

## OCCASIONAL GENERIC REVIEW No. 6

*WEINGARTIA* Werd.

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Kakteenkunde 20: 2; 20-21, 1937

Nomen vice *Spegazzinia* Backeb. non Saccardo (1886)

Blätt.f.Kakt.forsch. 1934-3 illeg. homonym

### History

In writing this history, I appreciate that much that has to be said in this section has clearly been published elsewhere by others as well as myself over the years. Some accounts are good, others are rather garbled and lead to ambiguous or even incorrect conclusions. I believe therefore, that a recapitulation of all views presented as well as a revision of my earlier ideas - still referred to whether acknowledged or not - is necessary. I apologise in advance to those who know the history of the genus *Weingartia* that much of what they will read in the opening paragraphs is already very familiar stuff, but it sets the score and provides for completeness of the review, albeit in a concentrated account.

- Cardenas M., Notas Cactologias de Bolivia, Revista de Agricultura 6: 5/10, 1951  
Hutchison P., Cact. & Succ. J. Amer. 29: 1; 14, 1957  
Donald J., Nat. Cact. & Succ. J. 13: 3; 54/56, Sept. 1958 - 13:4; 66/67, Dec. 1958  
14:2; 38, June 1959 (with P. C. Hutchison)  
Backeberg C., Die Cactaceae 3: 1787-1788, 1959  
Boom B. K., Succulenta 41: 9; 115-118, Sept. 1962  
(translated to English in Chileans 7: 25; 18/20, 1973)  
Backeberg C., Das Kakteen Lexikon p.507 (English edition) 1978  
Middleditch H., Swales G., Donald J. et alia, Chileans 7:25; 6/14, 1973  
Waterman P. G. et alia, Chileans 8:29, 43/46, 1975  
Brandt F., Frankfurter Kakteenfreund, April 1976: 8/9  
Brandt F., Kakt.u.Orch. Rundsch. 5: 68/70, Nov. 1977  
Incognito, The Spine Cact. & Succ. J. Aust. 26: 2, March 1978  
(translated also into French in Cactus (APSA) 2:3; 71-74, May 1978)  
Brederoo J., and Donald J., Succulenta 58: 1; 2/6, Jan. 1979  
Backeberg C., Cactus (Fr) 20: 85, 1965, (translated also into English in Chileans  
7:25; 15/18, 1973)

### Part One

Curt Backeberg in 1933 in Der Kakteenfreund 2:9; 117, 1933 made known his intention to honour the Argentinian botanist and cactophile Dr. Carlos Spegazzini by naming a new genus after him. The actual generic diagnosis did not appear until publication in Backeberg's special leaflets on his cactus plant researches, the famous Blätter für Kakteenforschung, a year later. These leaflets were issued between 1934 and 1937 and were numbered consecutively for each year volume but the individual pages were not numbered. *Spegazziniana* Backeb. appears inside the issue No. 3 for 1934. The diagnosis was published in four languages - German, English, Dutch and French but not in Latin. So no Latin diagnosis exists for the name *Spegazzinia* Backeb. However none was required at that time, in fact it had a year's grace as Latin diagnoses for new names

## ASHINGTONIA

became mandatory only after 1.1.35. For the type species Backeberg chose his *Echinocactus fidaianus* which he described in Der Kakteenfreund (loc.cit.sup.) complete with Latin diagnosis. An abbreviated description appeared in the 'B.f.K' 1934-3 under the new combination *Spegazzinia fidaiana* Backeb.n.sp. Backeberg then added his *Echinocactus neumannianus*, also published first in Der Kakteenfreund 2:8; 90/91, 1933, as the second species of the new genus (Kaktus ABC 1935:299).

He added the third species *Spegazzinia cumingii* (Hopff.) Backeb. in the B.f.K. 1935-12, transferring it from *Lobivia*, where it had been placed earlier by Britton & Rose (The Cactaceae 111: 59, 1922). Earlier in B.f.K. 1934-3 Backeberg had indicated that *Echinocactus* or *Lobivia cumingii* would be the type species of his proposed genus *Bridgesia* honouring Thomas Bridges a great traveller and plant collector and friend of Joseph Hooker. (*Bridgesia*: main distinguishing features were deeply inserted flowers, multiflorous areoles and naked receptacles and included *Neoperteria* species as well as *E.cumingii* - Y. Ito again took this up in his Explan. Diag. Cact. giving a new name for the illegitimate *Bridgesia* that of *Gymnantha* but again without description. Backeberg gives as his post-cognitive reasons for abandoning *Bridgesia* as a genus that it would have to include his section *Schickendantzia* of *Gymnocalycium* with their deeply inserted flowers, and he did not believe that plants otherwise obviously *Gymnocalycium* belonged in the same genus that contained elements of *Neoperteria*. So *Bridgesia* Backeb. would refer only to plants with multiflorous areoles and short receptacles. The description is given in B.f.K. 1935-12 without a Latin diagnosis nor type - though this could be inferred as *Cactus villosus* Monv. now better known as *Neoperteria villosa*. But even this eventually seemed a weak foundation to him and so no more is heard of *Bridgesia* except the echo of Y. Ito's *Gymnantha* - both these names should not bother anyone today except taxonomic historians.) But a problem does indeed remain and that is the correct name for this third species.

In 1937 Erich Werdermann (loc.cit.sup.) pointed out that the name *Spegazzinia* Backeb. was an illegitimate homonym of *Spegazzinia* Saccardo published in 1886 (Saccardo, Sylloge Fungorum, 4:758, 1886) for a genus of fungi (or algae?) and created the new name *WEINGARTIA*, honouring Wilhelm Weingart a personal friend of both Werdermann and Backeberg who shared their interest and knowledge of South American *Cactaceae*. The description and diagnosis given by Backeberg for *Spegazzinia* Backeb. non Saccardo was perfectly acceptable and validly published, only the name was illegitimate, so all that Werdermann had to do was to replace the name and to effect the transfers of *S. fidaiana* and *S. neumanniana* to *Weingartia* so that the type species of *Weingartia* now became *Weingartia fidaiana* (Backeb.) Werd. Werdermann acknowledged the third species *Echinocactus cumingii* but declined to make the formal transfer saying 'von diesen nehme ich den altbekannten Ects. cumingii vorläufig heraus, da er gewissermassen einer "Spezialbehandlung" unterworfen werden muss'. 'For this, I accept the old known *E. cumingii* provisionally, for in a manner of speaking it must be given special treatment'. Such special treatment has been tried on several occasions:

van Osten, Succulenta 21:11; 125-134, Nov. 1939

Backeberg, Kakt. u.a. Sukk. 1:2; 2, 1950

Hutchison, Cact. & Succ. J. Amer. 29: 1; 11-14, 1957 and Nat. Cact. & Succ. J. 14:2; 38, 1959

Boom, Succulenta 43 loc. cit. supra

Waterman, Chileans 29 loc. cit. supra

in order to decide the correct name for this plant. It is a very tricky taxonomic exercise requiring great skill in interpreting the International Code for Botanical Nomenclature. The trouble lies in the fact that there are two *Echinocactus cumingii* described in the

## ASHINGTONIA

literature. *Echinocactus cumingii* Hopff. Allgem. Gartztg. 29:11; 225, 1843, and *Echinocactus cumingii* Salm-Dyck Caci. Hort. Dyck; 174, 1849, and possibly even a third *Echinocactus cumingii* Regel & Klein Ind. Sein. Hort. Petrop. 48, 1860, though this is possibly a redescription of the Hopffer 1843 plant. The name of the Salm-Dyck plant is therefore an illegitimate homonym of the Hopffer plant. Analysis of the original descriptions by Hopffer, Salm-Dyck and Regel & Klein, by Harry Middleditch and Geoff Swales in the Chileans 7:23; 20-25 is skilfully done and for good measure they give both the original descriptions as well as translations of them. There is no doubt that Salm-Dyck describes a *Weingartia* while the Hopffer and Regel & Klein plants are clearly not *Weingartias* because of the pilose scale axils but could well be *Copiapoas* or *Neoporterias* section *Nichelia*. This latter plant came from a collection made by Thomas Bridges and is quoted by Carl Hopffer as from the 'Peruvian' Andes (now actually Chile rather than Peru due to boundary changes), and not from Bolivia from where all other *Weingartias* and *Echinocactus cumingii* Salm-Dyck come.

In the article by Dr. Boom he makes the statement that both plants were found by a Mr. Cuming; this is quite incorrect for Carl Hopffer definitely states that *E.cumingii* Hopff. was discovered by Thomas Bridges but sent to Hopffer by Hugh Cuming. We can assume that Thomas Bridges also collected the plant described by Prince Anton Salm-Dyck, in Bolivia as Bridges was known to have visited Bolivia at least twice during this period and would have given the plants to Cuming for shipment to England and subsequent distribution. Salm-Dyck acknowledges receipt of the plant from Hugh Cuming. (See Middleditch - S. American Explorers 3 Chileans 7:25; 28-31, 1973 for the relationships between Hugh Cuming and Thomas Bridges and correspondence of the latter with Sir William Hooker.) (If Karl Schumann is correct - Gesamtbeschr. der Kakteen 1903 - the Salm-Dyck plant may have been found even earlier. Schumann suggests that the Salm-Dyck plant was already in cultivation in 1840 by a M. Andry in Chaillot but the Thomas Bridges collected plant could not have reached Salm-Dyck before 1843 and more probably not until 1845 if the Kew Herbarium sheet on *E.cumingii* is part of the Hooker-Bentham collection. Salm-Dyck did not describe it until 1850.) So it is Hugh Cuming (not Cumming as used by Salm-Dyck) who is honoured for the discovery of both the Hopffer and Salm-Dyck plants and not Thomas Bridges their discoverer. Even Backeberg's attempt to honour Thomas Bridges failed to materialise (vide supra).

The problem of the two names was not recognised and no attempts were made to provide any distinction between the two plants for many years. Even Britton & Rose appeared to assume that both descriptions referred to the same plant despite the patent differences. Because of the associations of the Bolivian plant with *Echinocactus cinnabarinus* Hook. in Thomas Bridges' correspondence with Sir William Hooker, Britton & Rose believed that *E. cumingii* Hopff. was probably also a *Lobivia* into which newly created genus they had placed *E. cinnabarinus*. The description accompanying their *Lobivia cumingii* (Hopff.) Br. & R. was a blend of both the original Hopffer and Salm-Dyck descriptions - the body description from Hopffer - the floral description and habitat from Salm-Dyck. It could be argued that they used in effect the Salm-Dyck description but with embellishments from the Hopffer description to augment the body characters to produce a reasonably accurate portrayal of the plant as known today. It is important that they rejected the Hopffer description of the flower so that there is no ambiguity in recognising the distinct identity in their description of the Salm-Dyck plant, despite the quotation of the Hopffer basionym in the new combination. Paul Hutchison (Nat. Cact. & Succ. J. 14:2; 38, June 1959) quoting Article 72 of the Code, quite correctly stated that the combination *Lobivia cumingii* could be treated as a new name, i.e. *Lobivia cumingii* Br. & R. for the illegitimate homonym *Echinocactus cumingii* Salm-Dyck non Hopffer 1850. Now from this point on I am

## ASHINGTONIA

extremely grateful to Prof. W. T. Stearn and Mr. Gordon Rowley for their consideration of the problem of the correct name for Salm-Dyck's plant. The substance of their interpretation and decision was given to me in private correspondence with Mr. Gordon Rowley following his long discussion with Prof. Stearn.

Paul Hutchison used the new name as the basionym for his transfer of this plant into *Gymnocalycium* as *Gymnocalycium cumingii* (Br. & R.). Hutch and this combination is perfectly valid, for the new name is now the earliest available. But it cannot be used with the generic name *Weingartia* because there is already in existence a *Weingartia cumingii* (Hopff.) Back. *Weingartia cumingii* Br. & R. - would be a homonym.

It is unfortunate that Curt Backeberg in the DKG year book for 1939 (DKG Jahrbuch. Oct. 1939 Teil 2:44 in obs.) had already made the combination *Weingartia cumingii* (Hopff.) Back. with the quite unambiguous use of *Echinocactus cumingii* Hopff. as basionym. In effect Backeberg had transferred Hopffer's *Neoporteria* (*Nichelia*) into *Weingartia*. This combination is a valid name despite the fact that *Echinocactus cumingii* Hopff. is not a *Weingartia*! It is not possible to rectify this by using the Salm-Dyck basionym either, as the combination *Weingartia cumingii* is now irrevocably tied to the Hopffer plant.

The attempt attributed to Van Oosten (Succulenta 21:11; 125-134, Nov. 1939) to accommodate the 'failure' of Erich Werdermann to formally transfer *Spegazzinia cumingii* (Hopff.) Back. which Van Oosten had mistakenly assumed to have occurred (*Weingartia cumingii* (Hopff.) Werd. ex Van Oosten), is in fact superfluous by one month! In any case it repeats the association of the combination with the Hopffer plant.

Another perfectly legitimate new name for the Salm-Dyck plant is derived from Kurt Kreuzinger's combination *Oroya cumingii* (Salm-Dyck) Kreuz. in his Verzeichnis asw.u. System 1935 but as *Oroya cumingii* Kreuz. However as *Oroya cumingii* Kreuz. and *Lobivia cumingii* Br. & R. are now considered synonymous, *Lobivia cumingii* Br. & R. is the earliest legitimate basionym for transfer anywhere except into *Weingartia*.

If *Weingartia* is to be the preferred genus then only a new epithet is required. Backeberg provided this in 1950 (Kakt. u.a. Sukk. 1:2; 2, Jan. 1950) in the form *Weingartia neocumingii* Back. So one of the correct names for *Echinocactus cumingii* Salm-Dyck 1950 is *Weingartia neocumingii* Back., but it could also be *Gymnocalycium cumingii* (Br. & R.) Hutch, but NOT *Gymnocalycium neocumingii* (Back) Hutch. if *Gymnocalycium* were the preferred genus. Similarly *neocumingii* not *neocumingii* for any other later transfers. Thus *Sulcorebutia neocumingii* (Back.) Brandt (Frankfurter Kakteenfreund April 1976) is incorrect, it should be *Sulcorebutia cumingii* (Back.) Brandt if such a transfer was desired.

In 1951 Prof. Martin Cardenàs reviewed the history of *Weingartia* together with the publication of a new species and variety *W.pulquinensis* and *var. corroana*. The review is interesting because he believed that it was not easy to justify a genus *Weingartia* which had characters of both *Gymnocalycium* and of *Rebutia* and was very critical of Backeberg's association of the *Gymnocalycium* like *neumanniana* and *fidaiana* with the *Rebutia*-like *cumingii* (based upon the photograph of *Spegazzinia cumingii* (Br. & R.) Back. in B.f.K. 1935-12), but he decided that this plant was not practically identifiable from its earlier descriptions. It is important to note that Cardenàs only refers to the Hopffer diagnosis never to the Salm-Dyck. He therefore casts doubt on the identification by Backeberg of the plant pictured in B.f.K. 1935-12 as *Spegazzinia cumingii*! Cardenàs notes that the flower is very similar to that of his new *Weingartia pulquinensis*. 'La flor de la planta en esta última ilustración, concuerda también con la de *Weingartia pulquinensis*. Por la relación precedente, la especie *Spegazzinia cumingii* (Br. & R.) Back., es prácticamente inidentificable por desconocerse su procedencia concreta y por ser diferentes las varias descripciones que de ella se la publicado. 'Had Cardenàs really taken

note of the Salm-Dyck description then I believe he would have realised that *W. pulquinensis* was a close relative of Salm-Dyck's plant. So we have yet another new name in *Weingartia* but it does not have precedence over *Weingartia neocumingii* Back. In the subsequent treatment of *Weingartia* it is my opinion that Martin Cardenàs must be given due credit for the first published opinions on the lack of integrity of the 'neocumingii' group as true *Weingartias*.

Simultaneously with the publication of the new name *W. neocumingii*, Backeberg described the next new species *Weingartia hediniiana* Back., a plant not unlike *neocumingii* but with a more robust spination and woollier areoles,

Following the first description of *Gymnocalycium westii* Hutch., Cact. & Succ. J. Amer. 29: 1; 11-15, Jan./Feb. 1957, Paul Hutchison rejected the genus *Weingartia* arguing that it was part of the genus *Gymnocalycium*. The characters upon which the genus *Weingartia* had been set were too weak to justify its status. J. D. Donald in his review of the genus *Weingartia*, Nat. Cact. & Succ. J. 13:3; 54-56, Sept. 1958 - 13:4; 66-67, Dec. 1958, while acknowledging the close similarity between the floral morphology of *Weingartia* and *Gymnocalycium*, *Neowerdermannia* and *Sulcorebutia* preferred to retain their generic status and so transferred *G. westii* Hutch, to *Weingartia*. (Backeberg also transferred *G. westii* to *Weingartia* in Die Cactaceae 3: 1789, 1959, but the Donald combination has priority.) In the meantime M. Cardenàs described a close relative of *W. fidaiana* but from the neighbouring province of Cinti, Bolivia, as *Weingartia cintiensis* Card. Revista do. Agric. 10:9, 1958. Paul Hutchison in a follow-up article to the Donald review, Nat. Cact. & Succ. J. 14:1, 38, March 1959, promptly transferred it to *Gymnocalycium*. At the same time he transferred *Neowerdermannia vorwerkii* and its varieties to *Gymnocalycium*. It was in this article that Hutchison effectively published the correct new combination *Gymnocalycium cumingii* (Britt. & Rose) Hutch: as discussed above.

Friedrich Ritter's extensive travels in Southern Bolivia led to his discovery of a large number of *Weingartia* plants many of them at least new phenotypes if not actually new species. However under his more generous specific concepts he published as new six more species in 196 1:

FR812 *W. erinacea* Ritt., FR812A *W. erinacea* v. *catariensis* Ritt.; FR813 *W. riograndensis* Ritt. and FR815 *W. longigibba* in Cact. & Succ. J. Gt. Brit. 23:1; 8-11, Feb. 1961 and FR372 *W. multispina* Ritt; FR814 *W. lanata* Ritt. and FR953 *W. sucrensis* Ritt. in the Nat. Cact. & Succ. J. 16:1; 7-8, March 1961.

Prof. Martin Cardenàs criticised Ritter for publishing them as distinct species. 'It seems to us that some of these are too much alike to be separated clearly as different species' 'Il nous semble que quelques-uns devraient être séparé clairement en différentes espèces.' D'autre part les différentes illustrations de toutes ces plantes ne sont pas aussi complètes qu'il serait souhaitable.' Cactus (France) 82; 44-51, 1964, New Bolivian Cacti X. Yet in this same article he also describes more new species that to me are just as liable to the same criticism as he shows Ritter. *Weingartia pilcomayensis* Card. *Weingartia vilcayensis* Card., *Weingartia platygona* Card., and *Weingartia lecoriensis* Card. At the same time he took the opportunity to elevate his *W. pulquinensis* v. *corroana* to full specific status as *Weingartia corroana* (Card.) Card. (as *corroanus*). (Cardenàs described a *Rebutia corroana* in Cact. & Succ. J. Amer. 43: 246, 1971. This is now considered to be a *Weingartia* although Donald and Brederoo had transferred it in error to *Sulcorebutia* (Succulenta 52:10: 192, Oct. 1973). Cardenàs in 1951 distributed a plant as *Weingartia chuquichuquiensis* nom.nud. This is believed to be the plant he described as *R. corroana*. It is a form of the *lanata* / *riograndensis* group.)

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\* Note of Sulco-Passion : in fact this translation was false. You should read : « Il nous semble que certaines sont trop semblables pour être clairement séparées en différentes espèces » which is the exact opposite !

## ASHINGTONIA

Meanwhile Backeberg published in his obscure *Descriptiones Cactacearum Novarum et Combinationes Novarum III*, 1 st December 1963, one of Ritter's undescribed *Weingartias* FR50b an orange flowered form of *W. neumanniana* as *W. neumanniana v. aurantia* Back. The description is invalid as the type specimen quoted is a living plant. At the same time he transferred all the *Neowerdermannias* to *Weingartia*:

*Weingartia chilensis* (Back.) Back.

*Weingartia vorwerkii* (Fric.) Back.

*Weingartia vorwerkii v. erectispina* (Hoffm. & Back.) Back.

*Weingartia vorwerkii v. gielsdorfiana* (Back.) Back.

Through the 1970s, from time to time at Conferences, and in the literature, references to a problem that *Weingartia* and *Sulcorebutia* converged could be heard or read, and some of the new species could be placed in either genus.

In 1971 Cardenàs described *Weingartia torotorensis* Card. (*Cact. & Succ. J. Amer.* 43: 243, 1971) the first purple flowered, genuine it seemed, *Weingartia*. Backeberg in *Cact. & Succ. J. Amer.* 23: 85, 1951, 1959 had decided to place the obscure *Echinocactus ambiguus* Hildm. into *Weingartia ambigua* (Hildm.) Back. on the basis of its short tubed naked scaled, mauve flower, although the plant body in the photograph seemed to resemble the thin fluted ribs of the *Echinofossulocactus*. The plant is not known for certain and has been variously placed by other authors in *Neoporteria*, *Neochilenia* (*Nichelia*) and *Hildmannia*. Backeberg in *Cactus* (France) 85: 20, 1965 seemed to have second thoughts about it being a *Weingartia*. Although in his *Cactus Lexicon* of 1963 and subsequent editions including the English one of 1978, he still includes it under *Weingartia*. Cardenàs' *W. torotorensis* was thought by many to be *W. ambigua* and indeed a recollection of *W. torotorensis* by Karl Knize were imported as *W. ambigua*. (Some of these with yellow flowers, later became known as *W. hajekiana*, a form of *W. pulquinensis* / *neocumingii*, clearly an import mix up!)

Alfred Lau's expedition to Bolivia in 1970 recollected many of Ritter's and Cardenàs' *Weingartias* and so these were able to be studied critically. Donald described a *Weingartia purpurea* and *Sulcorebutia cylindrica* in *Ashingtonia* 1:5; 53 and 56, Mar. 1974, remarking how difficult was the generic decision from the many points of similarity to both *Weingartia* and *Sulcorebutia*. Today the decision may well be reversed with *purpurea* becoming a *Sulcorebutia* and *cylindrica* a *Weingartia*!

At the IOS Congress in Reading 1973 Donald read a paper 'Weingartia and *Sulcorebutia* - one genus or two?'

This highlighted the problem and gave the qualitative evidence for the continued existence of the two genera but severely curtailed *Weingartia*. *Weingartia* had two origins - the true *Weingartia* in the South based on the type species and *Sulcorebutia*-like *Weingartias* in the North based upon *W. neocumingii*. The quantitative evidence from S.E.M. studies on seed and pollen and more detailed analysis of the flower, stem and root and a closer look by light microscope of seed surface structures is now forthcoming.

However, Mr. Fred Brandt has also taken upon himself independently to re-examine the whole problem and in his haste made some serious errors of judgement. In the *Frankfurter Kakteenfreund* April 1976, pages 8-9, he solemnly declares that *Weingartia* Werdermann is a nomen nudum and proceeds then to transfer all *Weingartia* names to *Sulcorebutia* including even the *Neowerdermannia* transfers by Backeberg. He correctly quoted all the basionyms so the transfers to *Sulcorebutia* are perfectly legitimate except one - *Sulcorebutia neocumingii* (Back.) Brandt (i.e. *S. cumingii* (Br. & R.) would be correct using *Lobivia cumingii* Br. & R. as the earliest basionym available). However *Weingartia* is a perfectly good name and is certainly not a nomen nudum and is here to stay. But

## ASHINGTONIA

nevertheless, Brandt has already effectively transferred to *Sulcorebutia* many *Weingartias*, and these names remain on the books for subsequent use if such transfers become necessary in the future.

After his mistake has been pointed out to him, the irrepressible Mr. Brandt industriously sets about revising the genus *Weingartia* now back in favour, in Kakteen u. Orchideen Rundschau (KOR) 5: 69-70, November 1977. He sets out two subgenera - (1) *Spegazzinia* Back. non Saccardo with as type species *Echinocactus fidaianus* Back. and (2) *Sulcorebutia* Back.- his error here is that the type species must be included in the subgenus that has the same name as the genus. So subgenus (1) of *Weingartia* should be *Weingartia* Werd. He cannot use *Spegazzinia* Back. even if it were available for use.

He then proceeds to effect transfers from *Sulcorebutia* to *Weingartia* again perfectly validly, despite the error in name of the first subgenus. These names are available for future use also.

It is interesting to note that he includes *Sulcorebutia tiraquensis* (Card.) Ritt. under subgenus *Spegazzinia*, i.e. a true *Weingartia* like *W.fidaiana* but places the otherwise very similar *S.steinbachii* (Werd.) Back. in the subgenus *Sulcorebutia* for which, of course, the latter species is the type.

Brandt is very well known for his detailed studies of seed structures especially amongst the genus *Parodia*. His genius for seeing minutae which separate species one from another is not, however, universally accepted. Such minutae are not regarded as anything other than normal expected phenotypic variation.

He has published two new names in *Weingartia*. *W.brachygraphisa* Brandt, Kaktus (Dan.) for a phenotype of *W.neocumingii* referred to as *W.neocumingii* v. *brevispina* Back. nom. nud. and *W.aglaia* Brandt for the plant discovered by Knize (KK860) and others and imported as *Sulcorebutia bicolorispina* or *S.tiraquensis* v. *bicolorispina* (Kakt. Belg. 10:3, 54.56, May/June 1978). *W.ackebergiana* is a nomen novum from Brandt for Rausch's very distinct variety of *S.steinbachii*, i.e. var. *horrida* from Vacas. (K.Ö.R. 5; 70, 1977). *Weingartia nigrofuscata* Brandt (Kakt. Belg. 10:6, 113-115, Nov./Dec. 1978) is a new name and description of Ritter's *S.tiraquensis* v. *spiniosior*.

The other latest name in *Weingartia* is that of *Weingartia trollii* Oeser, Kakt. u.a. Sukk. 29:6; 129-131, June 1978 which seems to be a new description for the well-known and often recollected red-orange flowered form of *Weingartia sucrensis* from Sucre, Chiquisaca, Bolivia. Finally, in Kakteen und andere Sukkulente 30:5; 105/6, May 1979 Walter Rausch published *Weingartia kargliana* - a *W.neumanniana* like plant but from Bolivia, well separated from and to the north of the habitat of *W.neumanniana* from Humahuaca, Jujuy, Argentina.

The classification of *Weingartia* and its relationships with other South American genera has not been very controversial. Only the systems of Backeberg and Buxbaum and Hunt are modern enough to take account of it. All these systems base the relationships purely on the morphology of the flower and in particular the naked scaly receptacle. Backeberg's system based upon similar external morphological appearances first brought together *Neowerdermannia*, *Weingartia* and *Oroya* in his Group 1 *Brachyanthii* of the series *Gymnanthi* under the tribe *Austroechinocactaceae*. *Gymnanthi* was divided into three groups: (1) *Brachyanthi* as above, (2) *Siphonanthi* for *Gymnocalycium* and (3) *Cephalanthi* which included *Copiapoa*. The inclusion of *Oroya* is an interesting example of how a system of classification such as Backeberg's can place totally unrelated genera (on other counts) in the same group. A very good account of the series *Gymnanthi* Backeberg was given by M. W. B. van Oosten in Succulenta 21:11, 125-134, November 1939. Only group 1 *Brachyanthi* concerns us here and it is in this paper that the erroneous contribution to E.

## ASHINGTONIA

Werdermann of the combination *Weingartia cumingii* (Hopff.) Werd. occurs and for ever after quoted as *W.cumingii* (Hopff.) Werd, ex van Oosten. The article is important historically as it gives us a clear understanding of these plants just before the 1939-45 War during which many of the important living collections containing these plants were lost. There are some very good pictures of *Neowerdermannia vorwerkii* and *Neowerdermannia chilensis* which clearly show their separate quite distinct body morphology. (Backeberg did not validate the latter name until 1951 - Cact. & Succ. J. Amer. 23:3; 86, 1951.) There are also excellent pictures of the infamous *Weingartia cumingii* (Hopff.) Werd, (i.e. our *W.neocumingii* Back. in its short-spined orange-flowered form), of *W.neumanniana*, *W.fidaiana* and for good measure *Oroya peruviana*. In the text which is almost entirely factual concerning the plant's appearance, van Oosten does however point out that *Lobivia cumingii* Br. & R. could not be a *Lobivia* in the same sense as *Lobivia cinnabarina* (Hook) Br. & R., but he errs, nevertheless, in stating that the description by Salm-Dyck could be that of a plant similar to *L.cinnabarina*. He thus accepted the Hopffer description in defending Backeberg's choice of the latter authority. (Personally I wonder if van Oosten had really compared the two descriptions with the plant he clearly understood as *W.cumingii* ?). He confirms that the cultivated *cumingii* had an orange flower (cf *W.trollii* Oeser 1) and that there was also a paler spined form with yellow flowers – *W.cumingii* v. *flavescens* (Poselg.) Back. So in 1939 there is little doubt about *W.cumingii* as a botanical entity. Why then did Martin Cardenas reject it in 1951 when he redescribed this plant as *W.pulquinensis* ? The ready distinction between the Argentinian *W.neumanniana* and the South Bolivian *W.fidaiana* is made clear. A short robust plant with dark epidermis and orange flowers and a narrow neck between body and swollen root stock is *W.neumanniana*, while a long green cylindrical less robust plant with yellow flowers and no obvious swollen root stock restricted by a narrow neck is *W.fidaiana*. In a footnote to the paper appearing the next month Succ. 21:12, 141-142, Dec. 1939, there is a very interesting conflict of opinion on the previous month's picture of *N.chilensis* which van Oosten now decides cannot be true because Backeberg states that the flower of *N.chilensis* is similar to that of *N.vorwerkii*, i.e. rosy-mauve. The flower of van Oosten's plant is 'brownish'. Today most of the plants of *N.chilensis* found by Lau and Knize are rosy-mauve flowered, but amongst Ritter's FR199 there were a few quite different looking plants with short creamy white flowers and brownish scales, looking remarkably like the van Oosten picture. What is this plant?

In the later revisions of his classification Backeberg removes *Oroya* from an intimate association with *Weingartia* and *Neowerdermannia* by putting it into a special series *Subnudiflorae* but still adjacent in numerical sequence. (Die Cactaceae J/Buch. DKG 1942, p.38) and maintained it in his Die Cactaceae 1957 and Das Kakteen Lexikon 1963 and subsequent editions.

### *Austroechinocacti* Eastern Branch

114 *Oroya*

116 *Gymnocalycium*

118 *Weingartia*

117 *Brachycalycium*

119 *Neowerdermannia*

During the preparation of his Das Kakteen Lexikon he finally decided to submerge *Neowerdermannia* into *Weingartia*.

Franz Buxbaum's system is based upon sounder botanical principles than Curt Backeberg's and so prevents genera like *Oroya* from being contemplated as possible relatives of *Weingartia*. Even so the familiar association of *Weingartia*, *Neowerdermannia* and *Gymnocalycium* is maintained in the subtribe *Gymnocalyciinae* under the Tribe *Notocactae*. In the 1961 version *Discocactus* was associated with them



## ASHINGTONIA

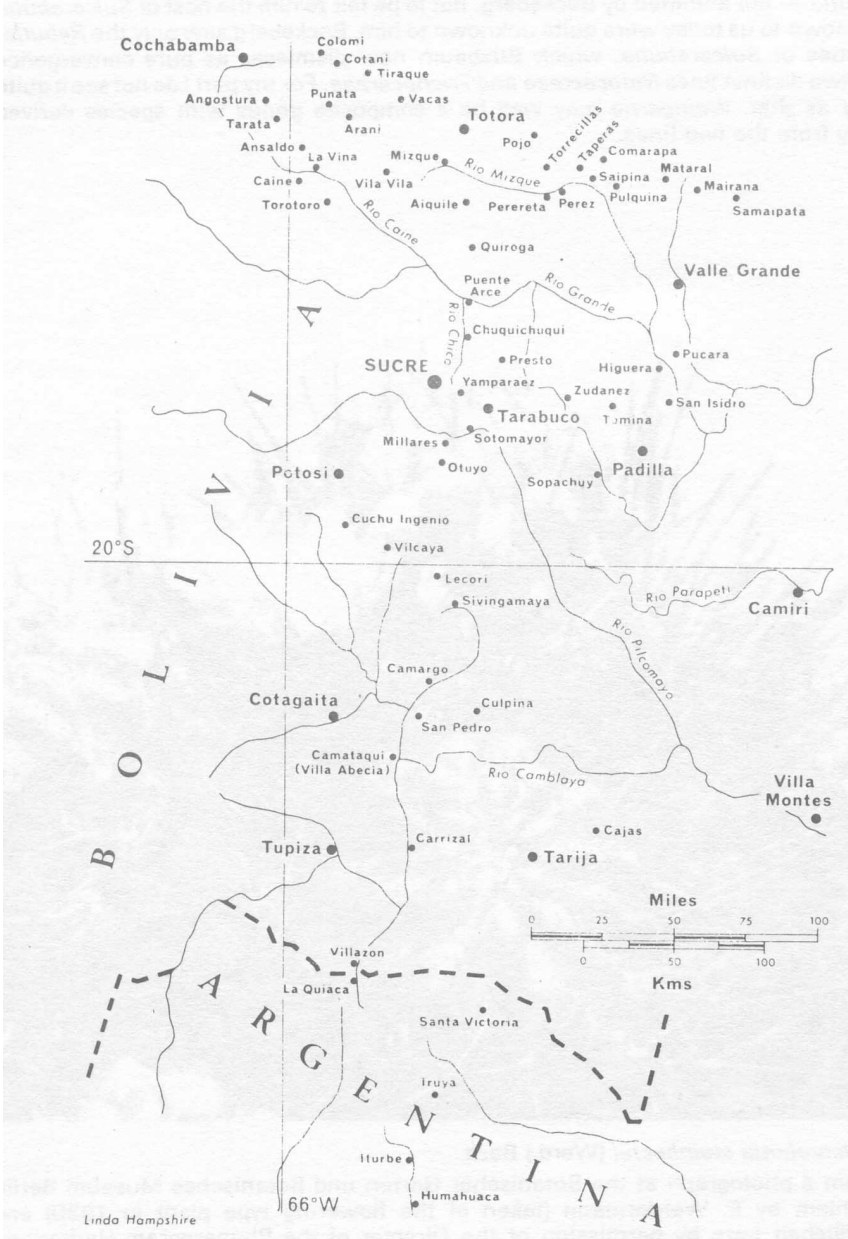
but by 1975 the latter is removed and *Sulcorebutia* from the subtribe *Rebutiinae* added. This latter move acknowledges the close relationship that exists between *Weingartia* and *Sulcorebutia* - not admitted by Backeberg, but to be fair to him the host of *Sulcorebutia* species known to us today were quite unknown to him. Backeberg saw only the *Rebutia*-like qualities of *Sulcorebutia*, which Buxbaum now dismisses as pure convergence between two distinct lines *Notocacteae* and *Trichocereae*. For my part I do not see it quite so simply as that. *Weingartia* may well be a composite genus with species derived separately from the two lines.



47. *Sulcorebutia steinbachii* (Werd.) Back.

From a photograph at the Botanischer Garten und Botanisches Museum Berlin Dahlem by E. Werdermann (taken of the flowering type plant in 1930) and published here by permission of the Director of the Phanerogram Herbarium, Berlin, Dahlem.

### Southern Bolivia



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Credits

*Half tone studies :*

47. Sulcorebutia steinbachii Bot. Mus. Berlin-Dahlem

Southern Bolivia Map

L. Hampshire

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