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railway crosses the Rio Grande numerous times and cuts a track in a gorge whose sides are planted out like stakes with *Helianthocerus poco* and *Oreocereus trollii*.

The number of travellers increase at each stop. Soon I count 95 people for 72 places. La Quiaca, at 3442m altitude, the last port of call in Argentine territory, is reached at 1300 hours, being 4 hours late. I steer towards the customs station to clear my two *Oreocereus trollii*. An official wants me to buy some special wrapping paper and to pass on to the customs. I give up and offer these two plants to a young indian.

The Bolivian frontier is 1.5km away; customs, then immigration control where the wall is hung with a series of photographs of terrorists sought by the police. I come back to the station where there prevails a feverish activity which I met with again at all halts en route between Villazon and La Paz. The women have the traditional bowler hat on their heads and have a multi-coloured shawl wrapped round their shoulders. The train is made up of carriages built in solid timber and dating from the last century. The sash windows had frequently to be kept up with string to avoid making an exit like Robertspierre. The interior of the carriage is a veritable hive of confusion; sacks of semolina, maize, goat's cheese, cans of oil, cooking utensils, ducks.

At 1600 hours, some one hour late, the train gets under way. It runs on to a plateau covered with scraggy tufts of grass. After an hour's run, the first *Oreocereus neocelsianus* or *maximus* makes its appearance. The rate of descent becomes steeper. It is 1910 hours when the train reaches the lowest point on its route at Balcarce, 2600m. At Arenales the hills are covered with *Oreocereus trollii* and with *Oreocereus neocelsianus* or *maximus*.

I wake up once again on 31 January at an altitude of 4060m in an entirely different landscape. It is the altiplano with its immense expanse of dwarf herbage and scattered tussocks of grass. At Rio Mulato a branch of the railway line goes off in the direction of Potosi and Sucre via the El Condor pass at an altitude of 4785m. The capital city of Bolivia is reached at 2300 hours with a delay of eight hours, for the locomotive which had taken fire had had to be replaced. The following days took me successively to Copacabana on the borders of Lake Titicaca (3810m), to Puno in Peru, to Juliana, and to La Raya where the railway line culminates at 4321m. This station is dominated by the majestic Vilcanota (5846m) capped with permanent snow....The train arrives in the station at Cuzco (3400m) at 2315 hours on 3 February. At the hotel there is the first warm bath since leaving Tilcara in Argentina.

... from J. Hopkins.

I find that *Lobivia longispina* sometimes shows a bluish, almost shiny-waxy epidermal tinge. I have seen it on a couple of imports, but not on home-grown plants. It faded on the imports after a few months. I would have hardly described it as copper sulphate, which to my mind is an intense blue.

... from H. Middleditch

It would seem to be quite possible that the bluish wax coating of the epidermis of *Pseudolobivia longispina* provided the plant with a barrier to the intake of excess heat. Being a C.A.M. plant it would require very little heat to drive its metabolic processes, far less heat in fact than it would receive from normal insolation in habitat. Since the degree of insolation in this country is far less than that which they endure in their habitat, the plants have much less need for this heat-resistant barrier when they are in cultivation here. It seems that the plant reacts accordingly and gradually dispenses with what has become a superfluous feature in its new environment.

## OREOCEREUS IN ARGENTINA

From R. Kiesling

In January and February of 1974 I went on foot through Jujuy with the objective of collecting various specimen plants for the museum. This trip took place in the rainy season and we had many problems on account of the rains and the consequent floods. It was quite a long journey, the first part taking us from Tilcara to Caspala, Santa Anna, and Valle Grande to Ledesma, a distance of around 150 to 200km in 20 days. We took two horses and a packmule. We loaded the herbaria, tent, and other camping equipment on to the animals. We ourselves always went on foot and we were drenched plenty of times. We were not able to collect any cacti because we did not have any space for them, nor could we collect any cactus seeds because it was a little early for that. Moreover, more than half the route was through the zone of the selva, which is a type of mountain forest with many trees and is without cacti.

Afterwards I went on to Humahuaca and to Palca de Aparzo and then once again as far as Santa Victoria. I was there for four days without being able to return to La Quiaca because of the rain and a river in spate. But I had a good trip for the museum, returning with some fine herbarium specimens. From La Quiaca to Santa Victoria is not a great distance, but the two places differ greatly from each other. Santa Victoria itself lies on the east-facing slope of the cordilleras and so has the benefit of rain-bearing winds; it is at an altitude of 2400m and so it is in the zone of the selva. In the selva is to be found *Polylepis*, *Juglans australis*, *Alnus jorulnensis*, and many other sorts of trees, with *Tillandsia usneoides* growing on them. Higher up the slopes the selva gives way to pasture at about 2900m and in the pasture lands these are many grasses, cosmos, lupinus, *Rebutia*, *Lobivia*, and many fine flowers.

At about 3800m the pasture gives way to what we call the Alto-andina zone and here there grows in favourable depressions and hollows *Azorella*, *Pinophyllum*, and *Puya*, but no cacti. The average temperature is very much different between La Quiaca and Santa Victoria, as also is the rainfall, which is about 300mm per annum at La Quiaca and about 2000mm per annum at Santa Victoria. The road from Santa Victoria to La Quiaca crosses the range of the cordillera here by a pass at a height of 4400m and then starts to drop gradually down to the Puna. Again at about 3800m, near Cajas, the Alto-andino zone starts to give way to the Puna vegetation; in the Puna there grows *Psila*, *Fabiana*, *Palastrephyta*, *Adesmia*, *Astragalus*, *Oreocereus* and *Tephrocactus*. The *Oreocereus* are mostly found on the leeward slope of this cordillera and not on the plateau itself around La Quiaca.

Whilst we were there in January and February, the *Oreocereus* were in flower, but I did not observe any insects or birds visiting the flowers. The shrubs growing in the neighbourhood of the *Oreocereus* are the same as those of the Puna - *Psila*, *Fabiana*, *Palastrephyta*, etc. The *Oreocereus* grows only on the west side of the Sierra de Santa Victoria, and not

on the eastern slope which faces the rain-bearing winds. They are to be found from there as far south as Humahuaca, Tilcara, Purmamarca, and El Moreno; also up into the mountains as far as 3000m above sea level and even higher in places. Nowadays they are not found near the roads, since traders and the public in general destroy them. The nature of the soil where these plants grow is variable, ranging from rocky to sandy, very dry, on hillsides or on slightly inclined surfaces but never on horizontal terrain.

*Oreocereus celsianus* extends only as far south as Abra Pampa; it is abundant in the vicinity of the border with Bolivia - in the Quebrada Toqueros, at Yavi and at Cajas. At Yavi and at Cajas we found *Oreocereus trollii* and *O. celsianus* growing side by side, but they do not hybridize. There are also some *O. "maximus"* which is only a variety of *O. celsianus*, rather rare in Argentina.

*Oreocereus celsianus* grows on the hills to the north and east, but not on the hills to the south and west. The flowers and fruit appear in the summer (December to March). In April 1975 I was in Abres de Pives, close to Purmamarca, and collected some seed from the last fruits of *O. trollii*. The fruits only remain on the plant for a very short period, since the ants and the birds eat the pericarpell which is somewhat succulent; the fruits dehisce at the base. The fruit is dry, hollow within, (the seeds are loose), the funicles are reabsorbed (?-R.K.) and the outer wall of the fruit (carpel and pericarpel) is some 2 to 5mm thick, with little sap, and drying up.

.....from E. Zecher, My trip to south America, translated by K. Wood-Allum from G.O.K. Bulletin for June 1973

.....Finally we reached the famous Quebrada de Humahuaca which, with its old *Trichocereus pasacana* which grows in stands like forests, was the impressive model for an Argentine stamp. It has been established that there was an Inca settlement in the Quebrada and it is just possible that the pasacanas flourish on the remains of that settlement.

So narrow are the roads in this part of north Argentina that almost anything can happen, as the following event shows. Coming round a corner we came across a car hanging halfway over a 300m high cliff. The vehicle was standing with only the chassis on the edge of the drop; the occupants - a family with three children - stood helpless and moreover white with fright. We gave them a tow and put the vehicle back on the road. After this event we went further on into the countryside. Here you can find *Trichocereus poco*. Its red flowers emerging from near the crown of the plant glow like burning torches in the evening sun. We stopped for a while in Humahuaca. This town is famous on account of its carnival which is said to be the finest in Argentina. We collected *Lobivia rubescens* in the area.

Then we moved on to El Aguilar, a mining community with 7000 inhabitants. Lead and zinc are mined here and the second highest football pitch in the world is situated here at 4500m above sea level. Here we found *Lobivia longispina* with white, yellow, or red flowers as well as *Trichocereus poco*. We were close to the Bolivian border. At 3500m the night temperature drops to almost 0° C from 35° C at noon. Here *Lobivia chrysochete* grows.

Near Santa Victoria, our next stop, we collected *Lobivia pugionacantha* and *Tephrocactus subterraneus*, a species which is particularly difficult to find. Our colleagues, the University botanists, collected herbarium material of a species of *Puya*. On a south-facing slope we found a forest of *Oreocereus celsianus* including *cristates* which must have weighed 30-40kg. Among the white-haired plants we saw - although admittedly only rarely - some with chocolate brown wool. In amongst the *O. celsianus* we also found *O. trollii*. If you think that there will be hybrids between the two, however, then you do not appreciate the intricacies of nature. The flowering period of the two species is separated by some weeks. Nature has therefore created a barrier to hybridisation.

Often there are no bridges over the streams and rivers and so you have to wade, up to your thighs. The only animals that live wild here are the llamas. You come across salinas, gigantic salt lakes; plants thrive on their banks. These have adapted themselves to cope with the dry seasons by becoming totally dormant for at this time the concentration of salt in the soil is too high. Only during the rainy season, when everything is flooded, does the concentration of salt drop and the plants revive. Here we found *Mediolobivia einsteinii*.

Immediately afterwards our car became stuck in the sand and it took quite a while before we could make any further progress. Before we ascended a 4900m pass we found *Soehrensia korethroides*, growing up to 60cm high, in flower and heavily spined. At the top of the pass we found *L. chrysantha v. hypocyrtia*. On the way back we returned via the Quebrada del Toro in Salta. Here also were masses of *Trichocereus pasacana* and we also found *Pyrrhocactus umadeave*. A *passiflora* growing wild here was full of fruit like small oranges. From this spot we directed our steps back towards La Plata.  
... Comments from H. Middleditch.

This brief account from Roberto Kiesling contains some very valuable observations both on the subject of *Oreocereus* and on the environmental regime which prevails at its habitat location. The description of the Puna vegetation given by Fries, by Weberbauer, and by Cabrera does draw a clear distinction between the Tola heath and the Cushion-plant zone. Rauh states that the Tola heath in SW Peru lies at between 3400 and 4000m altitude. Weberbauer tell us that in SW Peru the Tola heath is to be found in a zone which lies between 3300/3400m altitude and 4200/4300m altitude and that above that zone is to be found the zone of cushion and rosette plants (*Azorella*, *Pycnophyllum*, etc) or of *Stipa* bunch grass. Fries indicates an altitude of 4300m for the lower boundary of the cushion-plant Formation. Reiche and Pohlmann quote a band of 3500 to 4000m for the Tola heath for the headwaters of the Camerones and Vitor valleys, with cushions of *Llaretia* starting at 4000m upwards. Here we have Kiesling telling us that on the Santa Victoria range in NW Argentina the (cushion-plant) zone of *Azorella*, *Pycnophyllum* and *Puya* is to be found above 3800m both on the eastern (windward) and western (leeward) slopes. When he was descending the leeward flank of the Victoria range down to the altiplano, Kiesling met the Puna vegetation with its associated *Oreocereus* and *Tephrocactus* at 3800m. Rauh also tells us that the Tola heath in SW Peru is the home of *Oreocereus* and *Tephrocactus*. But in addition Kiesling tells us that the *Oreocereus* are not to be found "on the plateau itself"; perhaps this comment is supported by Fries who tells us that a sharp boundary can usually be seen where the stony slopes supporting the cacti adjoin on to the sandy plain carrying the Tola heath.

*Oreocereus* growing on slopes scattered with stones of between fist and piano size may be seen in Ritter's photograph in his "Forty years' adventuring"; this gives a far better impression of the habitat than the same shot but including less background area that appears in Winter's 1954 catalogue. But the latter has a first class photograph of *O. maximus* growing on very steeply sloping ground. Similar habitat background may be seen in the illustration in Backeberg's "Stachlige

Wildnis", in Castellanos' photograph taken near Cangrejillos in Vol.2 of Backeberg's *Die Cactaceae*, and in Dorst's "South America". In Meyer's account of his trip to the Serra Santa Victoria (*Revista Geografica Americana* 10.120.1943) there is a similar photograph taken in the neighbourhood of Cajas – possibly at the very site mentioned above by Kiesling. In a photograph taken by Harry Blossfeld and published in Robert Blossfeld's 1937 cactus catalogue we have *Oreocereus celsianus* in great numbers again growing on a gentle slope together with dwarf bushes – presumably the Tola heath – and lots of bare stony ground between. A similar slide was shown by Roberto Kiesling to the Chileans Autumn weekend. In K.u.a.S for June 1965 there is a photograph of *O. hendriksenianus* growing on a slope amidst a pretty good covering of bushes. There is a superb view of *Oreocereus* growing on a slope in Abb 712 of Ritter's *Kakteen in Sudamerika*. On this collective evidence the habitat environment for *Oreocereus trollii* and *O. celsianus* seems to be fairly clearly defined: it grows by preference on sloping (as opposed to level) ground, often in company with dwarf bushes (probably Tola) and usually with stones littering the ground surface.

It is not absolutely clear just what Kiesling is telling us when he says that the *Oreocereus* grows on hills "to the north and east" but from the account which we are given by Zecher of his trip to Santa Victoria it appears that the *Oreocereus* occur on south-facing slopes. Presumably Kiesling means that *Oreocereus* grow on hills which rise to the north and east. At first sight it may seem odd that plants would only select slopes of a specific compass orientation, but we find that this phenomena is not peculiar to the *Oreocereus* growing on the margins of the Altiplano. We are told by Kuhn and Roehmeder that in the Province of Tucuman in the valleys gouged into the flanks of the Andes "one may observe in the same quebrada a notable difference in the vegetation on the two sides...the slopes which face south and south-east are in a more favourable situation in regard to the proportion of moisture they receive than the opposite slopes which face to the north or north-east, because of the direction of the prevailing moisture-bearing winds...then the same slopes benefit from the greater shade than those which face north or north-east....in this way the two favourable effects are complimentary; more humidity and less evaporation". In his description of the Vegetation of the North-western Valleys of the Argentine Republic, Seckt observes that "the northern side of the valleys are noticeably damper and possess accordingly denser vegetation than the opposite, drier, southern side"; he quotes the Escoipe valley as a typical example. Seckt also notes that in this region that the tree-line ascends higher on the slopes facing towards the south than on the respective north-facing slopes. Thus it would appear that when Kiesling tells us that *Oreocereus* favour slopes which fall in a south or southwesterly direction, this is in line with observations made by other authors upon other types of vegetation in northwest Argentina.

From the account in Chileans No.38 of the trip undertaken by Reiche and Pohlmann to the Camerones and Vitor valleys in northern Chile, the altitude zone in which *Oreocereus* is found there between Jorona and Tacna amounts to a distance of only some 8 miles. Kiesling carefully tells us that in Argentina, near the border with Bolivia, *Oreocereus* are found in the Quebradas of Toquero, Yavi, and Cajas so that they presumably occur on the slopes of the quebrada and not on the level Puna; hence the area they cover will be only a minute proportion of the country between La Quiaca and the Santa Victoria chain. Meyen tells us that when he travelled from Yavi towards Santa Victoria he came across "an extensive stand of tree-like white cardons, prominent cacti completely covered in white woolly hairs" not far from Cajas; evidently he either did not see any *Oreocereus* near La Quiaca or near Yavi, or perhaps he did not concern himself with looking down into the quebrada at those two places. The stand of *Oreocereus* near Cajas were evidently far more obvious and would presumably be where Fries' stony slopes came down to the edge of the level plain; but Meyen's "extensive" does not suggest even as much as eight miles – quite probably something much less than a mile, possibly no more than several hundred yards up the slope.

Thus we get down to a picture of *Oreocereus* restricted to fairly narrow discontinuous bands on the margins of the Altiplano and the slopes of adjacent quebradas, further limited to the southerly facing slopes. Whereabouts, then, are these odd patches of *Oreocereus* to be found?

In addition to the habitat locations for *Oreocereus* that are quoted by Kiesling, Backeberg tells us that he found *Oreocereus* not far from Tupiza; Chalet records *Oreocereus* at Arenales which lies at some 3,200m altitude, roughly half way between Villazon and Tupiza. Ritter also tells us in his "Forty years' adventuring" that he found *Oreocereus* on the road from Impora to Tupiza on the leeward side of the Morachata ridge, at an altitude of 3,700m near Mal Paso. He also found *Oreocereus* south of Escayache and Cardenas found it north of that place (his autobiography), both locations being on the leeward side of the northern extension into Bolivia of the Serra Santa Victoria. Cardenas also records *Oreocereus* from near Potosi, from near Lecori, and from near Culpina. Ritter refers to *O. celsianus* growing near Pulcayo, which is on the south-western slope of the Cordillera Chichas, near Uyuni. On the eastern side of the Altiplano the most northerly recorded location is at about 19° 30'S around Potosi and the most southern location is that given above by Kiesling at about 23° 30'S. On the western side of the Andes the most northerly location is at nearly 15° S on the trail from Nazca to Puquio, as quoted above by Instorfer: the most southerly location is noted by Lembke in K.u.a.S for December 1956 near San Pedro de Atacama close to the Bolivian border at nearly 23° S. At the Chileans weekend R.Ferryman showed slides of *Oreocereus* taken near Caspana which is only a few miles to the north of Lembcke's southernmost location. Between these two north-south orientated habitat areas on the east and on the west side of the Altiplano, the great expanse of the more-or-less level altiplano appears to be devoid of *Oreocereus*.

In his first reference to *Oreocereus hendriksenianus* in *Kakteenfreund* for October 1933, Backeberg observes that "these plants are like a huge trollii and form extensive thickets... The individual clumps stand a long way apart, completely isolated on the flanks of the volcanoes. It is necessary to have good luck if one of these white haired plant colonies is to be met with at all". This suggests that these plants do not form unbroken ground cover extending for many miles, but rather occur in isolated patches, probably separated by considerable distances over which the plants do not occur. This might explain how it was that Hauthal travelled past Villazon, Arenales, and Tupiza, without noting any of the *Oreocereus* seen there by other travellers, who could easily have diverted a mile or so off the trail in their search for cacti.

In all of the above discussion, the distribution of *Oreocereus fossulatus* has not been considered. This species is found, according to Ritter, in the valley of the river La Paz between Obrajes, which lies immediately downstream from the city of La Paz, to Tirata which is about 30 miles further downstream again. The Type location for the variety

rubrispinus is Valencia; this spot lies about 15 miles from La Paz down the valley of the Rio La Paz, i.e. roughly in the middle of the distribution area of the species type. Urmiri lies on a tributary of the La Paz river.

This area of the La Paz basin in which this group of *Oreocereus* is found is separated by a distance of some 350kms from the most northerly reported location for *Oreocereus celsianus/trollii* which is around Potosi. The eastern margin of the altiplano between Potosi and La Paz is indeed well-travelled country and it is rather unlikely that any decent stand of *Oreocereus* could have escaped the eyes of all the travellers who have passed that way. As J. Donald says, "we saw no *Oreocereus* on our trip from La Paz to Oruro or around Oruro". So what exactly is KK886, listed as *O. hendriksenianus* from Oruro? And just where was the photograph taken that appears in "Phytogeographic sketch of Latin America" by Smith and Johnston (Verdoon, 1965) that is entitled "Highlands of Oruro" and shows a dry valley with sides sloping at a gradient of about one in four. The whole of the extensive tract of valley in the field of view is covered with scattered dwarf bushes – presumably tola bush – and several *Oreocereus* are to be seen in the foreground. Are these highlands actually near Oruro, so confirming Knize's *Oreocereus* from Oruro? Or are these highlands of the Province of Oruro, which takes in the northern end of the Cordillera Frailes? Even here, at 19° 20'S it is the northernmost record of *Oreocereus trollii*.

But then we have another complication, for in the KK field number list we not only have KK466 *O. fossulatus* from La Paz, but also several varieties of *O. fossulatus* from Potosi, Lecori, Cuchu Ingenio, Otavi, and Cotagaita. With the exception of Cotagaita, these other three places are located within 60km southeastwards from Potosi; Cotagaita is about 130km south of Potosi and some 75 km due north of Tupiza. In travelling over a high plateau near Cuchu Ingenio Cardenas observes (in his autobiography) a dwarf shrub formation including *Hoffmanseggia gracilis*, Bromeliaceae and cacti – which we may be entitled to interpret as typical puna vegetation; shortly afterwards Cardenas' party crossed the Pampa Lecori, another plateau, on which they found an extensive stand of columnar cacti of which the majority corresponded to *Oreocereus celsianus*. Again we might justifiably interpret this as a typical Puna scene. So just what is it that Knize has listed from southeast of Potosi and called varieties of *O. fossulatus*, a species which it appears that we only find in valleys well below the general level of the Puna plateau? Did these particular plants come from the deep valleys cut into the broken areas of Altiplano in this region, rather than from the plateau proper? Did Knize find that they had fruits filled with pulp, not hollow like the *Oreocereus* from the Puna?

... From R. Hauthal, *Reisen in Bolivien und Peru 1911*

The mountain ridge near Tupiza is mainly of a grey Paleozoic schist. In consequence of tectonic movements there are extensive faults; the secondary faults are loaded with gold-bearing quartz. However, in only a few places is the gold economic to extract, such as a spot on the Rio San Juan de Oro. At great expense and with much difficulty, four large dredgers were brought here but only one was put to work, but the yield was not economic. I saw a pretty good vein of gold about 3 hours north of Tupiza near Estancia Salo at the mine 'Salo de la virgen de Copacabana en el Cerro de Kellarca de Almona'. From Salo I turned off the road which runs from Tupiza to Sucre, bearing to the west instead. At first the trail goes through a narrow valley that broadens out after some two hours. In this valley a huge volume of rubble forms a 50km high terrace, which the road ascends; the terrace blends imperceptibly into a ridge of solid stone. I had set Chorolque as my next objective, which is about one and a half days' ride from Salo. The road to it goes at first through a small but broadening valley covered with a dense thicket of bushes, in which stood a whole forest of "Old man's beard cactus". This cactus attains a height of 4m here and with its columnar upstanding stems whose dark green contrasts sharply with the white hair covering at the crown and with the glossy dark red flowers, it forms a handsome decoration to the landscape.

... further from H. Middleditch

This is quite an interesting puzzle, since 4m height is rather outside what would normally be expected as the maximum height for *Oreocereus*. So a quick conclusion may be drawn that the plants were *Trichocereus poco* ("up to 4.5m high" - Lexikon), possibly reinforced by Rausch's comment (*Lobivia* 3;1975) that "whole forests of them occur". However all the illustrations which I have seen of these (and associated) *Trichocerei* show upright main stems with closely adjacent parallel branches, all having fine spines or possibly hairs which differ little in length, projection, and density from top to bottom of the column. On the other hand, it is the very characteristic of long hairs at the top and shoulders of the crown standing out from the plant, whilst down the rest of the column they are far less prominent, that caused several early travellers to equate *Oreocereus* with *Pilocereus senilis*; Hauthal does remark upon this particular feature. In addition, in Abb 712 in Ritter's *Kakteen in Sudamerika*, there is no great difficulty in picking out the rather sprawling whitish columns branching from near the base as *Oreocereus*, and the somewhat stouter and somewhat tidier columns branching from part way up the main stem as *Trichocereus*. In Abb 17 in Hauthal's book we see somewhat sprawling columns, branching mainly from near the base, white hair more evident around the crown, the tallest columns far too slim for *Trichocereus* (but not for *O. fossulatus*!). The *Oreocereus 'neocelsianus'* illustrated in K.u.a.S for November 1985 has a somewhat similar habit. The balance of probability seems to lie with these plants being *Oreocereus* rather than with *Trichocereus*.

It is possible to locate on the appropriate map the Estancia Salo north of Tupiza, north of that again a hamlet of Almona with the Copacabana mine nearby. West from there, beyond high ground, lies the valley of the R. Guadelope and Rancho Cotani, at the base of Chorolque mountain; the site of Hauthal's *Oreocereus* is probably a side valley falling into the R. Guadelope. Like other habitat locations, it appears to be on the eastern side of a ridge of mountains, that is on the lee side in respect of the rain-bearing winds.

#### CLEISTOCACTUS FOSSULATUS— Validation of the Name

By R. Mottram

In the *Chileans* Vol12 Number 42 (February 1984) a new combination was published for *Cleistocactus fossulatus*, which unfortunately fails to satisfy certain provisions of the International Code of Botanic Nomenclature. When a new combination explicitly excludes the type of the original basionym, the author is deemed to have published a new name,