Xerophilia

the passion for cacti and other succulents

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summary

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Front cover

Mammillaria bombycina
El Maguey.

Photo by
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Back cover

Mammillaria bertholdii
Miahuatlán, Oaxaca.

Photo by
Rodrigo H. González G.

Xerophilia
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editorial 20

One of the best known East-European cactus dealers is so concerned about articles and editorials being published in Xerophilia that we find, in some cases, how texts and pictures were simply stolen without shame - see the topics on ***Aztekium valdezii***; you can also see that information was re-published, without the slightest concern for copyright and obviously without our permission, which is totally unacceptable for people pretending to be honest. In fact, it is a practice that belongs to a certain mentality. In that particular environment, it always happens this way. Why? Perhaps because, as they are more traders and less botanists, they continue to juggle even with the devil, only to sell merchandise: mostly new biological material, obviously illegal, and sometimes even fully grown plants extracted from the habitat. For some time now, to circumvent CITES questions, they placed in circulation, for sale, new discovered species, but disguised under a trade name. After two or three years, "the novelty" has already brought profits and is by this time commonplace in the market ... and CITES had no objection. Now they continue with a false recycling move, alleging that the "new discovery" was long known and is as old as the world, as it was done with *Turbinicarpus nicolae*, described by" recycling" *T. roseiflorus* that has nothing to do with it.

Up to this point, I just wanted to circumscribe directly the "critical area".

You probably remember my editorial published in Xerophilia 18, in November, deploring the surreal police adventures of our colleague Pedro Nájera Quezada. A few weeks later, in a typical propaganda style, on the same blog have appeared comments that extend the story and push to puzzling conclusions destined to become for the blogger the forcing pretext that should be placing these notorious practices into the cone of heroic light. Here's an enlightening quote: "Against visitors in Mexican locations were told in various media (including Xerophilia) inexhaustible attacks. It is certainly true that, thanks to masterful skills of

Czech growers, the world is glutted with cheap plants so that natural populations are not exposed to pressure collectors. Who would have risked collecting and transporting plants (through multiple X-ray scans and inspections at airports)?"

Is that a rhetorical question? Is that a joke? Neither one nor the other. It's just nerve.

I mean, they would be the good guys, who sell cheap, to protect cacti?! Did that happen with *Agave albopilosa* with *Aztekium valdezii* or with *Mammillaria bertholdii*, to name three of the latest victims? Of course not. Despite the "multiple X-ray scans and inspections at airports", these plants, collected from their habitat, have been sold from the Czech Republic and from Slovakia, with astronomical amounts of hundreds and thousands of €, as their seeds have been sold piece by piece, using an underground advertising system through private e-mails! Here is a true self-sacrifice act, just to lower the impact of "pressure collectors" in nature! I mean, after we collect, we sell expensive hundreds of plants, make enormous profits by several thousand €, and then, naturally, we boast that we should be appreciated as protectors of habitats! If those who brand and sell "novelties" have no guilt, who could be those collectors that create pressure in nature?

Are not they just belonging to the heap of people who, having on conscience less than laudable activities... are denied an entry visa to Mexico ...!? I would very much ask the blogger to find the answer! ... because we guarantee, here, a right of reply.

Eduart

summary →

Sir David Frederick Attenborough (born 8 May 1926) is an English broadcaster and naturalist. He is best known for writing and presenting the nine Life series, in conjunction with the BBC Natural History Unit, which collectively form a comprehensive survey of animal and plant life on the planet. He is also a former senior manager at the BBC, having served as controller of BBC Two and director of programming for BBC Television in the 1960s and 1970s. He is the only person to have won BAFTAs for programmes in each of black and white, colour, HD, and 3D.

Xerophilia 20's Favorite Quote

Anyone who believes in indefinite growth in anything physical, on a physically finite planet, is either mad – or an economist.

Sir David Attenborough

Mammillaria bertholdii Linzen

three years after its description

Rodrigo H. González G. - e-Mail: curadores2012@hotmail.com

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Mammillaria bertholdii in habitat.

summary

Following the discovery of this fascinating species of Cactaceae in 2014, I set to myself a task of first priority in locating and studying its habitat and also in evaluating its conservation situation. It is evident that despite the apparent concealment of the exact locality of the species in the original publication, today, according to personal talks with representatives of the Mixtec community on whose territory this plant grows, its original habitat has been visited by more than 40 people - mostly German, Czech and Austrian, among other nationalities - but most coincidentally all foreigners. Surprisingly, the nationality of these people visiting the locality also coincides with the countries that started selling this species in the black market or online since the year it was first published.

Mammillaria bertholdii in habitat.

Antecedents

The reality with reference to the conservation and the removal of Mexican native plants should not be surprising, since the imminent illegal trafficking and black market of these plants has occurred in our country for more than 100 years, and in a few cases, decimated or exterminated entire species populations. Beyond the potential economic benefit to the rural or indigenous communities where many of these plants grow, it has usually been extremely helpful for a handful of unscrupulous collectors interested only in making a good profit from all the newly discovered taxons, and *Mammillaria bertholdii* was not the exception.

The conservation status of many species has been documented by various authors at the time of their recent description, however, all of themhabitats have been looted and ilegally collected plants marketed throughout the world without control of the Mexican authorities, for example:

1. *Mammillaria sanchez-mejoradae* R. Gonzalez G.
2. *Geohintonia mexicana* Glass & W. A. Fitz-Maurice
3. *Aztekium hintonii* Glass & Fitz Maurice 1991
4. *Aztekium valdezii* Velázco, Alvarado & S. Arias
5. *Escobaria abdita* Řepka & Vaško

In 2015, through my friend Patrick Heidelberg, I asked the editor of AfM - Arbeitskreis für Mammillarienfreunde for a copy of the publication describing *Mammillaria bertholdii*. The article provides only very little information about the locality, this for the supposed reason of conservation of the species in its habitat. I think that such lack of information goes well beyond the normal and according to the analysed information there must be several reasons explaining the exclusivity on the populations of this species, since the type locality has been visited by foreign persons known or close to the discoverer of the species - A Berthold, or to its first description author: T. Linzen. It is almost certain that this habitat has not been visited by any Mexican researcher and is virtually unknown for the authorities committed to the protection of biodiversity or environment.

With this little information available, in 2015 I embarked on a trip to Oaxaca for a couple of days, in areas where I thought the population of *M. bertholdii* could be located, in the surroundings of the municipality of Miahuatlán, but without success. On the site, however, it was possible to find fine specimens of the controversial *Ferocactus latispinus* ssp. *greenwoodii.*

At the end of the same year, I returned to Oaxaca to another possible locality near Miahuatlán, within the Mixteca Range, where in a small town-

Ferocactus latispinus ssp. *greenwoodii* in hábitat, Miahuatlán, Oaxaca

ship I could see a cultivated specimen of *Mammillaria bertholdii*, but I was not successful in locating the species in its habitat. I also tried to ask the Municipal President for permission to search for the plant on the municipal territory, but as it was lunch time I had to wait almost five hours until the Town Hall reopened the doors in the afternoon. During this time of waiting, I approached the school and I was able to speak with several of the teachers who were starting a work meeting. I explained the reasons for my visit and the importance of this discovery. They were, of course, unaware of the existence of the plant. I showed them pictures and even managed to connect to the internet on a computer at the school and show them how popular this plant is in other countries. I hope at least to have caused some sensitivity among the teachers that will be, hopefully, transmitted to the students.

After some time, I had access to the Municipal President and some of his collaborators, but after another long explanation supporting the reasons for my visit, the permit was finally denied. The main reason would be that, by decision of an assembly of the Real Estate Committee, an instance outside the presidency itself, a decision was taken not to allow any stranger to enter the territory of the community, regardless of nationality. To my misfortune I was the first on the list of strangers.

All this, because two weeks before my visit, two people (apparently of German origin) had been there requesting a permit to explore their territory.

While they were waiting for permission, one of these personages decided to "anticipate" a little the approval and started looking for the plant without permission, just to gain some time. However, this lack of fairness angered the communal authorities, who requested them to leave. The man, apparently sexagenarian and somewhat overweight, simply wanted to accelerate the pace and fell from exhaustion under a tree with an apparent fatigue that soon alarmed the community, who have interpreted the fatigue as symptom of a heart attack. Finally, he was transferred back to the village and after his recovery, both were asked to leave the community immediately. The locals think that these foreign visitors are only adventurous tourists and not looters, as surely has been in the majority of the cases.

I have no choice but to return to the hotel, and the next day I returned in an attempt to speak to the President of Real Estate Committee.

I arrived at his home after another long trip and I talked to his wife, who informed me that I had the

summary→

Unique arrangement of tubers of what has hitherto known in the genus *Mammillaria*.

Mammillaria bertholdii, plants growing in the cracks of the rocky soil with very little organic matter.

Mammillaria bertholdii, colony with several plants on just 20 cm².

summary→

President had to leave as there was an emergency outside the town and that it was impossible for him to wait for me. She didn't know when he was going to return. As a result, I returned to Monterrey with much frustration, because I was only a few miles from being in the location of this wonderful plant, but still I could not see it. Finally, months later (in early 2016), I was able to have a telephone call with the President of the Real Estate Committee and requested a date to visit the population in June, which was granted to me, so that I could access the locality after several months of delay.

Habitat of *Mammillaria bertholdii*.

Colony of *Mammillaria bertholdii*.

summary↑

Habitat

I dare to argue that the habitat of *Mammillaria bertholdii* is reduced to an area of no more than 10 km^2, outside this area the landscape and the topography change drastically being very unlikely to find it here. They grow on top of low hills, usually on steep slopes, the terrain is somewhat similar to that of *M. hernandezii*. Hard, rocky, shallow soils with little organic matter, can be seen forming isolated groups or colonies. Among them, there were counted in a range of 100 m^2 some 50 plants, almost all adult and outside this range not even a single plant.

In general, and for the sake of the population, the habitat is not currently subject to overgrazing or to the flow of people or animals, nor to areas favourable for cultivation or mining.

summary↑

Mammillaria bertholdii.

Associated species

There is little or no association with other species of the *Cactaceae* family, but with some lichens, grasses and tree species of the genus *Quercus* (teaspoon), *Arbutus* (madroño) and *Pinus* aff. *teocote*.

Geology

Lithographically, the soils existing in this region of Oaxaca are shales resulting from the metamorphosis of shale and limolite during the Paleozoic period, somewhat similar to those seen in the region of Rayones, Nuevo Leon, except in the latter during the Jurassic period.

Without any doubt, *Mammillaria bertholdii*, as mentioned by its author, belongs to the genus *Mammillaria*, but presents a distinctive disposition of the tubers, unique to what has hitherto known for the genus, and could well be confused by the naked eye with some species related to the genera *Ariocarpus* or *Pelecyphora*.

It could also be related to *M. pectinifera*, considering the pectinate form of the areola and spination, with *M. saboae* and *M. hernandezii* for the long floral tube and encrypted fruit. In my very personal opinion it is a species that, similar to *Ortegocactus*, belongs to an ancestral clade in the phylogeny of the *Cactaceae*.

summary↑

summary→

Mammillaria bertholdii.

Mammillaria bertholdii, associated with lichens, evidence of the presence of high relative humidity due to the proximity to the Pacific Ocean.

State of conservation

The fact that we did not accept that the first specimens of this interesting species arrived in Europe and Asia as a result of the smuggling by the discoverer himself or by his companions, would be like putting the head in the sand only not to realize how these plants came to Europe. Currently *Mammillaria bertholdii* is sold without scorn or other major problems in web pages of several European and Asian countries. And sadly, four years after the discovery of the plant, the Mexican authorities committed to the conservation of biodiversity, do not even know the location of this plant in its natural habitat.

It is imperative that Mexican laws on conservation and utilization of natural resources to be reviewed and hardened, to encourage exploration and conservation of *Cactaceae* and other endemic plants by Mexican residents, to encourage local and international participation and cooperation aimed to evaluate and monitor the illegal traffic of this type of species. This will generate certainty on the survival of the species in their natural habitat for the generations to come, before they become only memories that we can eventually buy from abroad.

summary→

Mammillaria bertholdii.

Acknowledgements

To my Professor, **Mr. Suguri Kouzui**, for the auspice of numerous expeditions in the country.

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Special thanks to **Patrick Heidelberg** for providing a copy of the original publication of this species.

The author with the guide of the Mixtec community.

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summary↑

The mysterious cacti of Isla Pelicano & Isla Tiburon

Norbert Toth - cactusdraco@gmail.com

Isla Pelicano (Pelican Island) – general view.

summary→

- Be careful, it's hooopppppiiinggg – we can hear from the backseat and I reflexively grabbed the hand handle, with the normal contraction of someone sitting on the „unlucky" passenger's seat. But, lucky for us, Peti Kosik is a good driver and the routine already accumulated on the roads of the Aztecs Country makes him pass gracefully over all sort of obstacles lined up on the road side, like damages on a bombed site kicking underneath the car, obstacles we call „hopps".

- We got away this time! – is exclaiming relieved Laci Barta and stretches comfortable and relaxed in the back seat, while I start admiring the quiet landscape.

Birds gathered on the beach early in the morning. In the background you can see the mountains of Isla Tiburon.

Fishing boats in Bahia Kino.

Columnar cacti forest is the usual image of Sonora .

We just passed the big city of Hermosillo, form the huge Sonoran Desert that seemed to stretch far beyond the horizon, but the desert is welcoming us with an unpleasant surprise. On both sides of the road there are visible traces of intensive farming on large acreages. Orchards and groves of almonds quietly raises their branches towards the sky waiting for the first drops of rain, the same as the desert torn areas for farming. But the aspect of these areas is changing fast transforming into a barren landscape that now hides its true appearance under a shade of sand carried by a strong, wild, wind. Silhouettes of saguaro cacti loomed beneath this veil, perhaps to remind us that we drove, mile after mile, through the Sonoran Desert. The strong wind gusts were questioning our plans for the day. If the wind is so strong and powerful here, on land, we were wondering how should it be out there, at the Sea of Cortez (Mar de Cortés)? The entire situation made us ponder, especially since we woke up in the morning in the capital of Sonora on a clear weather and we started off our trip full of hope for a new adventure, although only a short slept of about four hours, after crossing the Sierra Madre Occidental - it seemed to us an eternity.

Looking for a guide

Milled by these thoughts, we notice the first few houses of the small towns Bahia Kino. This was once a small fishermen's settlement that it has become a small tourist resort, as witnessed by the large number of cars with Arizona and New Mexico licence plates that we meet on the road. In the centre of the settlement, our cactus enthusiasts team, coming from the old continent, is greeted by a discreet morning bustle that disappears which already disappears on the alleys running parallel to the sea. On both sides there are hotels, real neighbourhoods with exclusive apartments, and

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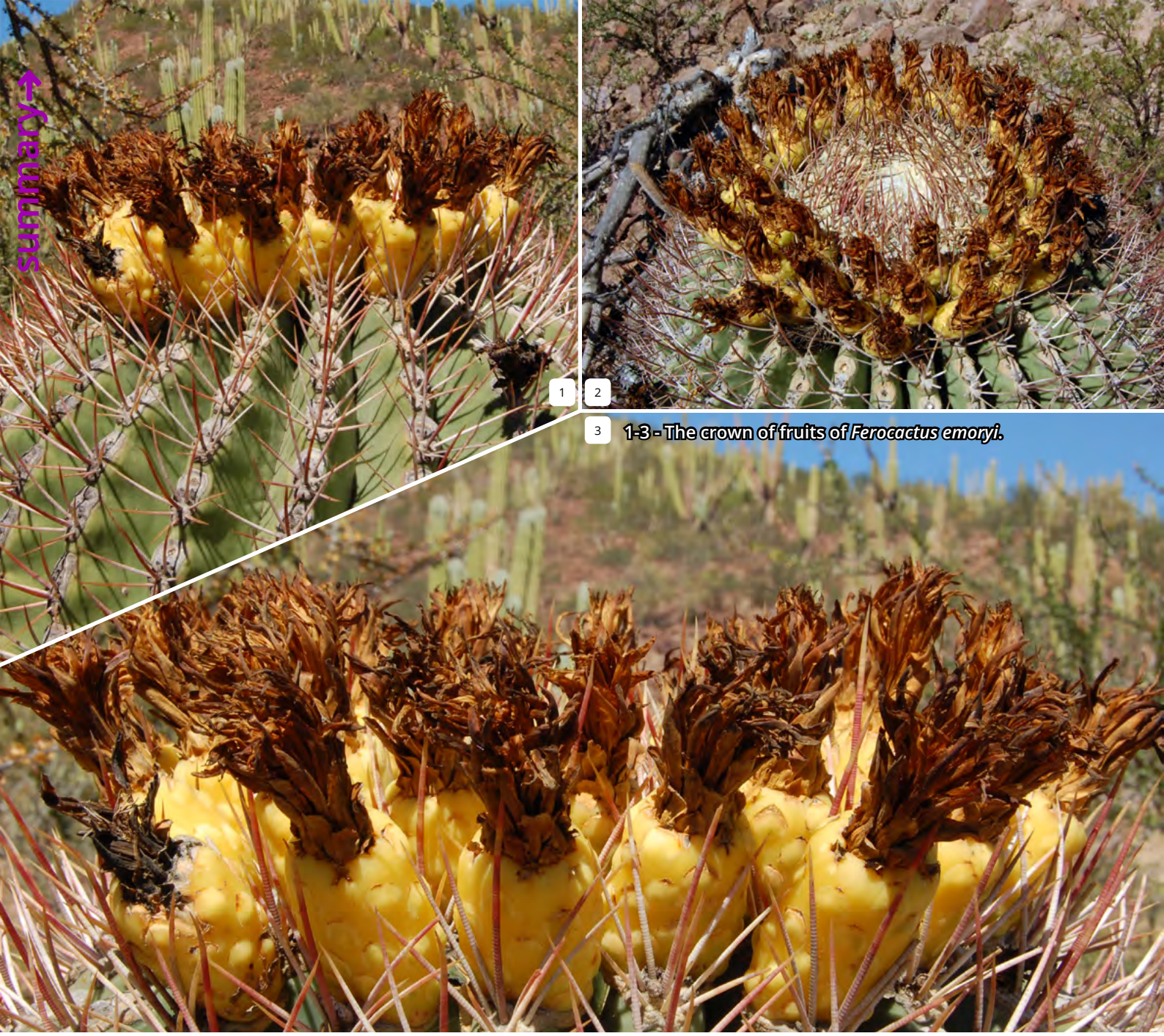

1-3 - The crown of fruits of *Ferocactus emoryi*.

cheaper motels with heaps of empty parking lots. At one point the cheaper motels are replaced by luxurious villas, each with a private beach. And no living soul whom to ask how to get to the island! Finally, we found our way to an open convenience store, where we asked the store keeper. To my surprise he did not understand a word in English, but gave me instead a true lecture in a Spanish which none of us could understand. After a lot of "gracias" we left the store, continuing our way through the empty street. However, we noticed someone in the parking lot of a hotel and I jumped with Peti out of the car rushing to the man who was moving around in the parking lot, with firm determination to learn from him if he knew anyone who would be willing to take us to the Isla del Tiburón. Human eyes, otherwise sympathetic, began to betray at the same time wonder and pity and compassion. He pointed to the large leaves of palm trees that flapped in the strong wind and explained that it is too windy so we will not find any "loco rematado " (topped crazy) to presume on the sea. However, he has offered to help us, to talk to his boss, maybe he knows someone. He invited us to follow him into the building. I had not thought to see anything like what I saw, here, at the end of the world, in the lobby of the small hotel: a group of ladies, well passed over the second age, dressed in pink fitness equipment, very busy doing their gymnastics early in the morning, to visible satisfaction of an instructor with grey hair. It all seemed a surreal image, like before our eyes was played a poor American comedy. We had no time for astonishment because the grey haired gym instructor immediately came to us and, this time in perfect English, asked us the purpose of our visit. He recommended us, with a big smile, to try our luck in the harbour, to ask the fishermen, not much else was there at the time. We never got to thank him properly, as a matron with a very

summary→

"Juvenile" *Ferocactus emoryi*.

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A real barrel cactus, *Ferocactus emoryi*.

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Hills covered in giant *Pachycereus pringlei*.

The *Pachycereus pringlei* „mother plant" protecting few centimetres high *Ferocactus emoryi* seedlings.

Fouquieria splendens is protecting future plant generations (juvenile *Stenocereus thurberi* and *Mammillaria sheldonii*).

authoritative voice took him away from us. On the way, the instructor managed to recommend us to seek the Seri Indians (1), who live some 34 km. north of Bahia Kino. Nearly 2,000 Seri Indians are living from fishing in the small settlements of Punta Chueca and El Desemboque. Here is the shortest way to Isla Tiburon, but not the most fool proof. Between island and the mainland there is a channel named Canal del Infernillo (Hell Channel), teaching full length lectures to the most experienced sailors because of the very strong currents and the hidden reefs. A sailor with little experience quickly realizes why it is bearing this name.

The dark legends of the Seri

You can try to negotiate with them, said the man we met in the parking lot, but with a convincing mimicry he notifies his opinion: it is quite risky to force a meeting with those natives. Each of them is carrying weapons, and there are many rumours that they had attacked and robbed several tourists. Hearing something like that I began to remember the interesting things I've read about this group of natives during the preparation of the expedition. Seri Indians lived for centuries, even for thousands of years maybe on Isla Tiburon when they first made contact with the Spanish. Back then, the Seri population was consisting of about 5,000 members and was divided into six tribes. They did not enjoy agriculture or livestock, their main occupation was fishing and gathering wild fruits, and sometimes they sailed to the mainland. A newspaper from 1919 to presented the point of view of people from the "civilized America" about these natives. It was believed that Seri Indians enjoyed living on the cliffs of the deserted island, far from the dangerous sharks rising from brewing waters lacking any vegetation (!) of the Gulf of Cortez. Locals from the shore said that they

summary→

A columnar cactus branching from the base: *Stenocereus thurberi.*

The red flowers of *Fouquieria splendens* can be seen from a distance

were thieves, criminals and until recently even cannibals (2). This presentation, probably based more on hearsay and circulated stories on how to spot check, have not brought much good for the Seri Indians, especially when everyone knew they were very hostile to the Spanish occupiers. Since the white man set foot on those lands, the poor Indians were constantly at war with the Spanish occupants, with the other Indian tribes or with colonists, and in recent decades with government authorities. As a result, in 1940 there were only 200 Seri Indians left. Their misfortunes culminated with the government ruling in the 60s of last century, when it was established a wildlife conservation area on the island, and a small military base was built to ensure the protection of the native fauna. In this situation the Seri Indians were forced to leave their homeland and move to the mainland, and establish a small village near the shore, at Punta Chueca. And the non-recognition of their native rights, the defiance of the Seri Indians continued until the mid 70s, when the then Mexican president, Luis Echeverría Álvarez (3) recognized by way of a government order the ownership of the Seri Indians of the territories on Isla Tiburon and it was agreed that their tribal council was able to formulate judgments in regards to the protected area. Seri Indians have never returned to live on Isla Tiburon but since that time they actively contribute to the protection of their ancestral land.

Manana!

We returned to the car and after a short consultation we decided not to bother the Indians and try our luck in port. Walking through the strong wind that filled our eyes with the fine sand of the beach, we went ashore several hundred meters where few fishing boats sat moored. You could see here and there a fisherman who was spinning lazily beside

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Mammillaria sheldonii.

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In such southern regions the Saguaro (*Carnegia gigantea*) is already a rarity.

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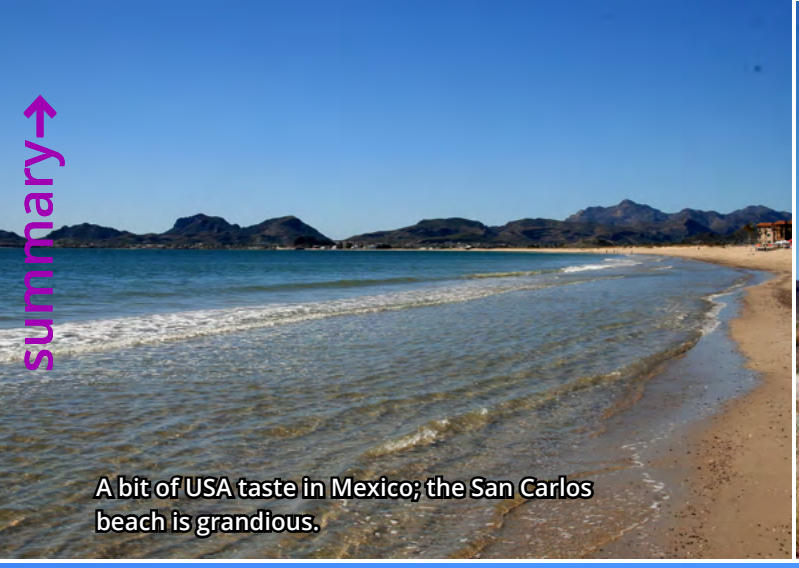

A bit of USA taste in Mexico; the San Carlos beach is grandious.

A bit of USA taste in Mexico; the San Carlos beach is grandious.

A bit of USA taste in Mexico; the San Carlos beach is grandious.

the boat hoping likely to subside the wind. Above the waves, the horizon and far away you could see the silhouette of the ridges on the Isla Tiburon. One of our main goals was just before us, so close to our eyes, but we never felt it so distant as in that minute!

- Manana! – maybe tomorrow, tell us the few fishermen we asked if they would sail with us to Isla Tiburon. With bowed heads and baby steps, clutching coloured shells under the prying eyes of the seagulls and pelicans, we go back to the car. After a short analysis of the possibilities for that time, we concluded that our programmed schedule does not allow us to wait for an uncertain possibility one more day, so we decide to proceed to Guaymas where we hoped that we could still take a ferry tonight, to Baja California.

On the road again

Discouraged, we sit in the car looking at the landscape, as smooth as a table, that stretches around us. Sometimes we can see one almond plantation, everything is militarily aligned and the whitewashed trunks break the monotony of the landscape. We quickly reach the conclusion that the road, with one-meter diameter potholes that cannot be avoided, is resembling to home. At one point, the road which was heading south straight as an arrow do, does a ninety degrees turn to the continent and the silhouettes of the mountains appear in the distance.

If there are cacti, we have to see them!

As we approach, the landscape is changing. Irrigated fields appear, sown with wheat and well behind the plains we can see well capped mountains with forests of columnar cacti at the foothills. The unanimous opinion: if there are cacti, we have to see them! Especially that we have enough time until tonight when we leave with the ferry. We are

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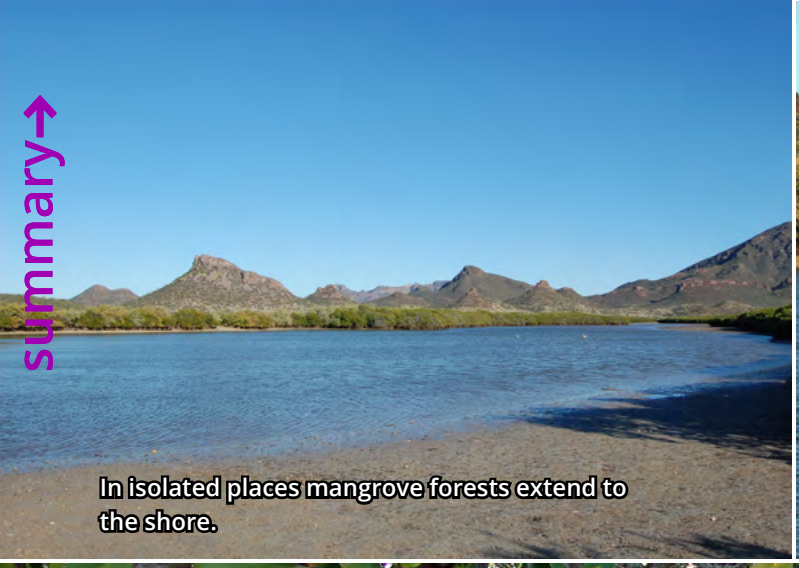


In isolated places mangrove forests extend to the shore.

In isolated places mangrove forests extend to the shore.

Mangroves (close up).

getting off the main road on a dirt road, taking a look at the heights rising in front of us, feeling as if we have been called by the tall cacti on the slope. The very last square centimetre of flat surface extending to the foothills was meticulously farmed and sowed, but there was spontaneous vegetation retreating to the slopes which could no longer be used for agriculture. The last redoubts are made up of these massive *Pachycereus pringlei* columnar cacti, and *Fouquieria* bushes; in their shadow grow plenty of *Mammillaria* specimens and other xerophytic vegetation. Going up the slope, covered with rocks and debris, we are greeted by a superb specimen of *Marshallocereus* (*Stenocereus*) *thurberi* with vigour shoots. To my joy, a little later a superb specimen of *Ferocactus emoryi* with a diameter of about 40 cm, making a quiet sunbath under the harsh sun of midday. Seeing him with its strong spines, healthy, I caught a slight envy thinking of his brothers who face valiantly home in the cold greenhouse. The landscape is dominated by columnar cacti, we located at first the *Pachycereus pringlei*, dominating the landscape both in height and density but one specimen appears odd – a young Saguaro, *Carnegiea gigantea*. We make our way cautiously through the bushes of *Fouquieria splendens* with branches full of red flowers and hope not to bother and not get into too close contact with any rattlesnake lying in the sun. Fortunately, we have not met the guy, however, we did not leave this haven of succulents without an important event. At the edge of the slope, in the company of bushes we saw a *Ferocactus emoryi*, a huge two meters high specimen. Gorgeous and as old as it gets! Who does not believe has only to look in the top of the plant to see the crown of fruits. We look with disbelief and amazement of not having the opportunity to see something like that: huge spines home straight lined shores, we cannot believe what we see. We take pictures

summary→

A specimen of *Pachycereus pringlei*, a giant columnar.

summary→

On rocky land the cacti appear.

summary↵

summary→

Our first discovery was a dead *Ferocactus*.

together with the plant as if we sit next to a star. For us, maybe, it is a star!

Among round stones scattered around are hiding small and large specimens of *Mammillaria grahamii*, unfortunately without their specific large flowers. Pretty big or even small seedlings, along with other young plants, are hiding under the shade of large stones, bushes or thick specimens of giant *Pachycereus pringlei*. Based branched bushes of *Fouquierea splendens* are true natural nurseries for juvenile cacti. We could find large numbers of seedlings of *Mammillaria grahamii*, *Marshallocereus* sp. and, of course, Saguaro. But here it is also their end, proved by the skeleton of a giant flattened columnar, probably a *Pachycereus pringlei.* However, gratifying is that life goes on, and young plantlets stand smiling to the sky, between the old broken giants. It's a great feeling for you to be able to walk into a cactus paradise, surrounded by so many other lovely plants. But we must leave this great place because we want to also make a little stop at San Carlos. So, we take the road again. On the left side of the road our eyes are eager to see the natural surroundings and especially a natural formation called Cajón del Diablo, because of the similarity of the mountainous formations with the face of the devil.

We find the dock gate closed...

San Carlos looks as if a giant had taken with his hands a small coastal US town and placed it, only by quirk, in this remote place of Mexico. You see only cars licensed in the United States, we were greeted everywhere with a bored smile by Americans probably considered us their fellow citizens.

Somewhere around small towns is the type locality of *Mammillaria boolii.* For this reason, we wanted to visit the region with the hope that maybe we could find this beautiful flowering plant.

summary→

summary

The shore of Isla Tiburon.

The shore of Isla Tiburon.

However, after running around in all directions we failed to find any specimen. We only find very nice *Mammilaria grahamii* plants. It is still early afternoon, and with Guayamas very close, we decided to stay longer in the area and enjoy a deserved relaxation after the busy schedule of the previous days. We spend some time on the beach, but without dripping too much into the cold sea water, but cooled ourselves with some Guirnalda con hielo. We also discovered a mangrove forest surrounding the lagoon. We look at the middle-aged Americans walking their dogs on the beach and admire the chic villas build by the sea shore, considering very seriously which one would be appropriate. In fact, all of them are suitable for us, even with their small shortcomings... if any. However, we have to leave the realm of dreams aside and start walking towards the port, to take the harbor ferry. We arrive quickly at Guaymas, one of the largest port cities in the state of Sonora, from where in few hour ferry to California Peninsula will be leaving. After a short wandering we finally reach the port. But we find the dock gate closed... thrills and dark thoughts come to our mind. After honking for quite a long time, a bored guy appears only to tell us exactly what we suspected but hoped not to hear; he allowed us to check with the ticket office for information. Here we are told that the ferry won't be in service that night because of the massive waves crossing the gulf. He gives me a business card with the recommendation to check again in the coming days if the wind subsides. Our plans were messed up so after a short deliberation we decide to return to Bahia del Kino and try to get the next day on Isla Tiburon if the weather allows us.

It starts to get dark and we find ourselves on the same road we traveled a few hours earlier, this time seeking shelter for the night. I'm getting used to the not so delightful idea it would be possible to

summary

The color of young epidermis is bluish in *Pachycereus pringlei* ..

summary→

... which in time becomes pale greenish yellow.

summary→

Negotiation moments with our future captain and crew.

Negotiation moments with our future captain and crew.

sleep in the car when we find an open motel. The doorman greets us with a sincere joy, I think it was a very rare thing that at such a late hour to have new guests for the night. This does not mean that I have received a handout accommodation. On the contrary, I have paid the highest price since I've ever come to Mexico for a motel room of similar circumstances. I did not have too much choice and advised first by the accumulated tiredness we overlooked the financial shortcoming. I fell asleep quickly and wake up in the morning, when I realized the miracle: the wind completely stopped!

New hopes!

We get completely equipped, faster than once in the army, and run to the port where life was already seething, with fishermen coming out one after another on the calm sea. With hope fills our hearts, the star of fortune climbed above us, and we smile, we have just to convince a fisherman to be willing to take us to the island.

The first fisherman we asked wanted an astronomical amount of money, but no problem – we thought – we will keep trying with others. We run into a group seated next to a sort of boat pulled ashore, which from the distance appeared to have spent already much time at sea, on which was written at Sara la Centinela (Sara the Sentinel). We got along pretty quickly with captain, who at first glance does not inspire much confidence. He asked us to have a little patience and disappeared, only to reappear soon with two big cans of 50 liters of gasoline that he brought with his enormous jeep having a real monstrous appearance. Why he needed such a monster I realized the minute I saw the jeep boat tossed in the water, driving the monstrosity into the seawater to machine axes. Soon we were marching on the pier to embark on the ship under the prying eyes of a pelican sitting comfortably on a rusty pole. I cannot believe it –

summary→

On rocky land the cacti appear.

The greeting images when we landed .

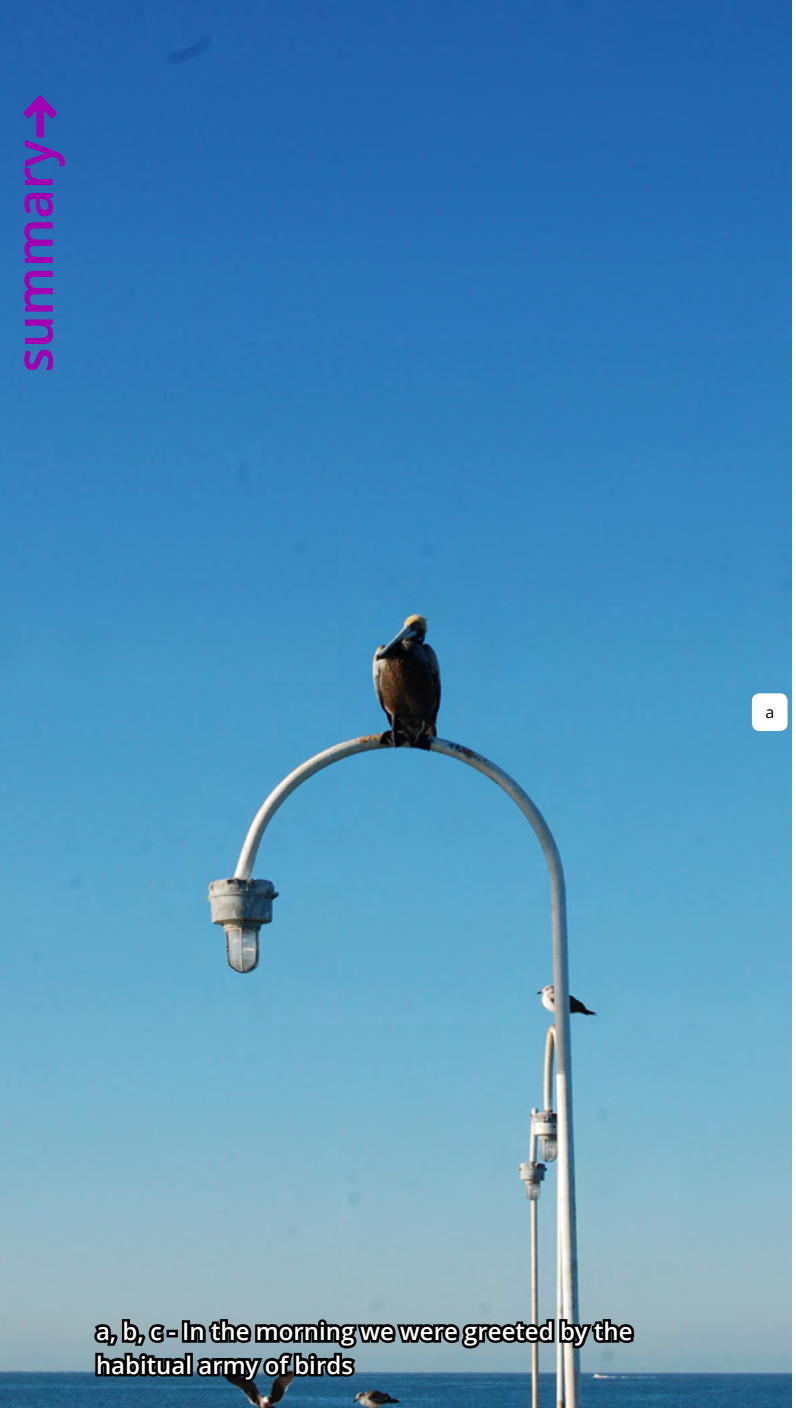
summary↑

summary↑

Flower buds on *Fouquieria splendes*.

A "stocky" specimen of *Bursera microphylla*.

summary↑



a, b, c - In the morning we were greeted by the habitual army of birds

we finally did it! – exclaimed Peti Kosik extremely happy.

Isla Pelicano

The Captain accelerates quickly and moved away from the shore. I spotted from the shore, the previous day, a small island quite close to the shore and the First Mate told us that is Isla Pelicano (Pelican Island) and to convince us why this name the boat is approaching the island shore as close as possible. All of the sudden I noticed Pachycereus pringlei, that looked actually more like a Pilosocereus as it was covered with a thick guano layer over most of its body. Everything was white, it looked like covered with snow. For a stranger coming from the other side of the world it was quite a challenge if unprepared, looking at this landscape you could hardly believe it is so close to the Tropic of Cancer. None of us has seen yet so many pelicans grouped together. They sat in the sun in small groups without being disturbed by our presence. Our Captain assures us that we will see seals as well and he sailed around the island, but the place where the sun is and they used to stay is empty this time. But a young seal takes the head out of the water near his boat, we were briefly examined carefully and before being able to raise our cameras ready for any event, he elegantly disappeared into the water. The Captain headed the deck head to Isla Tiburon wrapped in a discrete fog horizon and informs us that it will take us about 45 minutes to set foot on the island.

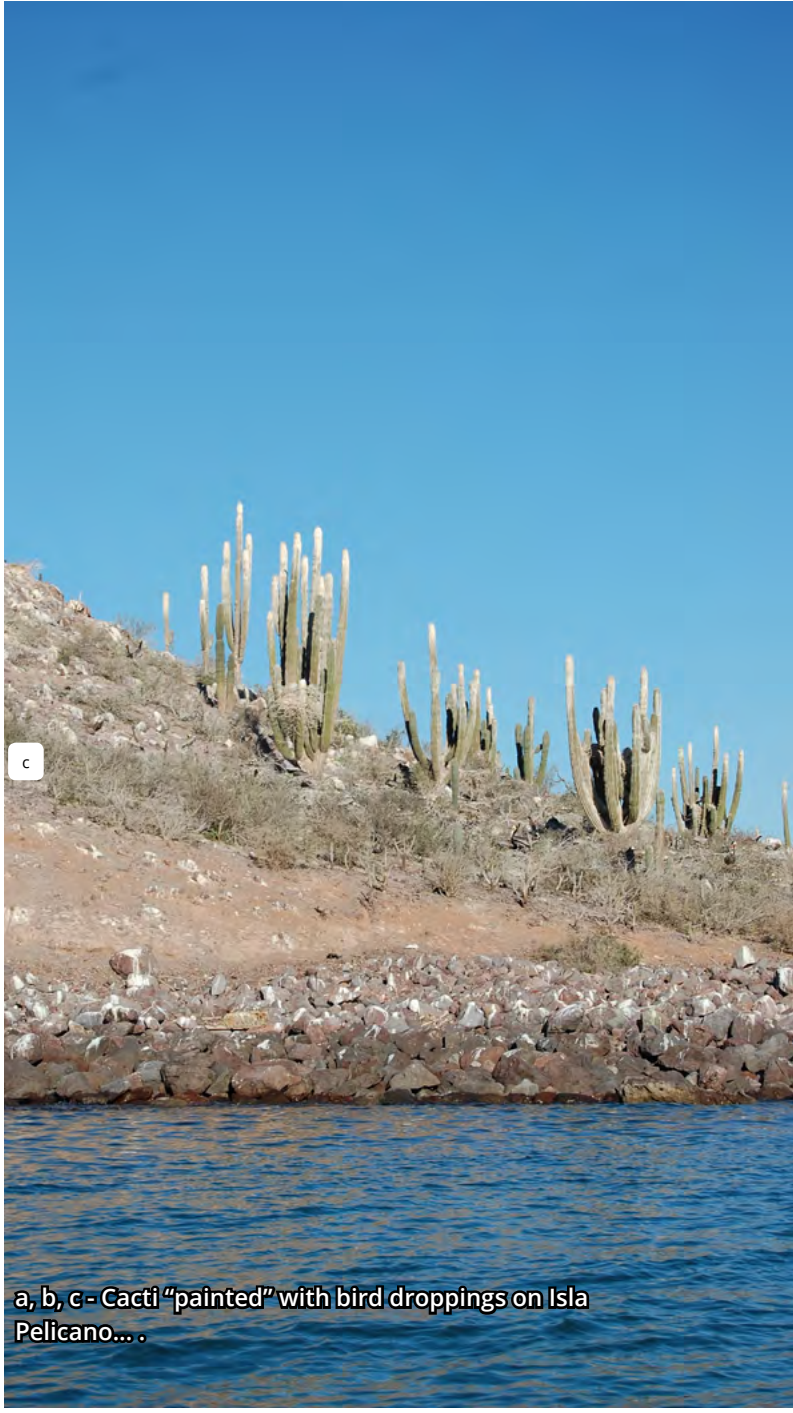
I remember the information on Isla Tiburon

Before reaching the island I remember the information gathered before setting off. Isla Tiburon (tiburon means shark in Spanish) is Mexico's largest island with an area of 1201 km² and is also the largest island in the chain of islands

Pachycereus pringlei, "trees" that form true forests in the area.

Pachycereus pringlei, "trees" that form true forests in the area.

summary↑



a, b, c - Cacti "painted" with bird droppings on Isla Pelicano... .

in the Gulf of California, called Midriff Islands, or Islas Grandes in Spanish. The length of the island reaches nearly 50 km and in the widest point it has nearly 29 km. The islands arose from the work of volcanoes situated along the San Andrea fault. The proof is the uneven surface of the island, the two not too high mountain ranges located on the east and west, Sierra Kunkaak and Sierra Monor oriented north-south. The tallest peak is passing 1200 metres. The climatic extremes rank it as part of the Sonoran Desert, with strong winter winds and very hot summers. The island got on the front pages of the newspapers and gathering the media focus in the 70s during the mandate of former President, Luis Echeverría Álvarez, when the President signed the agreement with the native Seri Indians and the entire island was declared natural protected area. Nineteen Canadian wild sheep (Bighorn sheep) were moved from the mainland together with a similar northern Mexican variety (*Ovis canadensis mexicana*) as part of a breeding rescue program. The excessive and illegal hunting (their hunting was banned already in 1922) of these native animals in states of Coahuila, Sonora, Nuevo Leon and Chihuahuah led almost to the total disappearance. The isolation of the new geographical specified territory was hoped to lead to a controlled increase in the number of animals. In less than 20 years, following an evaluation from the helicopter of the live animals on a part of the island, there were recorded in excess of 300 wild sheep. In 1998 no less than 500 wild sheep were moved back to the mainland, thus registering an ecological success. Nowadays hunting permits are issued and the generated is bringing a comfortable income for the Mexican state. After some rumours, the price for getting a hunting permit would be 75,000 dollars. At the auction held for the first two permits organized by the Nevada state, the winning bid for the two permits

summary↑

a, b, c - ...and no pity for the rocks.

would have reached 395,000 dollars. No wonder then that starting with 1996 authorizations issued for the islands in Baja California generated for the Mexican state an income of over 6 million dollars.

The quiet cove

Splashes of saltwater landing on the cheek forced me to return to reality, we were quiet close to Isla Tiburon. Our Captain directs the boat in a quiet cove in the south of the island, a sudden stop signalling us that we reached the shore. We agreed with the Captain and his First Mate do make an exploration of an hour after and that still make two stops of one hour each in the eastern parts of the island. We move apace over the beach covered with shells and passing through the bush the best we can to the heights that rise ahead. The landscape looks pretty shabby, here and there appears a *Pachycereus pringlei* beaten by the hardships of nature or one skeleton of *Carnegiea gigantea*. Among bushes and dry lemnificate trunks appears the odd one thirsty *Cylindropuntia*, and to our great surprise even a *Cylindropuntia bigelowii*. Seeing the yellow spines is a pure relaxation, contrasting with the barren background, but they easily stick into the skin and it is much better to stay away. We advance slowly on rough terrain until we see a gray-brown pile that remotely could be even a *Ferocactus*. As we approached we convince ourselves that it really is a *Ferocactus*, a barrel cactus as the folks say, but unfortunately passed to the eternal cacti lands. We are moving on, there is no time to waste. After a few steps through the boulders I notice a *Ferocactus tiburonensis*, small as a ball, with reddish spines. I let myself on the knees before the young cactus and recognize that if it did not look so unfriendly and I would embrace it. I am fascinated by its unusual, but nevertheless appealing appearance. Reddish hooked spines placed in a cross shape, the marginal spines,

summary↑

A barrel cactus isolated across the immensity of of stones.

A young Ferocactus tiburonensis.

almost of uniform thickness but only a bit tangled - do not remind me of the type plant. We looked for other reddish balls, shading us the eyes with the hand in Indian style but to no avail, so I decide to break up, to spread over a wider surface, maybe it will grow our chances. Already looking for half an hour but no shout, no cheerfull whistle signalling the descovery of a new specimen. I climb the slope in my front depressed, trying to convince myself that we would no longer find another *Ferocactus tiburonensis*, as a new specimen suddenly appears in front of me. This time a much bigger one, about 25 cm in diameter, like a small barrel with the spines faded a little but the gray marginal spines so intricate, almost completely covering its body. I decide to climb to the top of the slope, where a fantastic view opens up. Our boat, Sara la Centinela, is swaying gentle on the lazy waves of the sea, while the island's shore to the horizon is depicting an image of rare beauty. I sit on a large rock and admire the scenery, without, however, being alone: two meters from me another proud *Ferocactus* is rising, it is like a copy of the other. Landscape, a grateful subject for any photographer, made me almost forget we must return to the boat at the agreed time, so I had to rush downhill. Along the way I meet my colleagues. I tell them what I saw and we realised we discovered in total only four *Ferocactus tiburonenis*. This shows a very low plant density in the studied area, but we hope that in the next places we intend to visit the situation will be better.

Now on a flat

Again at sea, to another place. I ask the Captain this time to land us ashore in a flat space, not based on any slopes. As the desire of the payer is holy, we descend this time on a deserted stretch of beach, as it initially looked like, leaving the two amigos in the boat. We hardly cross a stretch of bushes and,

summary↑

We didn't expect to find *Cylindropuntia bigelowii*.

summary↑

At the last stop we saw the largest number of barrel cacti.

summary

Ferocactus tiburonensis.

Ferocactus tiburonensis fruits, quite rare to see in this time of the year.

Ferocactus tiburonensis of almost 30 cm wide.

Ferocactus tiburonensis balancing on the edge of a cliff.

on the edge of a dry riverbed, we see something colourful. Another *Ferocactus tiburonensis*, this time a specimen larger than 40 cm, with beautiful regular spines at that can peacefully compete and win in a beauty contest with *Ferocactus chrysacanthus*, but without having the coating of spines to remind of *Ferocactus wislizeni*. Less than 100 m away we find its brother, a bit smaller but with the same perfect look. We have time enough now, so we search better in the area but we cannot find any other *Ferocactus*. *Fouquirea*, from small to large, stretched as a forest on the lower areas, while weather haunted specimens of *Marshallocereus thurberi* populate the bottom half of the slopes together with a few *Pachycereus* monsters. The hour has passed quickly. A large *Pachycormus discolor* is swinging its branches as it would say goodbye. We return to the boat, not easy to achieve as we have to cross again through the thicket. We joined back at the beach some 500 meters from the boat, but we have not lost it, we just collected shells as souvenirs for home acquaintances while walking to the boat.

Last stop on Isla Tiburon

We decided to make the last stop again in a sloped area, but before getting to climb the slope had again to go through the bushes. Looking towards the peak I observe a pale spined columnar cactus. I first agreed it would be a Saguaro, but the closer we got, we had to acknowledge that my prediction was wrong (thankfully!). In the shade of boulders, high as a man, falling once from the mountains, I found the largest exemplar of *Ferocactus tiburonensis* and based on those seen on this expedition I was convinced and say that we are dealing with a stand-alone species of *Ferocactus* (barrel cactus). At this size there are already visible several similarities with *Ferocactus wislizeni*, especially in regards to the size and less

summary

A columnar cactus branching from the base, *Stenocereus thurberi*.

summary↵

Stenocereus thurberi.

summary→

The new generation is hiding in the stone cracks.

Splendid spin coating of *Ferocactus tiburonensis* that could compete with the beauty of the *Ferocactus chrysacanthus*.

Another *Ferocactus tiburonensis* balancing on the edge of a cliff.

Ferocactus tiburonensis – spination.

the spines coating. The discovered specimen had in the growth area a crown of small flower buds demonstrating the difference from *Ferocactus wislizeni*, which flowers only during summer and its flowers have different colour and shape. Although in the book "Hordókaktuszok" (The Barrel Cacti) on the presentation of this plant I have insisted it was a subspecies of *Ferocactus wislizeni*, this expedition convinced me that I had the wrong impression about it and I have now to accept the name published in the "New Cactus Lexicon". It is certain that there is a habitus similarity in plants found at the second stop, which share some characters with *Ferocactus cylindraceus* growing on the continent, a likeness which should not exclud a certain degree of relationship. We noticed with great joy that, in addition to the huge *Ferocacus tiburonensis,* in the cracks of the rocks were visible a large number of 1-2 cm juveniles, and therefore the future of the species is not endangered.

Due to the short time we had available, we only succeeded to search only a small part of Isla Tiburon. It is worrying that it was very difficult find certain populations of cacti, especially mentioning in our descriptions the low density of the individuals in a population, very real otherwise. Unfortunately, we do not know directly the western part of the island, which has been explored by other travellers in order to identify the barrel cacti growing there, so I do not know the situation in Sierra Menor. It is possible that the West is full of "visnaga" but if the situation observed in the eastern part of the island persists, then *Ferocactus tiburonensis* is among one the most endangered species.

It would be good that the decision making coryphaei in CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) - international convention governing trade in animals and plants directly retrieved from nature - should be informed about the situation barrel

summary→

Splendid spin coating of *Ferocactus tiburonensis* that could compete with the beauty of the *Ferocactus chrysacanthus*.

summary→

At the last stop we saw the largest number of barrel cacti.

summary→

Ferocactus tiburonensis has the shape of a ball, with less twisted spind.

Ferocactus tiburonensis has the shape of a ball, with less twisted spind.

If we had arrived on Isla Tiburon only few weeks later we might have seen *Ferocactus tiburonensis* in full bloom.

The fleshy fruit is a delicacy for birds and bugs. Let alone seed ...

cacti on Isla Tiburon. Give thought that in CITES Appendix 1 is including *Ariocarpus retusus*, although there are many populations with a large number of individuals in Mexican territories and researchers continue discovering new stable populations, a large number of really distressed species are completely disregarded.

Back to the mainland

With the head full of such ideas, we leave behind the beautiful cacti and get back to the boat. To our great surprise we find boat empty, without any "crew". Before we begin to seriously think about an insular lifestyle in Robinson Crusoe's style, we hear a noise just behind us.

Our Captain and the First Mate came loaded with driftwood thrown by the sea water on the beach. So, our chance to become the island's inhabitant's shatters. We are already in the boat, our friend is striving hard outside to return the boat to sea, leaning his shoulder and pushing on the boat's edge. Suddenly, he leaves everything behind and dives like a bear that is fishing, and comes out of the water with a squid. With an amazing speed he cleans the prey with a knife he grabbed from I don't know where, and soon we have to share the space with another passenger on the boat. The squid will soon be the highlight of the dinner for the Captain's family.

The way back to the mainland seems to be shorter and if that seat was standing would not have been so uncomfortable I would have preferred not to be over yet. The pier awaits us like an old friend and we drop out of the boat like true gentlemen. After this, the Captain and the First Mate pulled the boat, like stuntmen, about 25 metres farther ashore.

We split after shaking hands very friendly, of course after paying the bill. We are heading south, as we were feeling a strong call from California Peninsula where we were sure we will see other beautiful places. But that is another story.

summary→

This *Stenocereus thurberi* has extremely long spines.

summary↓

summary↵

Lophocereus schottii ?

summary↵

en or

Isla Tiburon coastline provides a haven for researchers who come here.

One of the most beautiful bays of the island.

summary↑

Farewell Bahia Kino!...

The squid is the main character in Captain's dinner.

summary→

Acknowledgements :
We would like to thank **Alexandru Tar** for the translation of the original text and his desire to help us with all papers written in Hungarian.

Carnegiea gigantea.

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Xerophilia Notes

1. The Seris are an indigenous group of the Mexican state of Sonora. Tiburón Island and San Esteban Island were part of their traditional territory, but some Seris also lived in various places on the mainland. They were historically semi-nomadic hunter-gatherers who maintained an intimate relationship with both the sea and the land. It is one of the ethnic groups of Mexico that has most strongly maintained its language and culture during the years after contact with Spanish and Mexican cultures. The Seri people are not related culturally or linguistically to other groups that have lived in the area, their language is distinct from all others in the region and is considered an isolated language. (Wikipedia).
2. Even in the early 1900s the Seri Indians were considered extremely hostile and very primitive. They were not believed to have developed the use of fire and ate all of their food raw. There were two long-standing myths about the island: that it was rich in gold and that it was filled with Seri cannibals. Neither proved to be true, but the Seri were known to have killed several people between 1893 and 1905. (Wikipedia).
3. Luis Echeverría Álvarez, born 17 January 1922) served as President of Mexico from 1970 to 1976. At age 95, Echeverría is currently the oldest living former Mexican president. (Wikipedia).

Mammillaria bombycina Quehl

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with **11** photos of plants in habitat by **Grzegorz Matuszewski** - webb: **www.kaktusymeksyku.pl**
with **3** photos of plants in culture by **Mihai Crisbășanu**

Mammillaria bombycina, commercially known as the Silken Pincushion Cactus, is a beautiful plant that grows in the rocky volcanic hills of Central Mexico in Sierra Fria, at the border of the states of Aguascalientes and Jalisco. When I first saw it in the wild I fell in love with it and considered it as one of my favorite natural beauties. I regularly visit the place just for the joy of seeing the plant and photograph its beautiful shiny and silky texture while hanging from the cliffs. From plants donated to me by my late friend, Walter Fitz-Maurice, I have maintained this species for years as a featured item of my cactus garden, where it has increased in numbers as its maintenance and propagation pose no obstacle.

Mammillaria bombycina, El Maguey.

summary→

summary↑

Mammillaria bombycina, El Maguey.

Mammillaria bombycina, El Garuño.

Photo by Grzegorz Matuszewski.

summary↑

summary→

Mammillaria bombycina, Los Alisos.

Mammillaria bombycina, El Maguey.

All photos on this page by Grzegorz Matuszewski.

summary→

summary→

Taxonomy

It was Leopold Quehl (1849–1922) who named this plant in 1910 from specimens kept in cultivation. Quehl (whose name is honored by the South American cactus *Gymnocalcium quehlianus*) was a German amateur botanist employed as a postal worker in Halle, but around 1873 at an age of 24 he started to specialize in *Cactaceae* and amassed a large collection of living plants as well as an herbarium.

Quehl was a founding member of the Deutsche Kakteen-Gesellschaft (DKG), the German Cacti Society, and authored or coauthored the description of 159 cactus species, subspecies, and varieties. Most of his works were published in the German magazine Monatsschrift für Kakteenkunde (Cactus Monthly).

The specific name bombycina that he chose for this plant is quite appropriate; it derives from the Latin word bombycinus which means 'silken' or 'of silk' and alludes to the beautiful silken appearance of this cactus (Quehl 1910:149).

Mammillaria bombycina has been placed into the genera *Neomammillaria* by Britton & Rose in 1923, Chilita by Charles Russellin in 1926, Ebnerella by Franz Buxbaum in 1951 and *Escobariopsis* by Alexander Borissovitch Dowel in 2000. Currently *Mammillaria* is the generally accepted genus, where it is grouped in the series *Stylothelae* (Pilbeam, 1980).

summary→

summary→

Photo by Grzegorz Matuszewski.

Mammillaria bombycina, El Marguey.

Description

Mammillaria bombycina is a cylindrical globose cactus about 8 cm wide by up to 20 cm long for large specimens. Although it was described as solitary, in the wild (and almost always in captivity) it regularly clusters closely in groups that can extend to more than 80 cm and comprise hundreds of individual stems. The tubercles are dark-green, conical to cylindrical, and normally develop a dense layer of wool in their axils that sometimes completely cover the tubercles, but have no bristles. The approximately 30–40 radial spines are thin, straight, stiff, pectinate, about 10 mm in length, and white with a glossy appearance. The central spines are one of the most conspicuous features of this plant; they are four to six with a hooked tip—a general feature of *Stylothele*-type *Mammillaria*. The lower central spine is the longest and can attain more than 20 mm in length. The color of the central spines is variable from yellow with a reddish-brown tip for populations in Aguascalientes to reddish to dark-brown for populations in Jalisco.

Flowers are light pink in the distal part of the petals and darker at the base, with yellow pistils. They are wide, short, funnel-shaped, about 15 mm long and circle the crown of the plant as in other *Mammillaria*, but usually not in a full circle. Fruits are whitish to pale pink in color, sometimes translucent and reach about 20 mm in length. Seeds are small and black. *M. bombycina* flowers from mid-winter to early spring.

summary→

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Mammillaria bombycina, El Garuño.

Photo by Grzegorz Matuszewski.

summary↑

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Mammillaria bombycina, El Marguey.

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Mammillaria bombycina, El Garuño.

Mammillaria bombycina, is a beautiful plant that grows in the rocky volcanic hills of Central Mexico in Sierra Fria mountains in the border of the states of Aguascalientes and Jalisco. The specific name bombycina is quite appropriate; it derives from the Latin word bombycinus meaning 'silken' or 'of silk' presumably to honor the beautiful silken appearance of this cactus. M. bombycina occurs in oak forests in high mountains on steep slopes and on inaccessible cliffs. The ambient temperature ranges year round from freezing point to low twenties, with usual temperature variations during the day of more than 15°C. Humidity is very low; the plants grow in leaf-litter or on a thin soil layer over igneous volcanic rock (normally rhyolite), and in pits and crevices where water does not accumulate. They are normally exposed to full sun but sometimes are also found in partial shade. Colonies are small and isolated from each other.

summary→

Photo by Grzegorz Matuszewski.

summary→

Mammillaria bombycina, El Marguey.

Photo by Grzegorz Matuszewski.

Rediscovery

Although *Mammillaria bombycina* is well known in culture, at least since the 1960s (Pilbeam, 1999:56), the location of origin was a mystery until the mid-1980s. The original description by Quehl was based on plants in cultivation owned by Frans De, but with an unknown locality of origin (Quehl, 1910:150). Craig (1945) contributes to the plant's origin as being from "Coahuila" and also "reported from Santa María, San Luis Potosi, Mexico", two greatly separated areas. No further elaboration was given about where that information was obtained.

Pilbeam (1999:55) described the rediscovery history of this plant, and what I add to his account here is little. In the course of his research of the *Mammillaria* of the *Stylothele* group, Walter Fitz-Maurice, the internationally known cactus specialist, asked Elpidio Aguilar about the whereabouts of this plant. Elpidio was a former employee of one of his earlier field companions, Friedrich (Fritz) Schwarz (honored by the cactus *Mammillaria schwarzii*). Schwarz was a Mexican of German descent living in San Luis Potosi and collected plants for export. Elpidio claimed to know a location for the plant in Jalisco near the city of Guadalajara. The Fitzes (Betty and Fitz, as Walter liked to be called) searched for the location on July 29, 1988, but did not find the plant. They then headed back to San Luis Potosi (where they lived) through Aguascalientes to visit a second questionable area near the village named Jaltiche de Arriba, in Jalisco. Once in the targeted rural area they asked a man who was heading home on foot with his family whether he was familiar with the plant in the photographs the Fitzes were carrying. To their amazement he was! Not just that, but also the man volunteered to guide them to a place near the village of Los Alisos, Jalisco, past his home. The man and his family got into Fitz and Betty's car, and honored his word after unloading his family. As they approached the area, it was Betty who first saw a large clump of about 100 heads hanging from a cliff. The plant had been rediscovered.

summary→

Mammillaria bombycina, Los Alisos.

Mammillaria bombycina, Los Alisos.

All photos on this page by Grzegorz Matuszewski.

summary↑

Mammillaria bombycina, El Garuno.

Mammillaria bombycina, El Garuño.

Photo by Grzegorz Matuszewski.

summary↑

Distribution

Mammillaria bombycina is known to occur only in a small area at the border between the states of Aguascalientes and Jalisco in the mountains of the Sierra Fria (Cold Range). The plant's distribution covers an area of about 16 x 10 km (10 by 6 miles). It occurs at an elevation of 2,340-2,500 m asl. Currently the species is known to occur at four localities (Pilbeam 1999:56 citing Fitz-Maurice). One of the subpopulations was severely depleted by collectors.

On exploring the area in the mountains of the Sierra Fria west of Aguascalientes City, I stumbled on one population in the early 2000s. As it turned out, the location (or one pretty close) was already known to Fitz.

summary↑

Mammillaria bombycina, El Marguey.

Habitat

Mammillaria bombycina occurs in oak forests in high mountains on steep slopes and on inaccessible cliffs. The ambient temperature ranges year round from freezing point to low twenties, with usual temperature variations during the day of more than 15 °C. Humidity is very low; the plants grow in leaf-litter or on a thin layer of soil over volcanic rock (usually rhyolite), and in pits and crevices where water does not accumulate. They are normally exposed to full sun but sometimes are also found in partial shade. Colonies are small and isolated from each other.

summary↑

Mammillaria bombycina, El Marguey.

Photo by Grzegorz Matuszewski.

summary↑

Conservation

After this species was first found in 1988 it became under great pressure from illegal collection. It was estimated (Fitz Maurice & Fitz Maurice, 2013) that the population was reduced 80% over a ten-year period. Over the years I noticed the disappearance of large clumps to illegal collecting. The plant is currently, however, widely available from nurseries and it is very easy to reproduce, which appears to have significantly reduced the pressure on wild populations. *Mammillaria bombycina* is listed as Vulnerable in the Red-List of the International Union for the Conservation of Nature (with code IUCN 151196) and under Special Protection by the Mexican government in the Official Mexican Norm NOM-059-SEMARNAT-2010.

summary→

Mammillaria bombycina, red spines cultivate plant.

In captivity

In regard to keeping and reproducing it in culture, *Mammillaria bombycina* is happily the easiest species of the *Stylothele* group that I know of, as it can tolerate humidity and thrives either under a light shade or full sun. Nonetheless, I would recommend to keep it in full sun as then the wool and radial spines grow more extensively and give it a more pleasant and natural appearance. A shallow layer of coarse, porous substrate with some soil or peat to retain some humidity is sufficient for this species.

Seedlings grow very fast and in just a year they can attain three centimeters in diameter. Fitz kindly donated a half dozen plants to me almost twenty years ago and nowadays, besides the original plants, I have over 400 adult specimens descendent from them, of which I have lost just a very small number.

The temperature where I live, San Luis Potosí, ranges from -2 to 32 °C throughout the year, with freezing periods normally not lasting longer than a few hours very early in the morning. I water this plant in the spring and summer once every two weeks and once a month during late autumn and winter, although I live in a dry area. I fertilize the plants once a year, and fumigate with insecticide twice, in the spring and summer, as well as applying fungicide at the beginning of the rainy season. They do not seem to be as delicate as the closely related but clearly different *Mammillaria perezdelarosae*. Every day I enjoy the delicate beauty and subtle pastel tonality of this plant as I am certain most of you would do as well.

Photo by Mihai Crisbășanu.

summary→

Mammillaria bombycina, yellow spine cultivate plant.

Mammillaria bombycina, red spine cultivate plant.

Photo by Mihai Crisbășanu.

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Acknowledgements

We are grateful to **Grzegorz Matuszewsky** for his contributions with habitat photos every time he is solicited by our journal.

Special thanks to **Mihai Crisbășanu** for providing us photos of cultivated plants from his collection.

summary→

summary↓

Mammillaria bombycina, El Maguey.

Photo by Grzegorz Matuszewski.

summary↑

en or

summary

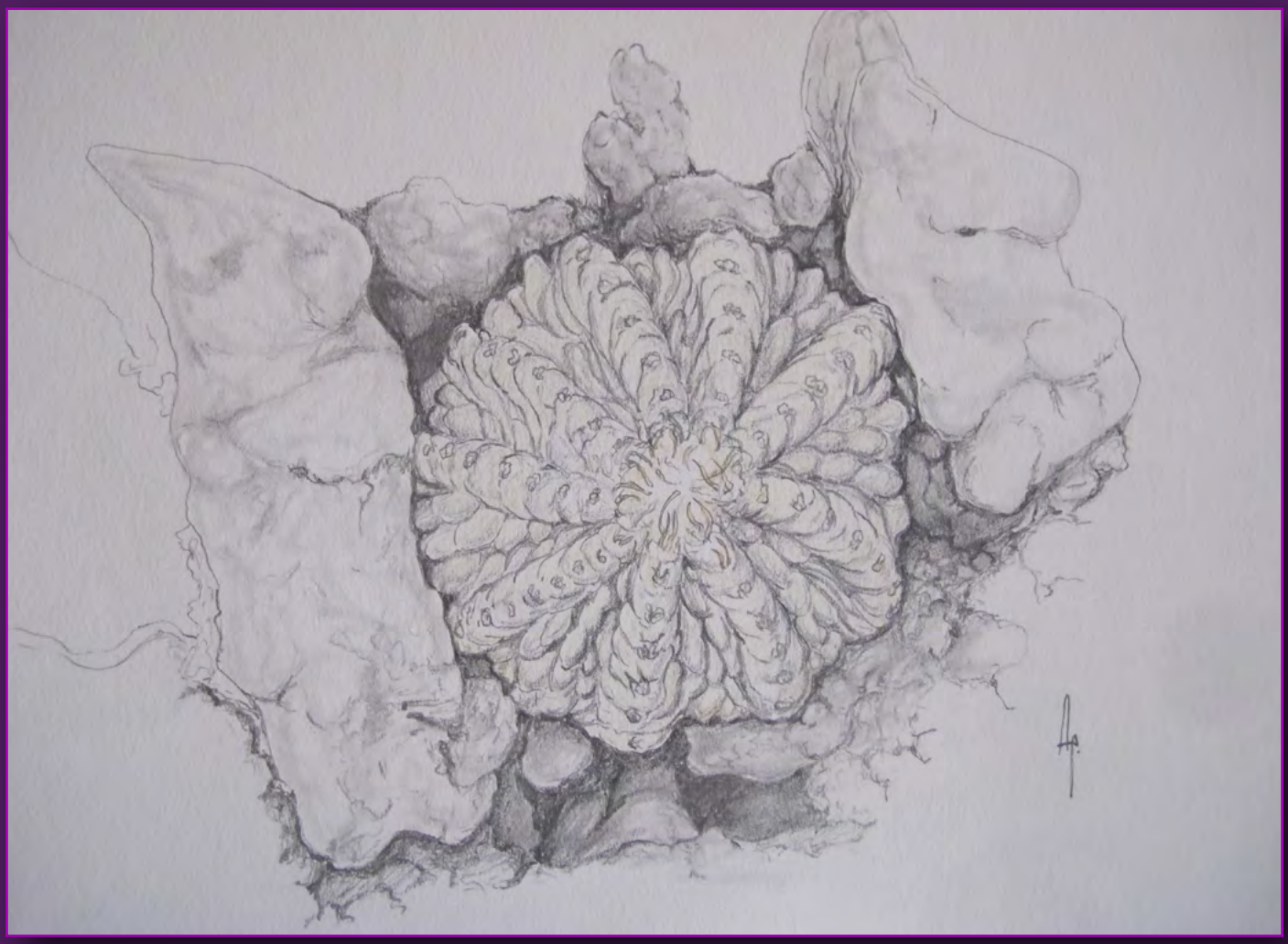
Xero Arts

with Toni Port Font

Spain 2017

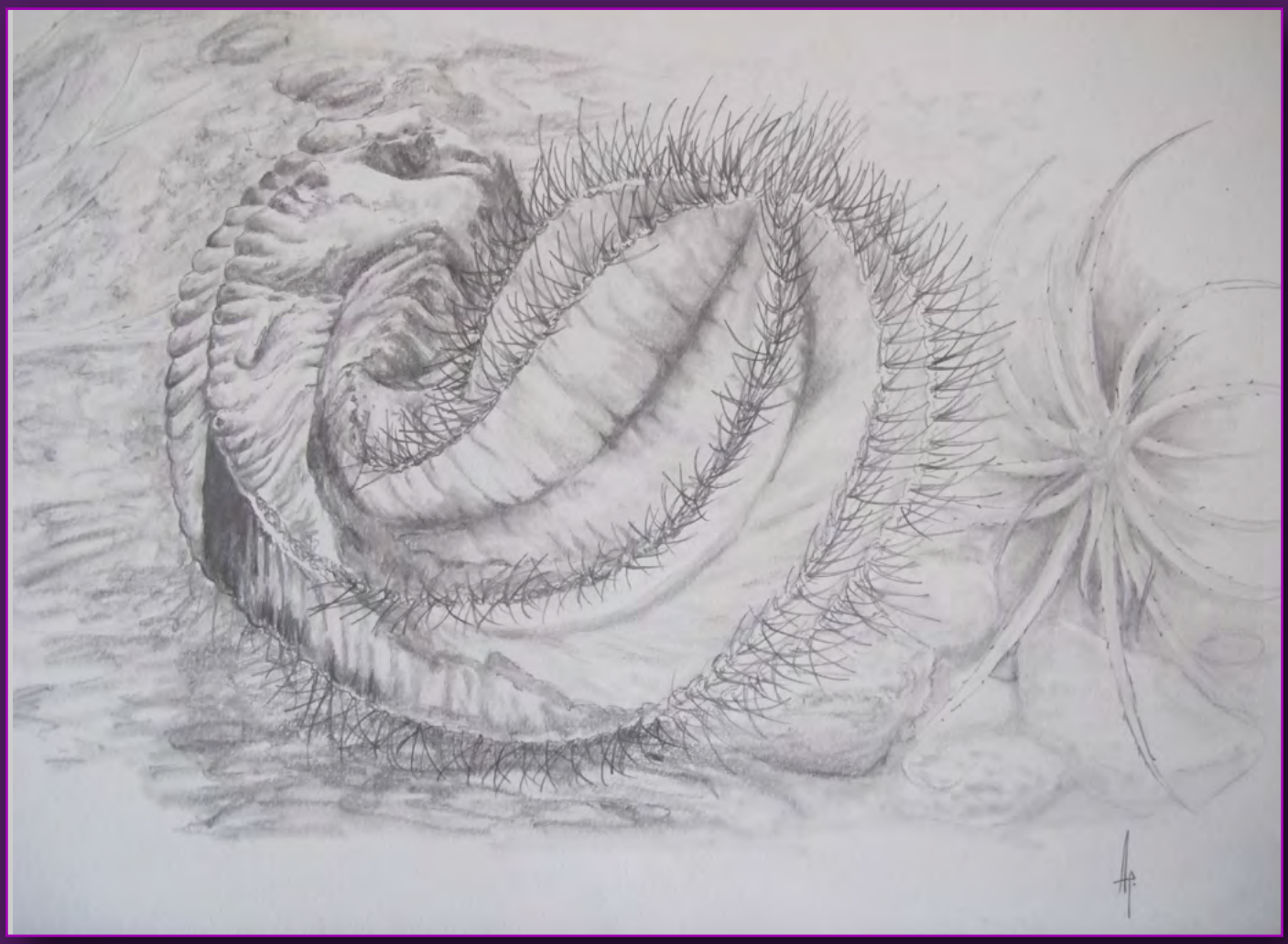
summary

Ariocarpus bravoanus ssp. hintonii



Aztekium ritteri

Escobaria abdita



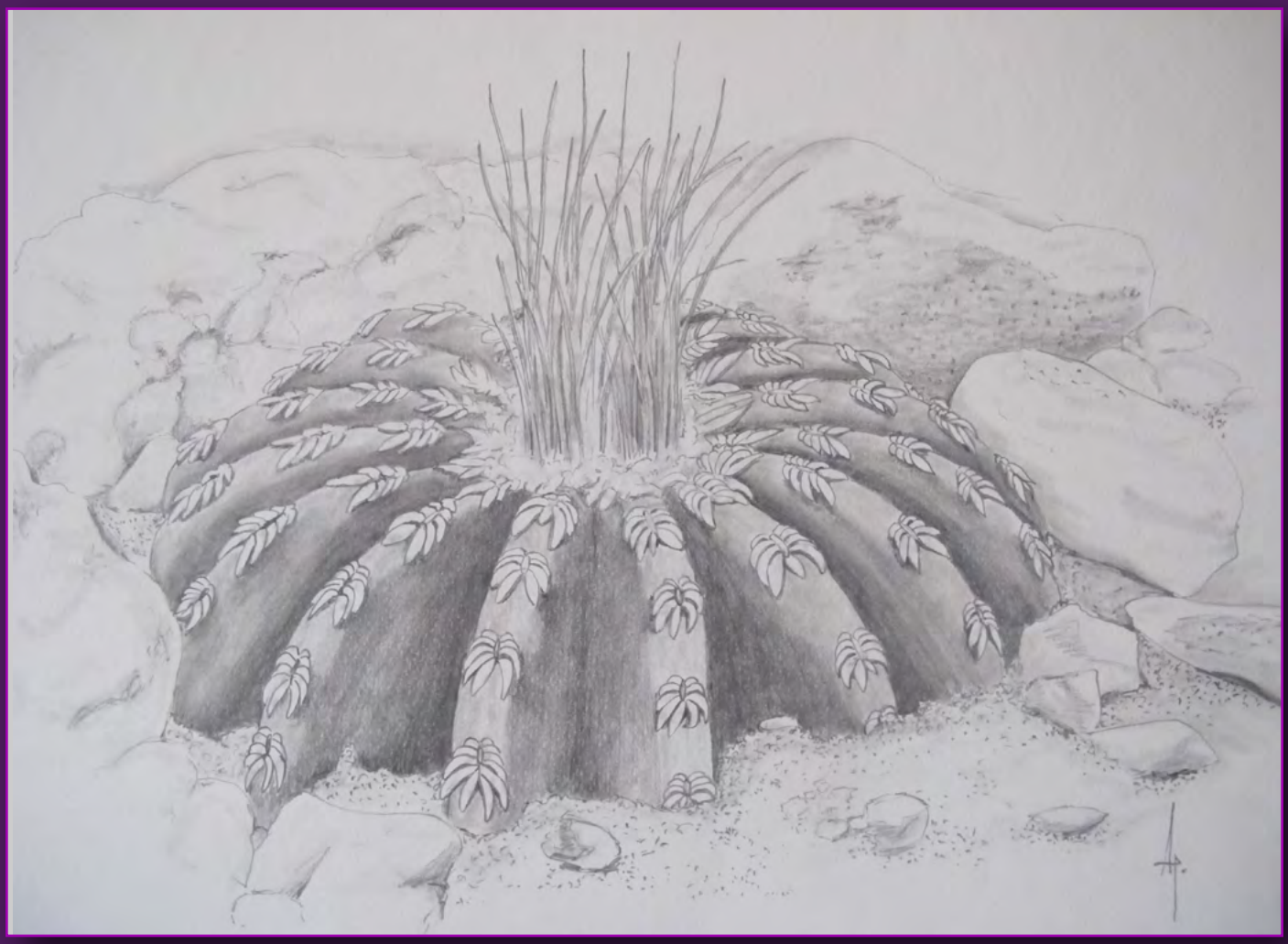
Astrophytum ornatum

Aztekium valdezii

Tephrocactus geometricus

Ariocarpus kotschoubeyanus

Astrophytum myriostigma



Discocactus horstii

summary

Small South Africans in the land of cacti

Francisco Moreno - e-Mail: kaktyr@hotmail.com; webb: amazingcactiandsucculents.blogspot.ro

I started growing African succulents about 20 years ago, showy plants with various shapes and colors, undoubtedly catching the eye of the hobbyist. Little by little I was getting different species, most of the first genera belonging to the family *Aizoaceae*. I was growing some *Titanopsis, Fenestraria, Lapidaria, Pleiospilos*, and *Lithops*, all interesting specimens with which I learned to become very understanding to the needs of these beautiful xerophytic plants. Years later, while I was looking for photos of other African succulents, I discovered in a book images of the genus *Conophytum* and it was a real delight for my eyes, the tonalities and symmetry of those small plants captivated me. Also members of the *Aizoaceae* family, they are small surviving survivors growing up in cracks, in rock basins or among quartz boulders, with multiple shapes and colors that excited my imagination regarding their different habitats and how to cultivate and propagate them.

Members of the genus *Conophytum* are miniature plants originating from South Africa and Namibia, bearing rounded succulent leaves and forming small conglomerates at ground level. Each one of these leaves presents a small apical opening from which the flowers of mainly white, purple, violet and yellow colors appear; several of these *Conophytum* species have diurnal flowers while other nocturnal flowers. In general, *Conophytum* cultivation is very similar to that of other African succulents, such as *Lithops*, with the important difference that *Conophytum* needs a rigorous rest period in the hottest months of the year, period during which the old leaves dry to the extreme, becoming in some cases, only wilted wrinkles.

summary→

summary→

Conophytum marginatum CR 1133. Bakenskop.

For these particular characteristics the successful growing of *Conophytum* presents some individual challenges depending on the species. As an example, we have the case of the amount of light they require, since many species grow in nature in cracks and therefore prefer a partially shaded location, avoiding sunburn, while other species need a much more direct sun exposure to grow healthy and compact. On the other hand, considering to the potting mix, the most suitable substrate to cultivate this genus should be basically mineral as the one used for other succulent plants; their roots are fibrous and therefore do not require deep containers. I personally use the same substrate for all African succulents.

It is important to point out that when cultivated in the northern hemisphere, unlike in their habitat, they have their active development phase during the months of August to January, preparing for rest during the months of February to March and having a complete resting phase from April to July during which you can see the dry covers of the leaves, which begin to resurface again in August, breaking the wilted wrappers of the previous year. This resting phase was quite disturbing for me when I started to cultivate this interesting genus, since many *Conophytum* appear to be dead and only when looking carefully under the dry covers you can observe the green leaves, sunken to the bottom of the plants, which made me find my composure so to speak...

During their resting phase it is necessary to moisten the plants a little from time to time without having to water them properly, only to maintain them with the natural humidity of the morning dew that they would receive in their habitat. On the contrary, in their growth phase they require modest regular watering that keep the plants turgid, without exceeding, as the leaves can become cracked or broken, giving a bad appearance to the plants. Although the growth of the small plants in the early years is slow, after about 4 or 5 years, with good care, it begins to be noticed how they are growing, when the number of pairs of leaves exceeds 6 or 7, which, when duplicating each year, are generating small leaf litters. We can propagate them by using cuttings or seeds. Cuttings root with relative ease during the growth phase (August-December), while in the case of sedes, naturally, we must be carefully pre-pollinated flowers of different specimens of the same species, after which small capsules are obtained; when ripened and moistened the capsules release the small seeds, which germinate easily although the resulting seedlings are delicate.

The genus *Conophytum* is divided into 16 sections which are

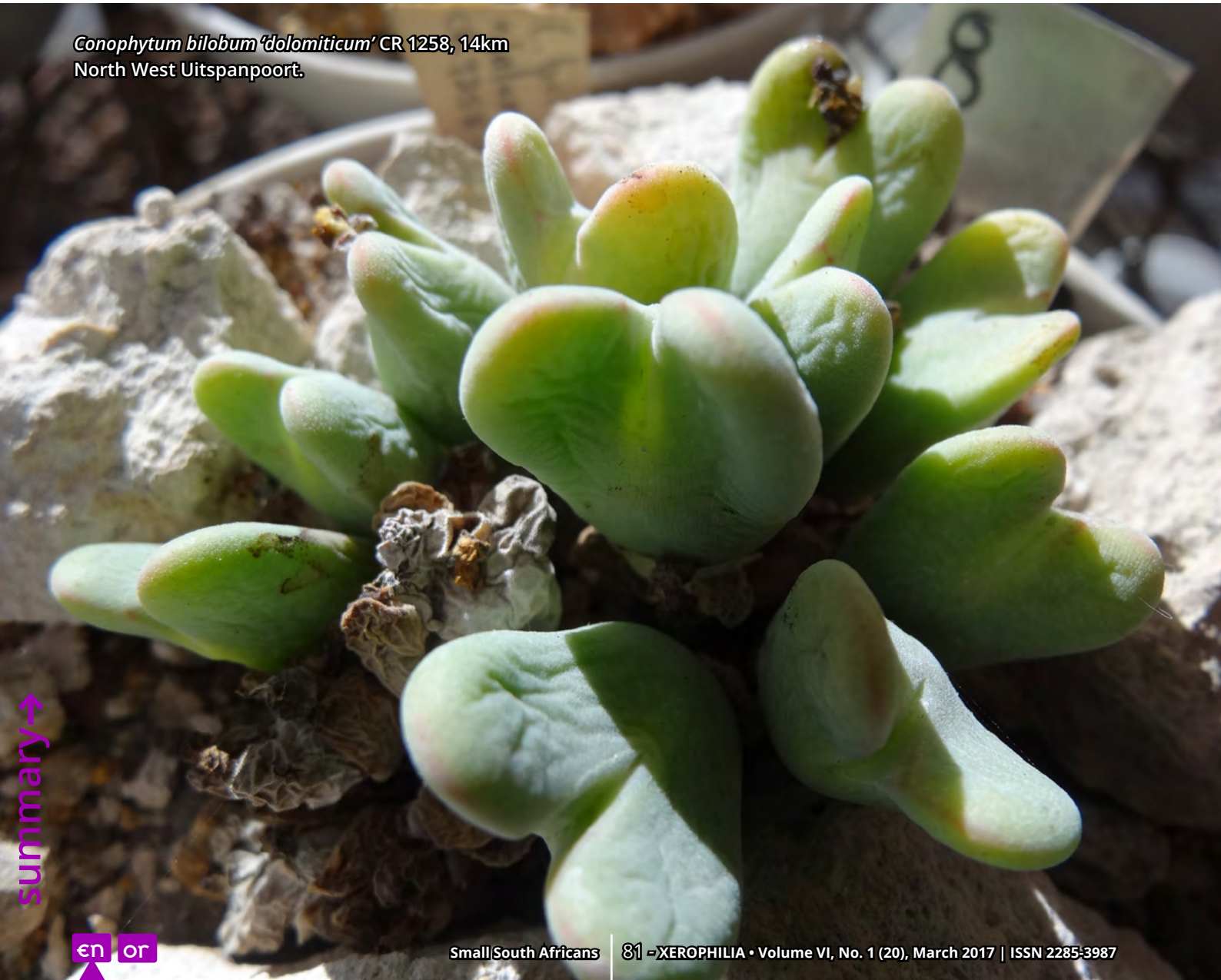
summary→

Section Biloba 1/1

Namaqualand-Bushmanland

summary→

Conophytum meyerae SB1363, Eenriet.



Conophytum bilobum 'dolomiticum' CR 1258, 14km North West Uitspanpoort.

summary→

Section Herreranthus 1/1

Bushmanland-Namaqualand

summary→

Conophytum marginatum ssp. *haramoepense* ARM 955D near Naabseberg.

Conophytum marginatum ssp. *haramoepense* ARM 955D near Naabseberg - flowering.

summary→

en or

Section Wettsteinia 1/2

Namaqualand-Bushmanland-Knervslakte-S. Namibia

summary→

Conophytum flavum.

Conophytum chrisocruxum SH 2275, Harras - abandoning the rest phase.

Conophytum chrisocruxum SH 2275, Harras - growing.

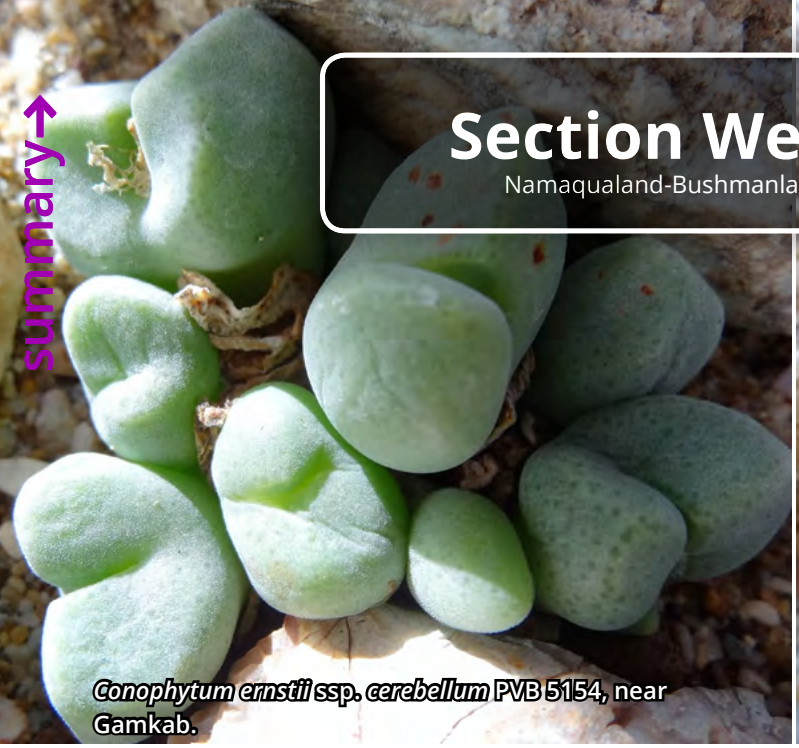
summary→

en or

Section Wettsteinia 2/2

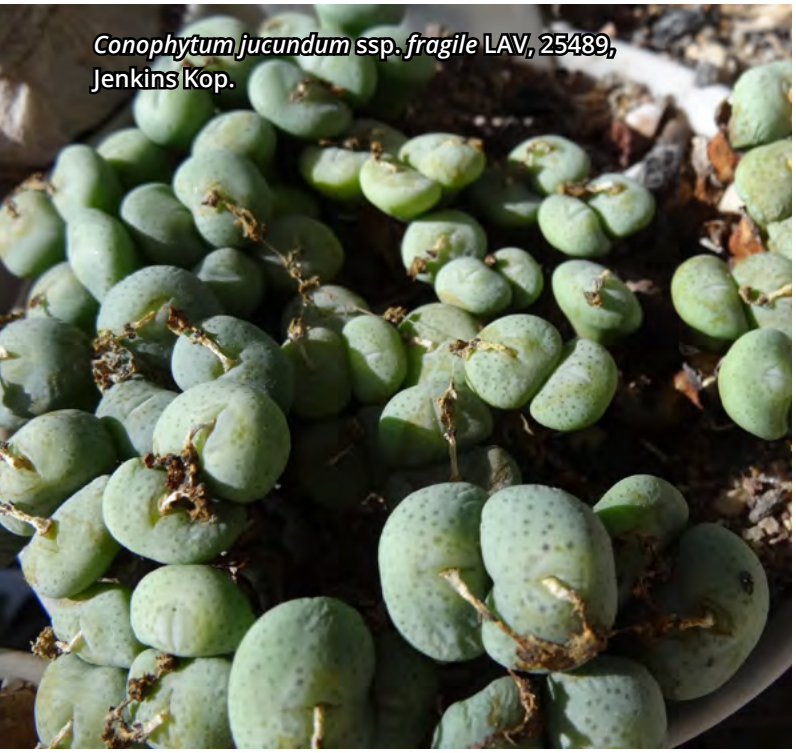
Namaqualand-Bushmanland-Knervslakte-S. Namibia

summary→



Conophytum ernstii ssp. *cerebellum* PVB 5154, near Gamkab.

Conophytum minutum LAV 25573, Rooiberg, 20km NNE of Vredendal.



Conophytum jucundum ssp. *fragile* LAV, 25489, Jenkins Kop.

Conophytum jucundum ssp. *fragile* LAV 25489, Jenkins Kop - flowering.

Conophytum taylorianum ssp. *ernianum* MG.1456.1 Aurus.

Conophytum wettsteinii CR 1363, 10km West of Steinkopf.

summary→

en or

Section Minuscula 1/4

Namaqualand- Bushmanland- Knervslakte- Southern Cape

summary→

Conophytum auriflorum ssp. *turbiniforme* ARM 555, Spektakel Pass - resting.

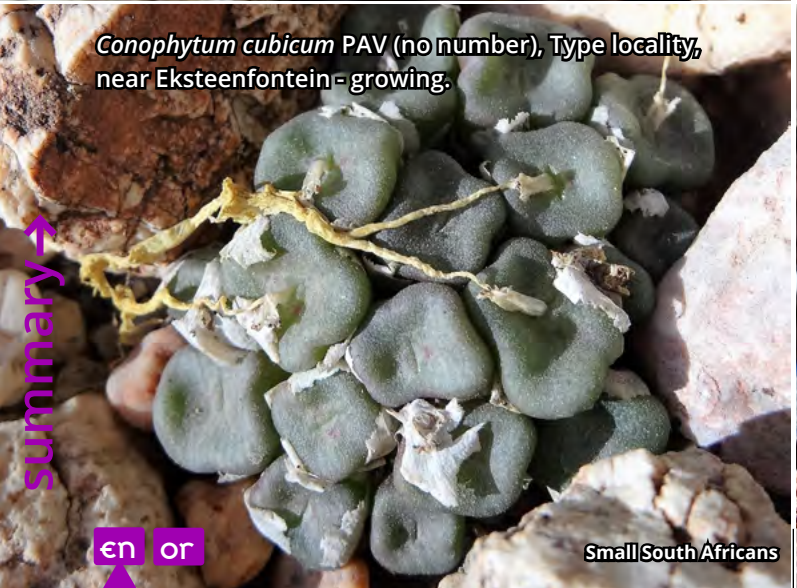
Conophytum auriflorum ssp. *turbiniforme* ARM 555, Spektakel Pass - during active growth.

Conophytum brunneum LAV (no number), near Nuwerus - finishing the rest phase.

Conophytum brunneum LAV (no number), near Nuwerus - growing.

Conophytum cubicum PAV (no number), Type locality, near Eksteenfontein - resting.

Conophytum cubicum PAV (no number), Type locality, near Eksteenfontein - flowering.



Conophytum cubicum PAV (no number), Type locality, near Eksteenfontein - growing.

C. lukhoffii ARH1052.

summary→

en or

Section Minuscula 2/4

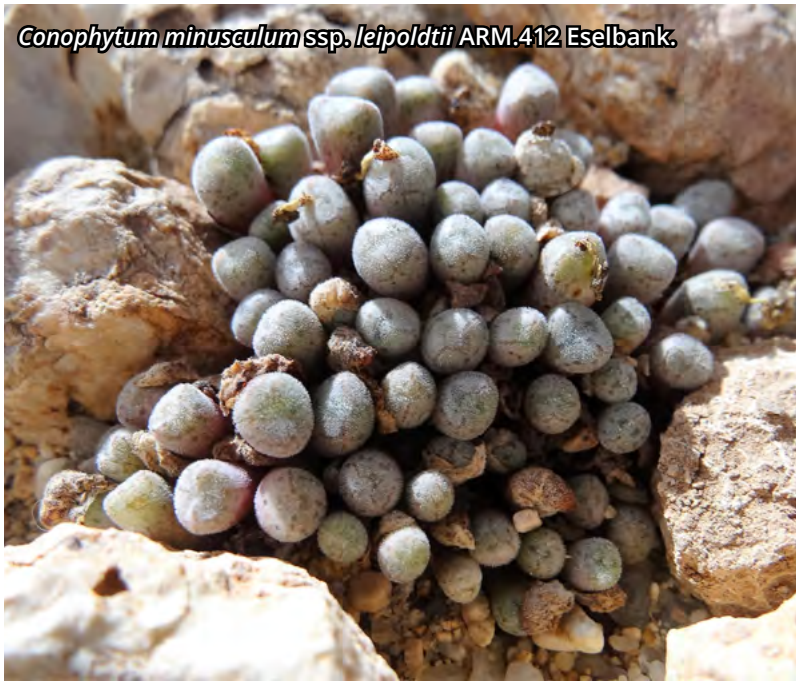
Namaqualand- Bushmanland- Knervslakte- Southern Cape

summary↵

Conophytum ectypum ssp. *cruciatum* CR 1370 Rietkloof - resting.

Conophytum ectypum ssp. *cruciatum* CR 1370 Rietkloof - growing.

Conophytum ectypum ssp. *ignavum* ARM 564b, Geelvlei.



Conophytum minusculum ssp. *leipoldtii* ARM.412 Eselbank.

Conophytum minusculum CR1174, Pakhuis Pass.

Conophytum minusculum CR1174, Pakhuis Pass - flowering.

Conophytum minusculum ARM388a South end of the Heerenlogment - finishing the rest phase.

Conophytum minusculum ARM388a South end of the Heerenlogment - growing.

summary↵

en or

Section Minuscula 3/4

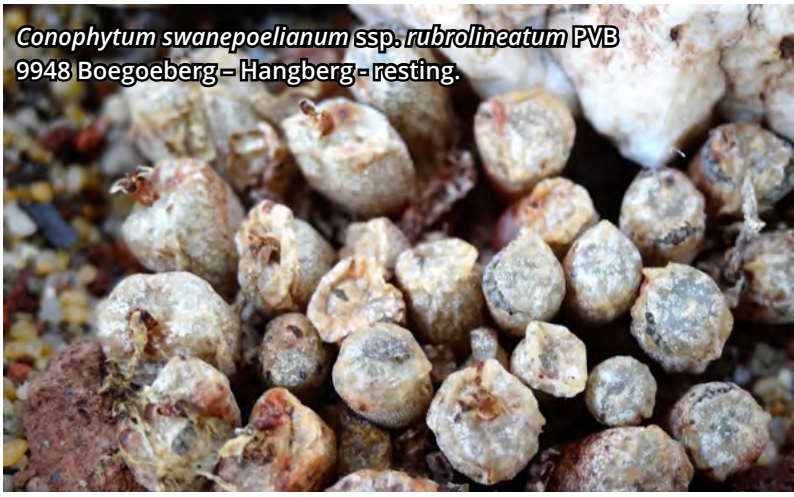
Namaqualand- Bushmanland- Knervslakte- Southern Cape

summary→

Conophytum fulleri LAV.23863 Namies - finishing the rest phase.

Conophytum fulleri LAV.23863 Namies - growing.

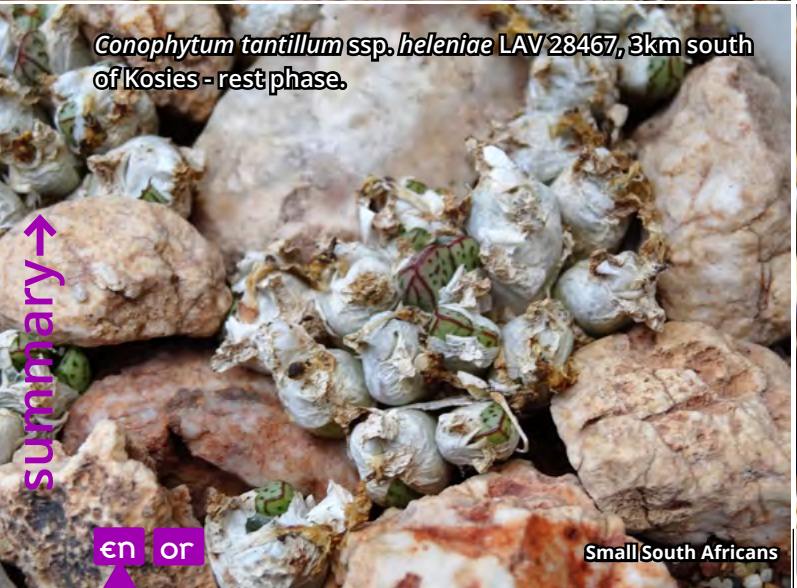
Conophytum swanepoelianum CR.1394 Papkuilsfontein.



Conophytum swanepoelianum ssp. *rubrolineatum* PVB 9948 Boegoeberg – Hangberg - resting.

Conophytum tantillum ssp. *eenkokerense* SB 1191.

Conophytum swanepoelianum ssp. *rubrolineatum* PVB 9948 Boegoeberg – Hangberg - finishing the rest phase.



Conophytum tantillum ssp. *heleniae* LAV 28467, 3km south of Kosies - rest phase.

Conophytum tantillum ssp. *heleniae* LAV 28467, 3km south of Kosies - growing phase.

summary→

en or

Section Minuscula 4/4

Namaqualand- Bushmanland- Knervslakte- Southern Cape

summary↵

Conophytum turrigerum EVJ (no number), Weltervrede.

Conophytum tomasi PAV (no number), Sterkstroom.

Conophytum irmae B&H 2318 Rietkloof.

summary↵

en or

Section Cylindrata 1/2

Namaqualand- Bushmanland- Knervslakte

summary→

Conophytum khamiesbergense ARM 1094 Rooiberg.

summary→

en or

Section Cylindrata 2/2

Namaqualand- Bushmanland- Knervslakte

summary→

Conophytum reconditum - red clone.

Conophytum reconditum SB.1379. Donkiekop, Haarbeen.

Conophytum reconditum ARM 1254 Boonste Matjiesfontein.

summary→

summary↵

Section Pellucida 1/3

Namaqualand-Bushmanland

Conophytum arthurolfago, CR 1028 Brakfontein - Complete flowering.

Conophytum arthurolfago, CR 1028 Brakfontein - Initiating flowering.

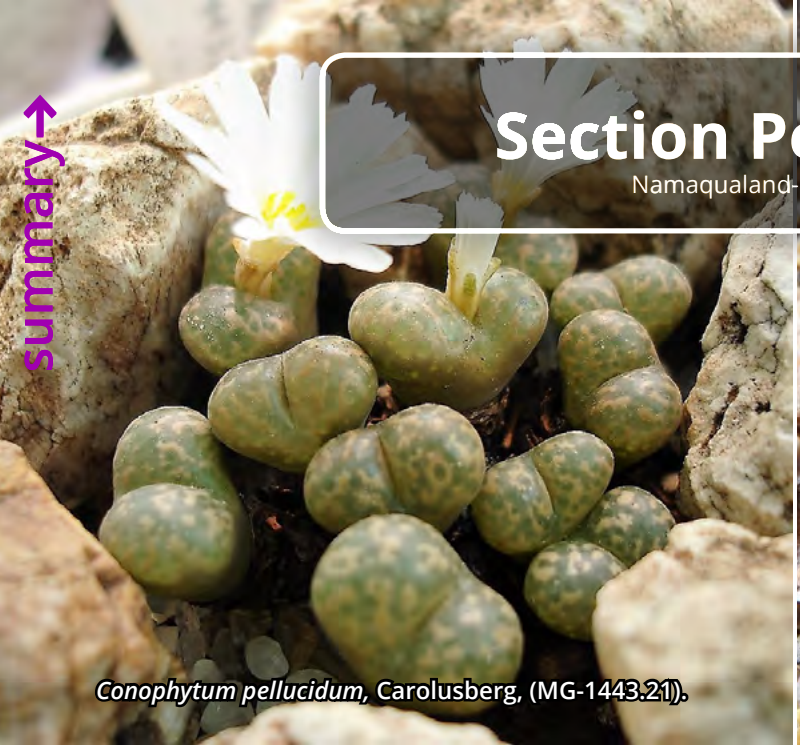
Conophytum arthurolfago, CR 1028 Brakfontein - Mature capsule exposing seeds.

summary↵

Section Pellucida 2/3

Namaqualand-Bushmanland

summary→



Conophytum pellucidum, Carolusberg, (MG-1443.21).

Conophytum pellucidum LAV24240.

Conophytum pellucidum, Carolusberg, (MG-1443.21).

Conophytum pellucidum ssp. *cupreatum* var. *terrestre*, South of Gamoep, (MG-1456.75).

Conophytum pellucidum ssp. *ilianum* SB 1175, South of Garies).

Conophytum pellucidum var. *neohalli* 'Makins Plumb', Mesklip.

summary→

en or

Section Pellucida 3/3

Namaqualand-Bushmanland

summary↑

Conophytum pellucidum var. *neohalli* SB.628, Deurdrift

Conophytum pellucidum var. *neohalli* SB.628, Deurdrift

Conophytum lithopsoides ssp. *boreale*, UC 51/1303.

Conophytum lithopsoides ssp. *boreale*, UC 51/1303 - flowering.

Conophytum pellucidum "'pardicolo" SH 624, south east of Springbok.

Conophytum pellucidum ssp. *terricolor* SH 1252, South West of Springbok.

summary↑

en or

Section Ophthalmophyllum 1/1

Bushmanland- Namaqualand

summary→

Conophytum lydiae, Kangnas (MG-1804.15).

Conophytum limpidum, East of Aggenys.

summary→

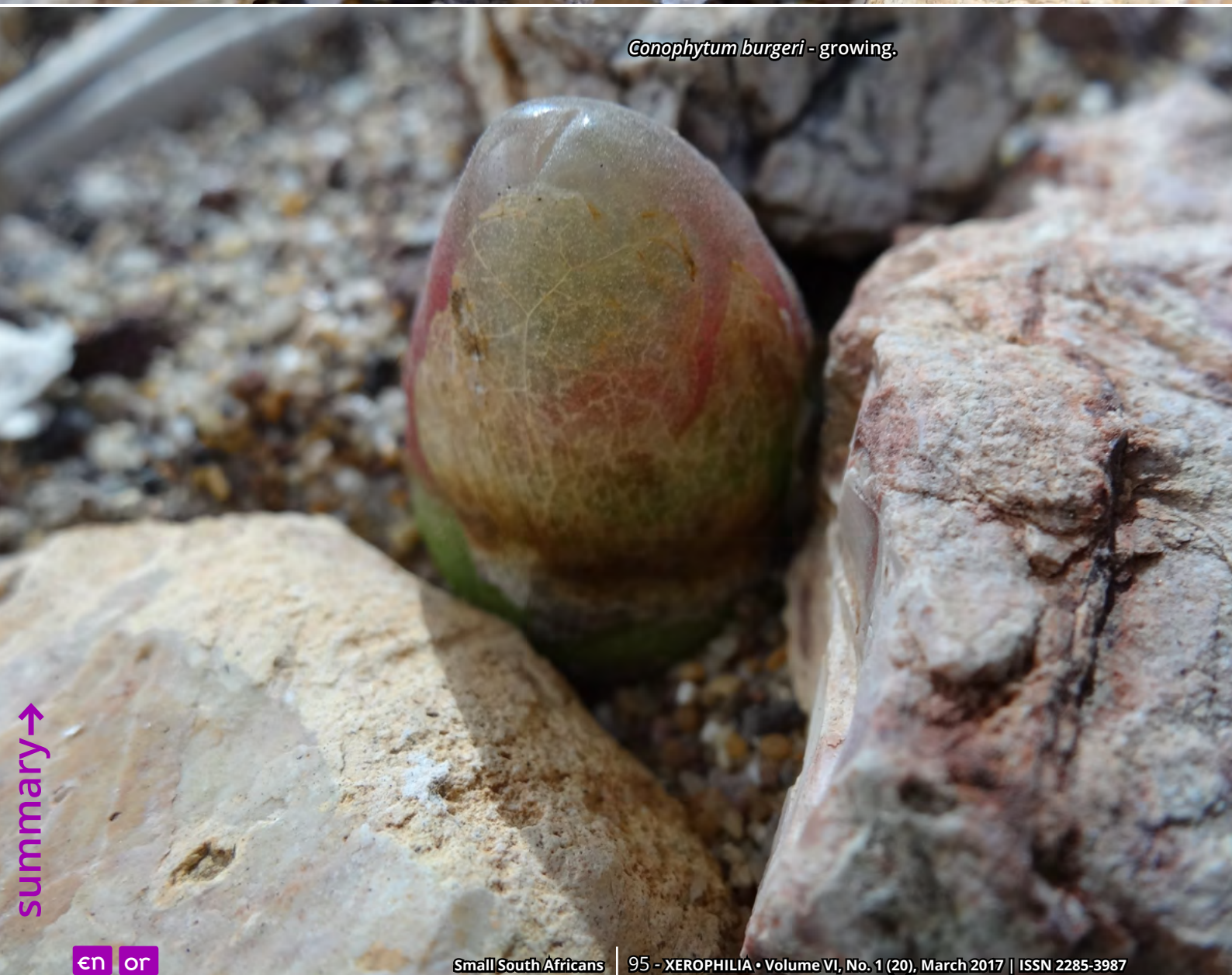
en or

Section Cheshire-Feles 1/1

Bushmanland- Namaqualand- Knervslakte

summary→

Conophytum burgeri - resting.



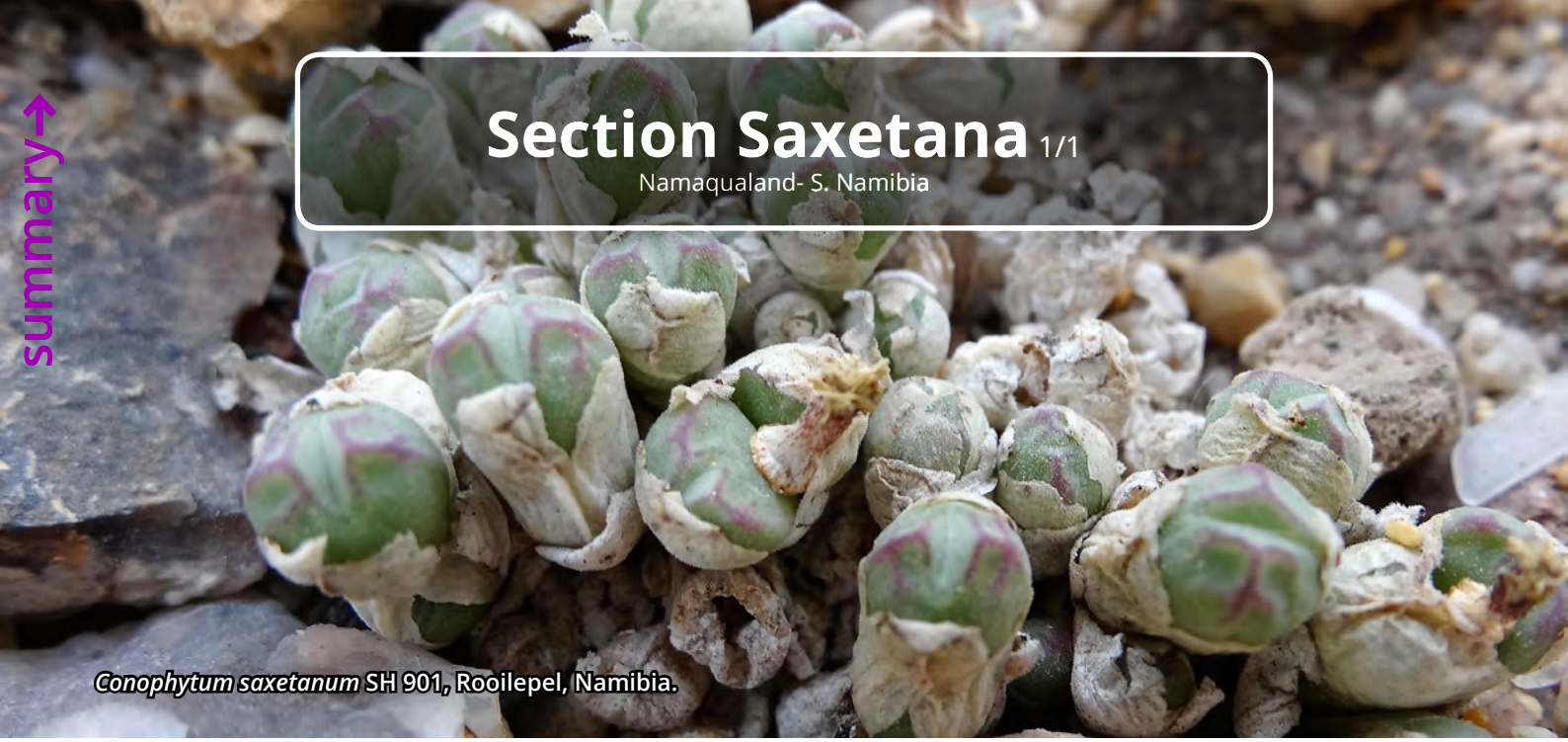
Conophytum burgeri - growing.

summary→

Section Saxetana 1/1

Namaqualand- S. Namibia

summary↵



Conophytum saxetanum SH 901, Rooilepel, Namibia.

Conophytum loeschianum (MG-1429.061).

Conophytum carpianum SB 1029, Doornpoort.

Conophytum loeschianum "rubricarinatum" SH (no number), De Koei.

Conophytum quaesitum ssp. *densipunctum*, Tischer Karasberg, North of Grunau.

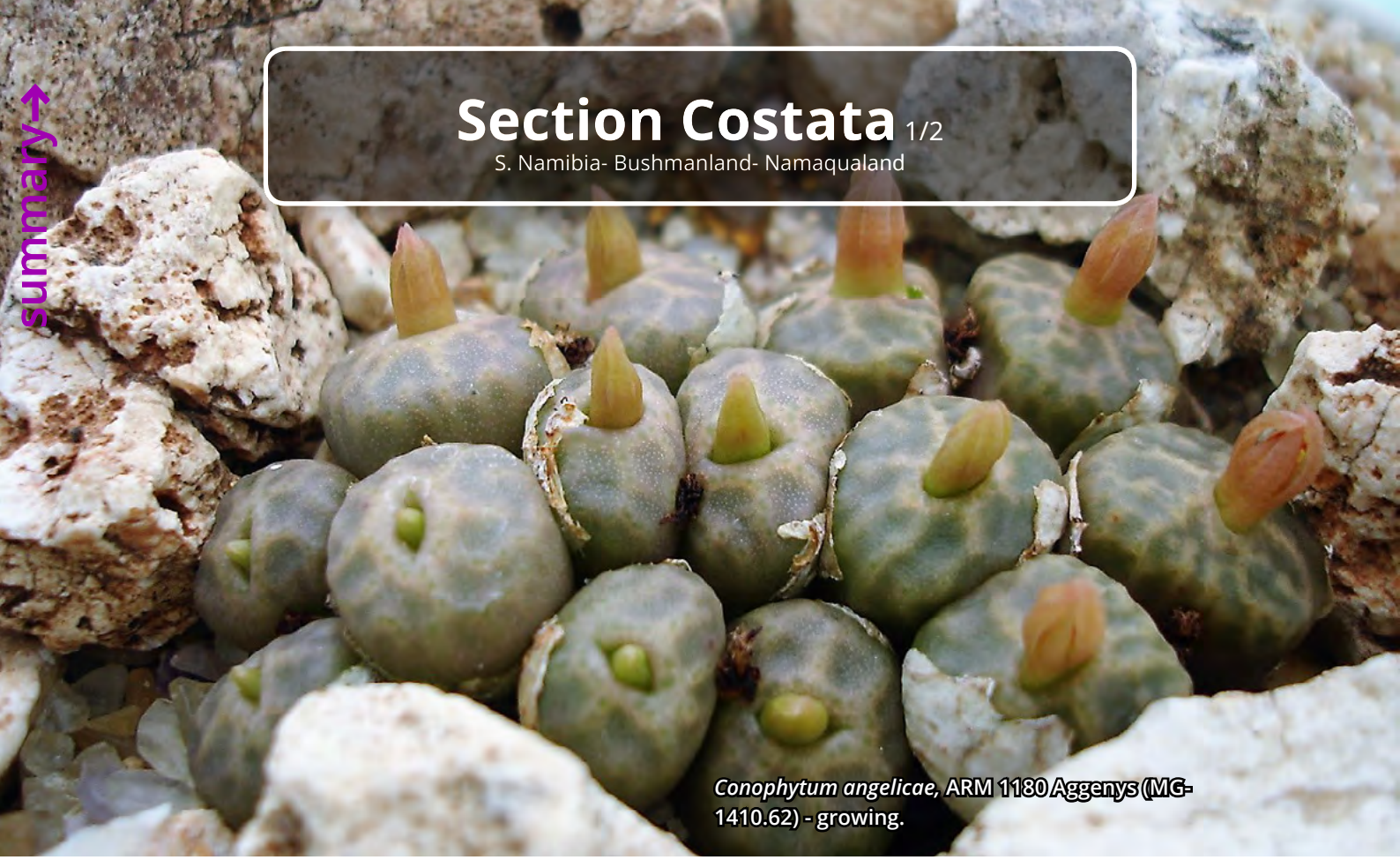
summary↵

en or

Section Costata 1/2

S. Namibia- Bushmanland- Namaqualand

summary→



Conophytum angelicae, ARM 1180 Aggenys (MG-1410.62) - growing.

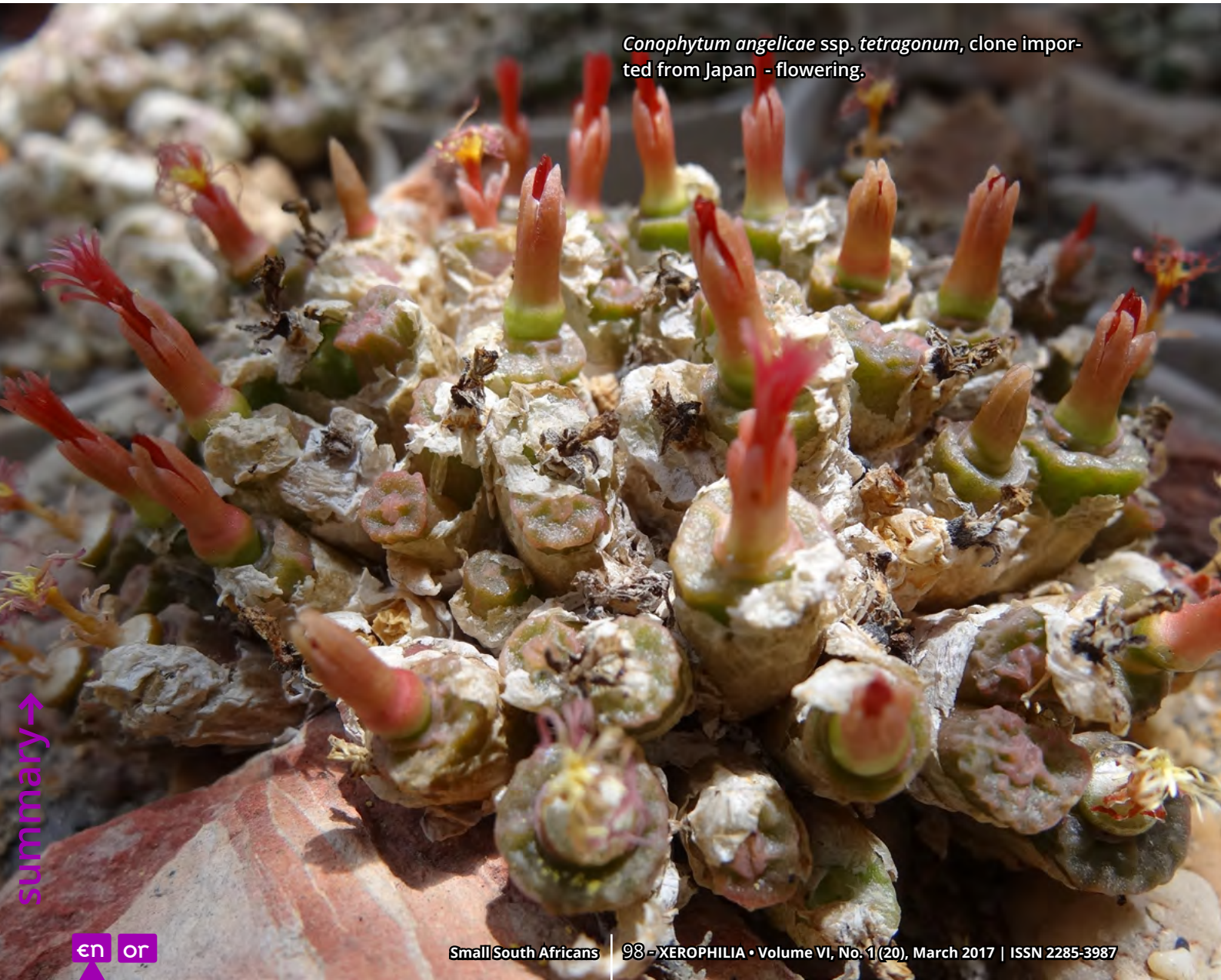
Conophytum angelicae, ARM 1180 Aggenys (MG-1410.62) - resting.

summary→

Section Costata 2/2

S. Namibia- Bushmanland- Namaqualand

Conophytum angelicae ssp. *tetragonum*, clone imported from Japan - finishing the rest phase.



Conophytum angelicae ssp. *tetragonum*, clone imported from Japan - flowering.

summary↑

summary↑

Section Barbata 1/1

Bushmanland- Namaqualand

Conophytum stephanii, SB 1119, Augrabies - resting.

Conophytum stephanii, SB 1119, Augrabies - flowering.

Section Conophytum 1/2

Little Karoo-Great Karoo- Bushmanland-Namaqualand-Knervslakte

summary→

Conophytum comptonii, SH 312/85, Sewefontein, Matsikamma.

Conophytum ficiforme, Rabiesdal, Robertson (MG-1446.37).

Conophytum minimum "wittebergense" RR 714, Klipfontein.

Conophytum obcordellum "lambertense" SB 626, Strandfontein.

Conophytum obcordellum "lambertense" SB 626, Strandfontein - flowering.

Conophytum obcordellum "lambertense conspicuum" Groot Holbak (MG-1427.2).

summary→

en or

Section Conophytum 2/2

Little Karoo-Great Karoo- Bushmanland-Namaqualand-Knervslakte

summary→

Conophytum obcordellum "picturatum" SB 1031, Clanwilliam - resting.

Conophytum obcordellum "picturatum" SB 1031, Clanwilliam - growing.

Conophytum truncatum var. wiggettiae B&H 2380 Hazenjacht - resting.

Conophytum piluliforme LAV 28169c,10km North West of Robertson.

Conophytum truncatum var. *wiggettiae* B&H 2380 Hazenjacht - flowering.

Conophytum uviforme ssp. *subicanum* SB 885 Wolwenes.

Conophytum uviforme ssp. *decoratum* LAV 28341A, 4km WNW of Smorenskadu - entering the rest period.

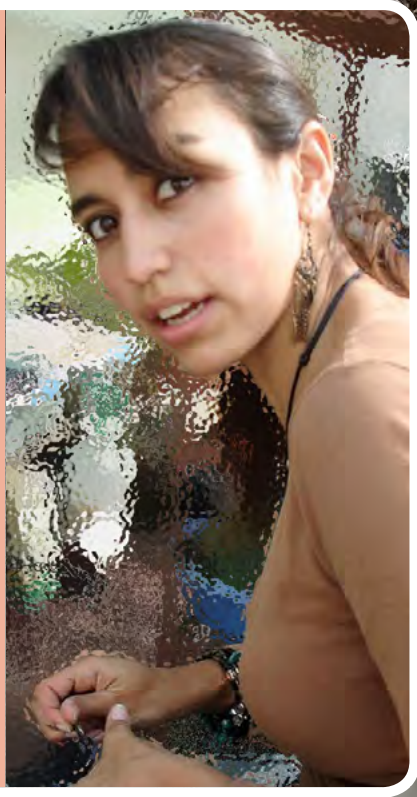
summary→

One last tip

Frequent thorough checking is necessary to detect small changes in plants that indicate signs of rot, pests, excess or lack of watering, excess or lack of light, inappropriate substrate, lack of growth or nutrients, etc.

Acknowledgments

This little article is dedicated to María Guadalupe H.C. with my deepest and sincere thanks for helping me to care for and cultivate these plants for several years, especially when I was absent. Without the unconditional support, time, patience and dedication of this great woman, this little collection would not exist. Thank you Maria.



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Hammer,S.(2002) Dumpling and his wife: New views of the genus Conophytum EAE Creative Colour Ltd. ISBN 0-9539326-1-3.

The Genus *Monanthes* Haworth

Massimo Afferni

with photos of plants in habitat by **Roberto Mangani** & **Massimo Afferni**

Monanthes is a small genus in *Crassulaceae* having their distribution area almost entirely in Macaronesia (this being a collective name for some archipelagos and islands in the North Atlantic Ocean, located off the African coast) as well as two areas of Morocco, respectively, in the mountain ranges of Great Atlas in the North and also in the Anti-Atlas in the South.

The fourteen recognized *Monanthes* species can be considered "cousins" of plants from the genus *Sedum*, mainly for their morphological appearance, but not for the flowering which is completely different; in fact, their small flowers on long thin pedicels covered by glandular hairs, have a whorl with nectar glands; the flowers are usually in sets of 6-8 with sepals ovate, valved, while the petals are characterized by being quite narrow and variously curved.

There are twelve *Monanthes* species in the Spanish Canary Islands (*M. amydros, M. anagensis, M. brachycaulon, M. icterica, M. laxiflora, M. minima, M. muralis, M. pallens, M. polyphylla, M . subrosulata, M. truncata, M. wildpretii*), with one species growing on two islands (Salvagens Grande and Salvagens Pequena) of the Portuguese archipelago of Salvagens (*M. lowei*) and finally one species in Morocco (*M. atlantica*).

But before examining the pictures, there is something that I find particularly interesting to show - the main features of all species of this genus.

During my four trips to the Canary Islands, together with Roberto Mangani, we were lucky to photograph eleven of the species, excluding unfortunately *M. icterica*, and continue below with some succint information on each of the mentioned *Monanthes* species.

summary→

summary↑


Monanthes pallens.

Barranco del Infierno, Tenerife - habitat of *Monanthes pallens*.

All species of this genus are perennial, except for *Monanthes icterica* which is annual; *M. icterica* has two known habitats, one in Tenerife (Barranco dell'Infierno and Monte Teno in the south west of the island) and the other in the east of the island La Gomera, where it grows on ledges and in crevices of rocks and cliffs between 100 and 900 m altitude. It has the flower with sepals connate at the base and acute free petals. Perhaps it is precisely because of its small size and its short life in winter (but I also did not know in what month it flowers) that I could not find it despite having done hikes in its distribution areas, but very probably not in the right month.

summary↑

en or


Monanthes polyphylla.


Monanthes amydros.


Monanthes muralis.


Monanthes subrosulata.

summary↑

A characteristic feature of their rosette leaves have *Monanthes polyphylla, Monanthes amydros, Monanthes muralis* and *Monanthes subrosulata*, an attribute of these taxa - one aspect that sets them clearly distinguished from the other species. The first species grows on of two narrow areas of La Palma, along the West coast, from Teno almost to the mountain range Anaga, Tenerife and in the center of the island of Gran Canaria, the second plant in various habitats of La Gomera, the third is endemic to El Hierro island, where it grows in the northern and western parts, but also in the south western parts of La Palma and finally the fourth species grows in a south east area of La Palma.

summary↑

Monanthes brachycaulon.

Monanthes wildpretii

Monanthes lowei

At the same time *Monanthes brachycaulon, Monanthes wildpretii, Monanthes lowei* and *Monanthes atlantica* produce leaf rosettes but those differ from the earlier by being sessile, that is without stem, while producing also secondary rosettes via long stolons, as particularly *M. brachycaulon*, which grows in northern and eastern parts of Tenerife and in most areas of Gran Canaria. The habitat of *M. lowei* and *M. atlantica* has been mentioned earlier, while *Monanthes wildpretii* has a very limited distribution area in the north of Tenerife, in the mountains of Anaga.

In addition to the small size of its leaves (hence the name) *Monanthes minima* is characterized by having every part of its body (flower, stem and leaves) covered with thick and "long" glandular pilosity. It grows only in the nort-west of Tenerife, on two restricted areas in Barranco di Igueste and Güímar Valley.

Monanthes minima.

summary↑

en or

Road for Igueste, Tenerife - habitat of *Monanthes minima.*

summary↵

Monanthes laxiflora.

Near San Sebastian, La Gomera - habitat of *Monanthes laxiflara.*

Monanthes laxiflora and *Monanthes anagensis* are characterized by having leaves alternate or decussate (never with a rosette shape), being elliptical or ovate, and sometimes terete, often with a ventral central groove. The leaves of *M. anagensis* are smooth and shiny, while those of *M. laxiflora* are partly covered by a thick layer of epicuticular wax. While the former has colonized several islands, such as Tenerife (along the coast from the west of Teno to the mountains Anaga), the west coast of La Gomera, the north of Gran Canaria, a restricted habitat in the south of Fuerteventura and the north of Lanzarote, the second species has only a limited distribution area in the north of Tenerife in the Anaga mountains, hence the name.

Monanthes anagensis.

summary↵

summary→

Finally, *Monanthes pallens* and *Monanthes truncata* are distinguished from the other species by having their thin leaves, with rounded tips (those of the first truncated and those of the second, arranged to give the body a hemispherical shape) and inflorescences that arise from the side shoots.

Monanthes truncata.

Montana de Guaza, Tenerife - habitat of *Monanthes truncata.*

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summary→

Notes on

Tephrocactus geometricus (A.Cast.) Backeb.

Elton Roberts

with 8 photos of plants in habitat by Robert Bader and a Google printed map.

summary→

I have taken the time to write this for I have had many people ask me many different questions about *Tephrocactus geometricus*. To most people it seems to be an elusive plant and a prize to find. I am sure that people that have bought a single or a two jointed plant or even a plant that has a half dozen heads has never had the pleasure of seeing the plants grow from a small pencil line to a plant that is as larger or a bit larger than a chicken egg. I say chicken egg as most have not become mostly round as a ball yet.

Tephrocactus geometricus "inermis" RB3268-RN60, altitude 1820 m, Paso San Francisco, Catamarca.

Photo by Robert Bader.

summary→

In times past I have received plants or joints of *Tephrocactus geometricus*. None of these were seedlings for I could see where they were removed from a parent plant. The joints are quite east to remove from a plant. One person I know had a nice show plant as it was being taken home it got knocked over and most of the joints broke off. That way he was able to make a lot more plants but in the process lost a good show plant. I do not remember buying a joint that was rooted; I did buy one large plant. That had 10 or so heads or joints. For me *Opuntia* plants have pads, segments, heads or joints. Ignore the picture of the three headed plant, this is how it came out from the seed. But note several other pictures in this article where these plants are producing joints from the top or the sides of the plants. I have two trays of 25 plants each so I have been watching 50 plants to see how they grow. As can be seen some offset from the top and some from the side and I have a couple that are offsetting from the very base of the plant.

I have seen seed grown *Tephrocactus geometricus* selling for $8.00 to as much as $42.00 and these are about the size of the joint of the little finger to maybe almost 2 cm in diameter. I have also seen heads that were snapped off the main plant and sold that way. Mesa Garden has the plants listed as *Tephrocactus alexanderi* var. *geometricus* DJF319 e Loro Huasi, Cat $8.00. These are seed grown plants and I am not sure how large they are but I am sure they are the real *T. geometricus*. I have seen single joints on the web for $7.00 to as much as $32.00; but keep in mind that by the time you add shipping that price goes up quite a bit. From there the price just goes up and the sky is the limit, so to say, as to the prices asked. I have seen a clump priced at $2,500.00. I know this one person that has a plant that is quite large, the plant measures 46 cm wide and 28 cm tall and he turned down $5,000 for it. At a recent show I saw 3 jointed plants that were called *T. geometricus* that were grafted selling for $60.

(Accidental?) cross pollination of *Tephrocactus* in cultivation

I said 'that were called' *T. geometricus* because some plants people are selling look more like *Tephrocactus alexanderi* ssp. *bruchii* (Speg.) Backeb. than *T. geometricus*. The three plants at the recent show looked to me like they were more *Tephrocactus alexanderi* ssp. *bruchii* than a *T. geometricus* as they had spines to about 2.5 cm long. I see on the web where several sites are selling plants of *T. alexanderi* ssp. *bruchii* as long spined *geometricus*. I have seen where some people say they have the long spined form of *geometricus*. When something like that is put on the web everyone will believe that there is such a thing. I believe that there is a good amount of (accidental?) cross pollinating of *T. geometricus* and *T. alexanderi* ssp. *bruchii* and other *Tephrocactus* then growing the seed. When the plants grow with long spines it is just called a long spined form of *T. geometricus* with no mention of it being a cross. Until the last couple years, I had never seen or heard of a long spined form of *T. geometricus.* Now I see quite a few people selling joints or seed on line. I know that some *T. geometricus* have spines but on the true plants I have never seen a spine any longer than 6 mm and those hug the plant body. The plants of what they are cal-ling the long spined form of *T. geometricus* have spines that are to 2.5 cm long. These spines do not hug the plant body but are exactly the same as the spines on *T. alexanderi* ssp. *bruchii*. On *T. alexanderi* ssp. *bruchii* the spines have a bend right at the areole and then they are straight from that bend. That hook or bend makes the spine so it is not sticking out straight but is not hugging the body. I have measured the spines on *Tephrocactus alexanderi* ssp. *bruchii* and the spines are right at 2.5 cm long. Even with the bend at the areole the tip of the spine is as much as 2.5 cm above the plant body. I have to wonder if before very many years all a person will be able to get are 'long spine' crosses. With the price of a joint or a plant of *T. geometricus* and so many people wanting one, many people only buy one. When it blooms they will cross it with any plant that resembles it or they cross the plant with any *Tephrocactus* that is in bloom at the time. I have had people ask what difference it makes as they only have the one plant.

Tephrocactus geometricus RB3274-RN60, altitude 2000 m, Paso San Francisco, Catamarca.

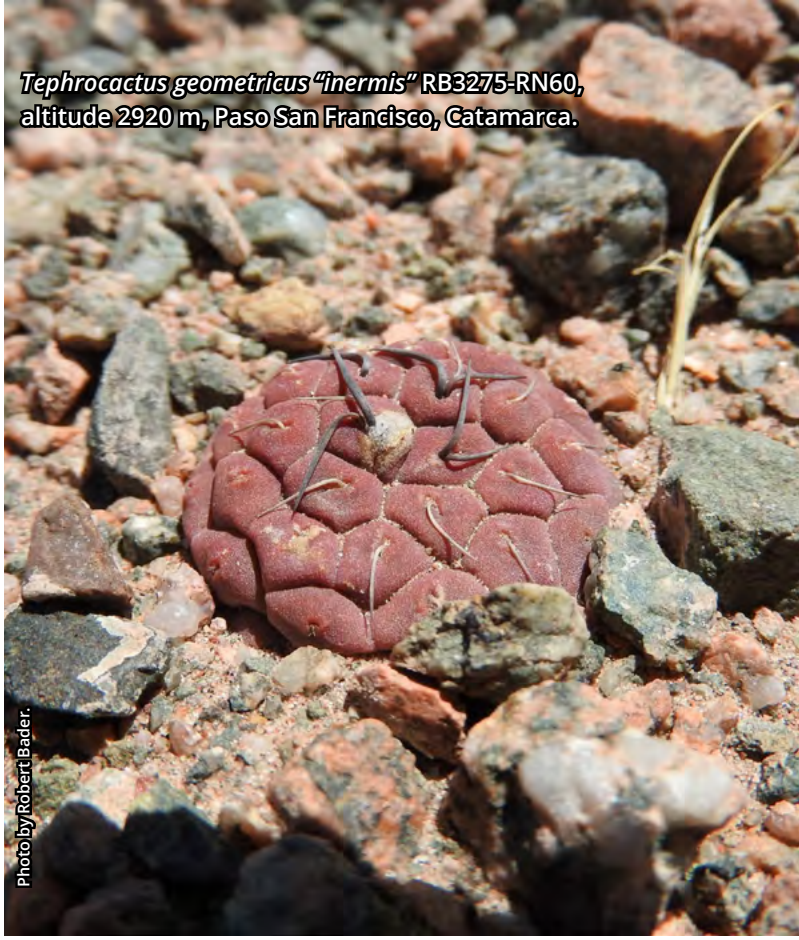
Photo by Robert Bader.

summary→

summary↑

Tephrocactus geometricus "inermis" RB3268-RN60, altitude 1820 m, Paso San Francisco, Catamarca.

Photo by Robert Bader.



Tephrocactus geometricus "inermis" RB3275-RN60, altitude 2920 m, Paso San Francisco, Catamarca.

Photo by Robert Bader.

Tephrocactus geometricus description

The plants go under different names; those being *Tephrocactus alexanderi* variety geometricus or T. alexanderi ssp. geometricus. Some books have the plant listed as T*ephrocactus geometricus*. Anderson and Glass both have it as *Tephrocactus geometricus*. In Steven Brack's Mesa Garden catalog he has it as *T. alexanderi* v. *geometricus*. The NCL dismisses it all together as just a weak spined form of *T. alexanderi*. A. Castellanos named the plant *Opuntia geometrica* in 1934. In 1935 Backeberg moved it to *Tephrocactus* and changed the spelling to *T. geometricus*. Here is the description from Backeberg's Cactus Lexicon:

Body low, laxly branching, about 15 cm high; segments spherical, 3.5 cm long and diameter, light green later becoming corky; tubercles 5 – 6 angled; areoles brownish, lower ones spineless; spines 3 – 5, subulate, black or white, curving above, 5 – 10 mm long; flower white, 3 cm long; fruit dry, depressed-spherical, 17 mm long, 22 mm broad, mostly spineless. From Argentina.

For those that do not have Backeberg's book to read, Anderson's book The Cactus Family has almost the exact description. Charles Glass puts a little different spin on his description and here is that description.

A grayish-green plant to about 6 inches tall. The joints are almost rounded, to 1 1/3-inch-long and thick, and the brownish areoles have minute bristly glochids and three to five whitish or brown spines from 1/5 to 1/2 inch in length, these soon falling. Flowers are white, about 1 inch long and appear by day in midsummer. Needs sun; normal cactus compost; minimum temperature 10° C (50° F).

I think we can ignore that minimum temperature as the plants grow around 2900 m (9500 feet) elevation. At that elevation I doubt that there are very many days that are much above that temperature.

Tephrocactus geometricus "inermis" RB3269-RN60, altitude 1820 m, Paso San Francisco, Catamarca.

Photo by Robert Bader.

summary↑

summary→

Tephrocactus geometricus.

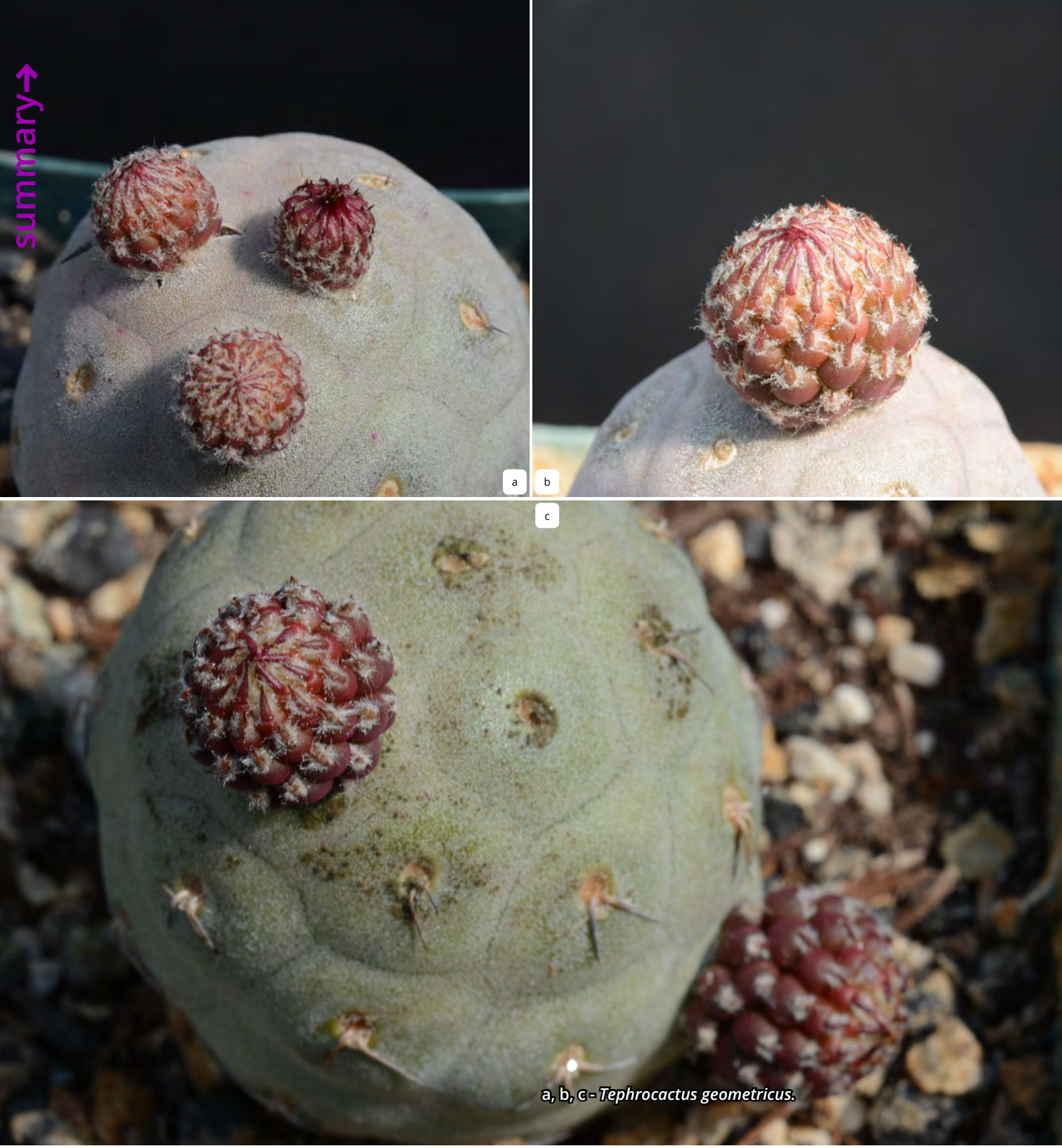
Tephrocactus geometricus.

Tephrocactus geometricus.

summary→

The *Tephrocactus geometricus* seedlings are globular. They started out as a seedling about the size of a pencil mark about 3 to 4 mm long. When the seedlings get a few mm in diameter they look somewhat like a globe. *Tephrocactus geometricus* along with other *Tephrocactus* and many *Opuntia* plants have no growing point. They start life like a balloon that is very devoid of any air. The seedling in the photo is about the size of the joint of my little finger. What is seen here is the unfolding of the tubercles that will in time fill out and almost flatten out. The small joint in the next photo is not much larger. This being a three headed plant with three different size heads it shows how the tubercles are slowly filling with fluid and flesh. What was rounded sphere like tubercles are now losing that half sphere shape and are becoming like a low mound. Next, the joint has taken on enough water that it is without any rounded tubercles. All the tubercles are now like a slight mound. When the plant takes on enough water and fills out it will become almost round in shape as seen in the pictures.

summary↑



a, b, c - *Tephrocactus geometricus.*

At the present time most of the plants are about the size of a large chicken egg or a bit larger. Some are developing one or multiple new growths. In one of the pictures (photo **a**) you can see growing three new growths out of the top of the plant. I say growths for at this size a person cannot tell if it is going to be new joints or flower buds. I had my doubts that a plant only one joint tall and being a seedling would make flowers at this age. Of the three new growths one looks different from the other two. The one on the right looks a bit dif-ferent from the other two. I am very confident that some of the growths in a new joint do not look the same as the most of them. Some growths have to be a flower bud as it looks nothing like the usual growths. In some cases, I am sure that both of the growths are new joints, not flower buds.

I have never seen one of my plants bloom from half way down the side of a joint. Compare the growth from different pictures (photos **b** and **c**) and they have to be the same kind of growth; that is new joints.

summary↑

summary↑

a, b, c - *Tephrocactus geometricus.*

Once getting larger we can better appreciate what they are. Some of them are definitely to be a flower bud. It looks very different from the growth that I am sure are joints forming. It is cylindrical growth and not round ball like and it also has spines that are not like on the joint forming growth.

About this time, we had a couple hot days and the plants grew quite noticeably. In my mind it looks like a flower bud now. Look at the top of the flower bud - I say bud because I see what looks like flower petals growing inside that covering of spines.

I know that the descriptions say that the flo-wers are white. I have four large plants that have been blooming year after year for many years and in the most part they have pink flowers. There are two plants out of the 50 plants that have new joints and flower buds forming on them at the same time. There are several others that I am not at the present time sure what they are growing as they are still too small to tell.

summary↑

summary↓

Tephrocactus geometricus.

summary↓

One of my plants has two joints growing on it. Right now they are small but in a short time they will look like the new joint. That joint is 3 cm in diameter and the plant it is growing out of is 4 cm in diameter so that offset could be larger than the original joint. On some of my large plants they have young joints that are 5 to 6 cm in diameter but the older joints are to 7 cm in diameter. Picture in your mind joints that are a little larger in diameter than a tennis ball and you will get the general idea of the size they can grow to. *Tephrocactus geometricus* has very gracious flowers. They are to 9 cm in diameter and usually a light pink color.

c

a - *Tephrocactus geometricus*, in cultivation - new offshoot. **b** - Single head *Tephrocactus geometricus "inermis"* RB3274-RN60, altitude 2000 m, Paso San Francisco, Catamarca. **c** - *Tephrocactus geometricus "inermis"* RB3268-RN60, altitude 1820 m, Paso San Francisco, Catamarca - old wild colony.

Tephrocactus geometricus, old cultivated colony.

As for me I now know that the single joint seedling can grow either new joints or flower buds as the first new growth they produce. It has been fun for me to watch a seedling go from not looking like a cactus plant at all to making a ball larger than a golf ball and then start growing flower buds and offsets. The offsets will in a few months make joints the size of the original seedling. One thing that the plants need is very good light or they will grow hoe-handle like; that is something like 3 cm in diameter and to 10 or more cm tall (1 ¼ inch to about 4 or more inches).

My large plants have taken temperatures down to the low teens F (-10°C) and they do just fine. Habitat is at 9,000 to 10,000 feet elevation (2,743m to 3,048m); at that elevation it can be very cold so I know the plants can take a lot of cold.

I have my plants under cover where it is open on the north side. So they get most of the weather except for the rain in the winter time. They get very bright light from sun up to sunset. In the most part I keep them dry over the winter; once in a while a rain will blow in on them but not very often. They have never shown any problems with that occasional rain. They take the heat here which hits over 100F (37.8°C) quite often in the summer. I do not give them any special soil, just my regular mix.

summary→

summary→

Tephrocactus geometricus, hoe handle effect.

Hoe handle* growth in *Tephrocactus geometricus*

This is information for all people that are interested in *Tephrocactus geometricus* plants weather you have one, are wanting to buy one, grow some from seed of if you have managed to beg a segment from someone that has a many segmented plant. I had several quite large plants and I first ran into the 'hoe handle growth' on *Tephrocactus geometricus* in Fresno California. This lady had one or two of the plants at a show and sale. I asked her about the plants and she told me that all of her plants were growing like that. I had never seen that kind of growth in *Tephrocactus geometricus* before so it was new to me.

I had to wonder if it was a hybrid but come to find out all the segments she was growing were from a segment she had received from someone. I do not remember that much about the conversation at the show and sale and in time I forgot about it. Maybe two or three months later the lady came here and brought me a hoe handle segment. To tell you the truth I did scratch my head and wondered about the hoe handle plant. She told me that it was the top half of one of her plants. I questioned her and she said that all of her plants grow that way. So when they get just so tall she tops them and starts another plant from the top cut in hopes it will revert to being round. The one she gave me was potted and so I put it with my other plants and wondered about it. One day I went out to check on how the plant was growing and did not see it the first time along the bench. I made a second run along the bench and there was a nice round ball in the place of the elongated segment that I had been given. Needless to say I was surprised to see the change in it; it had gone from a segment about the size of my thumb to a round ball just larger than a golf ball.

**Hoe handle growth* = elongated stem segments on Tephrocactus geometricus plants or other cactus plants.*

summary→

summary→


Tephrocactus geometricus.


Tephrocactus geometricus.

Just keep them in decent light – not in shade!

Come spring time the lady came up again and I showed that the elongated plant was a round ball and she was really surprised and told me that none of hers were growing round like that. She did not believe that the round ball plant was the same one she gave me, so I pointed out that it was still in the same pot with same soil and the same tag with her writing. I pointed out the growing conditions and the light it was getting. I do not remember what all I told her. In a year or two I asked her about her plants and she said that she took to heart all I told her about the light requirements. She took more cuts and all of them were growing round like they should be.

Another friend growing a lot of hoe handle plants and I asked him where he got them; he told me that he got them from me. He said that I sold a plant to him and that it is a hoe handle plant. He said that all his hoe handle plants came from me. I told him that I have never sold a hoe handle plant for I have never had one. Another time I was there and the hoe handle plants came up in conversation again and I decided to get two of the plants. I got the plants late in the year (mid-September of 2014.) I was remembering the Fresno plant and how it rounded out so quickly and so was hoping that with the light I give my plants the plant segments would round out. That way I could prove that it was the light that makes a difference. The guy also has several plants that are not hoe handle and these are growing in quite good light. I was wondering why a lot of the plants are hoe handle plants. That is when I discovered that he was taking segments, rooting them down and growing them. I looked around and discovered that when he was growing them under shade cloth. I now have to wonder if when he got the plant from me he placed in under shade to protect it from too much sun. If that were the case, then any new growth would elongate.

The two plants I got were under quite a lot of shade. If it was 40% shade cloth the plants were getting more shade than that. It was in an area where the roof only had a slight slant to it. If you look straight out of 40% shade cloth you are seeing 60% light. But if you have the shade cloth almost flat as the sun is coming up in the morning there is very little light coming through the cloth. As the sun rises higher and higher the more light comes through the shade cloth. And when the sun is straight over the shade cloth 60% of the sun light is coming through. As the sun is moving toward the west less and less light is allowed to come through the cloth. 40% shade cloth cuts out 40% of the sunlight so 60% of the sunlight is allowed through. That is only if the shade cloth is flat toward the sun at all times. If you have a half circle green house and it is covered with 40% shade cloth and the house is oriented north and south you will be getting about 60% of the sunlight through it. It all depends on the time of year. When the sun is high overhead; like mid-summer; you will get the most light through shade cloth. I have talked to people that say that they could only find 70% shade cloth for their greenhouse and then they ask why their plants are growing like candle sticks.

I have had several people tell me that they have the long stem form of *Tephrocactus geometricus* but want to buy the round ball form. Several people have sent me photos, at my request, so I could see their plants. In all cases the joints were elongated but not really what I call hoe handle. I have had people tell me that they look on line and see that there are plants that are the long stem form and others that are the round ball form. It is the round ball form that they want to get. They do not realize that if they get the 'round ball form' and grow it under much shade that any new growth will become the 'long form'. If they were to take the plants they have with the elongated segments and grow it in sunshine the new segments should end up round.

summary→

summary→

Tephrocactus geometricus, hoe handle 2 joints.

Tephrocactus geometricus, hoe handle 4 joints.

Studying the hoe handle growth

Those are the hoe handle plants that I bought to study the hoe handle growth and what is bringing it about. In one of the plants the bottom joint is 4.8 cm in diameter and 7 cm tall. The upper joint is 4 cm in diameter and 8.5 cm tall. For the second plant the bottom segment is 6 cm in diameter and 8.5 cm tall. The middle segment is 5.5 cm in diameter and 9 cm tall. The top left segment is 4.8 cm in diameter and 11 cm tall. The top right segment is 4.5 cm in diameter and 10 cm tall. In the most part the segments are twice as long as they are in diameter. I took these photos a day or two after I bought the plants. I wanted to see what a lot more light would do to the elongated joints.

Two seedlings that were given to me a couple years back, after I gave someone some seed, were showing the same hoe handle growth. He gave me the plants about a year ago and as I remember he said they were around two years old at the time. When I got the plants they were only the bottom segment and this spring had not changed much since they were given to me. I put the plants where they got very good light and they did not show any signs of growing till this spring. This spring the plants started was to grow but it was a new segment out of the top of the original segment. The first segment did not change shape as the one I got from Fresno. I was hoping that they would round out to ball shape. That did not happen, but if you note the right hand one has some valleys between the tubercles. That means that the segment can still grow a bit larger in diameter which in time I hope it will. The segments on the top of the plants have a way to go to finish filling out and so I figure the top segments will be quite round.

summary→

summary↑

Tephrocactus geometricus, hoe handle 4 joints after 2 years.

The plant with four joints in the above right corner is the same plant presented here; but two years farther along. The bottom segment is 6 cm in diameter and is 7.5 cm tall. The middle segment is 5.5 cm in diameter and is 9 cm tall. The top left segment is 4.8 cm in diameter and 8.5 cm tall the right segment is 4.5 cm in diameter and is 10 cm tall. Out of the bottom segment the plant grew another segment last year and it is 5.4 cm in diameter and 9.5 cm tall. But they are no way growing round. I have to wonder why but I remember that they grew elongated and remained that way even when they grew more segments. And the segments have remained elongated. I have come to the conclusion that the flesh inside sets up in that shape and so the segments cannot change shape very much. It is the same for the two seedlings mentioned above.

Before I was given the plants they grew elongated and were at least two or three years old when I got them. They cannot change the shape of the bottom segment as its flesh has set in that shape. You can see this in one of my old plants which has round segments and always had.

summary↑

summary↑

Tephrocactus geometricus, in 5 cm pots.

Tephrocactus geometricus, in 5 cm pots.

Tephrocactus geometricus, from seed.

Tephrocactus geometricus, from seed.

Hoe handle growth in seedlings

I have two seedling plants that are in 5 cm pots. They are 1.8 and 2 cm in diameter and both are 2.5 cm tall. So they are cylindrical as they should be for seedlings. Notices the top of the plants are still unfolding tubercles these are slowly expanding as the plant takes on water. That is making the plant taller but notice how prominent the tubercles are on the side of the plants. That is because they are not filled out as yet. Also note the base segment which is rather different from the new segments. The tubercles are mostly filled out and it makes the segments mostly round. They did not finish filling out as the plants started growing new segments. Some plants have only made one new segment whereas other plants can grow two or more new segments. To grow new segments as fast as they have means the plant puts lot of energy into that new growth and so the energy was diverted from the original segment. The plant has devoted that energy to growing new segments and so the first segment is not fully filled out, as seen by the still prominent tubercles. Out of about one hundred single segment plants most all have grown either one, two, three and one has grown four new segments; that is in about three and half months' time.

Out of the entire single segment plants eight of them produced flowers and seven of those also grew one to three new segments while making seed pods.

Most of the plants presented in photos are of the same age. When the plants were still small seedlings in I put them into a larger pot and move them from about 80% light to about 98% light. Out of about 100 seedlings all have made or are making mostly round segments. Many have to fill out all the way as they are not yet round like a ball but when they do fill out the segments will be quite round and not elongated. At the present time all of them are growing from one to four offsets. Since they are growing the offsets they are putting all their energy into the offsets. When the plant has stopped growing off sets it will put more energy into filling the first segment. All of my large plants have round ball like segments.

summary↑

summary→

Tephrocactus geometricus RB3275-RN60, altitude 2920 m, Paso San Francisco, Catamarca.

Photo by Robert Bader.

The result of insufficient light: elongated or even hoe handle segments

It is my personal thinking that what makes the elongated segments is like all cactus; not enough light. Growing under even light shade is leading to the elongated segments. In habitat the elevation is up to 2,900 m [9,500 feet] and at that elevation the plants are growing where they receive extreme amounts of UV from the sun. It may not be hot temperature wise but if you are there the UV would burn your skin really quickly. To have plants that grow in those conditions and expect them to grow under even 30% shade is asking for the segments to elongate. Think how much worse they are going to grow under 50 to 70% shade cloth. If you have bought a plant or have talked someone out of a segment of *Tephrocactus geometricus* do not try growing it under much shade. Acclimate it and grow it in as much light as you can. Otherwise you will end up with *Tephrocactus geometricus* that have elongated or even hoe handle segments.

Location of *Tephrocactus geometricus* at 2920 m altitude, on the national road RN 60, Paso San Francisco, Catamarca.

Google map print from Robert Bader's location tags.

Acknowledgements

We are grateful to **Robert Bader** for providing us the habitat photos we needed for completing both pats of this article.

Tephrocactus geometricus part 2
A habitat Pictorial
with photos by Robert Bader
will follow in our next issue

summary→

Alfriston Botanical Garden

Last part (5)

other succulent plants

Eduart Zimer

summary→

It's been 12 years since I started to visit quite regularly the Alfriston Botanic Gardens (ABG)... and things have changed in the meantime. Some plants have been removed since (for some odd reason – space maybe – a glorious *Austrocylindropuntia subulata*), but a lot of new species replaced them. Especially a large number of interesting Central African and Madagascar Aloe species, in a newly dedicated space. It was quite interesting to see in a matter of weeks new species planted, some well-established, some trying...

Haemanthus coccineus.

Strelitzia reginae.

Some new developments were built in time, and we are still hoping that an indoor facility could be in planned someday. ABG is not necessarily the best and most beautiful public garden in Auckland, but definitely it has a huge potential and offers many beautiful plants in any time of the year. This is a great thing indeed.

Except for the few very nasty days - when wind is howling, when rain is pouring, or when the sun is lost in the thick cover of low clouds - there is no time you would be disappointed when walking the grounds, there is always something attractive and special. Even if only a small part of the gardens is covered in cacti and succulents.

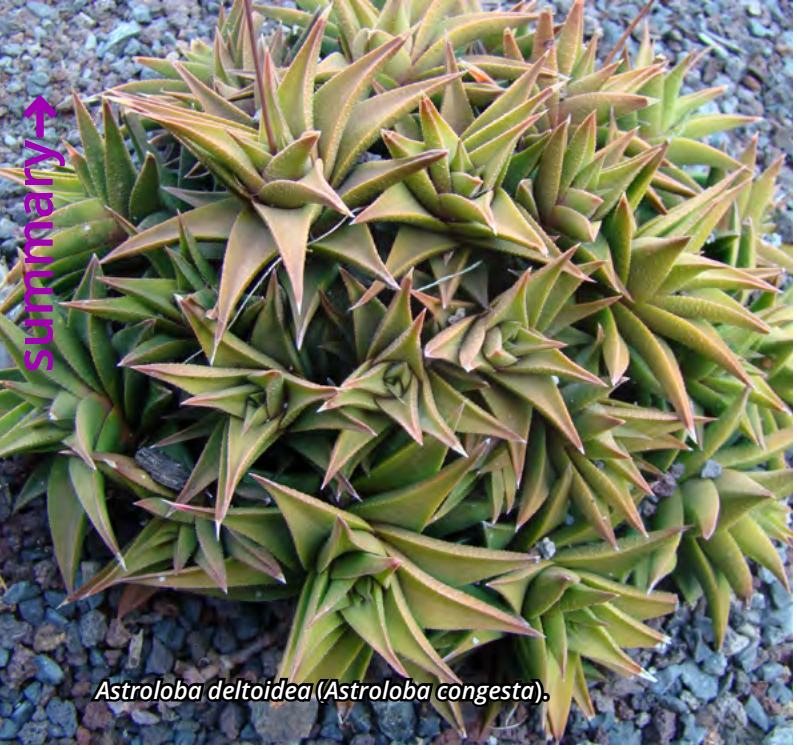
The last pictures I have selected cover the entire year, from early spring to late winter... and every time of the year brings new colours, flowers and plants to our attention: on over 64 hectares of gardens and native bush.

I must say that I fact I know only few things about ABG – I go quite often there, several times a year in the gardens, and dozens of times scrolling through the preserved bush known as Totara Park (or Totara Heights) - but I always prefer the four gardens where cacti and succulents are almost dominant.

This is intended to be my last sequel on ABG. It happened that I moved house in November 2016 even closer to the beautiful gardens. I simply have to cross the road and I am entering a walkway through Totara Park – the bush land administrated by ABG. I probably will visit this wonderful and unique Auckland place even more than in the previous years. And, you never know, I might write again on ABG.

Dorotheanthus bellidiformis.

summary→



Astroloba deltoidea (*Astroloba congesta*).

Brunsvigia josephinae.

Cotyledon orbiculata var. *orbiculata*.

Crassula coccinea.

Crassula muscosa (*Crassula lycopoides*).

Dyckia brevifolia.

summary↵

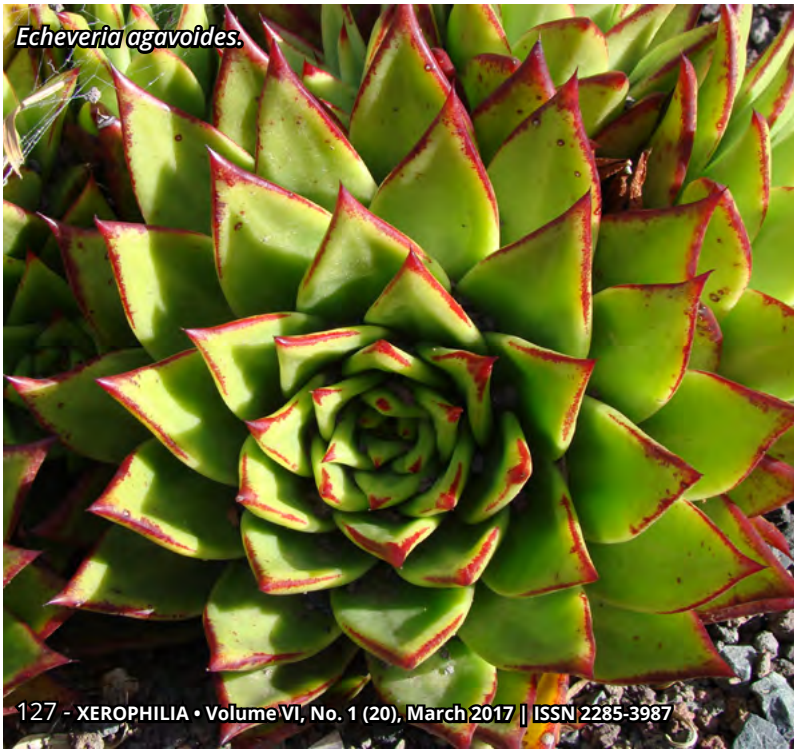
Dianthus 'Raspberry Swirl'.

Dicliptera suberecta.

Dudleya brittonii.

Dudleya ingens.

Dyckia fosteriana.



Echeveria agavoides.

summary↵

en or

Alfriston Botanical Garden 5

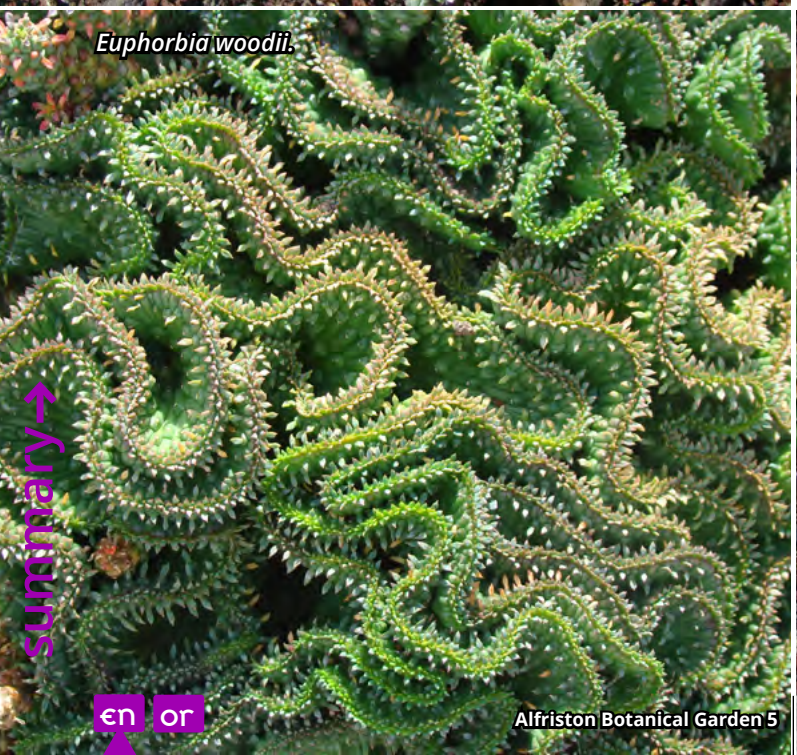
summary↑

Echeveria 'Hot Chocolate'.

Echeveria 'Violet Queen'.

Echeveria pulvinata.

Echeveria violescens.



Euphorbia woodii.

Faucaria tuberculosa.

summary↑

en or

Alfriston Botanical Garden 5

summary↑

Faucaria boscheana.

Gasteria nitida var. *armstrongii.*

Kalanchoe grandiflora.

Saxifraga 'Peter Pan'.

Lampranthus aurantiacus.

Mesembryanthemum 'Apricot'

summary↑

en or

Lewisia cotyledon.

Mesembryanthemum 'Apple Blossom'.

Mesembryanthemum 'Cameo'.

Nerine bowdenii.

Portulacaria afra.

Sedum rupestre 'Angelina'.

en or

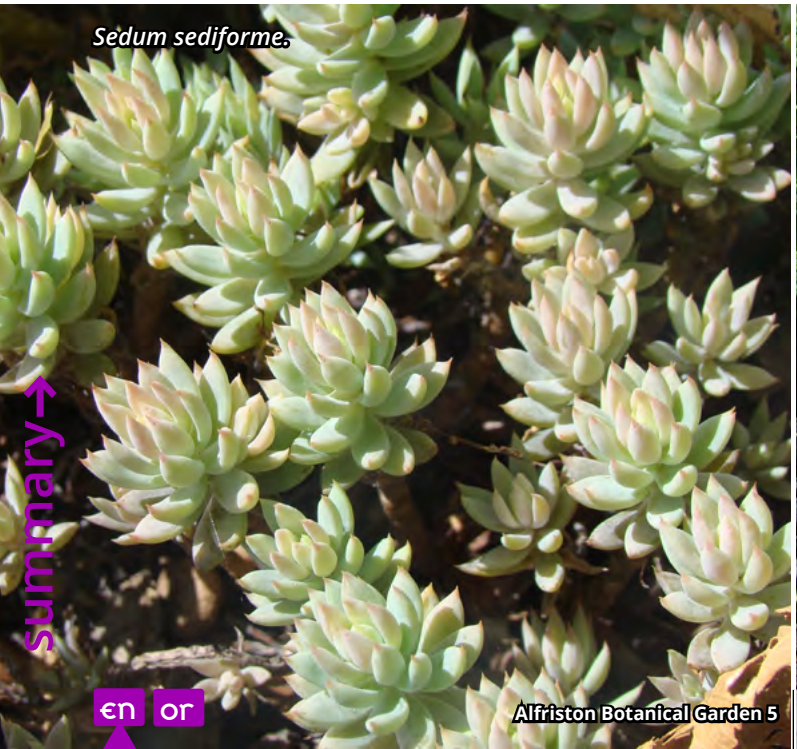
summary→

Ruschia maxima.

Sparaxis elegans.

Vriesea imperialis.

Scilla natalensis.



Sedum sediforme.

Sempervivum arachnoideum.

summary→

en or

Alfriston Botanical Garden 5

Veltheimia bracteata.

I hope you have all enjoyed the pictures from ABG published in Xerophilia over the last four and a half years. I'm photographing cacti and succulents, and their living adventure in Auckland's warm but rather humid climate. I still have only very few overall pictures of the gardens; I am mindlessly stuck into details. Likewise, in many other gardens or plant sites I have visited over the years. But, just referring the painter Edward Flaherty, I can say - *Gardens and chocolate both have mystical qualities*.

Ipomoea mauritiana.

summary→

Online magazines

Acc Aztekium Journal (Romanian) - The Romanian Acc Aztekium journal. Latest issue: **No 46, March 2017**.

Sansevieria Online (German) - The free online journal about the genus Sansevieria. **Latest issue: No 4 (2), November 2016.**

Sukkulenten (German) - Monthly free online journal of the FGaS - Fachgesellschaft andere Sukkulenten (formerly Avonia-News). **Latest issue: Vol. 10, No 1-2, February 2017.**

The Cactus Explorer (English) - The first free online C&S journal. **Latest issue: No 17, December 2016.**

Huitzilopochtlia

March 2009

Miscellaneous Mammillaria musings, brought to you by the left-handed postman

Yes, the left-handed humming-bird is on his rounds again..... ten years since his last delivery. Why now? Well, with more enthusiasts exploring in Mexico, more taxa being described (or at least named!), more discussion of documented introductions, a major reference collection of the genus being assembled, and communication by e-mail so cheap and easy, why not? No need to wait months for your comments to be published, no need to pay for printing, no need to collect subscriptions, and no need to beg for contributions to fill the next issue – the format is flexible!

The Lau mammillarias: a project to be revived?

Those with long memories will remember that back in 1983, in the Journal of the Mammillaria Society (hereinafter JMS), I launched a survey of Lau and Reppenhagen plants in culitvation. Subsequently (now 20 years ago, oh dear!), in the first issue of Mammillaria Postscripts (1989), I mentioned that Dr Lau had supplied me with detailed collection data for virtually all his Mammillaria collections, with a view to the production of a booklet. I had sent him a template to photocopy and fill in for each collection and in due course he complied with my request and sent me batches of forms, two to a sheet. (By that time I had also spent an uncomfortable w... Veit, Austria, working and sleeping in a room at the end of Reppenhagen's p... over a set of maps of Mexico on which he had marked his collecti... the relevant latitude and longitude coordinates. But that ... another story!)

In the 1970s and 80s, thanks ... pondence with Alfred ... Ultimately in view ... other commitments, ... lack of adequate p... was not th... herbarium vouchers, ... 's own great diffic... booklet did not get written. However, as well as th... much of the data to the German Mammillaria So... English, edited by Othmar Appenzeller, in 1992. ... and propagated and some doubtless photographe...

Quite early on in our correspondence, Alfred and ... to ser. Supertextae he had found in the mountains ... between Teotitlán del Camino and Tomellín, in n... several of the localities close to the road during a c... sent me a draft report and photographs which I ev... 66. 1979), followed three months later by the firs... 106-107) and other Lau novelties.

When, a few years later, as the then President of ... of Lau and Reppenhagen plants, I received a tota... the JMS (25(1): 5–7. 1985). In summary, 153 of th...

Huitzilopochtlia

ISSN 2054-9725 (Print) ISSN 2054-9733 (Online)
an occasional Mammillaria newsletter with continuous pagination

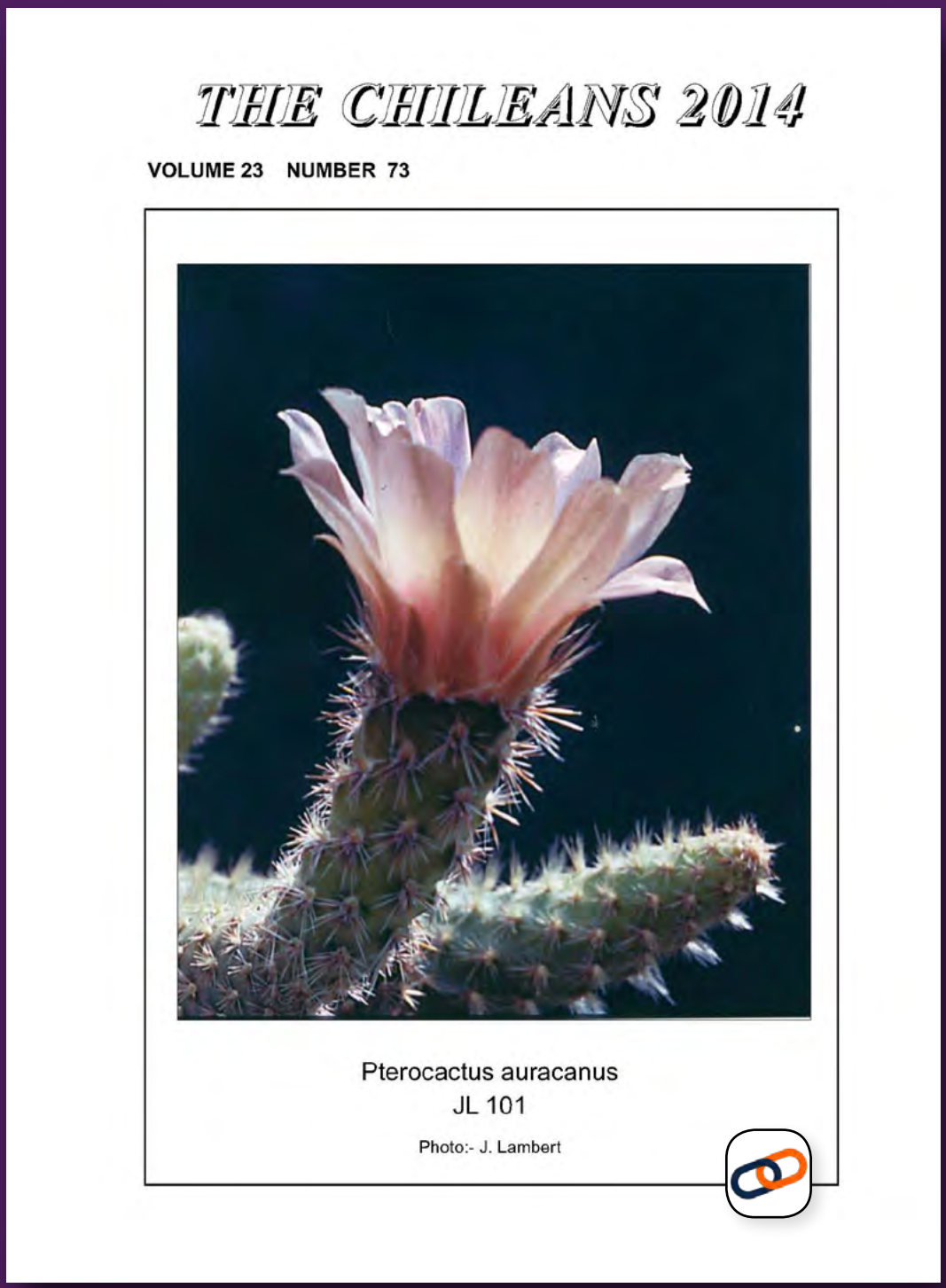
Huitzilopochtli

(who is a national Aztec deity of war, sun, human sacrifice and the patron of the city of Tenochtitlan)

is an occasional *Mammillaria* newsletter published by David Hunt since March 2009. This journal started to be published few years after finalizing the immense amount of work put into The New Cactus Lexicon. There are only 11 editions published so far, in sequential page numbering, but further issues are planned.

Graham Charles has introduced a link on his **The Cactus Explorers** website allowing free access to digitized versions.

Last issue March 2017.



The Chileans
is a journal dedicated to South American cacti published by a group founded in 1965, founded by John Donald, David Whiteley and Harry Middleditch. The aim was to exchange information, share photographs and allow to exchange plants. The journal started to be published in 1966, in a time when more information was becoming available and access to remote habitats was much easier than in previous decades. Very popular, the journal was appearing several times a year and included exquisite information on new species just discovered by explorers such as Ritter, Horst, or Buining. The group was in fact very active and weekly meetings were held, where talks were given by members, followed by discussions. The weekly meetings were held until 2003. With the mid-1970's The Chileans appeared once or twice a year, and with 1985 (excepting for two editions in 2006) only once a year. Graham Charles was involved in the production of the journals since 1994. He has introduced two links on his **The Cactus Explorers** website allowing free access to digitized versions of this bibliographical marvel!

ABSTRACT - scurtă prezentare a articolelor

Mammillaria bertholdii Linzen, la trei ani după descoperirea speciei pagina 5
Rodrigo H. González G.

Cea mai celebră mamilarie a acestui început de secol, *Mammillaria bertholdii*, a fost supusă - încă de la descoperirea ei - unui jaf absolut fantastic. Azi, spre deosebire de multe alte părți, localnicii au înțeles că ea reprezintă un bun local. Vizitarea habitatului devine din ce în ce mai strict controlată.

Misterioșii cactuși din Isla Pelicano și Isla Tiburon pagina 13
Norbert Toth - traducerea cu ajutorul lui **Alexandru Tar**

La al treilea articol în paginile Xerophiliei, prietenul nostru din Ungaria, ne împărtășește atât pasiunea sa pentru călătorii în habitatele mexicane, cât și fantasticele fotografii, ce stau mărturie a ceea ce a văzut și a întâlnit. Articolul este și în limba maghiară.

Mammillaria bombycina Quehl pagina 53
Juan Miguel Artigas Azas

O foarte interesantă lucrare despre una dintre cele mai frumoase mamilarii, documentată, cu fotografii pe măsură, de un cunoscut naturalist, specializat mai ales în ciclide (*Cichlidae*) mexicane.

Xero-Arts pagina 69
Toni Pont Font

Pasionat de cactuși, artistul spaniol Toni Pont Font a vrut să ne împărtășească unele dintre desenele sale, care îmbină acuratețea botanică și sensibilitatea artistică.

Mici sud-africane pe tărâmul cactușilor pagina 79
Francisco Moreno

După articolul său despre cultura genului *Lithops*, Francisco Moreno ne dezvăluie metodele sale în cultura unui gen înrudit: *Conophytum*. Aceste plante, ridicând adeseori probleme, chiar și cultivatorilor experimentați, vă vor fi dezvăluite de unul care le cultivă cu succes de mai bine de douăzeci de ani.

Genul *Monanthes* pagina 103
Massimo Afferni

Încă o dată, autorul ne introduce în fascinanta lume a unor succulente mici și gingașe, adeseori insuficient prețuite și cel mai adesea necunoscute.

Note despre *Thephrocactus geometricus* - partea 1 pagina 109
Elton Roberts

Așa cum spuneam, neobosit, Elton Roberts, continuă să-și împartă cunoștințele și experiența, acumulate în peste 50 de ani de cultură profesionistă a cactușilor. În acest număr el ne vorbește despre o plantă, pe care nu toată lumea o crește corect și știe să o facă să înflorească.

Afriston Botanical Garden - ultima parte (5) pagina 123
Eduart Zimer

Un grupaj de fotografii splendide cu suculente adesea foarte îndrăgite, plantate direct la sol, într-o grădină botanică foarte bine îngrijită.

Huitzilopochtli »»» un link spre site-ul The Cactus Explorer pagina 134
The Chilean »»» un link spre site-ul The Cactus Explorer pagina 135

Cele două linkuri de mai sus vă vor îndrepta spre o pagină a site-ului susmenționat permițându-vă să accesați o serie de 11 broșuri editate de David Hunt despre genul *Mammillaria* (primul) și o serie de 73 de linkuri către o publicație consacrată cactușilor din Chile (al doilea).

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Le salon des cactus et plantes succulentes

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Agave potatorum par Brandon Bhe

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~ Samedi 19h : Voyage au Namaqualand, par Éric Mare
~ Dimanche 15h : Découvrir les plantes succulentes, par Jacques Brun

Tirages de la tombola :

~ Samedi 16h30
~ Dimanche 16h

(Les gagnants absents seront avertis par téléphone)

Orova peruviana par Christine 59

Plus d'infos :
www.couleurs-cactus.fr
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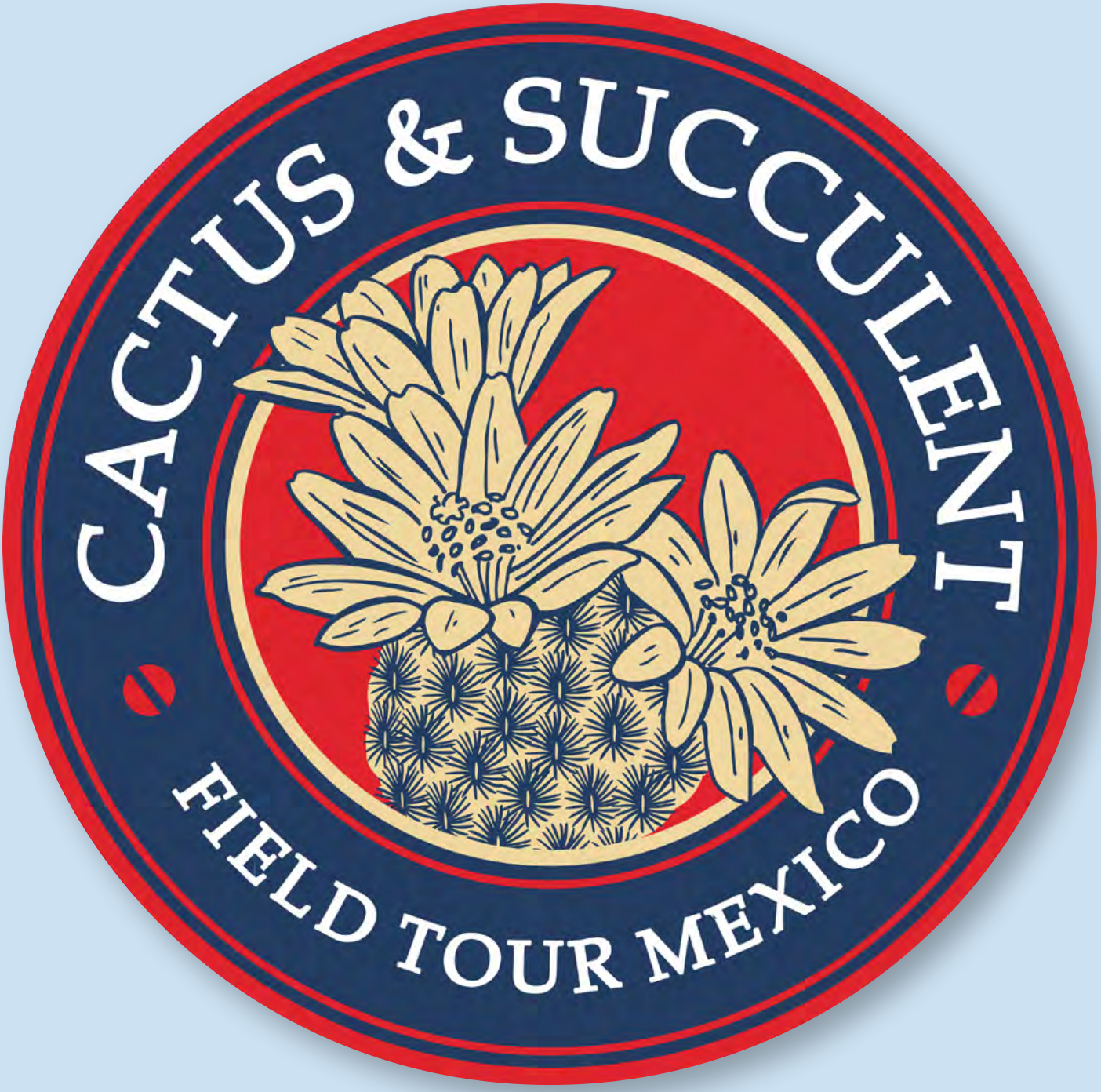

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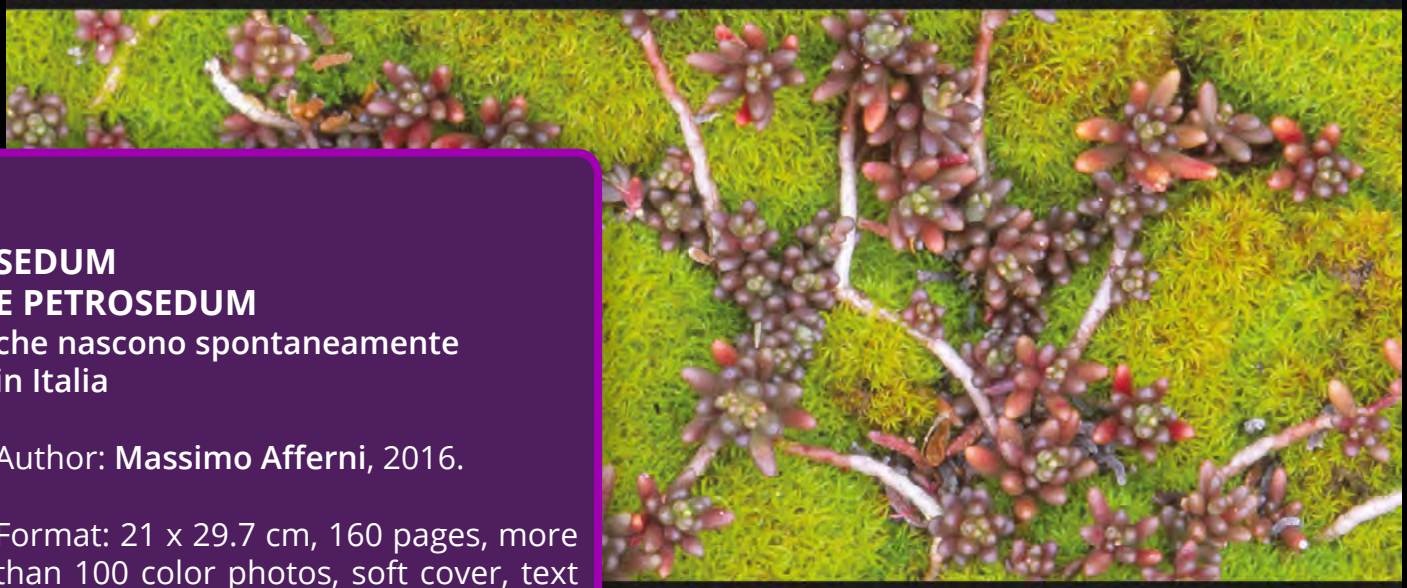

SEDUM E PETROSEDUM

che nascono spontaneamente **in Italia**

Massimo Afferni

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SEDUM
E PETROSEDUM
che nascono spontaneamente in Italia

Author: **Massimo Afferni**, 2016.

Format: 21 x 29.7 cm, 160 pages, more than 100 color photos, soft cover, text in Italian.

The Sedum and the Petrosedum belong to the few genera of succulent plants in Italy. Sometimes inconspicuous, however, manage to impress when they are in full bloom. In this book Massimo Afferni, passionate about these genera, makes known they to us, by analyzing all its forms and varieties supported by high-quality images.

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summary↑

summary↑

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