of what constitutes *R. deminuta* as a species, there is no justification for the reduction of *R. pseudominuscula* to varietal status beneath it. See under *R. pseudominuscula* in main text.

R. densipectinata (Ritter collection, FR 758, and Knize collection, KK 849) Donald, Ashingtonia 3(5&6):147,fig.26 (1979), nom. nud.

This undescribed name is referable to *R. albopectinata*.

R. diersiana Rausch, Kakt.u.a.Sukk. 26(2):25-26 (1975); Lobivia 85:116 (1987); CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. pygmaea* '*diersiana*'.

var. **atrovirens** Rausch, Kakt.u.a.Sukk. 26(2):26 (1975)

Referred to *R. pygmaea* '*atrovirens*'.

var. **minor** Rausch, Succulenta 58(11):257-259 (1979)

Renamed by Rausch *R. pygmaea* var. *minor*.

R. digitiformis Backeberg, Kaktus-ABC 242,414 (1936) – as *Lobivia*; Krainz, Sukkulentenk. 1: 19 (1947) – as *Mediolobivia*; CITES Cact. Checklist (1992) – not listed

Referred to *R. pygmaea*.

R. duursmaiana Backeberg, Blatt. f. Kakteen. 9 (1934); Kaktus-ABC 247 (1936) – as *Mediolobivia*; Krainz, Sukkulantenk. 1:20 (1947) – as *Mediolobivia duursmaiana*; CITES Cact. Checklist (1992) – not listed

Referred to *R. aureiflora*.

R. einsteinii

Varieties etc. referred to synonymy with the type include:

var. **atrospinosa** Rausch, *Lobivia* 85:32, 138 (1987) – as *Lobivia*

Although maintained by Rausch in his book, *Lobivia 85*, there is no more justification for its retention than any of the other varieties discarded below.

It is described as globular to oval in body shape, mostly solitary, 15mm wide, dark greyish-green, with about 13 shallow ribs. Spines are all radial, 6 to 10 in number, to 25mm long, thin, bristle-like, dark brown to black. Flowers are about 3.5cm long and wide, ochre-yellow, with violet-brown margins to the petals.

Reported from Argentina, Salta, Cachinal, at 4,100m (13,450ft) altitude.

Collector's number referred here is WR 163.

var. **columnaris** (Wessner) Buining & Donald, Sukkulantenk. 7/8:101 (1963); Cact. Succ. J. GB 27(2):39 (1965); Wessner, Beitr. Sukkulantenk. u.-pflege 4 (1940) – as *Lobivia columnaris*

var. **conoidea** (Wessner) Buining & Donald, Cact. Succ. J. GB 27(2):39 (1965); Wessner, Beitr. Sukkulantenk. u.-pflege 3 (1940) – as *Lobivia conoidea*

var. **karrerri** (Fric ex Backeberg) Sida, Kaktusy 26(1):19 (1990); Fric ex Backeberg, Descr. Cact. Nov. 30 (1956)

var. **neumanniana** nom. nud. (WR 751)

var. **pseudoeinsteinii** nom. nud. (WR 794)

var. **rubriviridis** (Fric ex Backeberg) Buining & Donald, Sukkulantenk. 7/8:101 (1956); Fric ex Backeberg, Descr. Cact. Nov. 30 (1956)

fa. **schmiedcheniana** (Köhler) Buining & Donald, Sukkulantenk. 7/8:101 (1963); Köhler, Beitr. Sukkulantenk.u.-pflege 37 (1939) – as *Lobivia schmiedcheniana*

var. **steineckeii** (Fric ex Backeberg) Buining & Donald, Sukkulantenk. 7/8:101 (1963); Fric ex Backeberg, Descr. Cact. Nov. 30 (1956); Donald, *Ashingtonia* 2(6):112 (1976)

All the above are regarded as merely minor variations of the type.

R. elegans Backeberg, Blatt. f. Kakteenfr. 9 (1934); Kaktus-ABC 247 (1936) – as *Mediolobivia*; Krainz, Sukkulantenk. 1:20 (1947) – as *Mediolobivia elegans*; CITES Cact. Checklist 90 (1992) = *R. einsteinii*

Referred to *R. aureiflora*.

var. **gracilis** Backeberg, Blatt. f. Kakteenfr. 9 (1934); Kaktus-ABC 247 (1936) – as *Mediolobivia*; Krainz, Sukkulantenk. 1:20 (1947) – as *Mediolobivia*

Referred to *R. aureiflora*.

R. eos Rausch, *Succulenta* 51(1):1-3 (1972); CITES Cact. Checklist 90, 124 (1992) = *Lobivia atrovirens*

Referred to *R. pygmaea* 'eos'.

R. epizanense nom. nud.

A Karel Knize catalogue name, collection number KK 1923.

R. erythrantha Backeberg, *Blatt. f. Kakteenf.* (1935); Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia erythrantha*; CITES Cact. Checklist (1992) – not listed

Referred to *R. aureiflora*.

R. escayachensis nom. nud.

A Karel Knize catalogue name, collection number KK 1686. It is not known if this is the same as Rausch's *R. pygmaea* var. *iscayachensis*, from the same area.

R. escrupula nom. nud.

A Karel Knize catalogue name, collection number KK 1921.

R. espinosae Hort. (Karel Knize list, KK 1150 & 1564); Donald, *Ashingtonia* 3(5 & 6):140-141 (1979)

A catalogue name which has persisted for what has been named *R. narvaecensis* — see page 60.

R. euanthema varieties and form referred to synonymy with the type include:

var. **fricii** Backeberg, *Descr. Cact. Nov.* 30 (1956); *Die Cact.* 3:1512, figs. 1468-9 (1959) – as *Mediolobivia*; Backeberg, *Kakteenlex.* 271 (1970) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 306 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:36 (1987) – as synonymous with *Lobivia euanthema*

fa. **neopygmaea** (Backeberg) Buining & Donald, *Sukkulentenk.* 7/8:102 (1963); Backeberg, *Descr. Cact. Nov.* 30 (1956) – as *Mediolobivia neopygmaea*

var. **oculata** (Werderm.) Krainz, *Sukkulentenk.* 1:19 (1947) – as *Mediolobivia*; Werdermann, *Bluh. Kakt.u.a.Sukk.Pfl.fig.* 99 (1935) – as *Rebutia oculata*; Backeberg, *Kaktus-ABC* 240 (1936) – as synonym of *Lobivia euanthema*; *Die Cact.* 3:1511, figs. 1466-7 (1959) – as *Mediolobivia*; Backeberg, *Kakteenlex.* 271 (1970) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 306 (1978); Rausch, *Lobivia* 85:36 (1987) – as synonymous with *Lobivia euanthema*

R. eucaliptana (Backeberg) Ritter, *Kakt. Südamer.* 2:602, t.506 (1980); Backeberg, *Kaktus-ABC* 242,414 (1936) – as *Lobivia*; Krainz, *Sukkulentenk.* 1: 19 (1947) – as *Mediolobivia*; Backeberg, *Die Cact.* 3:1514 (1959) – as *Mediolobivia*; Buining & Donald, *Cact. Succ. J. GB* 27(2):39 (1965) – as *R. costata* fa. *eucaliptana*; Backeberg, *Kakteenlex.* 271 (1970) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 306 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:128 (1987) – as synonymous with *R. steinmannii*; CITES Cact. Checklist 90, 124 (1992) = *R. steinmannii*

Referred to synonymy with *R. steinmannii*.

R. famatinensis (Spegazzini) Spegazzini, *An. Soc. Cient. Arg.* 96:72 (1923) – as *R. famatimensis*; CITES Cact. Checklist 124 (1992) = good species

More usually thought of as a *Lobivia*.

R. fidaiana (Backeberg) Hunt, *Bradleya* 5:94 (1989); CITES Cact. Checklist 124 (1992) = good species

More usually known as *Weingartia*.

R. fiebigiana W. Heinrich, Kakteenlex. 383 (1966), nom. inval.; Cact. Lex. (Engl. ed.) 435 (1978); Donald, Succulenta 51(12):222 (1972)

Not to be confused with *R. fiebrigii*, this name has been referred to *R. wessneriana*.

R. fiebrigii var. **vulpes** Ritter, Kakt. Südamer. 2:619, fig. 556 (1980); Cardenas, Cact. Succ. J. (US) 42(1):35 (1970); & Kakt.u.a.Sukk. 23(12):341 (1972) – as *Mediolobivia ithyacantha*

This is described as differing from the type in its stronger and more dense spination, both radial and central spines coloured red-brown, but the differences are really difficult to discern, and it is here considered synonymous with the type.

Reported from Bolivia, Tarija, Carrasco, at Copachunco; also found in Valle Grande. Collectors' numbers referred here are FR 84b; WR 67; Lau 350.

R. friedrichiana Rausch, Succulenta 55(6):101, 103 (1976) & 56(2):30 (1977); Ritter, Kakt.u.a.Sukk. 29(4):76 (1977) – as *R. odontopetala*; Kakt. Südamer. 2:598 (1980); Rausch, Lobivia 85:116 (1987) – as *Lobivia pygmaea* var. *friedrichiana*; CITES Cact. Checklist 124 (1992) = *R. pygmaea*

Referred to *R. pygmaea* '*friedrichiana*'.

R. fuauxiana Backeberg, Descr. Cact. Nov. 31 (1956); Die Cact. 3:1514, fig. 1471 (1959) – as *Mediolobivia*; Kakteenlex. 271 (1970) – as *Mediolobivia*; Cact. Lex. (Engl.ed.) 307 (1978) – as *Mediolobivia*; CITES Cact. Checklist 90 (1992) = *Rebutia* sp.

Backeberg described this species he received from Blossfeld with its origin unknown, and it could easily equate to several in the subgenus *Mediolobivia*. It is pictured in Backeberg's *Die Cactaceae* in black and white and in the Dutch/Belgian Society's journal, *Succulenta* (see refs. above), but its standing is doubtful. Buining and Donald referred it to *R. pygmaea* fa. *fuauxiana*, but Rausch ignores it completely in his most recent work, *Lobivia 85*, which includes the subgenus *Mediolobivia*.

R. fulviseta var. **albiseta** Rausch, Ashingtonia 1(11):131 (1975), nom. prov.

Provisionally described as a variety on the basis of its white spines.

Collectors' numbers referred here are WR 495; Lau 416. Reported from around Tarija in several localities, and "again and again" further south around Santa Victoria to Caspala-Santa Ana (east of Humahuaca).

R. gibbulosa nom. nud.

A Karel Knize catalogue name, collection number KK 1563.

R. glomeriseta Cardenas, Cact. Succ. J. (US) 23(3):95 (1951); Backeberg, Die Cact. 3:1543 (1959); Kakteenlex. 383 (1970); Cact. Lex. (Engl.ed.) 435 (1978); CITES Cact. Checklist 124 (1992) = *R. arenacea*

More usually known as *Sulcorebutia*.

R. glomerispina Cardenas, Cact. Succ. J. (US) 36(2):40 (1964); CITES Cact. Checklist 124 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. gonjianii Kiesling, Bol. Soc. Arg. Bot. 15:132-5 (1973); Donald, Ashingtonia 1(7):83 (1974); CITES Cact. Checklist 125 (1992) = *R. einsteinii*

Referred to *R. einsteinii* var. *gonjianii*.

R. graciliflora Backeberg, Descr. Cact. Nov. 3:13 (1963), nom. inval.; Kakteenlex. 383 (1970); Cact. Lex. (Engl.ed.) 435 (1978); CITES Cact. Checklist 125 (1992) = *R. minuscula*

From the small size of the flower this is probably referable to *R. xanthocarpa*.

R. graciliflora Ritter, Kakt. Südamer. 2:610 (1980), nom. nud.

Referred to *R. mamillosa* var. *australis*.

var. **borealis** Ritter, Kakt. Südamer. 2:610, 625 (1980), nom. nud.

Referred to *R. steinmannii* 'camargoensis'

var. **occidentalis** Ritter, Kakt. Südamer. 2:610 (1980), nom. nud.

Referred to *R. mamillosa*.

var. **orientalis** Ritter, Kakt. Südamer. 2:611 (1980), nom. nud.

Referred to *R. mamillosa* var. *orientalis*.

R. gracilispina Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:597 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Plants in circulation under this name do not match up at all with Ritter's description, most noticeably in their clearly defined ribs, unlike the much less defined ribs required by Ritter, and plants matching up to Ritter's description have not appeared in cultivation. For this reason, and its dubious standing, it is included in this part of the book.

It is described as globose, later columnar, with green body colour, and loosely defined ribs. Areoles are small, to 0.7mm long, with white wool. Radial spines are very thin, numbering 7 to 10, pectinate, about 2mm long, white, red-brown at the base; occasionally there is one similar central spine. Flowers are intense vermilion to scarlet, stigma yellowish-white.

Reported from Bolivia, Potosi, Sud Chicas, Mal Paso, at 4,000m (10,200ft) altitude, where it is scarce. Collector's number referred here is FR 1118 (deposited at Utrecht).

R. grandiflora Backeberg, Kaktus-ABC 277, 416 (1936) ; Krainz, Sukkulentenk. 1: 21 (1947); Backeberg, Die Cact. 3:1535 (1959); Kakteenlex. 384 (1970); Cact. Lex. (Engl. ed) 435 (1978); CITES Cact. Checklist 125 (1992) = *R. minuscula*

Referred to *R. minuscula*, of which it is a long tubed, larger flowered variant.

R. haagei Fric & Schelle, Kaktusar, 88 (1930); Krainz, Sukkulentenk. 1:19 (1947) – as *Medioblobivia haagei*; Die Cact. 3:1502 et seq. (1959); Ritter, Kakt. Südamer. 2:593 (1980); Rausch, Lobivia 85:56-7 (1987) – as *Lobivia*; CITES Cact. Checklist (1992) = not listed (in error); M.L.Hjertson, Taxon 43:455 (1994)

This species and its varieties, mostly described by Rausch (as *Lobivia haagei* varieties in his book *Lobivia 85*) can be found under their respective names as variations of *R. pygmaea*. They include: *R. haagei* var. *canacruzensis*, var. *crassa*, var. *elegantula*, var. *eos*, var. *mudanensis*, var. *nazarenoensis*, var. *orurensis*, var. *pallida*, var. *pelzliana*, var. *violascens*.

But *R. haagei* var. *flavovirens* was regarded by Rausch as synonymous with the type of the species, i.e. *R. haagei* (herein *R. pygmaea* 'haagei').

R. haefneriana Cullman, Kakt.u.a.Sukk. 6(2):119(1955) – as *Medioblobivia*; CITES Cact. Checklist 90 (1992) = *Lobivia atrovirens*

Referred to *R. atrovirens* 'haefneriana'.

var. **viridis** Rausch, (field list name)

Referred to *R. atrovirens* 'yuquinensis'.

R. haseltonii Cardenas, Cact. Succ. J. (US) 38(4):143 (1966); CITES Cact. Checklist 125 (1992) = *R. caineana*

More usually known as *Sulcorebutia breviflora*, but this name is preceded by *S. caineana*.

R. heliosa x albiflora Hort.

See under R. cv. Sunrise, below.

R. cv. Hel's Belles (No's 1 to 8)

These are several hybrids produced between *R. heliosa* and *R. heliosa* var. *cajasensis*, which have generally the habit of the latter, but with stronger growth and larger flowers freely produced in varying shades of red.

R. hirsutissima Cardenas, Cact. Succ. J. (US) 43(6):244 (1971); Backeberg, Cact. Lex. (Engl.ed.) 78 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:133 (1987); CITES Cact. Checklist 90 (1992) = *Echinopsis tiegeliana*

Referred by Rausch to synonymy with *Lobivia tiegeliana* var. *pusilla*. The type plant (Card. 6329) is deposited in Bolivia at the Herbarium Cardenasianum.

R. sp. Hoffman 1093

This is reported from Bolivia, Tarija, near the town of Tarija, at 1,900m (6,200ft) altitude. The opinion has been expressed that this is a form of *R. fiebrigii*. Whatever, it is a distinctive form, with a beautiful flower.



Rebutia sp.
Hoffman 1093

R. huarinensis nom. nud.

A Karel Knize catalogue name, collection numbers KK 1894, 1922. Plants in cultivation seem to be the same as *R. steinmannii* 'cincinnata'.

R. huasiensis Rausch, *Kakt.u.a.Sukk.* 28(2):25-6 (1977); *Lobivia* 85:13 (1987) – as *Lobivia atrovirens* var. *huasiensis*; CITES Cact. Checklist 125 (1992) = good species

Referred to *R. atrovirens* 'huasiensis'.

R. hyalacantha (Backeberg) Backeberg, *Die Cact.* 3:1551 (1959), nom. inval.; *D. Kakteenfr.* 131 (1932) – as *R. senilis* var. *hyalacantha*; Hilberath, *Kakt.u.a. Sukk.* 2(2):18 (1951); Backeberg, *Kakteenlex.* 384 (1970); *Cact. Lex. (Engl.ed.)* 436 (1978); CITES Cact. Checklist 125 (1992) = *R. marsoneri*

Referred to *R. wessneriana*.

R. inflexiseta Cardenas, Cact. Succ. J. (US) 42(1):36 (1970); CITES Cact. Checklist 125 (1992) = *R. canigueralii*

More usually known as *Sulcorebutia*.

R. iridescens Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:598, fig.500 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Ritter allied this species to *R. poecilantha* and *R. lanosiflora*; it seems not to have come into cultivation, and seems unlikely now to appear. For this reason and its questionable standing it is included in this section of the book. Ritter's photograph in *Kakteen in Südamerika* shows a plant very like a longish-spined form of *R. pygmaea*. It was described as globose, later shortly columnar, with dark green stems to 4cm wide, with short thick roots, ribs numbering about 10. Areoles are 2 to 3mm long, about 1mm wide, with white wool. Radial spines number 9 to 12, whitish, straight, but sometimes curving, 4 to 8mm long. There is occasionally one longer central spine. Flowers are described as vermilion with iridescent red lines, and with pale green stigma.

Reported from Bolivia, Potosí, Sud Chicas, west of Mal Paso, scarce. Collector's number referred here is FR 1434 (deposited at Utrecht).

R. iscayachensis Rausch, Succulenta 56(1):1,3 (1977); Ritter, Kakt. Südamer. 2:605 (1980); Rausch, Lobivia 85:116 (1987) – as *Lobivia pygmaea* var. *iscayachensis*; CITES Cact. Checklist 125 (1992) = *R. ritteri*

Referred to *R. pygmaea* '*iscayachensis*'.

R. ithyacantha (Cardenas) Diers, Kakt.u.a.Sukk. 23(12):341 (1972); Card., Cact. Succ. J. (US)42(1):35 (1970) – as *Mediolobivia ithyacantha*; Backeberg, Cact. Lex. (Engl.ed.) 307 (1978) – as *Mediolobivia*; Ritter, Kakt. Südamer. 2:619 (1980); CITES Cact. Checklist 90, 125 (1992) = *R. fiebrigii*

Referred to *R. fiebrigii* var. *vulpes*.

R. karreri Fric, Kaktusar (1932), nom. nud.; Fric & Kreuzinger, Verzeichnis 18 (1935), name only – as *Rebulobivia*

Referred to *R. einsteinii*.

R. kesselringiana Cullman, Sukkulentenk. 2:26 (1948) – as *Mediolobivia kesselringiana*

Not to be confused with *R. senilis* var. *kesselringiana* (much larger growing, freely clustering and yellow flowered) this lilac-pink flowered species is paradoxically referred to *R. aureiflora*.

R. knuthiana Backeberg, Kaktus-ABC 277,416 (1936); Krainz, Sukkulentenk. 1: 21 (1947); CITES Cact. Checklist (1992) – not listed

Referred to *R. violaciflora* '*knuthiana*'.

R. krainziana varieties etc. referred to synonymy elsewhere include:

R. krainziana fa. **berylloides** (Buining & Donald) Krainz, Kat. Zurich Städt. Sukk. -Samml. ed.2:107 (1967), nom. inval.; Buining & Donald, Sukkulentenk. 7/8:103 (1963) – as *R. calliantha* var. *berylloides*

Referred to *R. wessneriana*.

var. **breviseta** (Backeberg) Donald, Nat. Cact. Succ. J. 12(1):11, (2):27-28 (1957); Backeberg, Kaktus-ABC 278, 416 (1936) – as *R. senilis* var. *breviseta*

Referred to *R. krainziana*.

fa. **calliantha** (Bewerunge) Krainz & Haarmann, Kat. Zurich Städt. Sukk. -Samml. ed.2:107 (1967); Bewerunge, Sukkulentenk. 2:25 (1948) – as *R. calliantha*

Referred to *R. wessneriana*.

R. krainziana (continued)

var. **hyalacantha** (Backeberg) Buchheim in Zander, Handwörterbuch Pfl.-namen ed.10, 743 (1972); Backeberg, D. Kakteenfr. 131 (1932) – as *R. senilis* var. *hyalacantha*

Referred to *R. wessneriana*.

var. **wessneriana** (Bewerunge) Krainz & Haarmann, Kat. Zurich Städt. Sukk. -Samml. ed.2, 107 (1967); Bewerunge, Sukkulentenk. 2:24 (1948) – as *R. wessneriana*

Referred to *R. wessneriana*.

R. kruegeri (Cardenas) Backeberg, Die Cact. 3:1554 (1959); Cardenas, Cactus (Paris) 13:257 (1957) – as *Aylosteria*; CITES Cact. Checklist 125 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. kupperiana var. **spiniflora** Ritter, Kakt.u.a.Sukk. 28(4):78 (1977); Kakt. Südamer. 2:612 (1980)

Differentiated from the type in having very woolly, white areoles and longer spines. Flowers are similar, fiery red, nearly 3cm long, ovary with as many as 12 spine-like bristles, hence the name. Reported from Bolivia, Tarija, O'Connor, Narvaez, at the eastern edge of the species' range.

Collector's number referred here is FR 726b (reportedly deposited at Utrecht, but recently not found there).

R. kupperiana var. **spiniosior** nom. nud.

A Karel Knize catalogue name, collection number KK 1934.

R. lanosiflora Ritter, Kakt.u.a.Sukk. 28(4):77 (1977); Kakt. Südamer. 2:599,fig.510 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Subgenus *Mediolobivia*

Named for its woolly-tubed flower, this species seems not to have emerged into cultivation as yet, and now seems unlikely to do so. For this reason and its questionable standing it is included in this section of the book. It was described as globose, becoming short-columnar, stems grey-green, 2cm in diameter, with small, thick roots, and 9 deeply notched ribs. Areoles are 1.5 to 2mm long, with white wool. Spines are all radial, about 10 in number, needle-like straight, sideways pointing, white with blackish base, 4 to 8mm long. Flowers are fiery red, 3cm long, the inner petals purple-pink, the outer greenish-red; stigma green. There was no illustration accompanying the original description which was one of a bank published by Ritter in anticipation of his 4 volume work, *Kakteen in Südamerika*, in which there is a good black and white illustration of this species. This shows a small plant, with longish spines, and a comparatively large, very hairy tubed flower, not clearly referable to any other species with certainty, but with characteristics reminiscent of *R. pygmaea*.

Reported from Bolivia, Potosi, Sud Chicas, Mal Paso. Collector's number referred here is FR 1116 (deposited at Utrecht).

R. lateritia nom. nud.

A Karel Knize catalogue name, collection number KK 1519. Plants in cultivation are close to *R. fiebrigii*.

R. laui Donald, Ashingtonia 1(7):81 (1974), nom. nud.

A tentative name, not since ratified, for Lau's collection from Bolivia, Tarija, Mendez, Cajas (Lau 416).

R. leucanthema var. **cocciniflora** Ritter, Succulenta 56(3):63 & 56(8):189 (1977); Kakt. Südamer. 2:607,fig.520 (1980)

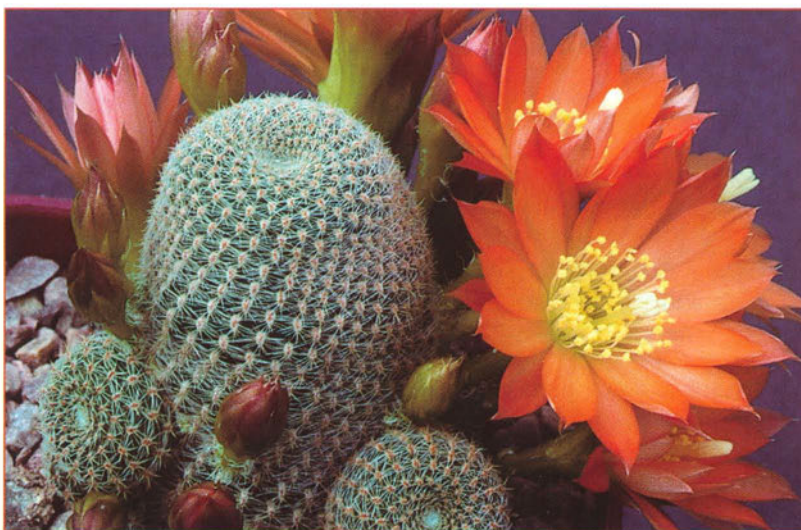
Referred to *R. tarvitaensis*. Collector's number referable here is FR 935 (deposited at Utrecht).

R. leuconella nom. nud.

A Karel Knize catalogue name, collection number KK 1835.

R. cv. Lime and Orange

This is a hybrid between *R. heliosa* and *R. narvaecensis*, which produces green buds followed by paler orange flowers than in *R. heliosa*. The spination and habit is like *R. heliosa*, but with no prominent brown areole as in that species.



Rebutia
cv. Lime and Orange

R. longiseta Backeberg, Blatt. f. Kakteenfr. 9 (1934) – as *Mediolobivia aureiflora* var. *longiseta*; Kaktus-ABC 247 (1936) – as *Mediolobivia longiseta*

Referred to *R. aureiflora*.

var. **albilongiseta** Backeberg, Kaktus-ABC 247 (1936) – as *Mediolobivia*

Referred to *R. aureiflora*.

R. mairanana nom. nud.

A Karel Knize catalogue name, collection number KK 1803.

R. mamillosa var. **australis** Ritter, Kakt.u.a.Sukk. 28(4):77 (1977);

R. mamillosa var. **orientalis** Ritter, l.c.

These two varieties were erected under this species by Ritter, but this placing has been questioned: Donald expressed the opinion that the first (var. *australis*) might better have been placed with *R. spagazziniana*, and the second (var. *orientalis*) with *R. fulviseta*. Neither is commonly seen in cultivation, and when they are they often have little in common with Ritter's descriptions and photographs.

R. margarethae Rausch, Kakt.u.a.Sukk. 23(1):4 (1972); Donald, Ashingtonia 2(3):43 (1975), 3(3 & 4): figs.29,30 (1978), 3(5 & 6):155,figs.31,32 (1979); Backeberg, Cact. Lex. (Engl.ed.) 436 (1978); CITES Cact. Checklist 125 (1992) = good species

Although this was listed in the *CITES Cactaceae Checklist* as a good species, it was also declared to be synonymous with *R. padcayensis* and *R. singularis*, which has been evident for some time to collectors. But *R. padcayensis* was described validly two years before *R. margarethae*, and it therefore takes priority. See under *R. padcayensis*.

R. marsoneri varieties etc. referred to synonymy with the type include:

(See also main text)

var. **brevispina** Donald, nom. nud

A form with short spines.

var. **grandiflora** Donald, nom. nud.

A form with larger flowers.

var. **sieperdaiana** (Buining) Donald, Nat. Cact. Succ. J. 12(1):11 (1957); Buining, Succulenta 23:15 (1941) – as *R. sieperdaiana*; Buining & Donald, Sukkulantenk. 7/8:103 (1963) – as *fa. sieperdaiana*; Backeberg, Die Cact.3:1546 (1959) – as *R. senilis* var. *sieperdaiana*; Buining & Donald, Cact. Succ. J. GB 27(2):41 (1965) – as *R. marsoneri* *fa. sieperdaiana*; Backeberg, Kakteenlex. 385 (1970) – as *R. senilis* var. *sieperdaiana*; Cact. Lex. (Engl.ed.) 437 (1978) – as *R. senilis* var. *sieperdaiana*

Differing in its long, white, soft spines, to about 2cm long.

var. **spatulata** Hort., Donald, Nat. Cact. Succ. J. 12:9 (1957); Ashingtonia 2(4):71 (1976)

A cultivated form given the name *R. marsoneri* cv. 'Spatula' by Donald, with long, yellow or yellow tipped brown spines, and deep yellow flowers.

var. **vatteri** Donald, Nat. Cact. Succ. J. 12:9 (1957); Backeberg, Die Cact. 3:1549 (1959); Kakteenlex. 384 (1970); Cact. Lex. (Engl.ed.) 437 (1978)

A form with shining, long white spines and broader petalled flowers.

R. maxima Ritter, nom. nud.

Undescribed, but not uncommonly seen in cultivation as a lax-spined *Aylostera*, making quite large stems to about 5cm wide, and to 8cm or so tall. Flowers are red. Collector's number referred here is FR 755. Reported from Bolivia, Tarija, Narvaez.

R. cv. Meisterstück (or 'Sternadel's Meisterstück')

A hybrid involving *R. krainziana*, with the stem and spine similarities of that species, but with a white flower. The first of several white-flowered cultivars.

R. melachlora Ritter, Succulenta 56(3):63 (1977) – as synonymous with *R. leucanthera* var. *cocciniflora*; Donald, Ashingtonia 3(2):28-29 with fig. (FR 935) (1978), nom. nud.; Ritter, Kakt. Südamer. 2:607 (1980)

Referred via *R. leucanthera* var. *cocciniflora* to *R. tarvitaensis*.

R. (Setirebutia) melanotricha Fric & Kreuzinger, Verzeichnis 26 (1935); Rausch, Lobivia 85:33 (1987)

Referred to *R. aureiflora*.

R. menesesii Cardenas, Cact. Succ. J. (US) 33(4):113 (1961); CITES Cact. Checklist 125 (1992) = *R. arenacea*

More usually known as *Sulcorebutia*.

R. mentosa (Ritter) Donald, Bradleya 5:93 (1987); Ritter, Succulenta 43:102 (1964) – as *Sulcorebutia*; CITES Cact. Checklist 125 (1992) = good species

More usually known as *Sulcorebutia*.

R. minuscula

Subspecies and varieties (other than var. *grandiflora*, see page 57) ascribed here are as follows:

subsp. *violaciflora* (Backeberg) Donald, *Ashingtonia* 2(11):43 (1975); Backeberg, *Blatt.f.Kakteenf.* 8 (1935) – as *R. violaciflora*

See under *R. violaciflora* in main text.

subsp. *violaciflora* fa. *kariusiana* (Wessner) Buining & Donald, *Ashingtonia* 2(11):43 (1975); Wessner, *Kakt.u.a.Sukk.* 14: 149 (1963) – as *R. kariusiana*; Simon, *Cactus* 4(1):2-3 (1980)

See under *R. kariusiana* in main text.

subsp. *violaciflora* fa. *knuthiana* (Backeberg) Buining & Donald, *Ashingtonia* 2(11):43 (1975); Backeberg, *Kaktus-ABC* 416 (1936) – as *R. knuthiana*

See under *R. violaciflora* '*knuthiana*' in main text.

R. minutissima Ritter, *Kakt.u.a.Sukk.* 28(4):78 (1977); *Kakt. Südamer.* 2:615,fig.528 (1980); CITES *Cact. Checklist* 125 (1992) = *R. pseudodeminuta*

This species does not seem to have emerged in cultivation, and seems unlikely to do so now. For this reason and its questionable standing it is included in this part of the book. Ritter described it among several others, with no accompanying illustration, but published a black and white picture of a small flowering stem subsequently in *Kakteen in Südamerika*. It is described as solitary, with green stem 1.4cm wide and 13 ill-defined ribs. Areoles are 1mm long with white wool. The spines are all radial, 12 to 15 in number, pointing sideways, yellowish, later white, 2 to 3mm long. Flowers are orange-red to scarlet, almost 3cm long, with white stigma, the ovary covered with white wool and bristles.

Reported from Bolivia, Tarija, Mendez, west of Tarija. Collector's number referred here is FR 1124 (deposited at Santiago, Chile).

R. mixta Ritter, *Kakt.u.a.Sukk.* 28(4):76 (1977); *Kakt. Südamer.* 2:597,fig.503 (1980); CITES *Cact. Checklist* 125 (1992) = *R. pygmaea*; Egli et al, *Englera* 16:554 (1995)

Like the preceding species this too seems not to have found its way into cultivation. For this reason and its questionable standing it is included in this part of the book.

Again it was described briefly with several other new species, and a very small specimen is pictured in Ritter's *Kakteen in Südamerika*. It was compared to *R. rosalbiflora*, but with smaller stems, 2cm in diameter, with about 11 distinct, notched ribs. Areoles are 0.8mm long, with short, brown wool. The radial spines number 6 to 8 lying flat, only 2 to 3mm long, coffee brown, later grey, brown at base, with one extra longer, black spine above. Flowers are almost identical to *R. rosalbiflora* according to Ritter, i.e. pale pink or white.

Reported from Bolivia, Potosi, Sud Chicas, west of Mal Paso, which is also Ritter's reported locality for *R. rosalbiflora*.

Collector's number referred here is FR 1429 (reportedly deposited at Utrecht, but recently not found there).

R. mudanensis Rausch, *Kakt.u.a.Sukk.* 27(8):169 (1976); *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *mudanensis*; CITES *Cact. Checklist* 125 (1992) = *R. pygmaea*

Referred to *R. pygmaea* '*mudanensis*'.

R. multcostata Backeberg, *Descr. Cact. Nov.* 3:7 – as *Lobivia*, nom. inval. (1963); Rausch, *Lobivia* 85:150 (1987) – as *Lobivia*

Rausch mentions this species, referring to Backeberg in 1963, with the comment – 'ohne Fundort' (only a name). Plants under this name are occasionally offered commercially, owing much to *R. pygmaea* in its infinite variety.

R. muscula var. **luteo-albida** F. Brandt, Kakt. Orch. Rundschau 5(5):61-2 (1980)

This variety was differentiated by its longer and thicker spines, and pure yolk-yellow flowers showing no trace of reddish tones. The type, F. H. Brandt No. 65/a is deposited at Heidelberg. It seems not to have emerged in cultivation.

var. **nivosa** nom. nud.

A Karel Knize catalogue name, collection numbers KK 1151, 1301.

Plants in cultivation seem identical to the type.

More worthy of a place in a collection of *Rebutia*, is the apparent sport which has arisen of this species, by way of a flower in a pale shade of orange. It has been marketed under the name *R. cv. Snow Orange* – see below.

R. nazarenoensis (Rausch) B. Fearn & L. Percy, The Genus *Rebutia* 71 (1981); Rausch, *Succulenta* 58(8):186 (1979); *Lobivia* 85:57 (1987) – as *Lobivia haagei* var. *nazarenoensis*; CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Referred to *R. pygmaea* '*nazarenoensis*'.

R. neocumingii (Backeberg) Hunt, *Bradleya* 5:94 (1987); Backeberg, *Kakt.u.a.Sukk.* 1(2):2 (1950) – as *Weingartia*; CITES Cact. Checklist 125 (1992) = good species

More usually known as *Weingartia*.

R. neopygmaea (Backeberg) Buining & Donald, *Sukkulentenk.* 7/8:99-104 (1963); Backeberg, *Descr. Cact. Nov.* 30 (1956) – as *Mediolobivia*; *Die Cact.* 3:1510, fig.1462 (1959) – as *Mediolobivia*; *Kakteenlex.* 271 (1970) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia*; CITES Cact. Checklist 90 (1992) = *R. einsteinii*

Referred to *R. euanthema*.

R. neumanniana (Werdermann) Hunt, *Bradleya* 5:94 (1987); Werdermann, *Kakteenk.* 1937:21 (1937) – as *Weingartia*; CITES Cact. Checklist 125 (1992) = good species

More usually known as *Weingartia*.

R. nicolai Fric & Kreuzinger, *Verzeichnis* 28 (1935) – as *Rebulobivia*

Referred to *R. einsteinii*.

R. (Setirebutia) nidulans Fric & Kreuzinger, *Verzeichnis* 26 (1935); Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia*; Fric, *Zurich Städt. Sukk. -Samml.* 69 (1957); Backeberg, *Die Cact.* 3:1486-7 (1959) – as *Mediolobivia*; Rausch, *Lobivia* 85:33 (1987) – as synonymous with *Lobivia einsteinii*

Referred to *R. aureiflora*.

R. nivosa nom. nud., Ritter (FR 83); Donald, *Ashingtonia* 1(2):21 (1973)

Referred to *R. fiebrigii* var. *densiseta*

R. nogalensis nom. nud.

A Karel Knize catalogue name, collection number KK 863, also known as *R. pilayensis* nom. nud, and not to be confused with Ritter's *R. nogalesensis*.

R. oculata Werdermann, *Bluh. Kakt. u. Sukk. Pfl.fig.* 99 (1935); Rausch, *Lobivia* 85:36(1987) = *Lobivia euanthema*; CITES Cact. Checklist 125 (1992) = *R. aureiflora*

Referred to *R. euanthema*.

R. odontopetala Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:598 (1980); CITES Cact. Checklist 125 (1992) = *R. pygmaea*

This species (FR 757a, deposited at Utrecht) is from Bolivia, Sud Cinti, at Cueva. It has been referred to *R. friedrichiana*, and thence to *R. pygmaea* var. *friedrichiana*.

R. oligitiformis nom. nud.

A catalogue name (Köhres), for plants with the collector's number WR 502, here referred to *R. pygmaea* 'elegantula'.

R. orurensis (Backeberg) Ritter, Kakt. Südamer. 2:594 (1980); Backeberg, Kaktus-ABC 243, 415 (1936) – as *Lobivia*; Krainz, Sukkulentenk. 1: 19 (1947 – as *Mediolobivia*; Rausch, *Lobivia* 85:57 (1987) – as *Lobivia* haagei var. *orurensis*; CITES Cact. Checklist 125(1992) = *R. pygmaea*

Referred to *R. pygmaea* 'orurensis'.

R. pallida Rausch, *Succulenta* 56(10):233-4 (1977); *Lobivia* 85:57 (1987) – as *Lobivia* haagei var. *pallida*; CITES Cact. Checklist 125 (1992) = *R. pygmaea*

Referred to *R. pygmaea* 'pallida'.

R. pectinata Backeberg, Kaktus-ABC 243,416 (1936) – as *Lobivia*; Krainz, Sukkulentenk. 1: 19 (1947) – as *Mediolobivia*; Backeberg, *Die Cact.* 3:1504, fig.1457 (1959) – as *Mediolobivia*; *Kakteenlex.* 271 (1970) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia*; Rausch, *Lobivia* 85:151 (1987) – as synonymous with *Lobivia pygmaea*; CITES Cact. Checklist 90 (1992) = *R. pygmaea*

This species and the various subspecific names allocated to it in the past, are referred elsewhere. They resolve as follows:

R. pectinata var. **pectinata** (the type)

Referred to *R. pygmaea*.

var. **atrovirens** Backeberg, *Die Cact.* 3: 1506,fig.1460 (1959) – as *Mediolobivia*; Kaktus-ABC 414 (1936) – as *Lobivia atrovirens*; *Kakteenlex.* 271 (1959) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia*

Referred to *R. atrovirens* (not to be confused with *R. pygmaea* 'atrovirens').

var. **digitiformis** Backeberg, *Die Cact.* 3: 1506,fig.1461 (1959) – as *Mediolobivia*; Kaktus-ABC 414 (1936) – as *Lobivia digitiformis*; *Kakteenlex.* 271 (1959) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia*

Referred to *R. pygmaea*.

var. **neosteinmannii** Backeberg, *Descr. Cact. Nov.* 30 (1956); *Die Cact.* 3:1504,fig. 1458 (1959) – as *Mediolobivia pectinata* var. *neosteinmannii*; *Kakteenlex.* 271 (1959) – as *Mediolobivia*; *Cact. Lex. (Engl.ed.)* 307 (1978) – as *Mediolobivia*;

Referred to *R. steinmannii*.

var. **orurensis** (Backeberg) Backeberg, *Die Cact.* 3: 1505 (1959); Kaktus-ABC 213, 415 (1936) – as *Lobivia orurensis*

Referred to *R. pygmaea* 'orurensis'.

R. pendulina nom. nud.

A catalogue name. Plants in cultivation are similar to *R. fiebrigii*, but, as the name suggests, have an irresistible desire to sprawl, and continuously seek the side of the pot to display their pendulous habit.

R. permutata Heinrich in Backeberg, *Descr. Cact. Nov.* 3:13 (1963), nom. inval.; Backeberg, *Kakteenlex.* 384 (1970); *Cact. Lex. (Engl.ed.)* 437,fig.361 (1978); Donald, *Succulenta* 51(12):225 (1972) – as *R. wessneriana* var. *permutata*; CITES *Cact. Checklist* 125 (1992) = provisionally accepted species

A species erected with no known or stated origin in the wild, which makes its retention even as a provisionally accepted species in the *CITES Cactaceae Checklist* difficult to understand. Backeberg distinguished it from *R. wessneriana* by the body being simple or scarcely offsetting, the crown densely spined, not spineless, the spines not brown tipped, and the flowers self-sterile; there is a good monochrome photograph of this and the variety below in his *Cactus Lexicon*. Such differences in the light of the unknown origin of the plant carry little weight for its retention; it seems not to be in cultivation today. Referred to *R. wessneriana*.

fa. **gokrausei** Heinrich, l.c.; Backeberg, *Kakteenlex.* l.c.; *Cactus Lexicon* l.c.,fig.361;Donald, *Succulenta* l.c.

A seedling arising in a German nursery by cross-pollination of several plants of the type species, not reproduced in later attempts. Described as having a columnar habit and white, long, hair-like or bristly spines and resembling a juvenile *Cleistocactus strausii*, one wonders how carefully the pollination was controlled. Whatever, the name is not justified for serious consideration.

R. petterssonii nom. nud.

Referred to *R. minuscula*.

R. pilayensis nom. nud.

A Karel Knize catalogue name, collection number KK 863, also known as *R. nogalensis* nom. nud.

R. pilifera Fric, *Kaktusar.* 16 (1932); Krainz, *Sukkulentenk.* 1:19 (1947); Backeberg, *Die Cact.* 3:1518 with fig.1474 (1959) as *Mediolobivia ritteri* var. *pilifera*; Rausch, *Lobivia* 85:36 (1987) = *Lobivia euanthema*

Referred to *R. euanthema*.

R. pilosa nom. nud.

A Karel Knize catalogue name, collection number KK 858. Plants in cultivation are close to *R. pseudodeminuta*.



Rebutia
cv. Pink Champagne

R. cv. Pink Champagne

This is a hybrid between *R. perplexa* and the popular hybrid of *R. heliosa* x *albiflora* (recently distributed by the International Succulent Institute as *R. cv. Sunrise*). It has taken much in spination from *R. perplexa*, but has a paler pink flower of an attractive hue. (See previous page for illustration.)

R. poecilantha Ritter, *Kakt.u.a.Sukk.* 28(4):77 (1977); *Kakt. Südamer.* 2:599,fig.511 (1980); CITES Cact. Checklist 125 (1992) = *R. steinmannii*

Although plants do appear in cultivation under this name, they are usually clearly referable to *Aylosteria*, not *Mediolobivia* as described originally. Having said that, Ritter's photograph in his *Kakteen in Südamerika* shows a plant without the more pronounced ribs of the subgenus *Mediolobivia*, but still clearly not the same as that appearing in cultivation, nor is it a plant I could easily refer to *R. steinmannii* as in the 1992 CITES *Cactaceae Checklist*. I am not convinced it has come into cultivation, and for this reason and its questionable standing it is included in this part of the book as a dubious species.

It is described as solitary or clustering, globose, becoming short-columnar, the body colour green, to 4.5cm wide, with 11 to 15 ribs, deeply crenate. Areoles with brown wool. Radial spines number 10 to 14, 3 to 5mm long, fine and white. The one or two central spines are stronger, 6 to 10mm long, yellowish brown. Flowers are orange-red, carmine in the throat, outer petals carmine and purple, 4cm long, with yellowish-green stigma, the ovary with white wool and fine white bristles.

Reported from Bolivia, Chuquisaca, Nor Cinti, north of Camargo. Collector's number referred here is FR 1139 (deposited at Utrecht).

R. polymorpha Cardenas, *Kakt.u.a.Sukk.* 16:115 (1965); CITES Cact. Checklist 125 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. potosina Ritter, *Kakt.u.a.Sukk.*28(4):77 (1977); *Kakt. Südamer.* 2:602,fig.513 (1980); CITES Cact. Checklist 125 (1992) = *R. steinmannii*

Plants in cultivation rarely resemble Ritter's description, even to the extent that they are not from the subgenus *Mediolobivia* where he placed it, usually having more in common with *Aylosteria*, and perhaps closest to *R. mamillosa*. I am not aware that it is in cultivation, but Ritter's muddy photograph in his *Kakteen in Südamerika* shows a plant probably referable to *R. steinmannii*. For this reason, and its questionable standing it is included in this part of the book.

It was described as being globular, with dark green stems about 2cm wide, with 10 to 12 ribs. The 11 to 14 radial spines are white with red-brown base, 4 to 5mm long, a little spreading, with, rarely, a similar central spine. Flowers are red, the outer petals with purple tones, 3.5 to 4cm long, with yellowish-green stigma. Reported from Bolivia, Potosi, Fria near Potosi.

Collector's number referred here is FR 1428 (deposited at Utrecht).

R. prolifera nom. nud., (Rausch field list)

Subsequently named as *R. fabrisii*.

var. **aureiflora** nom. nud., (Rausch field list)

Subsequently named as *R. fabrisii* var. *aureiflora*.

R. pseudodeminuta

Several varietal names have been ascribed to *R. pseudodeminuta* in the past, and several of the more recently erected species of this ilk, are possibly referable here too, see *CITES Cactaceae Checklist* (1992), but the latter are not included for discussion here. The formerly ascribed varieties, which are regarded as minor variations of the type, are:

var. **albiseta** Backeberg, *Kaktus-ABC* 275 (1936) – as *Aylostera*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *Aylostera*; Backeberg, *Cact. Succ. J. (US)* 23(3):82 (1951) – as *Aylostera*; *Die Cact.* 3: 1527,fig.1481 (1959) – as *Aylostera*; *Kakteenlex.* 71 (1970) – as *Aylostera*; *Cact. Lex. (Engl.ed.)* 79 (1978) – as *Aylostera*; *Sukkulentenk.* 7/8:103 (1963) – as *Aylostera*
This has white spines, the centrals tipped brown.

var. **carminifilamentosa** Hort.

A catalogue name for a minor variation.

var. **grandiflora** Backeberg, *Kaktus-ABC* 275 (1936) – as *Aylostera*; Krainz, *Sukkulentenk.* 1: 20 (1947) – as *Aylostera*; Backeberg, *Cact. Succ. J. (US)* 23(3): 82 (1951) – as *Aylostera*; *Die Cact.* 3: 1528,fig.1482 (1959) – as *Aylostera*; *Kakteenlex.* 71 (1970) as *Aylostera*; *Cact. Lex. (Engl.ed.)* 79 (1978) – as *Aylostera*

This has flowers larger than the type, to 4cm wide.

fa. **rubrifilamentosa** Buining & Donald, *Sukkulentenk.* 7/8:102 (1963), nom. inval.

This has red filaments.

var. **schneideriana** Backeberg, *Kaktus-ABC* 275 (1936) – as *Aylostera*; Krainz, *Sukkulentenk.* 1:21 (1947) – as *Aylostera*; Backeberg, *Cact. Succ. J. (US)* 23(3):82 (1951) – as *Aylostera*; *Die Cact.* 3: 1528 (1959) – as *Aylostera*; *Kakteenlex.* 71 (1970) as *Aylostera*; *Cact. Lex. (Engl.ed.)* 79 (1978) – as *Aylostera*

This form has spines longer than the type, to 35mm long and more densely covering the plant body.

var. **schumanniana** Backeberg, *Kakteenfr.* 2:7 (1933) – as *Aylostera*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *Aylostera*; Backeberg, *Die Cact.* 3: 1527 (1959) – as *Aylostera*; *Kakteenlex.* 71 (1970) – as *Aylostera*; *Cact. Lex. (Engl.ed.)* 79 (1978) – as *Aylostera*

This has stronger spines, the flower somewhat smaller than the type.

R. pseudopygmaea nom. nud., Ritter (FR 1122)

Referred to *R. pygmaea* 'iscayachensis'.

R. pulchra Cardenas, *Cact. Succ. J. (US)* 42(2):37 (1970); *CITES Cact. Checklist* 125 (1992) = *R. canigueralii*

More usually known as *Sulcorebutia pulchra* (name corrected).

R. pulvispina nom. nud.

A Karel Knize catalogue name, collection number KK 1568.

R. pumila nom. nud.

A name proposed but not implemented for Lau's collection number 351. Plants in cultivation have very short spination, and bear some resemblance to *R. pulvinosa*, but with larger stems, shorter spines and more reddish-orange flowers. (See next page for illustration.)



Rebutia pumila n.n.
Lau 351

R. pygmaea

Several names ascribed to this species are discounted as follows:

fa. **atrovirens** (Backeberg) Buining & Donald, Sukkulentenk. 7/8:102 (1963); Backeberg, Kaktus-ABC 414 (1936) – as *Lobivia atrovirens*

See under *R. atrovirens* (not to be confused with *R. pygmaea* 'atrovirens').

var. **challapatensis** nom. nud.

A Karel Knize catalogue name, collection number KK 972. Plants in cultivation are a large stemmed form of this species with red flowers

fa. **flavovirens** Backeberg, Cact. Succ. J. (US) 23(3):81 (1951) – as *Mediolobivia haagei* var. *flavovirens*; Die Cact. 3:1503 (1959); Rausch, *Lobivia* 85:56 (1987) – as synonymous with *Lobivia haagei*

Referred to *R. pygmaea*.

fa. **fuauxiana** (Backeberg) Buining & Donald, Sukkulentenk. 7/8:103 (1963); Backeberg, Descr. Cact. Nov.31 (1956) – as *Mediolobivia fuauxiana*; Die Cact. 3: 1514,fig.1471 (1959); Rausch, *Lobivia* 85:149 (1987) – as referable questionably to *Lobivia euanthema*

Difficult to determine, this has been referred by Rausch with a question mark to *R. euanthema* – the flowers point to this affinity.

var. **gracilis** nom. nud.

A Karel Knize catalogue name, collection number KK 970.

fa. **haefneriana** (Cullman) Buining & Donald, Sukkulentenk. 7/8:103 (1963); Cullman, Kakt.u.a.Sukk.6:119 (1955) – as *Mediolobivia haefneriana*

Referred to *R. atrovirens* 'haefneriana'.

var. **longispina** Backeberg, Kaktus-ABC 241 (1936) – as *Lobivia*

Referred to *R. pygmaea*.

fa. **neosteinmannii** (Backeberg) Buining & Donald, Cact. Succ. J. GB 27(2):40 (1965); Backeberg, Descr.Cact.Nov.30 (1956) – as *Mediolobivia pectinata* var. *neosteinmannii*

Referred to *R. steinmannii*.

R. pygmaea (continued)

var. **nigrescens** Rausch, Lobivia 85:116 (1987), nom. inval. – as *Lobivia pygmaea*
var. *nigrescens* (WR 644)

Referred to *R. pygmaea* '*atrovirens*'.

var. **paznaensis** nom. nud.

A Karel Knize catalogue name, collection number KK 969, subsequently named *R. pygmaea*
var. *knizei*.

R. raulii Rausch, Kakt.u.a.Sukk. 31(6):170-171 (1980); Lobivia 85:13 (1987) – as *Lobivia atrovirens*
var. *raulii*; CITES Cact. Checklist 126 (1992) = *R. ritteri*

Referred to *R. atrovirens* '*raulii*'.

R. rauschii Zecher, Kakt.u.a.Sukk. 28(4):73 (1977); Rausch, Lobivia 85:129 (1987) – as *Lobivia steinmannii*
var. *rauschii*; CITES Cact. Checklist 126 (1992) = *R. steinmannii*

Referred to *R. steinmannii* '*rauschii*'.

R. rauschii CITES Cact. Checklist 126 (1992) – as '*R. rauschii* (misapplied)' = *R. canigueralii*

More usually known as *Sulcorebutia rauschii*.

R. residua nom. nud.

A Karel Knize catalogue name, collection number KK 1517. Plants in cultivation are attractively
spined and free-flowering.



Rebutia residua n.n.
KK 1517

R. ritteri (Wessner) Buining & Donald, Sukkulentenk. 7/8:103 (1963); Wessner, Beitr. z. Sukk. u. -
pfl.4.3 (1938) – as *Lobivia*; Krainz, Sukkulentenk. 1:19 (1947) – as *Mediolobivia*; Backeberg, Die
Cact. 3:1517, fig. 1473 (1959) – as *Mediolobivia*; Rausch, Lobivia 85:13 (1987) – as *Lobivia atro-*
viorens var. *ritteri*

Referred to *R. atrovirens* '*ritteri*'.

fa. **hahniana** Buining & Donald, Sukkulentenk. 7/8:103 (1963), nom. inval.; Buining &
Donald, Cact. Succ. J. GB 27(2):40 (1965)

Referred to *R. nigricans*.

R. ritteri (continued)

var. **nigricans** (Wessner) Buining & Donald, l.c.; Wessner, Beitr. z. Sukk. u. -pfl. 51 (1938) – as *Lobivia nigricans*

Referred to *R. nigricans*.

fa. **peterseimii** Buining & Donald, l.c., nom. inval.

Referred to *R. nigricans* var. *peterseimii*.

R. (Setirebutia) robusta Fric & Kreuzinger, Verzeichnis 26 (1935)

Referred to *R. aureiflora*.

R. rosalbiflora Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:596,fig.501 (1980); Rausch, *Lobivia* 85:57,151 (1987) – as *Lobivia haagei* var. *eos*; CITES Cact. Checklist 126 (1992) = *R. pygmaea*

Plants in circulation as *R. rosalbiflora* do not have the more loose spine arrangement shown in Ritter's photograph in his *Kakteen in Südamerika*, the latter squaring with Rausch's reduction to synonymy with his *R. haagei* var. *eos*. The misnomers in cultivation have much shorter, pectinate spines, and pale pink flowers similar to *R. pygmaea* '*canacruzensis*'. But Ritter's plant (from Bolivia, Chuquisaca, Sud Chicas, at Mal Paso) comes quite a long way from Rausch's, reported from Jujuy in Argentina, which casts doubt on Rausch's amalgamation of the two species. It is doubted whether Ritter's plant has come into cultivation, and for this reason, and its dubious standing, it is included in this part of the book. Collector's number referred here is FR 1115 (deposited at Utrecht and at Zurich).

var. **amblypetala** Ritter, Kakt.u.a.Sukk. l.c.; Kakt. Südamer. 2:596,fig.502 (1980); Egli et al, *Englera* 16:471 (1995)

This variety (FR 1119, reportedly deposited at Utrecht, but recently not found there) is from Bolivia, Potosi, Sud Chicas, at Impora above Tarata, with smaller stems and purple-pink petals. This variety is similarly not known in cultivation and its standing is dubious.

R. 'Rose of York'

See under *R. senilis* '*kesselringiana*' cv. Rose of York – page 143.

R. (Setirebutia) roseiaurata Fric & Kreuzinger, Verzeichnis 26 (1935); Backeberg, *Die Cact.* 3:1486-7 (1959); Rausch, *Lobivia* 85:33 (1987) – as synonymous with *Lobivia einsteinii* var. *aureiflora*

Referred to *R. aureiflora*.

R. rubelliflora Backeberg, *Kaktus-ABC* 247 (1936) – as *Mediolobivia*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia*

Referred to *R. aureiflora*.

R. rubriflora Backeberg, *Kaktus-ABC* 247, 415 (1936) – as *Mediolobivia*; Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia*

Referred to *R. aureiflora*.

var. **blossfeldii** (Werdermann) Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia*; Werdermann, *Fedde Rep. Spec. Nov.* 34, fol. 273 (1936) – as *Rebutia blossfeldii*

Referred to *R. aureiflora*.

var. **compactiflora** (Wessner) Krainz, *Sukkulentenk.* 1:20 (1947) – as *Mediolobivia*

Referred to *R. aureiflora*.

R. rubriflora (continued)

var. **nigrilongiseta** (Wessner) Krainz, Sukkulentenk. 1: 20 (1947) – as *Mediolobivia*
Referred to *R. aureiflora*.

R. rubriviride nom. nud., Fric & Krenzinger, Verzeichnis 28 (1935) – as *Rebulobivia*; Rausch, *Lobivia* 85:151 (1987) – as synonymous with *Lobivia einsteinii*

Referred to *R. einsteinii*.

R. rutiliflora Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:596 (1980); Rausch, *Lobivia* 85:151 (1987) = *Lobivia pygmaea* var. *diersiana*; CITES Cact. Checklist 126 (1992) = *R. pygmaea*

Reported from Bolivia, Sud Chicas, at Mal Paso on the road from Tupiza to Impora.

Referred to *R. pygmaea* '*diersiana*'.

R. salmonea nom. nud., Fric (1928)

Referred to *R. xanthocarpa*.

R. salpingantha Ritter, Kakt.u.a.Sukk. 28(4):77 (1977); Kakt. Südamer. 2:600,fig.512 (1980); Cact. Succ. J. (US) 56(2):79 with fig. (1984); CITES Cact. Checklist 126 (1992) = *R. pygmaea*

This species was described by Ritter 20 years ago briefly, but included and pictured in his 4-volume work, *Kakteen in Südamerika*. The ISI offering of *R. salpingantha* in 1984 was of FR 341, a plant identified by Ritter as *R. steinmannii*, but with more of the look of an *Aylosteria*, and quite different in appearance from Ritter's illustration in his book. It seems not to have come into cultivation correctly identified, and for this reason and its dubious standing it is included in this part of the book.

It is described as having blackish-green, elongated, clustering stems, 1.5 to 3cm wide, with 9 to 12 ribs. Areoles have orange-brown to white wool. Radial spines number 10 to 15, pale yellow, red-brown at base, straight, thin, needle-like, 4 to 8mm long. There are 1 to 3 similar but shorter central spines. Flowers are red, 3cm long, the petals with purplish tips, stigma yellowish-green. Reported from Bolivia, Potosi, Sud Chicas, at Villazon, uppermost lateral gorge, where it is scarce; La Paz, Avilez, descent from Copacabana, km.11.

Collector's number referred here is FR 937 (deposited at Utrecht).

R. sanguinea Ritter, *Succulenta* 56(3):65 & 56(8):190 with fig. (1977); Kakt. Südamer. 2:613-4,fig.544 (1980); CITES Cact. Checklist 126 (1992) = *R. pseudodeminuta*

I have not seen plants bearing this name that have much in common with Ritter's description and photographs, and the correctly identified species and variety may well not be in cultivation. These clearly show plants and more particularly flowers with more in common with *R. spegazziniana* or maybe *R. deminuta*. Plants in cultivation are usually nearer to *R. mamillosa*. For these reasons, and its dubious standing, it is included in this part of the book.

The species was described as solitary, globose, 2 to 4cm wide, with 15 to 17 ribs. Areoles have brown wool. Radial spines number 10 to 14, pectinate, brown. Central spines are similar, 1 or 2, or absent. Flowers are red, about 3 to 5.5cm long, with yellow stigma.

Reported from Bolivia, Tarija, at Angosto near Tarija; mountains south of Angosto; Mendez, pass between Junacas and Tambo.

Collector's number referred here is FR 760 (deposited at Utrecht).

Ritter also described a smaller variety:

var. **minor** Ritter, *Succulenta* l.c.; Kakt. Südamer. 2:614,fig.545 (1980)

Differing from the type by its smaller body size, with 13 ribs, areoles darker brown. Reported from Bolivia, Tarija, south-west of Tarija. Collector's number referred here is FR 760a (deposited at Utrecht).

R. sarothroides Werdermann, Fedde Rep. Spec. Nov. 34, fol. 272 (1936); CITES Cact. Checklist 126 (1992) = *R. aureiflora*

Referred to *R. aureiflora* 'sarothroides'.

R. scarlatea Fric, nom. nud.

Referred to *R. minuscula*.

R. schmiedcheniana Köhler, Beitr. Sukkulantenk. u. -pfl. 37 (1939) – as *Lobivia*; Krainz, Sukkulantenk. 1: 19 (1947) – as *Mediolobivia* var. *einsteinii*; Fric ex Backeberg, Descr. Cact. Nov. 30 (1956) – as *Mediolobivia*; CITES Cact. Checklist 90 (1992) = *R. einsteinii*

Referred to *R. einsteinii*.

var. **karreri** Fric ex Backeberg, l.c. – as *Mediolobivia*

Referred to *R. einsteinii*.

var. **rubriviride** Fric ex Backeberg, l.c. – as *Mediolobivia*

Referred to *R. einsteinii*.

var. **steinecke** Fric ex Backeberg, l.c. – as *Mediolobivia*

Referred to *R. einsteinii*.

R. (Setirebutia) semicolumnaris Fric & Kreuzinger, Verzeichnis 26 (1935); Rausch, *Lobivia* 85: 33 (1987)

Referred to *R. aureiflora*.

R. senilis

Many names have been ascribed here in the past, mostly of little significance, and certainly of questionable wild provenance. Some are good collectors' plants, and these few are dealt with in the main text above. The remainder are:

var. **aurescens** Backeberg, *Kaktus-ABC* 278,416 (1936); *Die Cact.* 3:1546 (1959); *Kakteenlex.* 385 (1970); *Cact. Lex. (Engl. ed.)* 437 (1978); Krainz, *Sukkulantenk.* 1:21 (1947); *Die Cact.* 3:1546 (1959); Donald, *Ashingtonia* 2(3):53 (1975)

A plant with a yellowish cast to the spines, dismissed by Donald. Karel Knize refers his field collection number KK 845 to this name.

var. **breviseta** Backeberg, *Kaktus-ABC* 278,416 (1936); Krainz, *Sukkulantenk.* 1:21 (1947); Backeberg, *Die Cact.* 3:1545, fig. 1496 (1959); *Kakteenlex.* 385 (1970); *Cact. Lex. (Engl. ed.)* 437 (1978)

Referred to *R. krainziana*.

fa. **cana** Backeberg, nom. inval.; Egli & Taylor, *IOS Index Names Cact.* 194 (1991)

A dubiously based form (a catalogue name) with reputedly dull white spines and reddish-mauve flowers – also dismissed by Donald.

subsp. **chrysacantha** (Backeberg) Donald, *Ashingtonia* 2(3):50 (1975); Backeberg, *Kaktus-ABC* 416 (1936) – as *R. chrysacantha*; Donald, *Cactus (Paris)* 9:40,39 (1954) – as *R. senilis* var. *chrysacantha*; Backeberg, *Die Cact.* 3: 1538, fig. 1489 (1959); *Kakteenlex.* 383 (1970); *Cact. Lex. (Engl. ed.)* 435 (1978); CITES Cact. Checklist 124 (1992) = *R. minuscula*

Still sometimes seen labelled as a species, this is a yellow spined version of *R. senilis*, with reddish-orange flowers.

R. senilis (continued)

subsp. **chrysacantha** fa. **schieleana** (Bewerunge) Donald, l.c.; Bewerunge, Kakt.u.a.Sukk. 8:7,105 (1957) – as *R. senilis* var. *schieleana*; Backeberg, Die Cact. 3:1547 (1959) – as *R. senilis* var. *schieleana*; Kakteenlex. 385 (1970) – as *R. senilis* var. *chrysacantha*; Cact. Lex. (Engl.ed.) 437 (1978) – as *R. senilis* var. *chrysacantha*.

This name is applied to plants with stiffer spines, yellowish with brown tips, and with reddish-orange flowers.

fa. **elegans** (Backeberg) Buining & Donald, Sukkulentenk. 7/8:99 (1963); & Cact. Succ. J. GB 27(2):38 (1965) – as *R. senilis* var. *iseliniana* fa. *elegans*; Krainz, Sukkulentenk. 1:21 (1947); Backeberg, Cact. Succ. J. (US) 23:83 (1951) – as *R. xanthocarpa* var. *elegans*; Backeberg, Die Cact.3:1539 (1959) – as *R. chrysacantha* var. *elegans*

Dubiously distinct from the type.

var. **hyalacantha** Backeberg, D. Kakteenfr.131 (1932); Die Cact.3:1551 (1959) – as *R. hyalacantha*; Donald, Ashingtonia 2(3):53,57 (1975)

Referred to *R. wessneriana*.

var. **iseliniana** Krainz, Schweizer Garten 284 (1946); Sukkulentenk. 1:21 (1947); Donald, Cactus (Paris), 9:40,39 (1954) – as *R. chrysacantha* var. *iseliniana*; Backeberg, Die Cact.3:1546 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978); Donald, Ashingtonia 2(3):50-53 (1975) – as *R. senilis* subsp. *chrysacantha* fa. *iseliniana*

A variety with a yellowish cast to the spines and orange or reddish-orange flowers.

Rebutia senilis
var. *kesselringiana*
cv. *Rose of York*



var. **kesselringiana** cv. **Rose of York** Makin, British Cact. Succ. J. 2(1):19 (1984); Pilbeam, Cactus File 2(2):8 (1994)

A white-flowered sport, which is self-fertile and breeds true, this is an attractive addition to the colour range in this subgenus, and makes a most appealing plant, although the elongating body shape and short spines cast doubt on its being a sport from '*kesselringiana*'.

var. **pallidior** Backeberg ex Donald, Cact. Succ. J. GB 16:44 (1954), nom. inval.; & Cactus (Paris) 40:39 (1954)

R. senilis (continued)

var. **schieliana** Bewerunge, Kakt.u.a.Sukk.8(7):105 (1957); Backeberg, Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978)

A variety with less (about 15) and stronger spines, with more reddish-orange flowers.

var. **semperflorens** Poindexter, Cact. Succ. J. (U.S.) 11(5):66 (1939)

This was an oddity with distorted flowers, and not worth consideration at any level.

var. **sieperdaiana** (Buining)Backeberg, Die Cact. 3:1546 (1959) – as *R. senilis* var. *sieperdaiana*; Buining, Succulenta 23:15 (1941) – as *R. sieperdaiana*; Krainz, Sukkulentenk. 1:22 (1947) – as *R. sieperdaiana*; Backeberg, Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978)

Referred to *R. marsoneri* var. *sieperdaiana*.

var. **stuemeri** Backeberg, Kakteenfr.1:131 (1932); Kaktus-ABC 278 (1936) – as ‘*stuemeri*ana’; Krainz, Sukkulentenk. 1:21 (1947); Backeberg, Die Cact. 3:1545,fig.1494 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 437 (1978); Buining & Donald, Ashingtonia 2(3):50-53 (1975) – as *R. senilis* subsp. *senilis* fa. *stuemeri*

Questionably separate from the type with yellowish tones in the brick-red flowers.

var. **violaciflora** Backeberg, nom. nud. in Kat. 10 J. Kaktfrschg. 38 (1937); Krainz, Sukkulentenk. 1:22 (1947); Backeberg. Die Cact. 3: 1542 (1959) – referring it to *R. xanthocarpa* var. *violaciflora*

Referred to *R. xanthocarpa*.

The message is clear, that the collector need not be concerned with most of these names, which are a collection of plants little distinguished or distinguishable, except for those forms pulled out for special mention in the chapter *Commentary on Species*. At this distance in time from their heyday in the 1950s and 1960s and earlier, and with their noted lack of provenance in the wild, the application of the names is a game of chance. All will form quite large clumps (to 30cm or so) in time, of many flat-globular stems, each stem from 3 to 7cm in diameter, with usually a dense covering of fine, bristly spines and freely produced flowers, setting seed from their own pollen easily, but, be warned, just as easily accepting pollen from another nearby if there are agents to perform the service.

R. singularis Ritter, Ashingtonia 3(1):12 (1978); 3(3 & 4):fig.32 (1978); 3(5 & 6):153-7 (1979); Kakt. Südamer. 2:622,fig 540,col.pl.10 (1980); CITES Cact. Checklist 126 (1992) = *R. margarethae*

This is one of three which have been reckoned to be the same species for some time: the other two are *R. margarethae* and *R. padcayensis*, the last of which has priority, not, as stated in the *CITES Cactaceae Checklist*, *R. margarethae*.

See under *R. padcayensis*.

R. cv. Snow Orange Pilbeam, Cactus File 2(6):14 (1995)

This is believed to be a sport from *R. muscula*, with the habit of this species, but with much paler orange flowers in a pastel shade. (See next page for illustration.)



Rebutia
cv. *Snow Orange*

R. cv. *Snow White* Pilbeam, Cactus File 2(2):8 (1994)

This is a hybrid between *R. albiflora* and *R. narvaecensis*, which produces repeat crops of abundant white flowers with little hint of the pink which is present in the flowers of both parents.



Rebutia
cv. *Snow White*

R. solisioides nom. nud. (Knize collection); Donald, Ashingtonia 3(5&6):141-2 (1979)

This is a catalogue name applied to attractive, globular, clustering plants with dark purplish bodies and very short, whitish spines. Rausch refers it to *R. albopectinata*, but plants in cultivation under this name owe more to *R. heliosa* var. *cajasensis*.

R. spegazziniana var. *atroviridis* Backeberg, Kaktus-ABC 276 (1936) – as *Aylosteria*; Krainz, Sukkulentenk. 1:21 (1947) – as *Aylosteria*; Backeberg, Cact. Succ. J. (US) 23(3):82 (1951) – as *Aylosteria*; Die Cact.3:1531 (1959); Kakteenlex. 71 (1970) – as *Aylosteria*; Cact.Lex.(Engl. ed.)79 (1978) – as *Aylosteria*

The body is described as somewhat darker green, the central spines weaker and paler, but it is really little differentiated from the type. Reported from Argentina, Jujuy, near Volcan. Collectors' numbers referred here are FR 404; Lau 412, 547.

R. sphaerica nom. nud. Ritter, Kakt. Südamer. 2:607 (1980)

Referred to *R. tarijensis*.

R. spiralispala Schütz, Kaktusy 11(3):51-53 (1975) – as *Mediolobivia*; Backeberg, Die Cact. 3:1523 (1959) – as *Mediolobivia*; Rausch, Ashingtonia 1(11):131 (1975); *Lobivia* 85: 152 (1987); CITES Cact. Checklist 90 (1992) = provisionally accepted as *Mediolobivia* (but presumably for want of a clear place to put it, as *Mediolobivia* as a genus is referred to *Rebutia* in this publication)

This plant persists in collections, although Rausch dismisses it as propagations all from one plant with questionable origins. Ritter, in handwritten marginal notes in his copy of Backeberg's *Die Cactaceae*, expresses the opinion that it is a horticultural hybrid, and not even a *Rebutia* at all. A plant of this species I have had in cultivation for some years on a graft, since it is extremely reluctant both to grow on its own roots or as cuttings to send down roots, has some resemblance to *R. einsteinii*; the flowers are also shy to come, but when they do, they are more reddish orange than yellow, but resemble those of this species too.



Rebutia spiralispala

R. steinbachii Werdermann, Notizbl. Bot. Gart. Mus. Berlin 11:104, 268 (1931); CITES Cact. Checklist 126 (1992) = good species

More usually known as *Sulcorebutia*.

R. steineckeii Fric & Kreuzinger, Verzeichnis 28 (1935) – as *Rebulobivia*; Rausch, *Lobivia* 86:28 (1987) – as synonymous with *Lobivia einsteinii*

R. cv. Sunrise. Cact. Succ. J. (US) 64(2): 84 with fig. (1992) (See next page for illustration)

A hybrid attributed to Tony Johnston of England, and offered by the International Succulent Institute in 1992, freely available in the trade in England well before this time, usually labelled just with its parentage, i.e. *R. heliosa* X *albiflora*. This is an attractive cross which has been in cultivation for the last 15 years, having close white spination, dense in the manner of its first parent, and the white flowers of the latter, but pinkish orange when first opening.



Rebutia
cv. Sunrise

R. taratensis Cardenas, Cact. Succ. J. (US) 36(1): 26 (1964); CITES Cact. Checklist 126 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. teresae/theresae nom. nud.

A Karel Knize catalogue name, collection numbers KK 1724, 1925. Plants in cultivation are close to *R. heliosa*, and somewhat like a larger-stemmed form of the well-known hybrid between that species and *R. albiflora* (see *R.* cv. Sunrise above), but with red flowers.



Rebutia teresae n.n.
KK 1925

R. termesdereyes nom. nud.

A Köhres catalogue name. Plants in cultivation resemble *R. jujuyana*.

R. tiraquensis Cardenas, Cactus (Paris) 13:257 (1957); CITES Cact. Checklist 126 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. totoresis Cardenas, Cactus (Paris) 12:259-260 (1957); CITES Cact. Checklist 134 (1992) =

R. steinbachii

More usually known as *Sulcorebutia*.

R. tuberculato-chrysantha Cardenas, Cact. Succ. J. (US) 43:246 (1971); CITES Cact. Checklist 126 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. tunariensis Cardenas, Cact. Succ. J.(US) 36(2):38 (1964); CITES Cact. Checklist 126 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. turbinata nom. nud., Krainz, Sukkulentenk. 1:22 (1947); Backeberg, Kakteenlex. 385 (1970); Cact. Lex. 438 (1978)

Krainz and Backeberg likened this undescribed plant to *R. krainziana*.

R. (Setirebutia) turbiniformis Fric & Kreuzinger, Verzeichnis 26 (1935); Backeberg, Die Cact. 3:1486-7 (1959)

Referred to *R. aureiflora*.

R. vallegrandensis cv. **albispina** Meininger, Kakt.u.a.Sukk. 45(2):38 with fig. (1994)

The plant in the accompanying photograph to the article cited above has the aspect of *R. fiebrigii* var. *densiseta*.

R. verebii nom. nud.

A Köhres catalogue name, with field number Herzog 336a. Plants in cultivation are close to *R. fiebrigii*, but attractively dense spined.



Rebutia verebii
Herzog 336a

R. villazonensis Brandt, Kakt. Orch. Rundschau 8(2):15 (1983); CITES Cact. Checklist 126 (1992) = *R. pygmaea*

Referring to the original description of this species (in an obscure publication not easily obtainable) shows a plant clearly of the subgenus *Aylostera*, probably referable to *R. spegazziniana*; the *CITES Cactaceae Checklist* referral is in error. The type F.H. Brandt no. 94/a is deposited at Heidelberg.

R. violaciflora var. **carminea** (Buining) Donald, Kakt.u.a.Sukk. 8(2):24-27 (1957); & Nat. Cact. Succ. J. 12(1):11 (1957)

Referred to *R. violaciflora*.

var. **luteispina** Backeberg, nom. nud.

A form, not described formally, with yellowish spines. Reported from Argentina, Salta. Collector's number referred here is KK 1096.

R. violascens Ritter, Kakt.u.a.Sukk. 28(4):76 (1977); Kakt. Südamer. 2:595 (1980); Rausch, Lobivia 85:57 (1987) – as *Lobivia haagei* var. *violascens*

Referred to *R. pygmaea* '*violascens*'.

R. vizcarrae Cardenas, Cact. Succ. J. (US) 42(4):185 (1970); CITES Cact. Checklist 126 (1992) = *R. steinbachii*

More usually known as *Sulcorebutia*.

R. waltheriana Backeberg, Die Cact. 3:1531 (1959); Krainz, Sukkulantenk. 1: 21 (1947); Ito, Expl. Diagr. 129 (1957) – as *Aylostera*

Referred to *R. spegazziniana*.

R. wessneriana

See main text, page 114.

The various names attached here in the past include:

var. **berylloides** Buining & Donald, Sukkulantenk. 7/8:103 (1963) – as *R. calliantha* var. *berylloides*

var. **calliantha** (Bewerunge)Donald, Nat. Cact. Succ. J. 14(1):5 (1959); Bewerunge, Sukkulantenk. 2:25 (1948) – as *R. calliantha*

var. **gokrausei** (Heinrich) Donald, Ashingtonia 2(4):71 (1976); Heinrich in Backeberg, Descr. Cact. Nov. 3:13 (1963) – as *R. permutata* var. *gokrausei*

var. **permutata** (Heinrich) Buining & Donald, Succulenta 51(12): 225 (1972); Heinrich in Backeberg, Descr. Cact. Nov. 3:13 (1963) – as *R. permutata*

cv. **Ruby** Donald, Ashingtonia 2(4):71 (1976)

cv. **Turbine** Donald, l.c.

All the above are referred to *R. wessneriana*.

var. **krainziana** (Kesselring) Buining & Donald, Succulenta 51(12): 225 (1972)

Referred to *R. krainziana*.

R. winteri/winteriana nom. nud.

This is still seen offered commercially from time to time, but seems not to have been described. Plants are clearly referable to the subgenus *Rebutia*, with connections to *R. senilis*.

R. xanthocarpa

Many varietal names were erected for the minor variations of this species, one of which has been pulled out for what is a good collectors' plant (see page 116). The remainder are regarded as no longer of interest or indeed positively identifiable in most cases. They are:

var. **citricarpa** Fric ex Backeberg, Kaktus-ABC 278 (1936) ; Cact. Succ. J (US) 23(3):83 (1951); Krainz, Sukkulentenk. 1:22 (1947); Backeberg, Die Cact. 3: 1540 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 438 (1978); Cact. Succ. J. (US) 23:83 (1951)

var. **coerulescens** Backeberg, Descr. Cact. Nov. 31 (1956); Krainz, Sukkulentenk. 1:22 (1947); Backeberg, Descr. Cact. Nov. 31 (1957); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 438 (1978)

var. **dasyphrissa** (Werdermann) Backeberg in Köhler, Beitr.z.Skde. u.pflege, 3 (1939), Werdermann, Blüh. Kakt.u.a.Sukk. Pfl.,fig.103 (1935); Krainz, Sukkulentenk. 1:22 (1947); Backeberg, Die Cact. 3: 1540,fig.1491 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 438 (1978)

The above three are referred to synonymy with the type.

var. **elegans** Backeberg, Kaktus-ABC 279 (1936); Krainz, Sukkulentenk. 1:22 (1947); Backeberg, Cact. Succ. J (US) 23(3):83 (1951)

This variety is referable to *R. senilis*.

var. **luteirosea** Backeberg, Kaktus-ABC 279 (1936) ; Cact. Succ. J. (US) 23(3):83 (1951); Die Cact. 3: 1542 (1959); Kakteenlex. 385 (1970); Cact. Lex. (Engl.ed.) 439 (1978).

Referred to synonymy with the type.

var. **violaciflora** Backeberg, Die Cact 3:1542 (1959) – Latin diagnosis in Descr. Cact. Nov. 31 (1956); Buining & Donald, Sukkulentenk. 7/8:99-104 (1963)

Sometimes confused with *R. senilis* '*lilacinorosea*', this variation of *R. xanthocarpa* has similarly coloured deep purplish-pink, but much smaller flowers. Perhaps worth growing for the attractive flower colour.

R. yuquinensis Rausch, Kakt.u.a.Sukk. 31(10):307 (1980); Lobivia 85:13 (1987) – as *Lobivia atrovirens* var. *yuquinensis*; CITES Cact. Checklist = *R. pygmaea*

Referred to *R. atrovirens* '*yuquinensis*'.

R. zecheri Rausch, Succulenta 56(2):29-30 (1977); Rausch, Lobivia 85:13 (1987) – as *Lobivia atrovirens* var. *zecheri*; CITES Cact. Checklist = *R. spgazziniana*

Referred to *R. atrovirens* '*zecheri*'.

FIELD COLLECTORS' NUMBERS

With the mountainous terrain that most species of *Rebutia* occupy, their discovery is arduous, and only the most determined of field collectors have braved the wild country of northern Argentina and southern Bolivia where they occur. The most prominent of these have been Friedrich Ritter, Walter Rausch and Alfred Lau, and the first two mentioned have described numerous new species from the wealth of plant material they have collected. Much of this has been made available slowly to collectors, and a determined enthusiast for this wonderfully rewarding genus can gather together nearly all that has been described by these two adventurers. The older species, which have been in cultivation for a much longer period pose more problems for the taxonomist and collector alike, since their appearance in nursery lists is often the result of a long line of interbred plants, with perhaps not the strict control over their pollination that there should be. There was also a tendency to erect numbers of varieties or forms for minor differences, such as flower colour, or length of spine, and these are of little value, nor often determinable in plants available to collectors today. The field numbers of these three and other collectors in the field are listed below, with the name of the species as indicated by the collector given alongside. For its current application see the main part of the book *Commentary on Species*.

WR

Walter Rausch

| | | |
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| 1 | <i>xanthocarpa</i> | Argentina, Salta, Quebrada del Toro |
| 11 | <i>deminuta</i> fa. <i>pseudominuscula</i> | Argentina, Salta, Obispo |
| 14 | <i>nigricans</i> | Argentina, Salta, Cachipampa - Cachi |
| 35 | <i>haagei</i> | Argentina, Jujuy, Humahuaca |
| 35a | <i>haagei</i> | Argentina, Jujuy, Iturbe |
| 35b | <i>haagei</i> | Cajas |
| 38a | <i>pygmaea</i> | Azul Pampa |
| 67 | <i>fiebrigii</i> var. <i>vulpes</i> | Bolivia, Chuquisaca, Sucre |
| 71 | <i>steinmannii</i> var. <i>costata</i> | Bolivia, Potosi, Potosi |
| 87 | <i>tarijensis</i> | Bolivia, Tarija, east of Tarija, 2,600m |
| 88 | <i>robustispina</i> | Bolivia, Tarija, Tarija |
| 89 | <i>fiebrigii</i> v. <i>densiseta/spinosissima</i> | Bolivia, Tarija, Tarija |
| 91 | <i>atrovirens</i> var. <i>yuncharensis</i> | Bolivia, Tarija, Yunchara |
| 158 | <i>aureiflora</i> | Argentina, Salta, Chorrillos |
| 162 | <i>nigricans</i> var. <i>peterseimii</i> | Argentina, Salta, Quebrada del Toro |
| 163 | <i>einsteinii</i> var. <i>atrosinosa</i> | Argentina, Salta, Quebrada del Toro |
| 167 | <i>senilis</i> | Argentina, Salta, Escoipe |
| 208 | <i>steinmannii</i> (<i>eucaliptana</i>) | Bolivia, Oruro, Eucaliptos |
| 208a | <i>atrovirens</i> var. <i>haefneriana</i> | Bolivia, Oruro, Eucaliptos |
| 210 | <i>haagei</i> var. <i>oreurensis</i> | Bolivia, Oruro, Oruro |
| 214 | <i>euanthema</i> | Argentina, Jujuy, Volcan |
| 218a | <i>euanthema</i> var. <i>lanata</i> n.n. | Argentina, Jujuy, Quebrada de Humahuaca |
| 220 | <i>jujuyana</i> | Argentina, Jujuy, Quebrada de Humahuaca |
| 234 | <i>wessneriana</i> | Argentina, Jujuy, Quebrada de Humahuaca |
| 274 | <i>vallegrandensis</i> | Bolivia, Santa Cruz, Valle Grande |
| 289a | sp. | Bolivia, Chuquisaca, Zudanez |
| 295 | <i>haagei</i> var. <i>violascens</i> | Bolivia, Potosi, Llallagua |
| 295a | <i>haagei</i> var. <i>amblypetala</i> | Bolivia, Potosi, Potosi |
| 296 | <i>steinmannii</i> var. <i>parvula</i> | Bolivia, Potosi, Cucho Ingenio, 3,800m |
| 297 | <i>steinmannii</i> var. <i>rauschii</i> | Bolivia, Potosi, Huari-Huari, 3,600m |
| 297a | <i>steinmannii</i> var. <i>brachyantha</i> | Bolivia, Potosi, Potosi |
| 300 | <i>steinmannii</i> var. <i>cinninata</i> | Bolivia, Potosi, near Cucho Ingenio, 3,600m |
| 301 | <i>pygmaea</i> var. <i>polypetala</i> | Bolivia, Potosi, Cucho Ingenio, 3,700m |
| 302 | <i>mamillosa</i> | Bolivia, Chuquisaca, Sud Cinti, W of Camargo, 3,300m |
| 304 | <i>pygmaea</i> | Bolivia, Chuquisaca, Cucho Ingenio |
| 305 | <i>leucanthema</i> | Bolivia, Chuquisaca, Nor Cinti, Cana Cruz, 3,600m |
| 311 | <i>steinmannii</i> var. <i>camargoensis</i> | Bolivia, Chuquisaca, Nor Cinti, W of Camargo, 3,200m |
| 311a | <i>fiebrigii</i> | Bolivia, Chuquisaca, Camargo |

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| 312 | <i>albopectinata</i> | Bolivia, Chuquisaca, Sud Cinti, near Culpina |
| 313 | <i>atrovirens</i> var. <i>huasiensis</i> | Bolivia, Chuquisaca, Inga Huasi, near Culpina, 3,300m |
| 313a | <i>atrovirens</i> var. <i>huasiensis</i> | Bolivia, Chuquisaca, Sud Cinti, Yuquina |
| 314 | <i>heliosa</i> | Bolivia, Tarija, on road to Narvaez, 2,400-2,500m |
| 317 | <i>spinosissima</i> | Bolivia, Tarija, Arque, Padcaya |
| 318 | <i>spinosissima</i> (<i>archibuiningiana</i>) | Bolivia, Tarija, Tarija |
| 319 | <i>fulviseta</i> | Bolivia, Tarija, Arque, near Padcaya, 2,200m |
| 320 | <i>pulchella</i> | Bolivia, Tarija, north of Padilla, 2,200m |
| 321 | <i>cintiensis</i> | Bolivia, Tarija, Inga Huasi |
| 322 | <i>padcayensis</i> | Bolivia, Tarija, west of Padcaya |
| 324 | <i>kupperiana</i> | Bolivia, Tarija, Tarija |
| 333 | <i>haagei</i> var. <i>eos</i> | Argentina, Jujuy, near Tafna, 3,600m |
| 333a | <i>haagei</i> var. <i>pelziana</i> | Argentina, Jujuy, near Tafna, 3,600m |
| 333b | <i>haagei</i> var. <i>setifera</i> n.n. | Argentina, Jujuy, near Tafna |
| 333c | <i>haagei</i> var. <i>spectabilis</i> n.n. | Argentina, Jujuy, near Tafna |
| 334 | <i>steinmannii</i> var. <i>major</i> | Argentina, Jujuy, near Tafna, 3,600m |
| 335 | <i>pygmaea</i> | Argentina, Jujuy, Yavi-Tafna |
| 335a | <i>pygmaea</i> | Argentina, Jujuy, Tafna |
| 335b | <i>pygmaea</i> var. <i>iscayachensis</i> | Bolivia, Tarija, Mendez, above Cana Cruz, 3,500m |
| 454 | <i>steinmannii</i> | Bolivia, Oruro, Llallagua |
| 480 | <i>brunescens</i> | Bolivia, Chuquisaca, Sucre, Tarabuco, 3,500m |
| 480a | <i>brunescens</i> var. | Bolivia, Chuquisaca, Sucre, Tarabuco |
| 484 | <i>haagei</i> var. <i>nazarenoensis</i> | Argentina, Salta, near Nazareno, 3,350m |
| 485 | <i>atrovirens</i> var. <i>raulii</i> | Bolivia, Chuquisaca, Nor Cinti, N of Camargo, Rio Honda |
| 486 | <i>steinmannii</i> var. <i>applanata</i> | Bolivia, Chuquisaca, Rio Honda, 3,600m |
| 492 | <i>spgazziniana</i> var. | Bolivia, Tarija, Mendez, Iscayachi |
| 492a | <i>steinmannii/pseudodemina</i> v. <i>christinae</i> | Argentina, Salta, Nazareno to Rodeo, 3,500m |
| 493 | <i>atrovirens</i> var. <i>raulii</i> | Bolivia, Tarija |
| 494 | <i>steinmannii</i> var. <i>rubriflora</i> n.n. | Bolivia, Tarija, Tarija |
| 495 | <i>spgazziniana</i> var. <i>atroviridis</i> | Bolivia, Tarija, Sama |
| 496 | <i>fusca</i> | Bolivia, Tarija, Tarija |
| 501f | <i>haagei</i> var. <i>crassa</i> | Bolivia, Tarija, Iscayachi |
| 502 | <i>haagei</i> var. <i>elegantula</i> | Argentina, Jujuy, Rio San Juan de Oro |
| 503 | <i>fiebrigii</i> | Bolivia, Tarija, Iscayachi |
| 503a | <i>fiebrigii</i> (brown sp.) (<i>cintiensis</i>) | Bolivia, Chuquisaca, Culpina |
| 506 | <i>atrovirens</i> var. <i>pseudoritteri</i> | Argentina, Jujuy, Abra de Sama |
| 506a | <i>pygmaea</i> | Argentina, Jujuy, Abra de Sama |
| 507 | <i>haagei</i> (fine sp.) | Argentina, Jujuy, Sama |
| 507a | <i>haagei</i> (strong sp.) | Argentina, Jujuy, Sama |
| 508 | <i>steinmannii</i> var. <i>nilssonii</i> nom nud. | Argentina, Jujuy, Sama |
| 508a | <i>pygmaea</i> var. <i>tafnaensis</i> | Argentina, Jujuy, near Tafna, 4,000m |
| 508b | <i>steinmannii</i> var. <i>costata</i> | Bolivia, Tarija, Cajas |
| 509 | <i>einsteinii</i> | Argentina, Jujuy |
| 509a | <i>einsteinii</i> var. <i>brachyartha</i> | Argentina, Jujuy |
| 511 | <i>buiningiana</i> | Argentina, Jujuy, near Iruya |
| 515 | <i>atrovirens</i> var. <i>haefneriana</i> | Argentina, Salta - Iruya - Santa Victoria |
| 515a | <i>atrovirens</i> var. <i>haefneriana</i> | Argentina, Salta, D. de Llalla |
| 515b | <i>atrovirens</i> var. <i>haefneriana</i> | Argentina, Salta, D. de Chucho Ingenio |
| 518 | <i>margarethae</i> var. | Argentina, Salta - Iruya - Santa Victoria |
| 520 | <i>atrovirens</i> var. <i>ritteri</i> | Argentina, Salta, road from La Quiaca to Santa Victoria |
| 521 | <i>margarethae</i> | Argentina, Salta, near Santa Victoria, 3,500m |
| 521a | <i>hoffmannii</i> | Argentina, Salta, near Santa Victoria |
| 522 | <i>euanthema</i> | Argentina, Salta - Quebrada del Toro, Leon |
| 576 | <i>pygmaea</i> var. (green) | Argentina, Jujuy, Chaqui |
| 576a | <i>pygmaea</i> | Argentina, Jujuy, Chaqui |
| 577 | <i>haagei</i> | Argentina, Jujuy, Purmamarca |
| 578 | <i>einsteinii</i> var. <i>gonjianii</i> | Argentina, Jujuy, Tilcara |
| 579 | <i>pygmaea</i> | Argentina, Jujuy, Aguilar |
| 583 | <i>fulviseta</i> var. | Argentina, Salta - Santa Victoria - Quebrada del Toro |
| 597 | <i>pulchella</i> var. | Bolivia, Chuquisaca, Sucre |
| 629 | <i>supthutiana</i> | Bolivia, Tarija, O'Connor, Tambo |
| 630 | <i>pygmaea</i> var. <i>minor</i> | Bolivia, Chuquisaca, Sud Cinti, Yuquina, nr Culpina |
| 631 | <i>pygmaea</i> var. <i>diersiana</i> | Bolivia, Chuquisaca, Sud Cinti, Yuquina, nr Culpina |
| 632 | <i>atrovirens</i> var. <i>yuquinensis</i> | Bolivia, Chuquisaca, Sud Cinti, Yuquina, 3,200m |
| 633 | <i>pygmaea</i> v. <i>atrovirens</i> (<i>nigrescens</i> in error) | Bolivia, Chuquisaca, Cinti, above Salitre, 3,200m |

Field Collectors' Numbers

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| 640 | <i>schatziana</i> | Bolivia, Chuquisaca, Nor Cinti, Pucara |
| 641 | <i>schatziana</i> var. | Bolivia, Chuquisaca, Julencia |
| 642 | <i>haagei</i> var. <i>canacruzensis</i> | Bolivia, Nor Cinti, near Cana Cruz, 3,700m |
| 643 | <i>jujuyana</i> | Bolivia, Tarija, Iscayachi |
| 644 | <i>steinmannii</i> var. <i>leucacantha</i> | Bolivia, Chuquisaca, Sud Cinti, above La Cueva, 3,700m |
| 645 | <i>haagei</i> var. <i>pallida</i> | Bolivia, Chuquisaca, Sud Cinti, near La Cueva, 3,500m |
| 646 | <i>pygmaea</i> var. <i>friedrichiana</i> | Bolivia, Chuquisaca, Sud Cinti, near La Cueva, 3,500m |
| 646a | <i>pygmaea</i> var. <i>friedrichiana</i> (pink fls) | Bolivia, Chuquisaca, Sud Cinti, near La Cueva |
| 649 | <i>frohlichiana</i> | Bolivia, Chuquisaca, Sud Cinti, near Yuquina, 3,200m |
| 650 | <i>atrovirens</i> var. <i>zecheri</i> | Bolivia, Tarija, Iscayachi, near Pueblo Viejo, 3,000m |
| 654 | <i>wahliana</i> | Bolivia, Tarija, Cuesta de Sama |
| 654a | <i>spgazziniana</i> (large form) | Bolivia, Tarija - Iscayachi - Tarija, Sama |
| 655 | <i>robustispina</i> var. <i>minor</i> | Bolivia, Tarija - Iscayachi - Tarija |
| 660 | <i>pygmaea</i> var. <i>colorea</i> | Bolivia, Tarija, Abra de Sama, near Iscayachi, 3,500m |
| 661 | <i>senilis</i> | Argentina, Salta - Escoype - Guaychipas, San Martin |
| 676 | <i>pygmaea</i> var. <i>rutiliflora</i> | Bolivia, Potosi - Uyuni - Tupiza |
| 676a | <i>pygmaea</i> var. <i>knizei</i> | Bolivia, Oruro, Challapata, near Pazna, 3,800m |
| 677a | <i>pygmaea</i> | Mochara |
| 679 | <i>pseudominuscula</i> | Argentina, Salta - Yacones |
| 680 | <i>aureiflora</i> var. <i>puyilensis</i> | Argentina, Salta, (Puyila ?) |
| 680a | <i>pseudominuscula</i> | Argentina, Salta, Yacones |
| 681 | <i>violaciflora</i> | Argentina, Salta, Yacones |
| 681a | <i>minuscula</i> ? | Argentina, Salta, Yacones |
| 687 | <i>fabrisii</i> var. <i>aureiflora</i> | Argentina, Jujuy, Valle Colorado - Valle Grande, 2,000m |
| 688 | <i>fabrisii</i> | Argentina, Jujuy, Santa Ana - Valle Colorado, to 2,800m |
| 688a | <i>fabrisii</i> var. <i>nana</i> | Argentina, Jujuy, near Santa Ana, 3,400m |
| 689 | <i>haagei</i> var. <i>mudanensis</i> | Argentina, Salta, E.of Mudana, nr Santa Ana, to 4,300m |
| 690 | <i>nigricans</i> var. <i>carmeniana</i> | Argentina, Salta, near Caspala, 3,100m |
| 690a | <i>haagei</i> | Argentina, Salta, Caspala |
| 694 | <i>kieslingii</i> | Argentina, Salta, Caspala |
| 697 | <i>pseudodeminuta</i> | Argentina, Jujuy, Quebrada del Toro |
| 697a | <i>pseudodeminuta</i> | Argentina, Salta, Santa Victoria |
| 697b | <i>fibrigii</i> | Argentina, Salta, Santa Victoria |
| 700 | <i>euanthema</i> var. <i>tilcarensis</i> | Argentina, Jujuy, top of mntns, Tilcara, 3,100 to 3,200m |
| 700a | <i>atrovirens</i> var. <i>ritteri</i> | Argentina, Jujuy, Aguilar |
| 706a | <i>senilis</i> | Argentina, Salta, Chorrillos |
| 706b | <i>senilis</i> | Argentina, Santa Barbara |
| 706c | <i>senilis</i> | Argentina, Santa Laura |
| 733 | <i>aguilari</i> n.n. | Argentina, Jujuy, Aguilar |
| 734 | <i>jujuyana</i> | Argentina, Ayopaya |
| 738 | <i>sumayana</i> | Bolivia, Chuquisaca, Sud Cinti, nr Sumaya, 3,200m |
| 739 | <i>simoniana</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva, 3,500m |
| 739a | <i>fibrigii</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 740 | <i>spgazziniana</i> var. <i>atroviridis</i> | Bolivia, Chquisaca, Sud Cinti, La Cueva |
| 741 | <i>supthutiana</i> var. | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 742 | <i>pygmaea</i> var. <i>violaceostaminata</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva, 3,300m |
| 743 | <i>steinmannii</i> var. <i>tuberculata</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 744 | <i>steinmannii</i> var. <i>melanocentra</i> | Bolivia, Tarija, Iscayachi, 3,600m |
| 745 | <i>haagei</i> | Talina |
| 750 | <i>haagei</i> | Aparzo |
| 751 | <i>euanthema</i> var. <i>neumannii</i> n.n. | |
| 752 | <i>haagei</i> | Chani |
| 769 | <i>senilis</i> | Las Capillas |
| 770 | <i>pseudodeminuta</i> | Lajar |
| 770a | <i>pseudeminuta</i> | Argentina, Jujuy, Volcan |
| 771 | <i>nigricans</i> var. <i>albispina</i> | Argentina, Salta, Cuesta de Obispa |
| 776 | <i>haagei</i> | Berque |
| 777 | <i>haagei</i> var. <i>crassa</i> | Berque |
| 778 | <i>spinosissima</i> | Argentina, Salta, Santa Victoria |
| 779 | <i>kieslingii</i> | Argentina, Salta, Santa Victoria |
| 780 | <i>jujuyana</i> | Argentina, Salta, Santa Victoria |
| 781 | <i>jujuyana</i> | Argentina, Salta, Santa Victoria |
| 782 | <i>fibrigii</i> | Argentina, Salta, Santa Victoria |
| 783 | <i>spgazziniana</i> | Argentina, Salta, Santa Victoria |
| 784 | <i>walteri</i> | Argentina, Salta, Santa Victoria, 2,500 to 2,700m |

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| 784a | <i>albipilosa</i> | Los Toldos |
| 785 | <i>senilis</i> | Agua Negro |
| 791 | <i>saltensis</i> | Argentina, Salta |
| 794 | <i>einsteinii</i> var. <i>pseudoeinsteinii</i> n.n. | |
| 801 | <i>knuthiana</i> | |
| 802 | <i>aureiflora</i> | Uriburu |
| 818 | <i>marsoneri</i> | |
| 819 | <i>berylloides</i> | |
| 823 | <i>euanthema</i> var. <i>neopygmaea</i> n.n. | |
| 825 | <i>pygmaea</i> (small form) | Chacacona |
| 825a | <i>haagei</i> | |
| 826 | <i>dutineiana</i> n.n. | |
| 826a | <i>sumayana</i> | Chunchuli |
| 827 | <i>dutineiana</i> var. | |
| 828 | <i>pygmaea</i> (small form) | Bolivia, Chuquisaca, Sud Cinti, Yuquina |
| 835 | <i>pseudominuscula</i> | Argentina, Salta, Escoipe |
| 840 | <i>atrovirens</i> var. <i>zecheri</i> | Curque |
| 841 | <i>atrovirens</i> var. <i>zecheri</i> | Cajas |
| 842 | <i>steinmannii</i> var. <i>costata</i> | Santa Catalina |
| 843 | <i>haagei</i> var. <i>crassa</i> | Santa Catalina |
| 858 | <i>albipilosa</i> | |
| 859 | <i>spinosissima</i> | Lajas |
| 859a | <i>spgazziniana</i> var. <i>atroviridis</i> | Bolivia Tarija, Sama |
| 860 | <i>vulpina</i> | Bolivia Tarija, Cuesta de Sama |
| 860a | <i>tarijensis</i> | Bolivia, Tarija, Sama |
| 906 | <i>pygmaea</i> | Tacomayo |
| 907 | <i>atrovirens</i> var. <i>zecheri</i> | Curque |
| 908 | <i>atrovirens</i> var. <i>zecheri</i> | Bolivia, Tarija, Iscayachi |
| 909 | <i>pygmaea</i> | Bolivia, Tarija, Iscayachi |
| 910 | <i>pygmaea</i> | Bolivia, Potosi, Potosi |
| 916 | <i>spinosissimo</i> | Rio Bermejo |
| 917 | <i>spinosissima</i> | Muyuquiri |
| 918 | <i>fiebrigii</i> var. | Alto Espana |
| 919 | <i>vulpina</i> | Bolivia, Tarija, Abra de Sama |
| 920 | <i>spgazziniana</i> var. | Cienegillas |
| 921 | <i>spgazziniana</i> var. | Alto Espana |
| 922 | <i>spgazziniana</i> var. <i>boliviensis</i> | Rio Bermejo |
| 923 | <i>vallegrandensis</i> | Bolivia, Santa Cruz, Pucara |

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Friedrich Ritter

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| 57 | <i>haagei</i> | Argentina, Jujuy, Iturbi |
| 57a | <i>pygmaea</i> | Bolivia, Potosi, Sud Chicas, Villazon |
| 58 | <i>wessneriana</i> | Bolivia, Tarija |
| 83 | <i>fiebrigii</i> var. <i>densiseta</i> | Bolivia, Sucre, Hacienda Ressini |
| 83a | <i>fiebrigii</i> fa. | Bolivia, La Merced and below |
| 84 | <i>fiebrigii</i> | Bolivia, Tarija |
| 84a | <i>fiebrigii</i> fa. | Bolivia, La Merced and below |
| 84b | <i>fiebrigii</i> var. <i>vulpes</i> | Bolivia, Tarija, Carrasco, at Copachunco |
| 339 | <i>orurensis</i> | Bolivia, Potosi, Chicas |
| 340 | <i>eucaliptana</i> | Bolivia, Eucaliptos |
| 341 | <i>steinmannii</i> | Bolivia, |
| 341a | <i>mamillosa</i> var. <i>australis</i> | Bolivia, Tarija, Mendez, San Antonio |
| 341b | <i>mamillosa</i> | Bolivia, Potosi, Sud Chicas, west of Impora |
| 341c | <i>camargoensis</i> (<i>steinmannii</i> var.) | Bolivia, Chuquisaca, Nor Cinti, west of Camargo |
| 351 | <i>steinmannii</i> var. <i>cinninata</i> | Bolivia, Potosi, Cucho Ingenio |
| 352 | <i>violascens</i> | Bolivia, Chuquisaca, Nor Cinti, north of Camargo |
| 390 | <i>fiebrigii</i> var. <i>densiseta</i> | Bolivia, Chuquisaca, Sud Cinti, La Torre |
| 402 | <i>ritteri</i> var. <i>pilifera</i> | |
| 404 | <i>spgazziniana</i> var. <i>atroviridis</i> | Argentina, Jujuy, near Volcan |
| 407 | <i>aureiflora</i> ? | Argentina, Jujuy, north of Volcan, above Lagen |
| 622 | sp. | Bolivia, on way from Montes to Mal Paso |

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| 753 | <i>muscula</i> | Bolivia, Tarija, O'Connor, Narvaez |
| 754 | <i>albipilosa</i> | Bolivia, Tarija, O'Connor, Narvaez |
| 755 | <i>fiebrigii</i> var. | Bolivia, Tarija, Tambo |
| 756 | <i>flavistyla</i> | Bolivia, Tarija, Mendez, below Cajas |
| 757 | <i>patericalyx</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 757a | <i>friedrichiana</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 758 | <i>albopectinata</i> | Bolivia, Chuquisaca, Sud Cinti, Culpina |
| 759 | sp. | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 760 | <i>sanguinea</i> | Bolivia, Tarija, Angosto |
| 760a | <i>sanguinea</i> var. <i>minor</i> | Bolivia, Tarija, south of Tarija |
| 761 | <i>albiareolata</i> | Bolivia, Tarija, Arque, Padcaya |
| 762 | <i>kupperiana</i> | Bolivia, Tarija, Arque, near Padcaya |
| 762a | <i>kupperiana</i> fa. | Bolivia, Tarija, O'Connor, Tambo |
| 762b | <i>kupperiana</i> var. <i>spiniflora</i> | Bolivia, Tarija, O'Connor, Narvaez |
| 763 | <i>robustispina</i> | Bolivia, Tarija, north of Tarija |
| 763a | <i>robustispina</i> var. <i>minor</i> | Bolivia, Tarija, Mendez, Cajas |
| 764 | <i>archibuiningiana</i> | Bolivia, Tarija, Arque, near Padcaya |
| 765 | <i>cintiensis</i> | Bolivia, Chuquisaca, Sud Cinti, La Cueva |
| 766 | <i>pulvinosa</i> | Bolivia, Tarija, north-east Tarija, gully off Rio Pilaya |
| 766a | <i>albiflora</i> | Bolivia, Tarija, north-east Tarija, gully off Rio Pilaya |
| 767 | <i>rubiginosa</i> | Bolivia, Chuquisaca, Sud Cinti, below Challamarca |
| 768 | <i>nogalesensis</i> | Bolivia, Chuquisaca, Azurduy, Tarvita |
| 769 | <i>nitida</i> | Bolivia, Tarija, Mendez, Cajas |
| 770 | <i>tuberosa</i> | Bolivia, Chuquisaca, Sud Cinti, below Challamarca |
| 770a | <i>tuberosa</i> X <i>rubiginosa</i> | Bolivia, Chuquisaca, Sud Cinti, below Challamarca |
| 771 | sp. | Bolivia, Rio Cajas |
| 772 | <i>leucanthera</i> var. <i>cocciniflora</i> | Bolivia, Chuquisaca, Azurduy, Tarvita |
| 773 | <i>tarvitaensis</i> | Bolivia, Chuquisaca, Azurduy, Tarvita |
| 935 | <i>leucanthera</i> var. <i>cocciniflora</i> | Bolivia, Chuquisaca, Azurduy, Tarvita |
| 936 | <i>paucicostata</i> | Bolivia, Tarija, Mendez, San Antonio |
| 937 | <i>salpingantha</i> | Bolivia, Potosi, Sud Chicas, Villazon |
| 938 | <i>cintiensis</i> | Bolivia, Chuquisaca, Nor Cinti, north of Camargo |
| 939 | <i>vulpes</i> (<i>vulpina</i> ?) | Bolivia, Tarija, Mendez, west of Tarija |
| 940 | <i>fusca</i> | Bolivia, tarija, Mendez, west of Tarija |
| 941 | <i>senilis</i> | Argentina, Salta, Castellanos |
| 941a | <i>senilis</i> var. | Argentina, Salta, near Cachi |
| 942 | sp. | Argentina, Salta, Chorrillos |
| 1106 | <i>colorea</i> | Bolivia, Tarija, San Antonio |
| 1107 | <i>pygmaea</i> ? | Argentina, Abra Pampa & Iturbe |
| 1108 | <i>mixticolor</i> | Bolivia, Tarija, Mendez, San Antonio |
| 1109 | <i>brunneoradicata</i> | Bolivia, Tarija, Mendez, San Antonio |
| 1110 | <i>mamillosa</i> var. <i>australis</i> | Bolivia, Tarija, Mendez, San Antonio |
| 1113 | <i>rutiliflora</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1114 | <i>tropaeolipicta</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1115 | <i>rosalbiflora</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1116 | <i>lanosiflora</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1117 | <i>torquata</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1118 | <i>gracilispina</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1119 | <i>rosalbiflora</i> var. <i>amblypetala</i> | Bolivia, Potosi, Sud Chicas, Impora above Tarata |
| 1120 | <i>iscayachensis</i> var. | Bolivia, Tarija, Mendez, Iscayachi |
| 1121 | <i>pauciareolata</i> | Bolivia, Tarija, Mendez, San Antonio |
| 1122 | sp. | Bolivia, Tarija, Mendez, Iscayachi |
| 1123 | <i>ritteri</i> | Bolivia, Tarija, Mendez, Iscayachi |
| 1124 | <i>minutissima</i> | Bolivia, Tarija, west of Tarija |
| 1138 | <i>mamillosa</i> var. <i>orientalis</i> | Bolivia, Tarija, mountains south of Tarija |
| 1139 | <i>poecilantha</i> | Bolivia, Chuquisaca, Nor Cinti, north of Camargo |
| 1140 | <i>tarijensis</i> | Bolivia, Tarija, O'Connor, Tambo |
| 1141 | <i>cajasensis</i> | Bolivia, Tarija, Mendez, Cajas |
| 1142 | <i>tamboensis</i> | Bolivia, Tarija, east of Tarija, Tambo |
| 1423 | <i>singularis</i> | Bolivia, Tarija, Arce, near Padcaya |
| 1424 | <i>rutiliflora</i> X <i>rosalbiflora</i> | Bolivia, Potosi, Sud Chicas, Mal Paso |
| 1428 | <i>potosina</i> | Bolivia, Potosi, Frias near Potosi |
| 1429 | <i>mixta</i> | Bolivia, Potosi, Sud Chicas, west and below Mal Paso |
| 1430 | <i>archibuiningiana</i> ? | Argentina, Salta, 8km. north of Calder |
| 1434 | <i>iridescens</i> | Bolivia, Potosi, Sud Chicas, west of Mal Paso |

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| 323 | <i>fibrigii</i> | Bolivia, Cochabamba, Mizque, Asientos, 2,100-2,200m |
| 329 | <i>perplexa</i> | Bolivia, Cochabamba, Mizque, Asientos, 2,500-2,600m |
| 346(&a,b) | <i>pulchella</i> | Bolivia, Santa Cruz, Vallegrande, Pucara, 2,500-2,600m |
| 348 | <i>donaldiana</i> | Bolivia, Santa Cruz, Vallegrande, Pucara, 2,600m |
| 350 | <i>ithyacantha</i> (<i>fibrigii</i> var. <i>vulpes</i>) | Bolivia, Santa Cruz, Pucara - Vallegrande, 2,500-2,900m |
| 351 | <i>pumila</i> n.n. | Bolivia, Santa Cruz, Pucara - Vallegrande, 2,500-3,000m |
| 353 | <i>vallegrandensis</i> | Bolivia, Santa Cruz, Pucara - Vallegrande, 2,500-2,900m |
| 383 | <i>brunescens</i> | Bolivia, Chuquisaca, Yamparaez, Tarabuco, 2800-2,900m |
| 393 | <i>fibrigii</i> | Bolivia, Chuquisaca, Zudanez - Yamparaez, Calle-Calle |
| 401 | <i>heliosa</i> var. <i>condorensis</i> | Bolivia, Tarija, Cercado - O'Connor, Condor Pass, 2,800m |
| 402 | <i>rubiginosa</i> | Bolivia, Tarija, O'Connor, Narvaez, 1,000-1,300m |
| 404 | <i>archibuiningiana</i> | Bolivia, Tarija, Arce, Cara del Diablo, 2,600-2,800m |
| 405 | <i>heliosa</i> var. <i>cajasensis</i> | Bolivia, Tarija, Mendez, Cajas, 2,600-2,700m |
| 407 | <i>kupperiana</i> | Bolivia, Tarija, O'Connor, Narvaez, 1,000-1,300m |
| 409 | sp. | Bolivia, Tarija, Mendez, Tarija - Iscayachi, 3,800-3,900m |
| 410 | <i>tarijensis</i> | Bolivia, Tarija, Mendez, Tarija - Iscayachi, 3,800-3,900m |
| 411 | <i>ritteri</i> | Bolivia, Tarija, Mendez, Tarija - Iscayachi, 3,800-3,900m |
| 411b | <i>spgazziniana</i> var. <i>atroviridis</i> | Bolivia, Tarija, Cercado - Mendez, Tarija, 2,500-2,700m |
| 412 | <i>spgazziniana</i> var. <i>nova</i> . | Bolivia, Tarija, Mendez, trail to Cajas, 2,800m |
| 413 | <i>padcayensis</i> | Bolivia, Tarija, Arce, Cara del Diablo, 2,600-2,800m |
| 415 | sp. | Bolivia, Tarija, Mendez, Iscayachi, 3,600m |
| 416 | sp. | Bolivia, Tarija, Mendez, Cajas, 2,600-2,700m |
| 422a | <i>steinmannii</i> var. <i>cincinnata</i> | Bolivia, Chuquisaca, Nor Cinti, Otavi & Camargo, 2,600m |
| 424 | <i>steinmannii</i> var. <i>major</i> | Bolivia, Chuquisaca, Nor Cinti, Otavi & Camargo, 2,600m |
| 431 | <i>haagei</i> | Argentina, Jujuy, El Aguilar, 4,000m |
| 442 | <i>minuscula</i> | Argentina, Tucumán, Sierra Medina, 1,200-1,500m |
| 476 | <i>einsteinii</i> var. <i>durispina</i> n.n. | Argentina, Salta, Quebrada del Toro, 2,500-2,800m |
| 477 | <i>einsteinii</i> | Argentina, Salta, Quebrada del Toro, 2,00-2,800m |
| 519 | <i>haagei</i> | Argentina, Jujuy, Humahuaca, 3,500-3,800m |
| 520 | <i>euanthema</i> | Argentina, Jujuy, Volcan, 3,200-3,300m |
| 522 | <i>pseudodeminuta</i> | Argentina, Jujuy, Volcan, 3,200-3,300m |
| 533 | <i>einsteinii</i> var. <i>gracilis</i> n.n. | Argentina, Salta, Tastil, 2,800-2,900m |
| 541 | <i>nigricans</i> | Argentina, Jujuy, Tafna, 3,600-3,800m |
| 541a | <i>nigricans</i> var. <i>albispinga</i> | Argentina, Jujuy, Tafna, 3,600-3,800m |
| 541b | <i>pygmaea</i> var. <i>longispina</i> n.n. | Argentina, Jujuy, Tafna, 3,600-3,800m |
| 541c | <i>nigricans</i> var. <i>eos</i> comb. nud. | Argentina, Jujuy, Tafna, 3,600-3,800m |
| 544 | <i>margarethae</i> | Argentina, Salta, Santa Victoria, 2,400m |
| 544a | <i>margarethae</i> | Argentina, Salta, Santa Victoria 2,300m |
| 545 | (<i>pseudodeminuta</i> var.) <i>jujuyana</i> | Argentina, Salta, Santa Victoria 2,300m |
| 546 | <i>pseudominuscula</i> | Argentina, Salta, Santa Victoria 2,200m |
| 547 | <i>spgazziniana</i> var. <i>atroviridis</i> | Argentina, Salta, Santa Victoria, 2,300-3,000m |
| 550 | <i>margarethae</i> | Argentina, Jujuy/Salta, Santa Victoria Pass, 2,800m |
| 550a | <i>pseudodeminuta</i> var. <i>rubrifilamentosa</i> | Argentina, Jujuy/Salta, Santa Victoria Pass, 2,800-3,000m |
| 554 | <i>margarethae</i> | Argentina, Jujuy/Salta, Santa Victoria Pass, 3,500m |
| 557 | <i>wessneriana</i> var. <i>berylloides</i> | Argentina, Jujuy, Leon, 3,200-3,300m |
| 560 | <i>senilis</i> var. <i>lilacinorosea</i> | Argentina, Salta, 10km NW Antilla, 1,300-1,500m |
| 561 | <i>pseudodeminuta</i> | Argentina, Salta, 10km NW Antilla, 1,300-1,500m |
| 585 | <i>tamboensis</i> | Bolivia, Santa Cruz, Caballero, Alto España |
| 920 | <i>fibrigii</i> | Bolivia, Chuquisaca, Sud Cinti, Challamarca, 2,200m |
| 945 | <i>fibrigii</i> form | Bolivia, Tarija, O'Connor, Narvaez, 1,800m |

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| 0021 | <i>pseudominuscula</i> | Argentina, Salta, Escoipe, 2,400m |
| 0022 | <i>senilis</i> | Argentina, Salta, Escopie, 2,400 to 2,500m |
| 0031 | <i>pygmaea</i> | Argentina, Jujuy, Tilcara, 2,800m |
| 0045 | <i>wessneriana</i> | Argentina, Jujuy, Volcan, 2,200m |
| 0045a | <i>pseudodeminuta</i> | Argentina, Jujuy, Volcan, 2,400m |
| 0046 | <i>einsteinii</i> var. <i>euanthema</i> | Argentina, Jujuy, Volcan, 2,450m |
| 0053 | <i>steinmannii</i> | Argentina, Jujuy, Yavi, 3,430m |
| 0058 | <i>pygmaea</i> | Argentina, Jujuy, Humahuaca, 3,150 to 3,250m |
| 0064 | <i>fiebrigii</i> | Argentina, Salta-Jujuy, 1,450m |
| 0082 | <i>nigricans</i> | Argentina, Salta, Piedra del Molino, 3,750m |
| 0084 | <i>nigricans</i> | Argentina, Salta, Piedra del Molino, 3,950m |
| 0088 | <i>fiebrigii</i> (= MN 0064) | Argentina, Salta-Jujuy, 1,450m |
| 0100 | <i>einsteinii</i> | Argentina, Jujuy, Las Cuevas, 3,000 to 3,500m |
| 0103 | <i>einsteinii</i> | Argentina, Salta, Las Cuevas - Cachiñal, 3,450 to 3,950m |
| 0106 | <i>einsteinii</i> | Argentina, Salta, Las Cuevas - Cachiñal, 3,900 to 3,950m |
| 0110 | <i>einsteinii</i> v. <i>pseudoeinsteinii</i> n.n. | Argentina, Salta, Ing. Maury, 2,800 to 3,100m |
| 0112 | <i>einsteinii</i> v. <i>aureiflora</i> | Argentina, Salta, Chorrillos, 2,350 to 3,200m |
| 0113 | <i>senilis</i> | Argentina, Salta, Chorrillos, 2,350m |
| 0115 | <i>xanthocarpa</i> | Argentina, Salta, Chorrillos |
| 0116 | <i>nigricans</i> var. | Argentina, Salta, Chorrillos |
| 0117 | <i>nigricans</i> var. | Argentina, Salta, Chorrillos |
| 0122 | <i>fiebrigii</i> var. | Argentina, Jujuy, Valle Colorado |
| 0123 | <i>fabrisii</i> var. <i>aureiflora</i> | Argentina, Jujuy, Valle Grande - Valle Colorado, 2,600m |
| 0124 | <i>fiebrigii</i> var. | Argentina, Jujuy, Valle Grande - Valle Colorado, 2,600m |
| 0126 | <i>fabrisii</i> | Argentina, Jujuy, Valle Colorado - Santa Ana, 2,600m |
| 0127 | <i>fiebrigii</i> var. | Argentina, Jujuy, Valle Colorado - Santa Ana, 2,600m |
| 0128 | <i>fiebrigii</i> var. | Argentina, Jujuy, Valle Colorado - Santa Ana, 2,600m |
| 0129 | <i>fiebrigii</i> var. <i>jujuyana</i> | Argentina, Jujuy, Valle Colorado - Santa Ana, 2,600m |
| 0130 | <i>atrovirens</i> var. | Argentina, Jujuy, Valle Colorado - Santa Ana, 3,150m |
| 0131 | <i>nigricans</i> var. <i>carmeniana</i> | Argentina, Jujuy, Valle Colorado - Santa Ana, 3,350m |
| 0132 | <i>pygmaea</i> | Argentina, Jujuy, Santa Ana, 3,700 to 4,000m |
| 0134 | <i>atrovirens</i> var. | Argentina, Jujuy, Santa Ana, over 3,150m |
| 0135 | <i>fabrisii</i> var. <i>nana</i> | Argentina, Jujuy, Cortaderas, 3,350m |
| 0136 | <i>pygmaea</i> var. <i>nazarenoensis</i> | Argentina, Jujuy, Cortaderas, 3,150m |
| 0140 | <i>fiebrigii</i> var. | Argentina, Jujuy, Valle Colorado - Cortaderas, 2,600m |
| 0142 | <i>pygmaea</i> | Argentina, Jujuy, Cortaderas, 3,100m |
| 0146 | <i>pygmaea</i> | Argentina, Jujuy, Santa Ana - Caspal, 3,700m |
| 0147 | <i>nigricans</i> or <i>einsteinii</i> var. | Argentina, Jujuy, Santa Ana - Caspal, 3,700m |
| 0148 | spec. aff. <i>kieslingii</i> | Argentina, Jujuy, Santa Ana - Caspal, 3,500m |
| 0149 | <i>nigricans</i> var. <i>carmeniana</i> | Argentina, Jujuy, Santa Ana - Caspal, 3,800m |
| 0150 | <i>pygmaea</i> | Argentina, Jujuy, Santa Ana - Caspal, 3,800m |
| 0151 | <i>nigricans</i> var. <i>carmeniana</i> | Argentina, Jujuy, Santa Ana - Caspal, 3,000 to 3,500m |
| 0152 | <i>pygmaea</i> | Argentina, Jujuy, Caspal, 3,000m |
| 0152a | sp. (red flowers) | Argentina, Jujuy, Caspal, 3,000m |
| 0156 | <i>pygmaea</i> | Argentina, Jujuy, Caspal - Humahuaca, 3,000m |
| 0157 | <i>pygmaea</i> | Argentina, Jujuy, Caspal - Humahuaca, 3,500m |
| 0158 | <i>pygmaea</i> | Argentina, Jujuy, Caspal - Humahuaca, 3,700m |
| 0162 | <i>pygmaea</i> | Argentina, Jujuy, Tilcara, 2,800 to 3,100m |
| 0163 | <i>euanthema</i> var. <i>tilcarensis</i> | Argentina, Jujuy, Tilcara, 3,100 to 3,200m |
| 0168 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe, 3,400 to 3,500m |
| 0170 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe, 3,600 to 3,800m |
| 0171 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe, 3,700 to 3,800m |
| 0171a | <i>einsteinii</i> var. <i>gonjianii</i> (salmon fl) | Argentina, Jujuy, Iturbe, 3,700 to 3,800m |

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| 0171b | <i>einsteinii</i> var. ? (red fl), | Argentina, Jujuy, Iturbe, 3,700 to 3,800m |
| 0173 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe, 3,500 to 3,600m |
| 0175 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe, 3,550m |
| 0180 | <i>fiebrigii</i> var. | Argentina, Salta, Iruya, 2,700m |
| 0184 | <i>pygmaea</i> | Argentina, Jujuy, south of Tafna, 3,600 to 3,700m |
| 0185 | <i>pygmaea</i> | Argentina, Jujuy, south of Tafna, 3,700m |
| 0186 | <i>pygmaea</i> | Argentina, Jujuy, south of Tafna, 3,750m |
| 0188 | <i>einsteinii</i> var. <i>neumannii</i> n.n. | Argentina, Jujuy, Purmamarca, 3,800m |
| 0189 | <i>pygmaea</i> | Argentina, Jujuy, Purmamarca, 3,800m |
| 0191 | <i>pygmaea</i> | Argentina, Jujuy, Purmamarca, 3,800m |
| 0193 | <i>pygmaea</i> | Argentina, Jujuy, Purmamarca, 3,300 to 3,400m |
| 0194 | <i>einsteinii</i> v. (red/orange flowers) | Argentina, Jujuy, Purmamarca, 3,300 to 3,400m |
| 0195 | <i>einsteinii</i> v. (red/orange flowers) | Argentina, Jujuy, Purmamarca, 3,650m |
| 0196 | <i>pygmaea</i> | Argentina, Jujuy, Purmamarca, 3,650m |
| 0198 | <i>xanthocarpa</i> form. | Argentina, Salta, Campo Quijano, 1,550m |
| 0199 | <i>pseudodeminuta</i> | Argentina, Salta, Campo Quijano, 1,550m |
| 0200 | <i>xanthocarpa</i> | Argentina, Salta, Campo Quijano, Km 30, 1,600m |
| 0211 | <i>einsteinii</i> var. <i>gonjianii</i> | Argentina, Jujuy, Tilcara, 3,450 to 3,00m |
| 0212 | <i>pygmaea</i> | Argentina, Jujuy, Tilcara, 3,450 to 3,500m |
| 0214 | <i>einsteinii</i> | Argentina, Salta, Santa Rosa de Tastil, 3,200m |
| 0220 | <i>einsteinii</i> | Argentina, Salta, Alfarcito, Quebrada del Toro, 3,400m |
| 0221 | <i>senilis</i> | Argentina, Salta, Chorrillos, 2,100m |
| 0223 | <i>pygmaea</i> | Argentina, Jujuy, north of Iturbe, 3,450m |
| 0224 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe-Iruya, 3,550m |
| 0225 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe-Iruya, 3,550m |
| 0227 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe-Iruya, 3,550m |
| 0228 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe-Iruya, 3,650m |
| 0229 | <i>pygmaea</i> | Argentina, Jujuy, Iturbe-Iruya, 3,650m |
| 0229a | <i>pygmaea</i> form. (red-violet flower) | Argentina, Jujuy, Iturbe-Iruya, 3,650m |
| 0231 | <i>fiebrigii</i> | Argentina, Salta, Iruya, 2,500 to 2,600m |
| 0233 | <i>pygmaea</i> | Argentina, Salta, Iruya, 2,700m |
| 0234 | <i>atrovirens</i> var. | Argentina, Salta, Iruya, 3,000m |
| 0236 | sp. | Argentina, Salta, Iruya, 3,000m |
| 0236a | <i>pygmaea</i> var. (striped flower) | Argentina, Salta, Iruya, 3,000m |
| 0237 | <i>pygmaea</i> | Argentina, Salta, Iruya, 3,000m |
| 0242 | sp. | Argentina, Salta, Iruya, 2,900 to 3,350m |
| 0244 | <i>pygmaea</i> | Argentina, Jujuy, 5km west of Humahuaca, 3,200 m |
| 0246 | <i>fiebrigii</i> | Bolivia, Cochabamba, Sucre, 2,800m |

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| 597 | <i>senilis</i> var. | Bolivia, Humahuata, 2,200m |
| 598 | <i>deminuta</i> var. <i>pseudominuscula</i> | Bolivia, Catamarca, 2,800m |
| 637 | <i>pygmaea</i> | Bolivia, Oruro, 4,000m |
| 797 | <i>atrovirens</i> var. <i>haefneriana</i> | Bolivia, Oruro, Capilla, 3,000m |
| 798 | <i>pygmaea</i> | Bolivia, Oruro, Machacamamarca, 4,000m |
| 839 | <i>albipilosa</i> | Bolivia, Tarija, Tarcia, 2,800m |
| 840 | <i>violaciflora</i> | Argentina, Salta, Escoipe, 3,100m |
| 841 | <i>narvaecensis</i> fa. | Bolivia, Junacas - Narvaez, 3,000m |
| 842 | <i>muscula</i> | Bolivia, Tarija, Piedra Larga, 2,800m |
| 843 | <i>aureispina</i> n.n. | Bolivia, Tarija, Junacas, 2,500m |
| 844 | <i>heliosa</i> | Bolivia, Tarija, Junacas, 3,000m |
| 845 | <i>senilis</i> var. <i>aurescens</i> | Argentina, Salta, Escoipe, 3,000m |
| 846 | <i>pseudodeminuta</i> ? | Bolivia, Tarija, Piedra Larga, 2,800m |
| 847 | <i>deminuta</i> ? | Bolivia, Tarija, Narvaez, 2,800m |

Field Collectors' Numbers

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| 848 | <i>fibrigii</i> var. | Bolivia, Tarija, Junacas, 2,900m |
| 849 | <i>albopectinata</i> | Bolivia, Tarija, Junacas, 2,800m |
| 852 | <i>albopectinata</i> | Bolivia, Tarija, Sama, 3,800m |
| 853 | <i>fibrigii</i> var. <i>densisetata</i> | Bolivia, Tarija, Escayachi, 3,500m |
| 854 | <i>conoidea</i> ? | Bolivia, Tarija, Escayachi, 3,500m |
| 855 | <i>fibrigii</i> | Bolivia, Tarija, El Molle, 3,000m |
| 856 | <i>spgazziniana</i> | Argentina, Salta, Salta, 2,900m |
| 858 | <i>pilosa</i> n.n. | Bolivia, Tarija, Junacas - Las Cajas, 2,800m |
| 859 | <i>tuberosa</i> ? | Bolivia, Tarija, Sama, 3,500m |
| 860 | <i>archibuiningiana</i> | Bolivia, Potosi, Padcaya, 3,800m |
| 861 | <i>paucicostata</i> ? | Bolivia, Tarija, San Antonio, 3,500m |
| 862 | <i>tuberosa</i> | Bolivia, Tarija, Sama, 3,800m |
| 863 | <i>nogalensis</i> n.n. (<i>pilayensis</i> n.n.) | Bolivia, Tarija, El Nogal, 2,500m |
| 871 | <i>euanthema</i> | Bolivia, Tarija, Sama, Escayachi, 4,300m |
| 872 | <i>einsteinii</i> (<i>auranitida</i>) | Bolivia, Tarija, Sama, Escayachi, 4,300m |
| 873 | <i>einsteinii</i> (<i>auranitida</i> var. <i>gracilis</i>) | Bolivia, Tarija, Sama, 4,200m |
| 968 | <i>haagei</i> var. <i>orurensis</i> | Bolivia, Oruro, Paria, 4,100m |
| 969 | <i>pygmaea</i> var. <i>paznaensis</i> n.n. (var. <i>knizei</i>) | Bolivia, Oruro, Pazna, 4,100m |
| 970 | <i>pygmaea</i> var. <i>gracilis</i> n.n. | Bolivia, Oruro, Pazna, 4,300m |
| 971 | <i>steinmannii</i> (<i>eucaliptana</i>) | Bolivia, Eucaliptos, 4,100m |
| 972 | <i>pygmaea</i> var. <i>challapatensis</i> n.n. | Bolivia, Oruro, Challapata, 4,000m |
| 973 | <i>euanthema</i> | Bolivia, Oruro, Challapata, 4,100m |
| 974 | <i>pygmaea</i> | Bolivia, Poopo, 4,200m |
| 978 | <i>huarinensis</i> n.n. | Bolivia, Huari, 4,000m |
| 1046 | sp. | Bolivia, Escayachi, 4,000m |
| 1052 | <i>patericalyx</i> ? | Bolivia, Tarija, La Cueva |
| 1096 | <i>violaciflora</i> var. <i>knuthiana</i> | Argentina, Salta, El Aquilar, 3,800m |
| 1150 | <i>narvaecensis</i> | Bolivia, Piedra Larga, 2,500m |
| 1151 | <i>muscula</i> var. <i>nivosa</i> n.n. | Bolivia, Piedra Larga, 2,300m |
| 1152 | <i>paucicostata</i> | Bolivia, S. Antonio, Escayachi, 3,500m |
| 1232 | <i>atrovirens</i> var. <i>ritteri</i> | Bolivia, Escayachi, 3,800m |
| 1242 | <i>grandiflora</i> | Argentina, Salta, Escoipe, 3,300m |
| 1243 | <i>senilis</i> | Argentina, Salta, Escoipe, 3,000m |
| 1244 | <i>xanthocarpa</i> | Argentina, Salta, El Aquilar, 3,500m |
| 1301 | <i>muscula</i> var. <i>nivosa</i> n.n. | Bolivia, Tarija, Narvaez, 2,800m |
| 1302 | <i>narvaecensis</i> | Bolivia, Tarija, Narvaez, 2,800m |
| 1464 | <i>elegans</i> ? (<i>nigricans</i> ?) | Argentina, Salta, 3,800m |
| 1465 | <i>pygmaea</i> | Argentina, Salta, El Aquilar, 4,000m |
| 1466 | <i>nigricans</i> | Argentina, Salta, 3,800m |
| 1467 | <i>pygmaea</i> | Argentina, Escoipe, 3,800m |
| 1468 | <i>einsteinii</i> (<i>auranitida</i> var.) | Bolivia, Sierra Padcoja, 4,100m |
| 1469 | <i>einsteinii</i> (<i>auranitida</i> fa.?) | Bolivia, Sierra Padcoja, 4,100m |
| 1491 | <i>pygmaea</i> | Bolivia, Huanuni, 4,000m |
| 1517 | <i>residua</i> n.n. | Bolivia, Potosi-Betanzos, 3,500m |
| 1518 | <i>narvaecensis</i> (pink fl.) | Bolivia, Narvaez, 1,800m |
| 1519 | <i>lateritia</i> n.n. | Bolivia, Potosi-Ballestro, 3,800m |
| 1520 | <i>potosina</i> form ? | Bolivia, Potosi-Betanzos, 3,000m |
| 1563 | <i>gibbulosa</i> n.n. | Bolivia, Rio Pilaya, 2,800m |
| 1564 | <i>narvaecensis</i> | Bolivia, Narvaez, 1,800m |
| 1565 | <i>canaletas</i> n.n. | Bolivia, Tarija, Canaletas, 2,500m |
| 1568 | <i>pulvispina</i> n.n. | Bolivia, Escayachi, 3,500m |
| 1686 | <i>escayachensis</i> n.n. | Bolivia, Escayachi, S. Antonio, 3,500m |
| 1694 | <i>aureispina</i> n.n. | Bolivia, Potosi, 3,800m |
| 1695 | <i>potosina</i> n.n. | Bolivia, Betanzos, 2,800m |
| 1724 | <i>teresae</i> n.n. | Bolivia, Rio Picomayo/Nogales, 2,000m |
| 1752 | sp (<i>cajasensis</i> ?) | Bolivia, Las Cajas, 2,600m |
| 1802 | <i>solisioides</i> n.n. | Bolivia, Tarija, Las Caja, 2,200m |
| 1803 | <i>mairanana</i> n.n. | Bolivia, Mairana, 2,200m |
| 1835 | <i>leuconella</i> n.n. | Bolivia, Mizque, 2,600m |

| | | |
|------|---|---------------------------------------|
| 1893 | <i>pygmaea</i> | Bolivia, Huari, 4,000m |
| 1894 | <i>huarinensis</i> n.n. | Bolivia, Huari, 3,800m |
| 1921 | <i>escrupula</i> n.n. | Bolivia, Lago Uyuni, 3,200m |
| 1922 | <i>huarinensis</i> n.n. | Bolivia, Huari, 3,200m |
| 1923 | <i>epizanense</i> n.n. | Bolivia, Epizana, 3,200m |
| 1924 | <i>decrescens</i> n.n. | Bolivia, Mizque, Rio Caine, 3,200m |
| 1925 | <i>teresae</i> n.n. | Bolivia, Tarija, Las Cajas, 2,600m |
| 1926 | sp. | Bolivia, Aiquile, 2,600m |
| 1927 | sp. | Bolivia, Mizque, Rio Caine, 2,200m |
| 1934 | <i>kupperiana</i> var. <i>robustispina</i> n.n. | Bolivia, Narvaez, 2,800m |
| 1956 | <i>albiflora</i> | Bolivia, Tarija, Nogales, 2,300m |
| 1975 | <i>cajasensis</i> | Bolivia, Tarija, Las Cajas, 2,800m |
| 1976 | sp. (<i>robustispina</i> ?) | Bolivia, Tarija, Junacas, 2,500m |
| 1977 | sp. (I ?) | Bolivia, Tarija, S. Ana, 2,800m |
| 1978 | sp. (<i>spegazziniana/vulpina</i> ?) | Bolivia, Tarija, Sama, 2,800m |
| 1979 | <i>flavistyla</i> | Bolivia, Tarija, Cajas, 3,000m |
| 1980 | sp. (<i>tamboensis</i> ?) | Bolivia, Narvaez, Tambo, 2,300m |
| 1981 | sp. | Bolivia, Rio Caine, 2,600m |
| 1982 | sp. | Bolivia, Rio Caine, 2,800m |
| 1983 | sp. | Bolivia, Rio Grande, Torotoro, 2,800m |
| 1984 | sp. | Bolivia, Rio Grande, Torotoro, 2,800m |

ISI

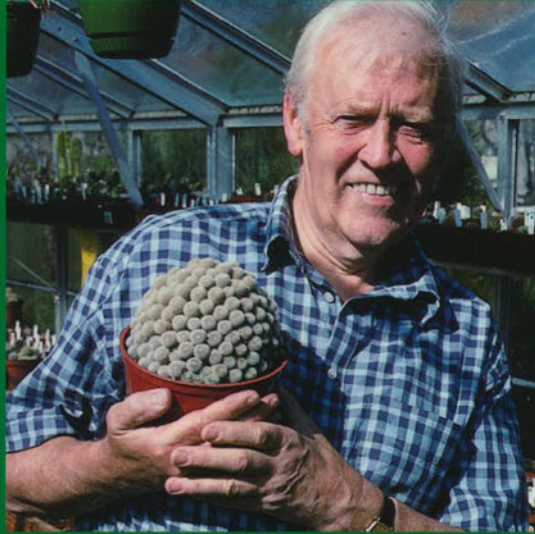
International Succulent Institute

International Succulent Institute offerings of *Rebutia* – 1958 to 1996

| | | | |
|-----------|--------|---|---|
| ISI-399 | (1960) | <i>krainziana</i> | UCBG 50.2175 (propagated from type plant in Stadt. Sukk. Zurich) |
| ISI-734 | (1972) | <i>muscula</i> | Grown from seeds collected by Ritter (FR 753) |
| ISI-781 | (1973) | sp. (<i>nivosa</i> n.n.) | Grown from seeds from K. Uhlig, Germany |
| ISI-782 | (1973) | <i>violaciflora</i> var. <i>knuthiana</i> | Grown from seeds collected in Salta, Argentina |
| ISI-840 | (1974) | <i>albiflora</i> | Grown from seeds collected by Ritter (FR 766a) |
| ISI-841 | (1974) | <i>heliosa</i> | Plants propagated from type collection (WR 314) |
| ISI-842 | (1974) | <i>kupperiana</i> | Cuttings from clonotype, ex Backeberg |
| ISI-1055 | (1978) | <i>donaldiana</i> | Cuttings from type collection (Lau 348) |
| ISI-1118 | (1979) | <i>fusca</i> | Cuttings of type collection (FR 940) |
| ISI-1119 | (1979) | <i>nitida</i> | Cuttings of plant grown from seed collected by Ritter (FR 769) |
| ISI-1181 | (1980) | <i>albiareolata</i> | Cuttings from Ritter collection (FR 761) |
| ISI-1239 | (1981) | <i>albipilosa</i> | Cuttings from Ritter collection (FR 754) |
| ISI-1240 | (1981) | <i>fabrisii</i> | Cuttings from Rausch collection (WR 688) |
| ISI-1241 | (1981) | <i>vulpina</i> | Cuttings from Ritter collection (FR 939) |
| ISI-1305 | (1982) | <i>albopectinata</i> | Cuttings from Ritter collection (FR 758) |
| ISI-1306 | (1982) | <i>einsteinii</i> var. <i>gonjianii</i> | Cuttings of isotype collected by Gonjian |
| ISI-1370 | (1983) | <i>hoffmannii</i> | Cuttings from Rausch collection (WR 521a) |
| ISI-1371 | (1983) | <i>pulchella</i> | Cuttings from Lau collection (Lau 346b) |
| ISI-1434 | (1984) | <i>mixticolor</i> | Cuttings from Ritter collection (FR 1108) |
| ISI-1435 | (1984) | <i>rubiginosa</i> | Cuttings from Lau collection (Lau 402) |
| ISI-1436 | (1984) | <i>salpingantha</i> | Cuttings from Ritter collection (FR 341) |
| ISI-1437 | (1984) | <i>steinmannii</i> var. <i>cinninata</i> | Cuttings from Lau collection (Lau 421) |
| ISI-1529 | (1985) | <i>gracilispina</i> | Cuttings from Brinson, ex Donald, grown from Ritter collected seed at type locality (FR 1118) |
| ISI-1530 | (1985) | <i>pulvinosa</i> | Cuttings from UCBG 64.1402, collected by Krahn (339-3) in 1964 |
| ISI-1621 | (1986) | <i>archibuiningiana</i> | Plants from seed collected by Lau (Lau 404) |
| ISI-1724 | (1987) | <i>orurensis</i> | Cuttings from UCBG 38.839 collected by Tate in 1937 |
| ISI-92-16 | (1992) | cv. Sunrise | Cuttings of HBG 51982, plant imported from Italy |

THE END

(or maybe for some the beginning)



John Pilbeam has been an enthusiastic grower of cacti and other succulent plants for the past 50 years. During that time he has progressed from being a keen amateur grower to his current status as a professional nurseryman. John is a popular lecturer on succulent plants and regularly gives talks to enthusiasts both in the UK and overseas.

Aware of the lack of quality reference books aimed at the amateur hobbyist, John has successfully filled the gap in recent years by researching and writing a number of books that have become popular references for cactus and succulent growers around the world.