

## erophila the passion for cacti and other succulents summary 23

Since mid-December, it has been obvious to us that we will have to interrupt the editing process of the magazine, for reasons beyond the editorial staff's workload, but related to the unexpected delay in the arrival of previously scheduled material. It was equally obvious to us all that we will not be able to resume work until after the first few days of this year. Unfortunately, an extremely aggressive flu had other plans with the layout designer, so another three weeks were lost.

On top of that - just a push to go even worse - on January 12, we were announced by some of our collaborators about some serious suspicions of habitat looting flying over a new collaborator. Though partisans of the presumption of innocence, we have been forced to postpone the publication of his material until the situation has been clarified.

These are the few reasons that led to the publication delay, but also the smaller number of pages. We apologize to our readers, hoping we will not be placed in similar situations in the future.



3 · Editorial 23 | Dag

4 · Xerophilia 23's Favorite Quote: Herman Edward Daly | Xerophilia

5 · Peyote: Worship and Constraint | Fernando Augusto Olvera Galarza & Pedro Nájera Quezada

25 · Enemy plants | Carlo Zanovello

33 · New records of interesting, non-native succulents from Alicante (Spain) | Filip Verloove & al.

43 · Mammillaria orcuttii Bödeker, not rare but beautiful | Juan Miguel Artigas Azas

55 · Notes on some species of the genus Ariocarpus; water, light and flowers | Elton Roberts

69 · Succulents from the southwestern deciduous forest area of România | Alexandru Buşe-Dragomir

75 · First record of an adventive plant in New Zealand - Aeonium simsii hybrid | Eduart Zimer

81 · Over-fertilization, a determining factor of aberrant growth in Cactaceaee | Dag Panco

89 · In memoriam for a friend: Jurgen Menzel is gone | Stefan Nitszchke

93 · In memoriam Philip Edwin Downs | Xerophilia

98 · Abstract în limba română | Xerophilia

99 · Cactus Tour Mexico | Xerophilia

100 · Interesting offer of cacti seeds from South America | Xerophilia

Founders: Eduart Zimer · Dag Panco · Valentin Posea

Editor: Dag Panco

EN edition • Eduart Zimer SP edition & Field researches · Pedro Nájera Quezada Photo edition · Valentin Posea PR & Graphic • Dag Panco

Nordic representative • Erik Holm Supporter • Mihai Crisbăsanu Editorial team's e-Mail: xerophilia@xerophilia.ro. Graphic layout based on Andrea Cattabriga's pattern. All rights reserved – no part of this publication may be reproduced in any forms or by any means, without written permission of the Editor. All copyrighted photographs have been used under the Creative Commons Attribution 4.0 International license.



Front cover

Juan Miguel Artigas Azas



**Back cover** 

Opuntia linguiformis.

Filip Verloove

# Erophila

the passion for cacti and other succulents

no 23 february 2018

**here** is a species that, unfortunately, was not included in any red list but cannot be regarded as being of the last concern: we refer to Functionarius idioticus or, in other words, to those called to make our life an inferno. Born and raised on the rich dung of bureaucracy, the stupid clerk flourishes with incompetence, sufficiency, and an absolutely specific arrogance, beginning so to speak since the Stone Age.

Here is a typical example: through a miracle explained only by the existence of "Big Brother Google", somewhere, sometime, probably searching for his horoscope, a clerk discovered that there is a group of cacti called *Lophophora*, which some shamans eat (it does not matter where or why), just to get high. Immediately, vigilantly, in order to protect the man from himself, the discoverer of the Polichinelle's secret has outlawed the entire group of plants. Well, he did not even bother to find out whether - here in Europe, in collections - the plants are or not, potentially risky drugs. He had no reason to ask: the incompetent does not ask questions, because he does not understand their meaning. The fact that, under our temperate latitudes, Lophophoras have to grow steady for decades to come up only with a quarter of the many alkaloids, yes, a quarter of what achieved growing five years in nature, it did not matter. The clerk did not care about, and even if he did, he would not have wondered who might be the madman who would grow a plant for 20-30 years, then eat it and not get it ...

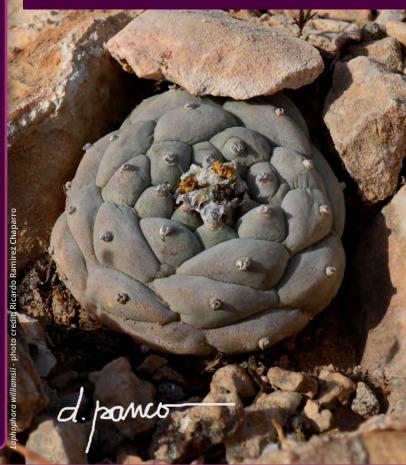
From here to the first accusation, made by a benevolent friend, and then the police raid, seizing the plants - some grown hard for decades and incinerating them instead of donating to a botanical garden, are just natural steps, in the bureaucratic world we live in.

This is the reason why Functionarius idioticus cannot be "of last concern" and why it is a shame that he is not on the red list of endangered survivors.

(these lines are a pamphlet and not a generalization)

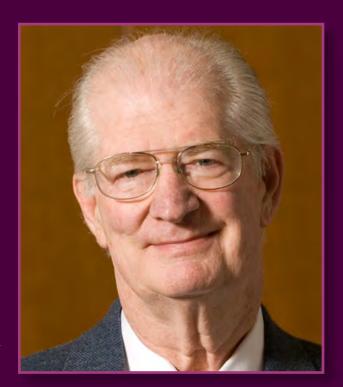


editorial 2,



Herman Edward Daly is an American ecological economist and emeritus professor at the School of Public Policy of University of Maryland, College Park in the United States.

Daly is a recipient of an Honorary Right Livelihood Award, the Heineken Prize for Environmental Science from the Royal Netherlands Academy of Arts and Sciences, the 1992 University of Louisville Grawemeyer Award for Ideas Improving World Order, the Sophie Prize (Norway), the Leontief Prize from the Global Development and Environment Institute, and was chosen as Man of the Year 2008 by Adbusters magazine. He is widely credited with having originated the idea of uneconomic growth, though some credit this to Marilyn Waringwho developed it more completely in her study of the UN System of National Accounts. In 2014, Daly was the recipient of the Blue Planet Prize of the Asahi Glass Foundation.



X€rophilia 23's Favorite Quote

There is something fundamentally wrong in treating the Earth as if it were a business liquidation.

**Herman Edward Daly** 



## "Peyote":

### Worship

and

### Constraint





### 1. Introduction

Lophophora williamsii or peyote is a species of the cactus family, endemic to the semi-desert of Chihuahua and sub-western part of Texas¹. It may take up to 15 years to reach the state of maturity². Isabel Gandola (1937) says that etymologically the word peyote (of Nahuatl origin) comes from peyon-alic and means to stimulate someone, or to activate. In Mexico peyote is consumed since immemorial times for ceremonies by some indigenous groups such as the Raramuli, who call it "jikuli³" or "bunami⁴", odam (Tepehuanos) who called it kamaba, the Naayarit who call it "huatari⁵", and the Wixaritari who call them "´hiíkuri³". Gonzalo Aguirre Beltrán³ (1963) identifies more than 30 places in Mexico where its use was known:

Here, in alphabetical order, the places that during 17th and 18th centuries, at least, knew about the use of the plant: Acámbaro, Antequera, Atlixco, Chalco, Chihuahua, Cholula, Cuautla, Cuitzeo, Guadalajara, Guadalcázar, Guanajuato, Hurepetío, Ixmiquilpan, León, Manila, Mexico Pachuca, Puebla, Querétaro, Salamanca, Saltillo, San Luis Potosí, San Luis de la Paz, San Juan del Rio, San Pedro, Piedra Gorda, Santa Ana Maya, Santa Fe, Sinaloa, Tarimbaro, Taxco, Taximaroa, Tlalpujagua, Tecoripa, Tepeaca, Tepuxtlan, Texcoco, Valladolid, Zacualpa and Zacatecas (Aguirre, 1963: 143.

"The formal prohibition of the use of peyote was dictated in the first years of the 17th century: in an edict of the Santo Tribunal de la Inquisición printed in Mexico in 1620" (Ibid.).

Although in 1928 the Superior Council of Health of Mexico declared that peyote was not an "unnerving plant" or an "intoxicating" plant and that it had special pharmaco-dynamic properties, pressure from the United States coerced Mexico to classify the peyote as an illegal substance in the 1971 International Single Convention on Psychotropic. This is due to mescaline, a phenylethylamine that produces changes in perception, sensation, moods and level of consciousness. Likewise, this psychedelic agent is characterized by its low abuse potential.



<sup>1 -</sup> Recent analyzes with C14 in specimens of *L. williamsii* found in one of the caves of the Shumla archaeological site in Rio Grande Texas, show that the inhabitants of this place already used it since prehistoric times (3780 BC) for religious purposes ( Seedi et al, 2005).

<sup>2 -</sup> It refers to the time it takes to carry out its first reproductive event or its first blooming (Nájera 2013).

<sup>3 - (</sup>Bonfiglioli, 2006).

<sup>4 - (</sup>Gandola, 1937).

<sup>5 - (</sup>Gandola,1937).

<sup>6 -</sup> Aguirre:1963).

<sup>7 - (</sup>INALI,2012).

<sup>8 -</sup> Medicina y Magia: El Proceso de Aculturación, en la Estructura Colonial, Gonzalo Aguirre Beltrán,1963. INI.



It is currently in special protection under the official Mexican standard NOM-059-SEMARNAT2010. The general health law establishes it as a drug along with heroin, marijuana, etc. dictaminating a minimum allowable amount to carry for each drug, except for the peyote; this is due to the fact that it is subject to special protection under NOM-059 because of the excessive impact of human use on the taxon in the habitat. It is considered a species with little or no therapeutic value by the General Health Law.

The federal penal code based on the General Health Law establishes a penalty of four to six months in prison and a penalty of 50 to 150 days of salary to people outside indigenous communities for the possession of peyote.

The Mexican government has allowed and recognized its use for indigenous peoples who have traditionally used it, legally based on ILO Convention 169 and Article 2 of the political constitution of the United Mexican States.

In the indigenous peoples of Mexico their consumption dates from time immemorial, mainly among the commonly called Chichimec who were numerous groups of hunter-gatherers, who were characterized by being nomadic and warlike. These groups commonly moved around the central and coastal highlands of the north and Gulf of México: a corridor that starts in the mountains of Veracruz and ends up in south Texas, which facilitated its consumption and propagation among these groups and their neighbors.





In Rio Grande south of Texas in the caves of the archaeological site Shumla, archaeological traits were found that show that the inhabitants of this place used it, when applying tests of C14 on a fossil of peyote it was determined that it dated from the times of prehistory, about the year 3780 BC..

As for the effects, Sahagun in book history XI chapter XII describes them as drunks among the natives, which causes them to have frightful visions or laughs:

"There is another grass like earth, it is called peiotl; It is white, make towards the northern part; (...); it is common to eat from the Chichimec because it keeps them and encourages them to fight and not to be afraid, thirsty or hungry and they say that it protects them from all danger "(Sahagún, Book XI, Chapter VII in Powel, 1996).

This perspective of the indigenous people towards the peyote was taken by the Spanish invaders by devil's devices since these practices undermined the virtue of temperance: moral virtue that moderates the attraction of pleasures and seeks balance in the use of created goods. The foregoing caused a series of denunciations and confessions of the population of New Spai.

The Holy Inquisition determined sanctions ranging from "pecuniary and corporal punishment" to "major excommunication." This primitive restriction, based on religious precepts, seems to have taken effect since the use of traditional drugs has been lagging behind indigenous groups in more isolated areas (Nidia Olvera: 2015).



<sup>9 -</sup> Catecismo de la iglesia católica, 1809 en www.vatican.va.



Situation that led some people to substitute the use of peyote for the consumption of fermented alcoholic beverages<sup>10</sup>, or in some cases stimulating substances such as coca-cola<sup>11</sup>, which caused the altered effect of perception. Its ceremonial consumption was and is during ceremonies called "mitote" which refers to "a broad system of transformations. Being a contemporary expression of an ancient ritual complex probably of Chichimec roots (...)" (Neurath, 2002: 81).

Species of dances used by the Indians, in which a large number of them entered, beautifully decorated, and holding hands, formed a large choir in the middle of which they put a flag, and next to it the brew, which will serve as a drink: and so they were making their moves to the sound of a tamboril, and drinking from time to time, until they got drunk and deprived of meaning (Cf. Grases: 395).

In these festivals or ceremonies, the participants dance around a certain central axis element such as the shaman, the peyote or a flag, the participants take peyote or some other stimulating drink accompanied by music and a sacrifice or offering of blood, creating a period of collective ambiguity or disorientation to what Turner calls "comunitas". In this ritual the participants make food exchanges by initiating or strengthening alliances. Fernando Olvera Charles (2010) argues with respect to the ceremony, that this was fundamental for the indigenous resistance during the process of the conquest and that the indigenous peoples of the northeast and the west continue to carry out, which we describe as part of their agricultural ceremonial cycle.

- 10 In the Pamería and in the ancient Chichimeca groups of the center and northeast of Mexico: the use of peyote and other hallucinogenic elements in pre-Hispanic times, there was a possible transfer, in the rituals of the use of peyote to drunkenness with wine" (1996).
- 11 It is used during the Holy Week for the representation of the Pharisees by the Coras on Good Friday of the syncretic worldview between Catholicism and its original religion.
- 12 Aguirre Beltrán, G. MEDICINE AND MAGIC. THE PROCESS OF ACCULTURATION IN THE COLONIAL STRUCTURE (1963), reports on its consumption in the north of the country by mentioning a healer from the north of Zacatecas who "when addressing the cactus, among other things, ending with the following words:" can ichichimeco "you who live in the country of the Chichimecas!" (P. 145).



### 2. Rarámuri/Tarahumaras

Lumholtz in his book The Unknown Mexico (1902) says that for the Tarahumara the jikuri was the twin brother of the sun, who left it as a great remedy on earth.

Carlo Boifiglioli also identifies this relationship between sun and peyote:

"For the direction in which it lives (east, characteristic that relates it to the rising sun) the jikuri can be seen as a nocturnal entity that leads to the healing dawn and by extension, to the rebirth of the participants" (Bonfiglioli, 2006: 261).

For the Tarahumara the peyote is consumed only in the healing ceremonies performed by the Owirúame (generic term for doctor or doctor) within this group is the Sipaame who is the specialist in its use; the only one capable of channelling the virtues of peyote; he makes expeditions somewhere

in the Chihuahua desert, to search for the jikuri. At the moment of finding it, he will prepare a circular space where he performs a ceremony around the fire, consuming it in a fresh state, and then take it to his community to perform ceremonies of the "mitote" type known as "raspas", where a sacrifice of an animal will be carried out:

The raspas are celebrated when someone wants to heal and establish an alliance with the peyote.

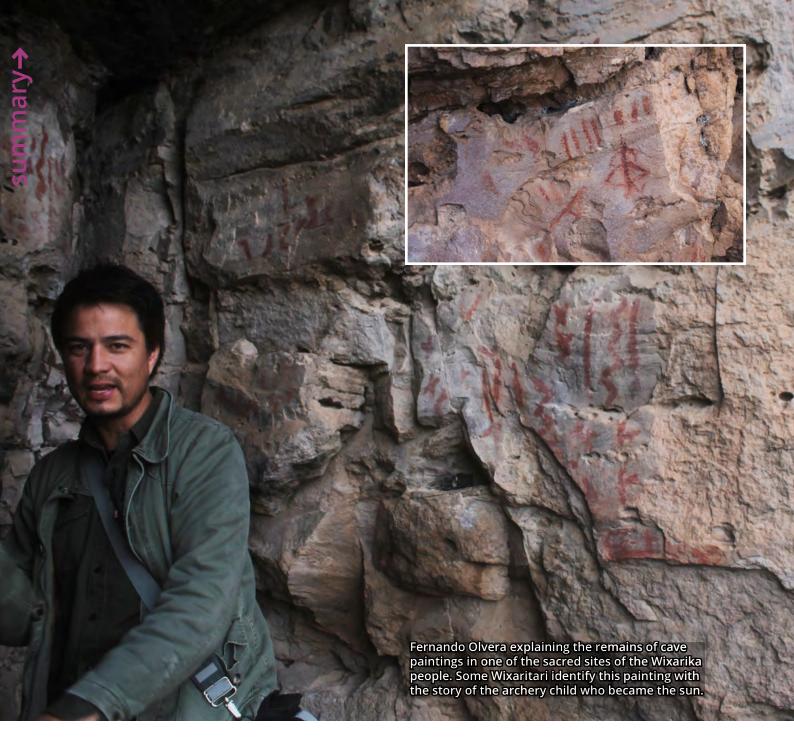
1) Entrance of the participants in the ceremonial space; 2) Initial sermon of the sipaáme; 3) Collective intake of jíkuri (peyote), 4) Several sessions of raspas, shamanic songs and dances of the participants; 5) Healing of the latter by the sipaáme and his assistants; 6) Farewell of the jíkuri; 7) Final purification of the participants and the ritual space; 8) Exit of these from the ceremonial space (Bonfiglioli, 2006: 25).



María Benciolini (2012) comments "the peyote in healing acts as" agent of transformation "that allows the patient to move from a state of discomfort caused by an ethical and associated with the night, to health, which comes with the emergence of the sun, for this town the peyote is an ally, which can promote healing and should be treated with much respect and care because if it were affected in terms of its management and worship it would turn against the people involved in the act of transgression, that is why

most Tarahumara maintain precautions regarding their use.

In 1900 Dr. Manuel Urbina reported as a disease or a supernatural condition the "transgression to jikuri (peyote) consumption" which means: not to meet the dead, sadness and excessive thinness that leaves the body dry are usually clear symptoms of being completely sick, so we must proceed to rescue the soul and recover the balance of the person with herself, with their community and with the cosmos.



### 3. Odam/Tepehuanos

The Tepehuanos are located mainly in the south of Durango just as the Coras and the Raramuri led a very violent process of evangelization where many of their practices were repressed and judged under the prejudices of the colonizers, such as the use of peyote in their dances. Currently they do not consume peyote despite having it very present in their culture.

For the Tepehuanos of Santa María Ocotán is absent in its ceremonies although it is known that it is used by its wixaritari neighbors of the Mezquital, Durango, to those who perceive them as a sinful people with many excesses: "they are from the devil" that is why they consume a lot of peyote already that they have agreed with him, as they say.

During the xiotalh [mitote] Tepehuano requesting rains, the drink made from fermented mezcal ful-

fills a function similar to that of the peyote in hikuli nexa (...) for the night of dancing, in the clay pots a liquid has been obtained whitish and sparkling (mai baraá) that is drunk to continue dancing and "bring rain to the whole world" (Reyes, 2006: 224).

In addition to this drink in the mitote, dances and abstinence from food and tobacco consumption are included in order to promote effects similar to those of peyote consumption.

Reyes (2006) proposes in this sense, makuche tobacco has attributes similar to those of peyote as an effective intermediary with the gods, hence among the Tepehuanos it is also known as "the divine mail". The simple consumption of tobacco is not in itself hallucinogenic, although it does "get drunk"; but large amounts of it, combined with fasting and abstinence from salt can make possible an altered state of consciousness. "(Reyes, 2006: 224).



### 4. Náayarit/Coras

The Coras live in the state of Nayarit, their main "mitote patios" are located in the communities of Jesús María and at the table of Nayar.

Father Arias reports that yerba "was held by the Coras as a special creation of the evil genius, whom they designated by the name of Naycuric, was devoted to serving the numen and their drink served to have communication with him (Aguirre, 1963: 147).

María Binciolini (2012) in her work "Between order and transgression: the ritual consumption of peyote among the Coras proposes as a hypothesis, that the peyote among the Coras is an element that makes possible the association with what is transgressor and what that comes from outside; for this author the Coras resort to the consumption of peyote in some moments that they identify as of "ritual rupture", in which it would seem that

the forces of transgression took power to the detriment of the established order

Binciolini (2012: 186) describes the uses of peyote among the inhabitants of Mesa de Nayar and Jesús María during pachitas and Easter: identifies three groups that consume peyote: the Centuriones: those who consume it fresh ground; the Jews: those who consume it dry and unmilled and those who are inside the church who drink it in glasses of ground peyote. Relying on Adriana Guzmán (1997: 23) indicates that for the Coras the semi-desert of the San Luis Potosí highlands or Wirikuta where the peyote grows, it is the place of the solar semen. Valdovinos (2002), the appearance of ground peyote, as well as the context in which it is consumed, refers to clouds and rain, a fact that refers again to the germinating liquid, to the rains of Wirikuta that represent the solar semen that will fertilize the earth.



### Peyote conditions of use

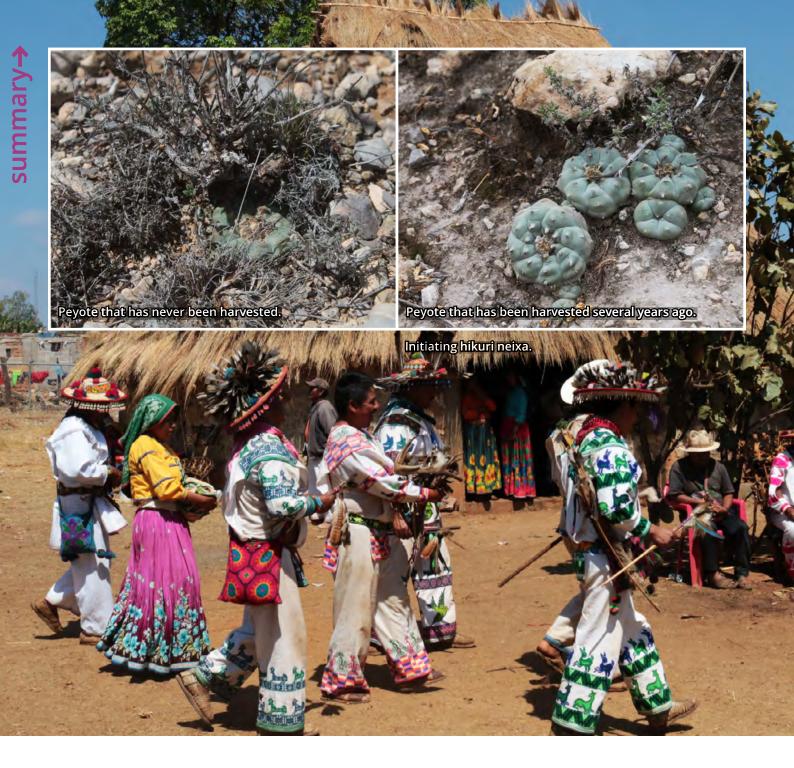
Dried peyote (Solid)	Ground peyote (liquid)	Ground peyote (foam-like)
Jews, (folklorical representation of the evil, under chatolic influence)	Steward, gobernor, malinches, butlers, etc	Centurions and every other actors on the holly burial

Table by María Biciolini

María Biciolini proposes that in this celebration refers to the myth of a relationship between the virgin, who is the earth, and Christ. The Coras of Jesus Maria say that Christ, with deceits, urinated (liquid) the gourd (womb) of the virgin. [...] During the ceremony of the pachitas the malinches in the form of mockery and in the sense of transgression offer them to the governor and the peyote butler crushed in water and sparkling.

Geroncio García López, he is in charge of justice in his community in the Nogal municipality of Nayar in Nayarit. He tells me about the peyote that is in a ceremony that takes place at the beginning of May, where the priests assign three people the responsibility of leaving offerings with cotton and bring the peyote of "thet matha" located in the semi-desert of the Altiplano Potosino , between ponds and fourteen, the place that the Wixarikas call Wirikuta and where the goddess of the rain tuáaca-muú-ta inhabits, here come all the souls of the Dead, in this place there is much knowledge but there are also many evils. For Geroncio García López the peyote is very dangerous because it can drive you crazy and only the priests (the people in charge during the mitote) are the ones who consume it.





### 5. Wixarika

Their traditional ceremonial centers are located in the states of Jalisco, Durango and Nayarit, close neighbors of the Coras and Tepehuanes, which they also name their elder brothers. Year after year from October to March, the Kawitexutsixi or Wixaritari pilgrims depart from their ceremonial centers who will make the pilgrimage to Wirikuta, where they will leave an offering to the Kakayarite (deified ancestors), they will ask for the common good and favors from them; During the tour, collecting natural elements such as water, roots and the hikuri.

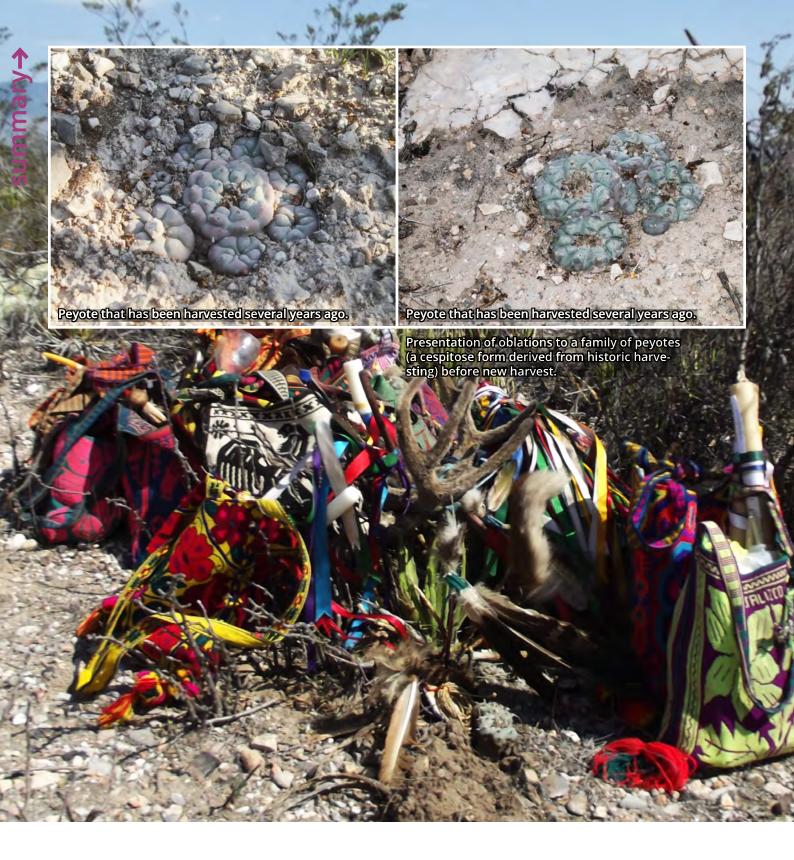
For the Wixarika people, the hiíkuri is a deity understood as a guiding teacher; that makes the function of a bible or dictionary, this knowledge are the traces of kauyumari, the older brother deer tail, or the blue deer; who was the guide in the first pilgrimage that was transformed in mul-

tiple ways and lives in Wirikuta. Francisco López Carrillo, Tsauxirika (guide of the pilgrimage) and mara'akame (chaman singer) of the ceremonial center of San Andrés Cohamita, Mexquitic, Jalisco (2012-2017) tells us:

For the Wixarika people the hiíkuri is a dictionary, it symbolizes the footsteps of the kauyumarí: the deer; that is why the Wixaritari have to make a pilgrimage to Wirikuta. This is the custom that our kakayarite left us; that's why we have to do the ceremony; during the pilgrimage to wirikuta the mara'akame has to do the ceremony of hunting or deer hunting. Just like Paritsika did when I braced the hikuri deer during the first pilgrimage to Wiikuta. (Direct communication)<sup>13</sup>.



<sup>13 -</sup> Audio: francisco López interview, wiri + vi project, San Andrés Cohamiata, Jal., 2015.



Myths tell that by means of the sacrifice of "wiri + wi" the kakayarite could leave the hiíkuri; sacred cactus through which the wixaritari (plural of wixarika) communicate with their gods establishing a strong commitments of 5 years. And that is why the Wixarika people call this sacred place "Wirikuta" in honor of the sacrifice "wiri + wi" made to leave the hiíkuri.

There is a peyote classification for the Wixarika people where we find the Ariocarpus or peyote sorcerer as Ekateiwari, as well as the peyotes whose segments go in the opposite direction to the clock hands these are dangerous. The hiíkuri

as Wirikuta should be treated with respect "everything you take from Wirikuta should be with a commitment of 5 years, in which they will have to perform a ceremony, otherwise there could be strong repercussions for all involved (direct communication: Francisco Calletano Carrillo: 2014).

Unlike the indigenous peoples described here, the Wixarika people are the largest consumers of peyote, each of its ceremonial centers and family patios make annual pilgrimages to Wirikuta, to bring the peyote that will be consumed collectively during the hikuri neixa or the fiesta of the peyote.



In this ceremony the pilgrims who have returned from Wirikuta share the peyote that was brought from this sacred site. Food exchanges take place between the Teukari (pilgrimage companions) and the jicareros of other ceremonial centers. During this celebration the participants will perform ceremonies called "mitote" where they will dance and consume the hiíkuri that is placed in 5 deposits of offerings, located in the four corners and the center of the ceremonial center; the ceremony lasts 5 days. In addition to the hikuri neixa, the hiíkuri is consumed by the jikareros normally during the other tukipa parties that they perform in each of the communities.

Ethnographic works such as Arturo Gutiérrez del Ángel, Johanes Neurat, Olivia Kilden and Paul Lifman describe the hermetic and jealous Wixarika communities of their culture; situation that can currently be contrasted since at present the presence of teiwari (mestizos) is very common in ceremonies and pilgrimages. Situation that has caused confrontation between communities that

fight for the exclusive support of mestizos to perform their ceremonies, in addition to the numerous ceremonies<sup>14</sup>, announced on social networks where the consumption of peyote and the participation of a mara'akame huichol is announced.

The Wixarika people since 2011 have demonstrated against mining in Wirikuta and the projects that undermine one of their most important pilgrimage routes and sacred places. Since 2013 Margarito Díaz Gonzales, member of the board of directors of the Wixarika Union has requested the Attorney General's Office (PGR) that the seized peyote not be burned as it is usually done with all the drugs seized, proposing that it be replanted in Wirikuta. This application did not had a favorable response to the date (2017)

<sup>14 -</sup> In 2017 during the pilgrimage to Wirikuta and the peyote festival, conflicts and tensions arose between the Wixaritari; because the organization called "Wirikuta Heart of the World" that initially supported the ceremonial center of San José de Wexika, decided to dedicate its support to the ceremonial center of Tunuwame.



### 6. The other "peyoteros" 15

In addition to these indigenous peoples of Mexico, there are other types of consumers who are not necessarily Mexican indigenous, who could be classified as a new era movement, New-Age or as Guillermo de la Peña calls them neo-Indians or from the Mexicanity [of Mexican national identity] (2016)".

It is made up of a large group of groups whose ideological universe is inspired by an idealized vision of pre-Hispanic culture in the exaltation of a romantic and hypostatized image of the Mexican Natives" (Peña, 2016: 58) the same author describes that most they come from urban areas whose common denominator is the desire to consciously assume and live an identity closer to the indigenous, seeking to rediscover their roots.

This trend has been present since the 1920s, with the Confederate Restoration Movement of the Anahuac Culture (MCRCA). The Native American Church of Mexico (INAM) which has more than 5 thousand supporters who meet monthly to hold "tepe" type ceremonies (Native American stores) where peyote consumption vary between 1 to 5 or more per person .

In the 90s based on the freedom of worship in Mexico, this organization requested the SEGO rec-

ognition and right to consumption of peyote which was rejected. After a second attempt in 2013 the association exhausted all instances, arriving in 2016 at the SCJN where I declared that it was inappropriate.

Following the decriminalization in Mexico of marijuana for medical and research purposes, in the year of 2016 various groups and associations that promote the general use of peyote for medicinal and spiritual purposes such as Nierika, AC: multidisciplinary association for the preservation of indigenous traditions of the sacred plants; seeks that the consumption of peyote is not only allowed to certain Mexican indigenous groups, but that their regulated use be spread in ritual contexts; for this association: "human beings being so intimately dependent on nature, we possess the virtues to be their active and practical conscience. [...] "Peyote is not a drug, it does not cause addiction, it does not depend on any kind, and on the contrary it is a medicine that heals if it is used properly (Nierika, Peyote Conservation Project, 2017).



<sup>15 -</sup> Peyotero: colloquial denomination used by the inhabitants where there are peyote to those who come to cut the plant without having the bio-cultural context in its roots or in its culture.



This organization seeks to promote and strengthen the protection of traditional uses of peyote from a perspective as bio-cultural heritage of North America (Canada, the United States and Mexico). Taking as an example the case of the Ayahuasca religions of Brazil, where the Ministry of the Environment is in charge of monitoring and certifying the management plans of the plants used for the preparation of the Ayahuasca drink. (Nierika, Peyote Conservation Project, 2017).

However, in most cases they are representatives of Neo-shamanism, a phenomenon that is less linked to the preservation of real shamanism and ancestral therapeutic practices than to their reinvention, due to the combative influence of several currents of ideas that go back to the seventies

Ideas that range from the culture of drugs, the interest in altered states of consciousness, environmentalism, naturalism and esotericism, to the movement of human potential and personal improvement, the development of the alternative therapies market, Orientalism and pseudo-anthropological literature of authors such as Carlos Castañeda. (Peña, 2016: 58).

The health secretariat has catalogued mescaline as a substance without medical properties, however, it is determined as therapeutic because of its effectiveness in the control of addictions, but because it is a species under special protection in NOM059-SEMARNAT2010 due to excessive collection and having other substances with the same or better effects, maintains its prohibition for medical-therapeutic purposes.



### 7. Conclusions

Consumption and worship were commonly during the ceremony called mitote, which was celebrated by hunter-gatherer groups generically called chichimecas. Currently, it is practiced among the indigenous people of the western or northern Mexico. To paraphrase V. Turner, the mitote is a stereotyped sequence of acts that include gestures, words, objects, etc. held in a certain place in order to influence the forces or entities over natural depending on the objects and interests of those who perform<sup>16</sup>.

At present ceremony presents different variants and absence among the people who practice this situation can be explained as a result of the colonization process they suffered. This leads to the suspension of the mitote, or suppress elements,

such as peyote.

The components of this ceremony are: sacrifice (blood), offering (for the deities), dances (performance, accompanied by music) and a concoction that potentiates the alteration of perception.

In the case of the Wixarika and Raramuri indigenous peoples, the peyote makes contact or alliance with their deities or deified ancestors possible. In the case of the Wixarika people, the peyote represents kauyumari (the messenger of the gods); while for the Raramuri it is the twin brother of the sun<sup>17</sup>. Beings with liminal characteristics, where lack of compliance can lead to misfortune for those involved.



<sup>16 -</sup> Turner, The rtual process. Structure and anti-Structure)

<sup>17 -</sup> Onorúame



The ambivalence of these beneficial / nefarious beings ends up being even more forceful when they are considered "enecumenic", that is to say, animals that exist in a time and space that are not those of this world. (Hugo Cotonieto, 2016) are extraordinary beings that transit between the ecumenus and enecumenus. (Lopez Austin, 2013: 33)

While for the Coras it allows a state of transgression.

The Wixaritari classify the diseases into two types that come from outside that can be cured with medicines or herbs, and those of the soul: caused by an ethical failure such as not complying with the custom the commitment acquired with the hiíkuri or an evil that was deposited in the body. For healing the Tunuwi'iyari (healer, singer and shaman known under the generic

name of mara'akame) has to dream or construct a ceremony (where peyote is not necessarily consumed) in order to know the origin of the evil. The healing is accompanied by sacrifice, the offering of offerings and the consumption of a sacred natural element such as "ja" (water), k + puri, among others.

In this work we have emphasized the different perceptions of peyote: For indigenous peoples, peyote is an element of sacred character left by their ancestors to generate a bridge of communication with them, their consumption and worship is accompanied by commitments and reciprocity. While for the peyoteros or people outside the native indigenous peoples its use is for recreational purposes with commercial connotations where a great number of reinterpretations have been generated.

The people who consumed and consume it have indicated restrictions or precautions on its use. As they are if the peyote is treated inadequately or is transgressed in its use as trodden it could bring strong consequences on those involved. When consuming or taking a peyote you enter into a commitment with the kakayarite, if a person consumes or takes a peyote it enters into a commitment of 5 years, in case of missing with the commitment, the person and those involved will fall heavy misfortunes.

At present, both the inhabitants and the traditional peyote collectors have reported a considerable decrease in peyotes as well as an overload of visitors and garbage in the sacred places where this cactus is found.

All these features of the neo-Indian world are related to one of the major effects of over modernity in our times, as well as the fictionalization of the collective and individual imaginary in a syncretic construct of a new theology.

After this new syncretism that only the soft and uncompromising parts of cultures are adopted, a new form of tourism has been created aimed at facilitating shamanic sessions for third parties in which the consumption of entheogen is openly promoted and offered in a mercantilist manner.

To be able to visualize the problem in the descent of peyote populations, it is necessary to calculate the average number of adepts by the number of sessions per year and by the number of peyote heads per session.

	Native American Church of México	Native American Church of USA & Canada	Wixarika	Coras
Number of con- sumers	5.000	250.000	45 ceremonial centers 30 xukurikate (sacs of peyote) 300 peyotes per sac	only 20 peyote for a ceremony of Jesús María
Sessions per year	12	48	1	
Consumption per person per ceremony	3	13	5	
Annual consumption by the population	180.000	156.000.000	405.000	20-50
Citation		(Schutes, 1920-1976)	On wixaritari records from their guards	Geroncio Garcia López

The current ban has restricted the study in captivity on this species ...

Richard Evans Schultes (1976) describes the consumption of peyote by the members of the Native American Church, in which he mentions that it is consumed weekly by the 250,000 members during a peyote ceremony that lasts all night between 4 and 30 peyotes.







The use of peyote among the unworthy groups that live in the current territory of the United States (mainly the culturally known areas such as Las Praderas and the southwest) derives from a religious movement that, from the second half of the 19th century, breaks into the local traditions to become a symbol of indigenous bread and fellowship. On the other hand, for the Tarahumara, and

also for the Huichols, the peyote is not a central element of a religion, nor a political movement, but an important factor within a vast religious system, with a strong local roots and deep historical roots (Bonfiglioli, 2017: 258).

However, this representation is not static, it is in a constant historical evolution of reinterpretations that could and rework this bio-cultural knowledge.





# Enemy Plants



it had the daring to appear all of the sudden in a Mammillaria pot, or because a Turbinicarpus

grows in a vessel of Leuchtenbergia principis.

The picture that I now intend to outline is much

different.

during winter the Pediocactus flowers, in spring

of Mammillaria, in summer of Copiapoa, in the

autumn of many species in the Aizoaceae family and then Bulbine, Ornithogalum, and then again,

returning to the cacti, the winter-blooming



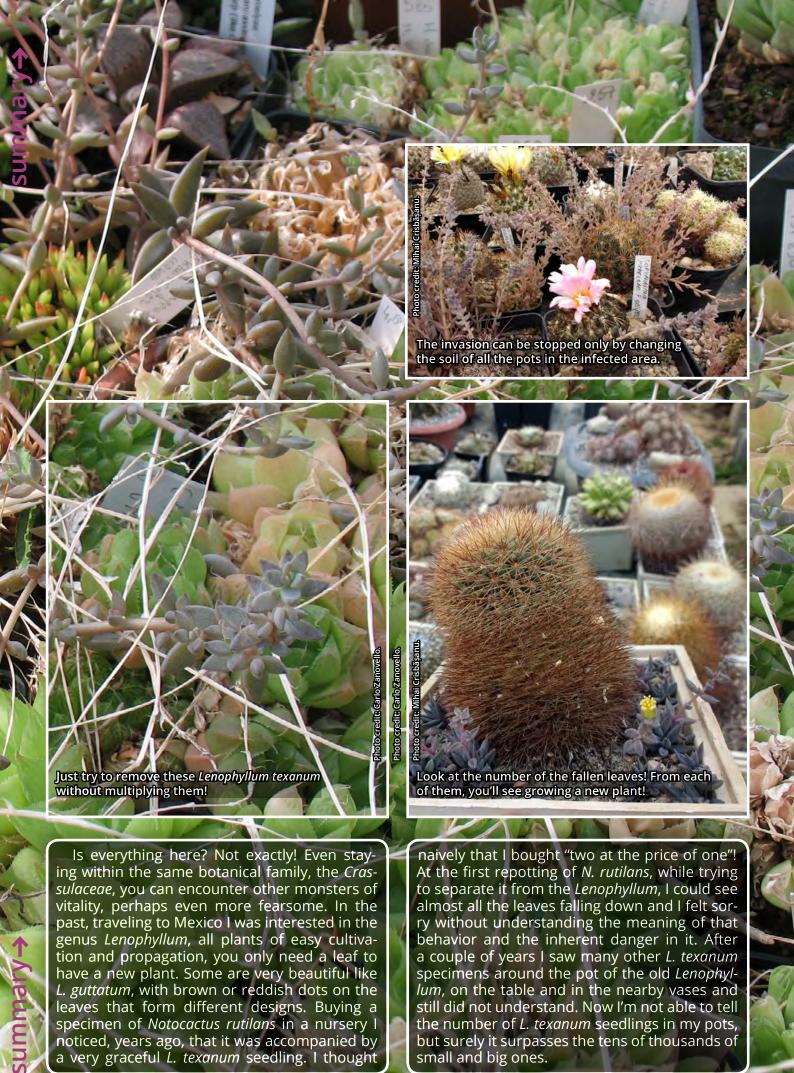




I have long cultivated among my succulents, several plants from the genus Kalanchoe, a group that grows in the wild for most of Africa and Madagascar. These are generally small plants (in some cases shrubs or, rarely, small trees) that are very suitable for growing in the greenhouse or even in the home. Plants that often produce colorful flowers and in this regard many are the cultivars that we can find in all the flowers and gardens. Some bloom in the winter as Kalanchoe daigremontiana and for this reason they are even more appreciated and for the same reason collected by numerous plant

lovers. Many years ago I introduced a specimen of this species in my greenhouse. After that, you know the spirit that animates some collectors, I wanted to have other plants of this kind like K. manginii, K. beauverdii, K. tubiflora and others, all beautiful, strange and often with unexpected flowers. Now a few square feet of my collection are coated with more or less large specimens of these species that feed at the expense of my other plants. How could this happen?

Some of the plants named above are self-fertilized and this happens very easily, producing a large number of offsprings, which easily invade all nearby pots by literally supressing other plants, depriving them of light and nourishment to the point that they end up killing them. You will think it would be enough to have the time and the desire to eliminate them one by one and the problem would be solved. Blessed naïveté! I tried to do so ignominiously and so my commitment was beyond any doubt. Even with all the attention some invaders always remain, perhaps hidden by a pebble and after a year we will be in the same situation. Unfortunately, however, this is not the worst! Some species of this genus (all that belonged to the old Bryophyllum genus), once grown, form along the margins of the leaves plantlets, which though small and still attached to the mother plant are already rooted and the slightest shake (produced by the attempt to snatching the mother out of the usurped vases or simply watering) makes them fall into the nearby pots, juggling around with the invasion. To have a more precise idea of the problem, think that each leaf can carry from two to more than twenty plantlets and that the leaves can be very numerous on one plant. In addition, the planlets that fall out of the pots, which some people think will be eliminated, miraculously grow equally and entering the drainage holes of the pots will lead to the death of the other plants that would rather be saved.

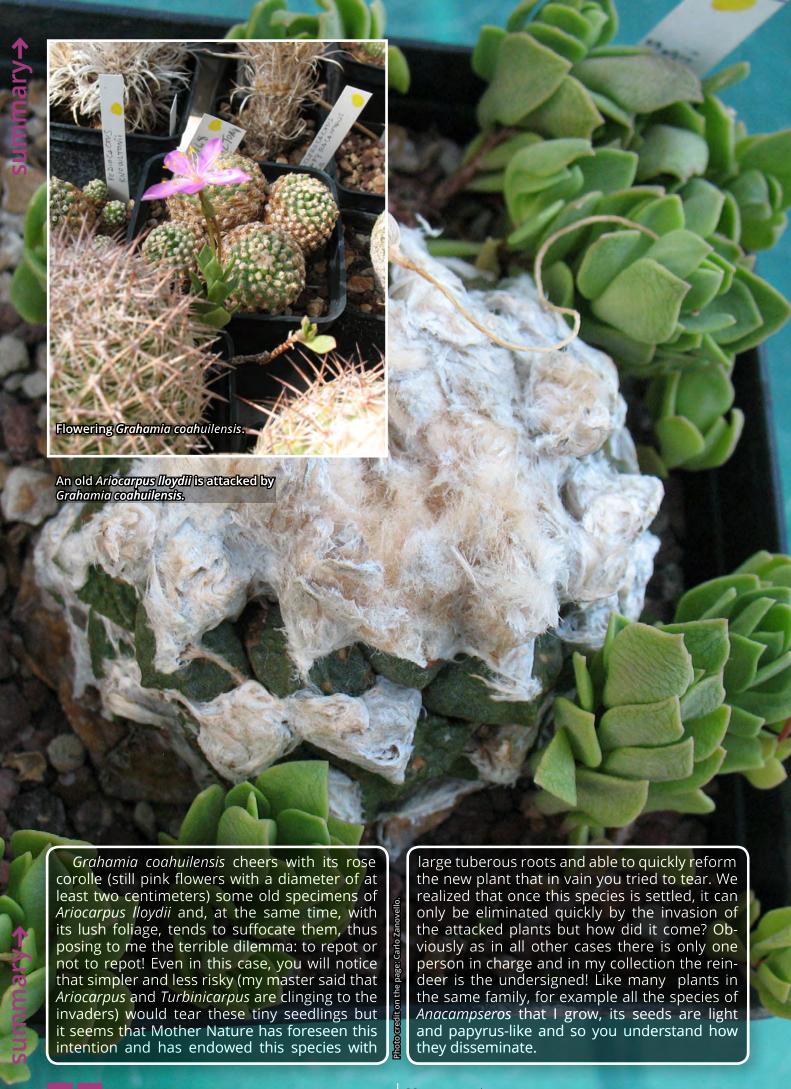




tion. Every now and then I can find the time to take out a bucket full of this invasive plant that unfortunately becomes self-sustaining

lized and rapid in development, which is slowly colonizing many vases of slow growth plants including some Euphorbia.









### New records of interesting, non-native succulents from Alicante (Spain)

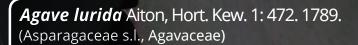


3 m are diduci and 53 min +erioosc. Jado de Valencia, Jardín Botánico, C/ Quart 82, 46008 Valencia, Spain. e-Mail: dguillot\_36@hotmail.com. Polo Botanico, Università degli Studi di Genova, International Cactaceae Research Center (LCRC), Corso Dogali, 1M - 16136 Genova, Italy

New records are presented for non-native succulents from Alicante province (Spain). Agave lurida, Austrocylindropuntia cylindrica, Opuntia engelmannii var. linguiformis and O. microdasys 'rufida' are probably reported for the first time from Alicante, whereas the presence of Mortolopuntia schickendantzii and Opuntia dillenii are confirmed. Trichocereus

bridgesii is cited for the first time in the wild

Fieldwork by the first author in the surroundings of Alicante (province of Alicante, Spain) in May 2017 yielded new records of interesting, non-native succulents, all belonging to Asparagaceae (incl. Agavaceae) and Cactaceae families. The identity of some of the species encountered was assessed in close collaboration with the two other authors.



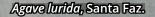
SPAIN, Alicante: Alicante, Santa Faz, 38°23'31.26"N, 0°26′53.54″ W, 35 m, rough ground, 12 May 2017, F. Verloove.

A single individual of Agave lurida was found growing on rough ground in Santa Faz, next to Austrocylindropuntia subulata and other less common escaped succulents such as Austrocylindropuntia cylindrica and Cylindropuntia imbricata.

This species shares large, glaucous leaves with the similar Agave americana. It is distinguished from the latter by its leaf margins that bear numerous shorter spines, all regularly inserted and of more or less equal length.

Agave lurida is rarely observed outside of cultivation in Europe. It has been known from a single record from El Puig (Valencia, Spain) where it was observed in 2003 (Guillot Ortiz & Van Der Meer 2008, Guillot Ortiz & al. 2009). It is naturalized in parts of the Indian subcontinent and some Atlantic and Indian Ocean islands (Ascension, St. Helena and Réunion) (eMonocot 2017).

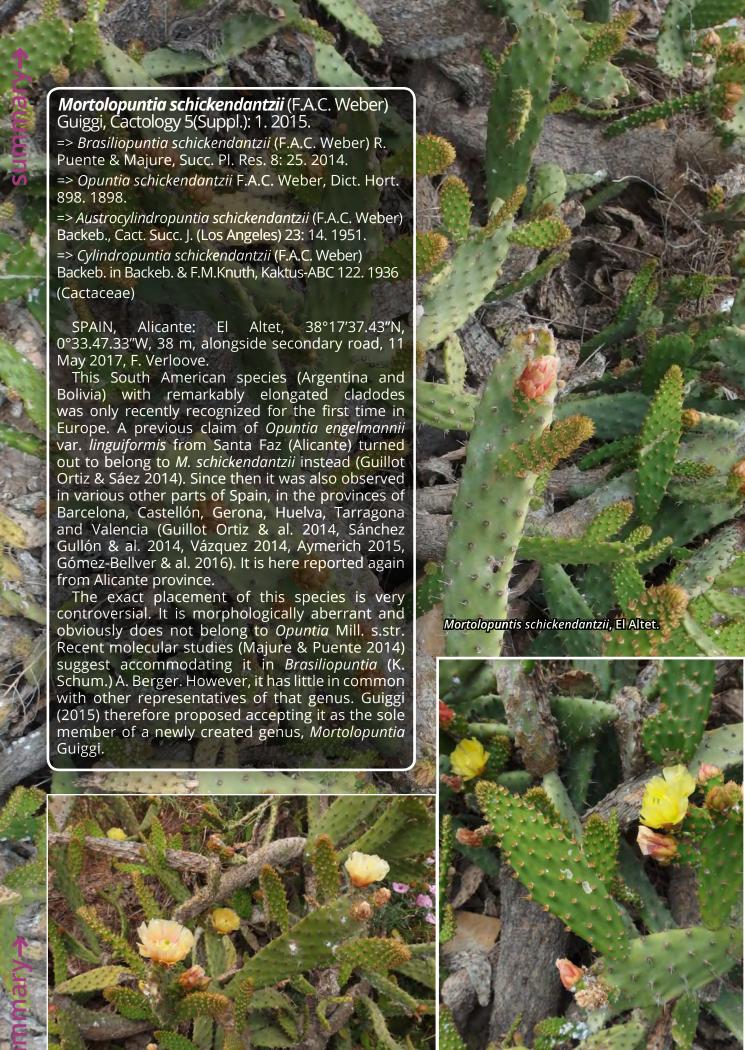
This species is sometimes considered conspecific with *Agave vera-cruz* Mill. (e.g. Hochstätter 2015).

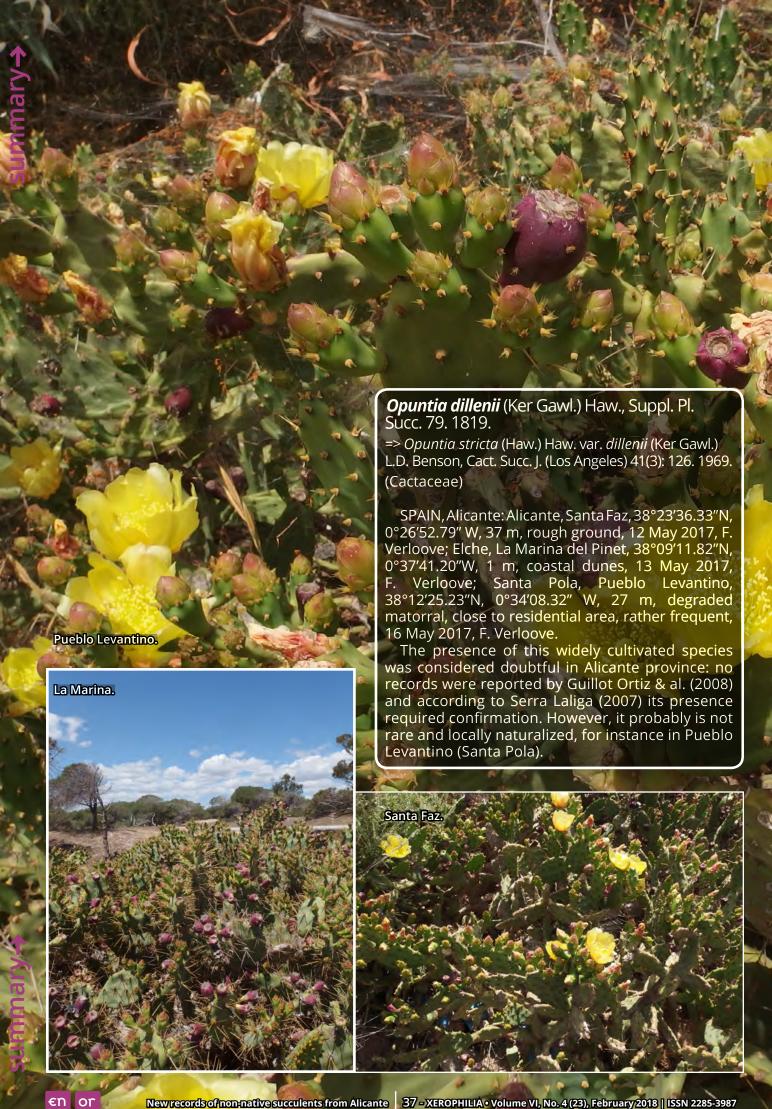














*Opuntia engelmannii* Salm-Dyck ex Engelm. var. *linguiformis* (Griffiths) B.D. Parfitt & Pinkava, Madroño 35(4): 347. 1988 [1989].

=> Opuntia linguiformis Griffiths, Rep. (Annual) Missouri Bot. Gard. 19: 270-271, pl. 27 [lower f.]. 1908. (Cactaceae)

SPAIN, Alicante: Santa Pola, Santa Pola del Este, 38°11'45.42"N, 0°31'09.30"W, 16 m, gravelly area adjacent to ravine, a single clone, 13 May 2017, F. Verloove; Santa Pola, Pueblo Levantino, 38°12′25.23″N, 0°34′08.32″ W, 27 m, degraded matorral, close to residential area, rather frequent, 16 May 2017, F. Verloove.

This taxon is originally native to Mexico (Coahuila) and the southernmost U.S.A. (Arizona, Texas) (Pinkava 2003) but it is widely cultivated elsewhere in warm-temperate areas of the world. Guillot Ortiz & al. (2008) reported single records from Valencia and Alicante provinces. However, the latter recently turned out to be referred to Mortolopuntia schickendantzii (Guillot Ortiz & Sáez (2014). O. engelmannii var. linguiformis is here reliably reported for the first time from Alicante province. In Santa Pola del Este a single clone grows on the verge of a ravine, whereas in Pueblo Levantino this species occurs with several dozens of individuals on the verge of degraded matorral, close to habitations. In this locality it is obviously naturalized. In the past years it has increasingly been recorded as an escape in Spain, especially in Catalonia (Aymerich 2015).











*Opuntia microdasys* (Lehm.) Pfeiff., Enum. Diagn. Cact. 154. 1837 'Rufida'. (Cactaceae)

SPAIN, Alicante: Santa Pola, Pueblo Levantino, 38°12′25.23″N, 0°34′08.32″ W, 27 m, degraded matorral, close to residential area, rather frequent, 16 May 2017, F. Verloove.

Several clones of this red-spined cultivar of Opuntia microdasys were found in Pueblo Levantino (Santa Pola), along with O. dillenii and O. engelmannii var. linguiformis. It had, apparently, not yet been recorded from Alicante province (Serra Laliga 2007, Guillot Ortiz & al. 2008).

Opuntia microdasys'Rufida', Pueblo Levantino.











*Trichocereus bridgesii* (Salm-Dyck) Britton & Rose, Cact. 2: 134. 1920.

=> Echinopsis bridgesii Salm-Dyck, Cact. Hort. Dyck. (1849) 181. 1849[1850].

=> Echinopsis lageniformis (C.F. Först.) Friedrich & G.D. Rowley, Int. Organ. Succ. Pl. Study Bull. 3(3): 96. 1974. (Cactaceae)

SPAIN, Alicante: Alicante, N-332, 38°18'37.38"N, 0°31′02.96″W, 12 m, rough ground, a single clone, 11 May 2017, F. Verloove.

This Bolivian species is frequently grown as an ornamental but is only exceptionally observed as an escape. It was recently reported from Tenerife in the Canary Islands (Verloove & al. 2017).

In May 2017 a single clone was seen on rough ground adjacent to the N-332 motorway south of Alicante where it probably established itself from garden debris.



- urn:kew.org:wcs:taxon:294310 (accessed 30 June 2017).
- GÓMEZ-BELLVER, C., H. ÁLVAREZ & L. SÁEZ (2016) New contributions to the knowledge of the alien flora of the Barcelona province (Catalonia, Spain). Orsis 30:
- GUIGGI, A. (2015) Genera nova et combinationes novae in cactaceis austroamericanis ad subfamiliam Opuntioideae K. Schumann spectantibus IV.
- Supplementum to Cactology V: 1-4.
  GUILLOT ORTIZ, D., E. LAGUNA LUMBRERAS &
  J.A. ROSSELLÓ PICORNELL (2008) Flora alóctona valenciana: familia Cactaceae. Monografías de la revista Bouteloua 5: 148 pp.
- GUILLOT ORTIZ, D. & L. SÁEZ (2014) Primera cita como alóctona de Opuntia schickendantzii F. A.C. Weber en
- Europa. Bouteloua 18 : 3-12. GUILLOT D., E. SÁNCHEZ GULLÓN & J. LODÉ (2014) Nuevas citas de cuatro cactáceas en la provincia de Valencia. Bouteloua 19: 11-17.
- GUILLOT ORTIZ, D. & P. VAN DER MEER (2008) Algunas citas nuevas del género "Agave" L., para la flora alóctona española. Bouteloua 4: 23-31.
- GUILLOT ORTIZ, D., P. VAN DER MEER, E. LAGUNA LUMBRERAS & J.A. ROSSELLÓ PICORNELL (2009)

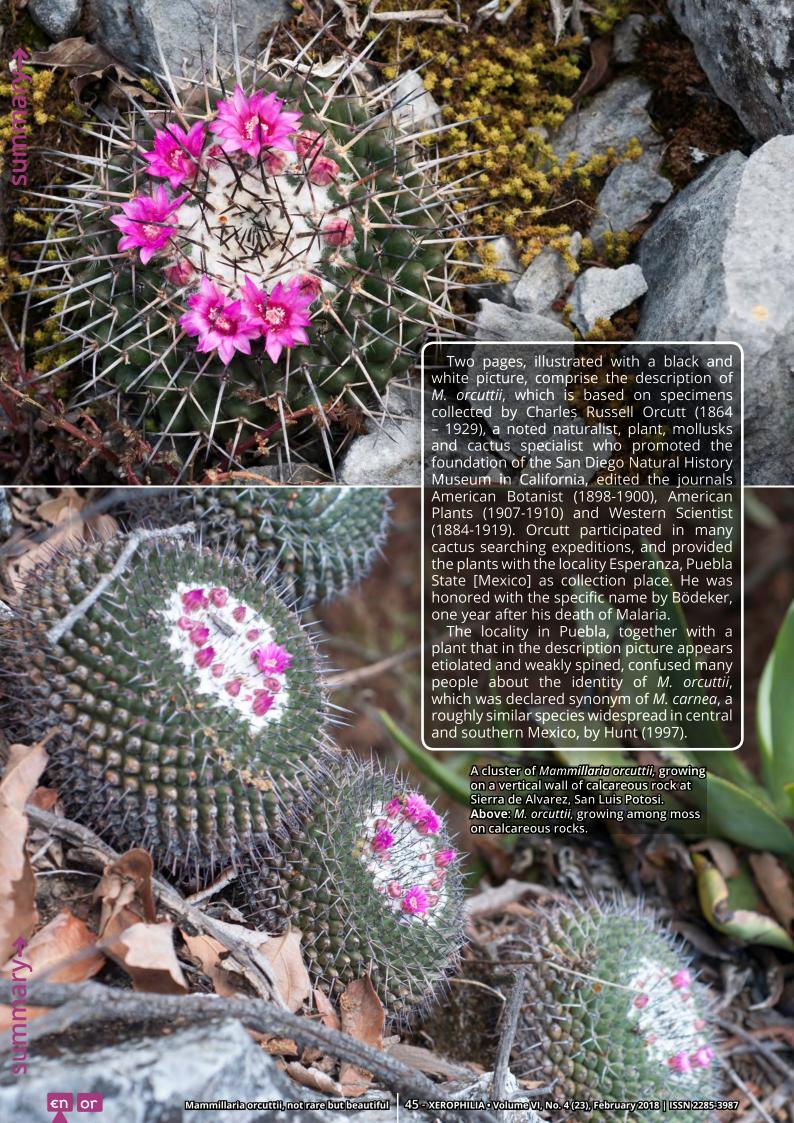
- MAJURE, L.C. & R. PUENTE (2014) Phylogenetic relationships and morphological evolution in Opuntia s. str. and closely related members of tribe Opuntieae. Succulent Plant Research 8: 9-30.
- PINKAVA, D.J. (2003) Opuntia. In Flora of North America Editorial Committee (Ed.), Flora of North America north of Mexico, vol. 4. Oxford University Press, Oxford.
- SÁNCHEZ GULLÓN, E., D. GUILLOT & J. LODÉ (2014) Notas sobre cuatro cactáceas interesantes para la xenoflora española. Acta Botanica Malacitana 39:
- SERRA LALIGA, L. (2007) Estudio crítico de la flora vascular de la provincia de Alicante. Ruizia 19 : 1416
- pp. VÁZQUEZ, J.R. (2014) Nuevas citas de Opuntiodeas (Cactaceae) en la provincia de Castellón (España). Bouteloua 19: 65-70.
- VERLOOVE, F., E. OJEDA-LAND, G.F. SMITH, A. GUIGGI, J.A. REYES-BETANCORT, C. SAMARÍN, A. GONZÁLEZ HERNÁNDEZ & R. BARONE (2017) New records of naturalised and invasive cacti (Cactaceae) from Gran Canaria and Tenerife, Canary Islands, Spain. Bradleya 35: 58-79.

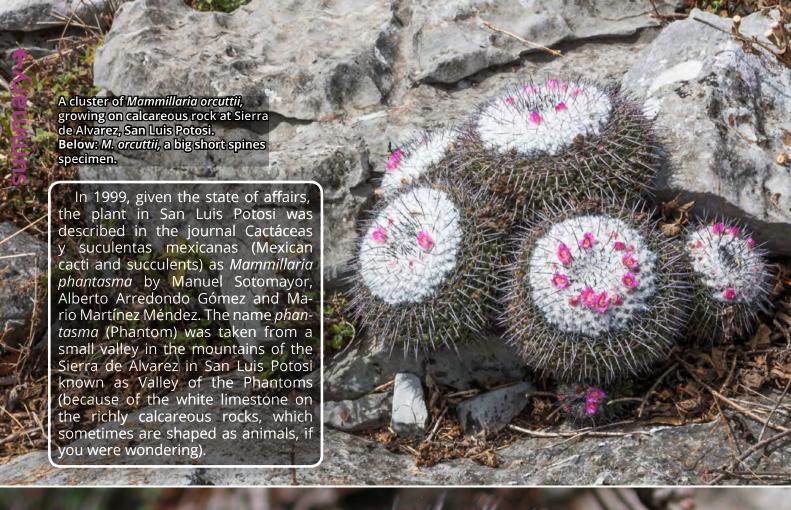
# Mammillaria orcuttii Bödeker, not rare but beautiful















## **Description**

Mammillaria orcuttii is a globular semi-spherical plant ranging in size between 10 to 20 cm in diameter and up to 30 cm in height for old plants. They have a bluish-green epidermis with short, conical tubercles with rounded apices. White wool is abundant in the axils and areoles in the central part of the plant. Some tubercles with 6-8 very short white, hair like 2 mm long radial spines are present particularly in young plants. Four to five short, strong,

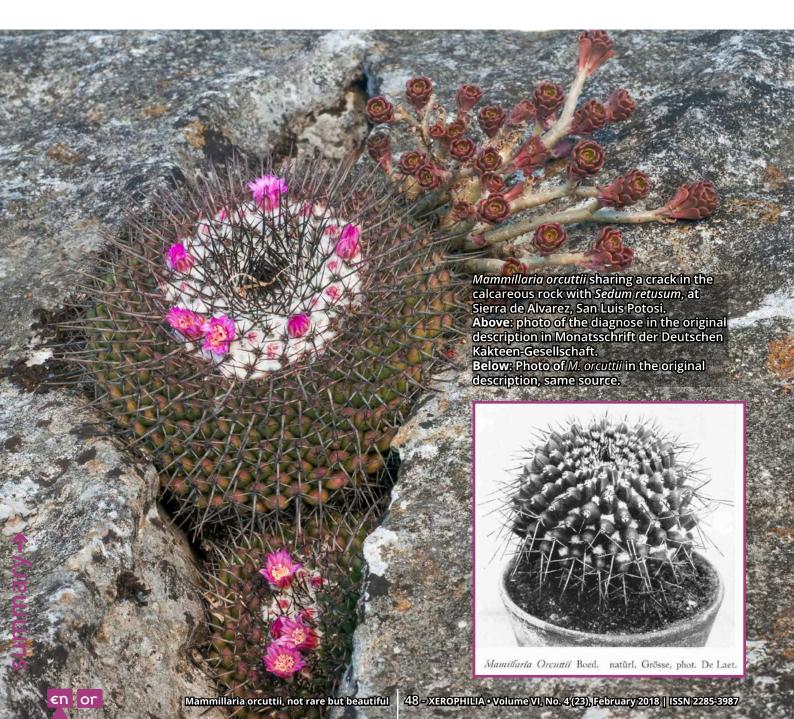
blackish-brown, 8-20 mm long central spines are present in each tubercle. Flowers are about 12 mm in diameter and colored bright carmine (somewhat variable between plants from clear to dark) with a darker midvein. They normally form a full crown in

# Mamillaria Orcuttii

Böd., spec. nova. Von Fr. Bödeker, Köln. (Mit Abbildung.)

Simplex, globosa vel subclavaeformis, vertice depressa, lanuginosa aculeisque obscuris superata; mamillae ad 13 et 21 series laxe ordinatae,
breviter conoidae, basi quadrangulares, apice truncatae; areolae orbiculares,
lanuginosae, demum glabrescentes; aculei 4 (rarissime 5), aciculares, laeves,
recti, pulli vel negri, inaequilongi interdum aculeis 6–8, brevissimis, deciduis adjectis; axillae lanuginosae setis deficientibus; flores singulares ex
axillis a vertice remotis, infundibuliformes, petalis lanceolatis, kermesinis,
filamentis roseis, antheris luteis: stylus roseus stigmatibus 4, roseis stamina
superans; fructus seminaque ignota.

blooming time, even in their natural habitat. Fruits are short and bright red, and are produced in late spring. Seeds are brown (compiled from Bödeker, 1930:258; Pilbeam, 1999:210; Anderson, 2001:435; personal observations).



### Distribution

*Mammillaria orcuttii* is distributed in the Sierra de Alvarez in the state of San Luis Potosi, part of the Mountains of the Sierra Madre Oriental in north eastern Mexico, at a geographical altitude range of 2,000 to 2,400 m asl. It is estimated to grown over an area of approximately 200 km<sup>2</sup> (Fitz-Maurice, 2013).

Sierra de Alvarez en San Luis Potosi, habitat of Mammillaria orcutii.

Below left: M. orcuttii growing on a vertical rocky wall under an Agave lechugilla.

**Below right**: *M. orcutti* growing on calcareous rocks.













## In captivity

Mammillaria orcuttii is a common plant in cultivation as it is raised commercially for international trade (Fitz-Maurice, 2013). When keeping the plant in cultivation, four aspects of their natural habitat should be taken into consideration:

- First: the range of elevation where the plants inhabit (2,000 to 2,400 m asl) in central Mexico assure a benign temperature range, with temperatures rarely exceeding 25 °C during the day, cooling down at night. Winter temperatures may round 10 °C with some cold days and nights a few degrees under freezing point. Slim snow layers accumulate some years, but regularly just for a few hours.
- Second: Unlike several other Mammillaria species, M. orcuttii inhabits mostly under full sun.
- Third: The places where the plants chose to grow prevent the accumulation of water. The environment is dry, rains are present from late May to early November (accumulating some 60 cm a year) but mist is present every day,

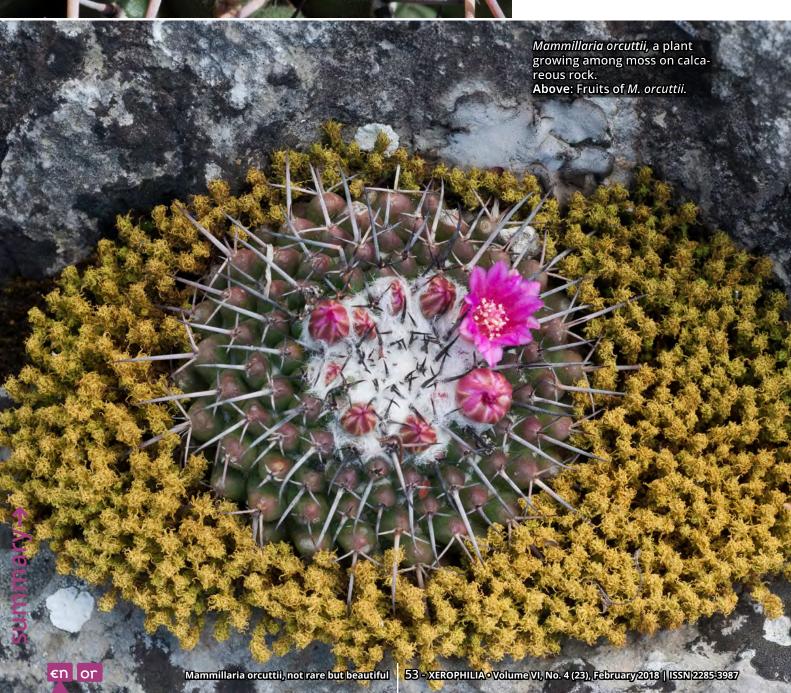




and this is likely the source of water for *M. orcuttii* (and many other plants in the area) during most of the year. It is not uncommon to find *M. orcuttii* growing among moss.

Fourth: the plant grows in a highly calcareous substrate, the rocks where it lives are rich in limestone and even the area of Sierra de Alvarez is the place where a large industrial facility exploits this natural resource.

When kept on cultivation, Pilbeam (1999:211) advises against watering over the top of the plant, since this would wash away the attractive (and protective) wool growing on the lower part of the stem and the fresh wool near the top of it.



# **References:** and editors). 2006. The New Cactus Lexicon. dh Books, Milborne Port, UK. Anderson, Edward F. 2001. The Cactus Family. Pilbeam, John. 1999. Mammillaria. Cirio Timber Press. Fitz Maurice, B & Fitz Maurice, W.A. 2013. Mammillaria orcuttii. The IUCN Red List of Publishing Services, UK. Pp 1-376. (ISBN 0952830280). Sotomayor, JM. Arredondo. A; Martínez, M. Threatened Species 2013: e.T152493A643065. 1999. Mammillaria phantasma Sotomayor, http://dx.doi.org/10.2305/IUCN.UK.2013-1. Arredondo & Martínez nom. nov., una vieja RLTS.T152493A643065.en. Downloaded on 22 conocida en San Luis Potosí. Cactáceas y May 2017. suculentas mexicanas. Hunt, D., Taylor, N. and Charles, G. (compilers Mammillaria orcuttii, close-up of flowers. €n or Mammillaria orcuttii, not rare but beautiful 54 - XEROPHILIA o Volume VI, No. 4(23), February 2018 | ISSN 2285-3987

# Notes on some species

# of the genus Ariocarpus;

# water, light and flowers







is the plants with my tags in the pot. To me that seems kind of strange but still I know why. When the lady brought the plants here it was in middle to late September of 2016.

Not knowing what kind of soil she had them in I repotted the plants and added them to the Ariocarpus area in my large hothouse. When I was repotting some of the plants it dawned on me that the plants were still in the same pots they were in a dozen years ago.

The soil also had not been changed as it was

pus fissuratus she had got from me looked like they had grown any.

They were still covered with the greyish mineral covering as when they came from habitat. Back in the day when I bought the plants I had not gone to acidic water yet. So the plants got my well water which is alkaline and full of minerals and leaves water spots on everything even the plants. If you look at some of my photos you can see the plant tubercles are light ash grey with a mineral coating.



you transplanted fifty plants that are two inches

or less in diameter and four that are four to five inches in diameter. These plants would start to grow green because they have no calcium be-

ing splashed on them. The new tubercles would emerge green even on the large plants and in time the calcium build up would be washed off

the plants.

Notes on Ariocarpus 57 - XEROPHILIA • Volume VI, No. 4 (23), February 2018 | ISSN 2285-3987

rains it dries. This happens every time it rains

and all the plants from smallest to largest have that calcium layer on them. In habitat it is a part

of life. If you lived in habitat where the plants grow you could build a planter box and fill it with

soil without limestone in it and the plants would

The planter box could be fifteen feet long and

grow green.

€n or



plants for it is almost flat as a pancake. I am not sure it ever grew for the lady but it has stayed alive all these years. If you look at the far side of the growing centre there is a tubercle that is not covered with the calcium. That happened after was giving it acidic water. [All of the photos featured here were taken 6 months after the plants arrived here, that being at the end of March 2017 and so some growth is seen on most of the plants.] Even having been in cultivation for

the calcium; the reason is not because it was not watered but it was watered with alkaline water. Alkaline water will not wash off or dissolve the calcium or mineral that is built up on the plant. Another picture shows the plant really loaded with calcium and especially where the water would stand till it dried especially on the flat areas of the tubercle. Again, in the growing point can be seen some new growth without the calcium build up on it.





body. That is that the plants are or have been stretching for light.

This shows up quite well when the plants are seen in person. I remember years ago the lady telling me that some of her plants were getting sunburnt and so she got shade cloth and her husband covered her hothouse for her. I was kind of horrified at the percentage of shade she had put up. I told her it was way too much but she said it was up and there was no chan-ging it. I do not

plants presented in photos are too tall for the number of rings of tubercles. This is easy to see as it is stretched and should only be half that tall. The plants just did not get enough light so as to stay compact like they should be. It is hard for me to think of Ariocarpus fissuratus being elongated but that is just what they are. It is not the tubercles as much as the entire plant is too tall. It can be also seen that the tubercles are quite thick looking and that is what is making the plant too tall.



One photo shows the highly unusual growing point of one of the plants. I am not sure how dead the tubercles are in the growing point but they look dead to me. I see some green on the tubercles around the growing point but so far see no signs of life down inside the growing point. If there is life in those tubercles and they grow the top will likely be dead and the plant will be scared for life. If the growing point is dead, then in time the plant will offset. I have one plant

that has fourteen offsets on it since its growing point was damaged. As to what happened to the growing point, I do not know; the only guess I can make is a chemical burn. However, the next photo is of another habitat collected plant. This plant has been getting acidic water for years. Note the bottom tubercle there in the front still has some habitat calcium on it. In time the acidic water will dissolve that and in time it will end up green like the rest of the tubercles.



plants and the calcium remain there after the rains and it is then baked on by the sunshine. If when I water the plants I watered with the same force as the rain hits, I would blow all the soil

may still be some calcium on the plant but it is nothing like those in the first few photos. The plants are the same age and were covered in the same amount of calcium build up.



pus fissuratus I have grown from my own seed and they are all dark green in color. They have

suratus that has not been splashed with minerals.





Beautiful plants they are, to say the least. But there is a problem with them. Most cacti that do not get enough light get etiolated and even bleached out looking. The interesting thing about these two Ariocarpus retusus is that the tubercles are elongated but the plants are not showing signs of growing pin headed. It finally dawned on me that the tubercles are quite a bit longer than on my other plants. I have at least thirty other A. retusus and none have these really long tubercles. So I decided to measure the tubercles to see the difference in them. On the plants I have had for a long time the tubercles are 2.5 cm with only a couple plants having tubercles 3 cm long. The tubercles on the returned plants are 4 to 4.5 cm long. I have to assume that the tubercles had to grow longer so the plant would then get the light they need.

looking as can be in cultivation. I also know that all books on cacti stress the importance of good strong light. Most speakers when talking about growing cacti stress the importance of good light. When people buy plants at the shows and sales and ask me how to grow them I tell them to acclimate the plant to where they are going to have it. Then depending on what plant it is I will stress good light but also if the plant is a high elevation plant I will point out that it needs afternoon shade, but that shade has to be bright shade. I am not sure that anywhere in habitat a plant grows in 50 to 90% shade. I do not know of any cactus plant that will grow in dark caves. I have had people tell me that they have 70% shade cloth on the west side of their greenhouse. As to why I do not know but several have said that 70% shade cloth is all they could find.



It has been eight years since we published the article on using acidic water (Elton Roberts & Malcolm Burleigh – Cactus and Alkalinity).

I have people ask why their plants are not growing and when I ask if they are using acidic water some answer that they did one or two times but do not have time. They will mix up water with fertilizer in it but it is too much of a hassle to make it acid by adding vinegar or sodium bisulphate. Keep in mind that all rain water is acidic for Mother Nature knows what is good for her plants. If you have *Ariocarpus* plants and like the look of a plant covered with mineral build up like those in photos 1 - 5, then water them with alkaline water. They will slowly get more mineral build up on them.

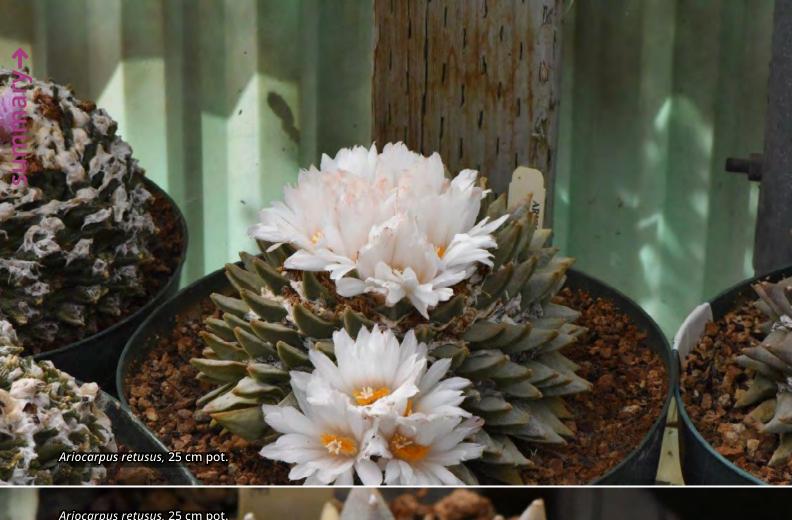
I use to allow the build up to stay on some plants for a couple years and then I would take a tool and flick thick flakes of build up off the tubercles. I had to allow the build-up to get

quite thick or else I could not get it off without damaging the tubercles. The plant would then be green for several months, till the build-up got thick enough then the plant's green color would not show through. Now all the Ariocarpus are dark green like they should be and they are mineral free thanks to acidic water.

Keep in mind that all water companies are required by law to add certain chemicals to keep the water alkaline.

Many places keep the pH of the water at 8 to 8.5 and I have heard of a place or two that have the pH at 9. The idea is to keep the water from eating up the pipes and also keep you from getting heavy metal poisoning. If you water your plants by dip and pour, a sump pump from a 30 gallon (113 litres) garbage can or if you have a Dosatron or some other brand of mixer it only takes a few minutes to make the water acidic. I always shoot for a pH of 5.





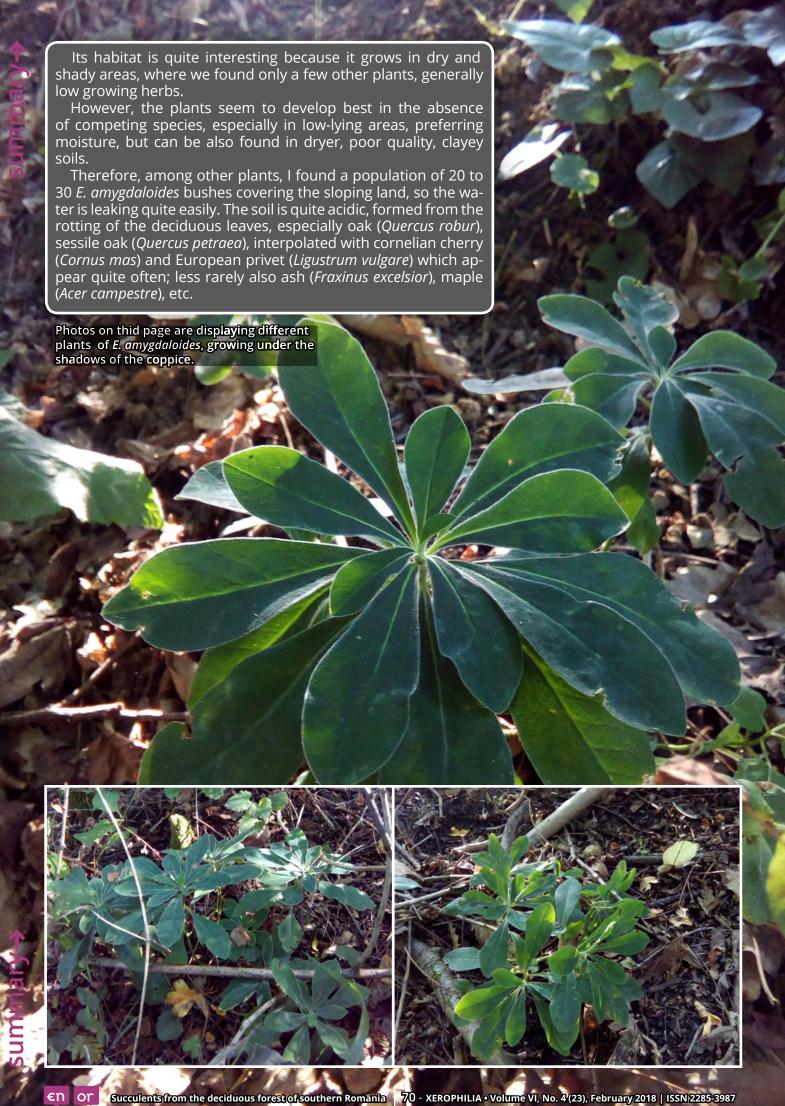


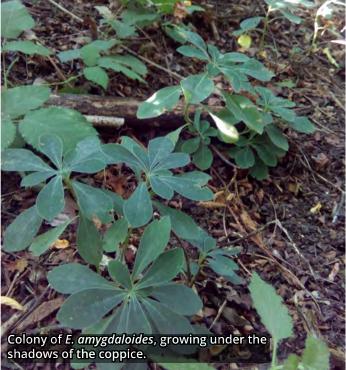


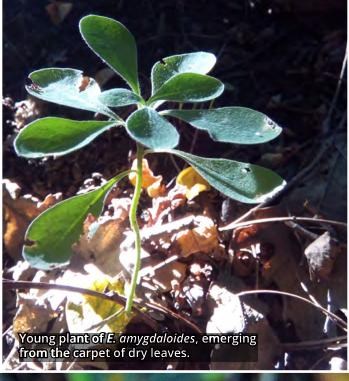


# Succulents from the southwestern deciduous forest area of România











In the most uninviting and dark areas I happened to come across rather large sized specimens, bushes of up to 1-2 m in diameter, grouping from 2-3 to 5-10 plants, which illustrates another reason of success for this plant - the adaptation to a niche not covered by other species.

The bushy appearance of the plant is given by the underground rhizomes which, on the one hand, represent a propagation path, with fresh shoots appearing along them, and also a path of protecting the plant itself, since under very cold or very dry conditions its parts or organs hidden ground below ground level can survive.

The flowering period is spring, with flowers specific to the genus, with greenish-yellowish bracts surrounding the small, white-green flowers.

Between June and July, when the pictures were taken, I found some plants still keeping the dry floral rods.

Other details:

- the leaves are covered with small bristles that give them an interesting appearance, being soft to the touch;
- as with other plants of the genus, the latex produced by the plant is toxic, and is found in roots, stems, leaves and flowers;
- the plants are perennial and the leaves get a more intense green color in the shade, discoloring the higher the exposure to the sun;
- during the winter, the foliage gets tones of yellowish to red color and withers only partially, the plants bearing leaving leaves all year round.



Unlike E. amygdaloides, which inhabits various areas of deciduous forests in the region, the second succulent plant observed was occupying an extremely very limited area of only 5-10 m<sup>2</sup>.

I discovered it a year ago, growing up on a slightly overflowing land, among herbs, in direct sunlight, at the edge of a deciduous forest. To be more precise, the habitat of the species is represented by one of the banks of earth which surrounds a hollow bounded by the wood, which takes the form of a pasture.

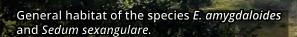
It is Sedum sexangulare, a plant similar to the more common *Sedum acre*, the difference, as the name reflects, is given by the arrangement of the leaves on six rows (although there are plants with more / fewer rows) and the plant's appearance is more compact and sometimes

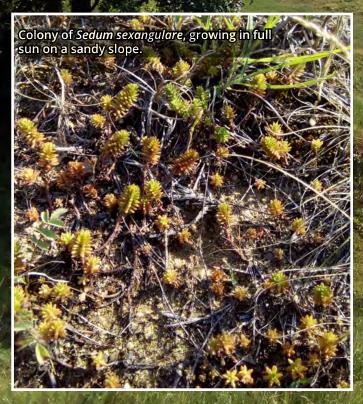
colourful.

One interesting thing is that although I found some plants growing also in shade, the population is well located and I have not discovered this species in the surrounding areas.

The reason, as I mentioned above, is not the light, but the drainage. The plants grow on sandy - clayey soil, grungy and drainable, in the slope. Even if the forest fringe areas do not lack clay or sand, I have never discovered this type of soil in any other place.

Although I have searched carefully, a similar area does not exist on a stretch of several kilometres. I have noticed that this soil is used by locals to produce handmade bricks, and, another interesting aspect, I have also found the shells of snails and other molluscs in the deeper layers.











Besides these plants, the area is interesting because it hosts a turtle species, *Testudo hermani* var. *boettgeri*, a species found in Mehedinţi County and in Dobrogea.

They are long-lived, peaceful, herbivore and very friendly reptiles, sometimes reaching the backyards of the people.

During the winter (when temperatures can reach -25 °C) they hibernate covered by dry leaves, leaving their litters in February-March to procreate. Reproduction takes place throughout the year, except for the rest period, the

females depositing several eggs in sandy soils. Males are usually smaller than the females and often fight by colliding shells to win a partner. Once this obstacle has passed, it follows the follow-up of the females and their immobilization in view of the short coupling.

The greatest danger to this interesting species is, unfortunately, the humans, with many animals ending up by being trampled by the wheels of the machines and carriages handled negligently and used to drive wood that is not always forested legally ...



# First record of an adventive plant in New Zealand -Aeonium simsii hybrid







Quite a surprise of what I could see here, only on few hundred meters - a good collection of succulent plants: Cotyledon orbiculata, Aeonium arboreum, A. ciliatum, A. haworthii, A. undulatum, A. urbicum, Sedum praealtum, Aloe arborescens, A. maculata, Senecio serpens, Echeveria 'Imbricata', Opuntia sp. (possibly O. ficusindica), Agave americana (incl. A. 'Marginata' the variegated form), Furcraea foetida, Euphorbia characias, Carpobrotus edulis, Drosanthemum floribundum, and especially the Aeonium simsii hybrid, a found which that gave me the opportunity of a first documented record as adventive plant in New Zealand.













- Pannel J., 2014. When succulents attack! (A Peninsula under threat). Xerophilia Vol. 3, No. 3 (10), October 2014: 85-94.
- Schulz R., 2007. Aeonium in habitat and cultivation. Schulz Publishing, California, USA:
- uralised Pteridophytes, Gymnosperms, Dicotyledons. Botany Division, Department of Scientific and Industrial Research. Manaaki Whenua Press. Lincoln. New Zealand: 1365pp.

# Over-fertilization, a determining factor in the dynamics of aberrant growth and flowering in *Cactaceae*







Ariocarpus bravoanus ssp. bravoanus - a plant which, three years after the last abundant fertilization, has not yet absorbed all the fertilizer, being forced to grow in an un-natural manner.

Since humans began to make agriculture, in the true sense of the word, they have sought to "fatten" the earth, to have bigger and richer crops. First, they discovered natural fertilizers of animal and plant origin to later reach industrial chemicals.

More than two centuries ago, the first cacti were cultivated by gardeners: otherwise farmers. They reflexively used fertilizers, as well also in a spontaneous effect – they considered organic soil to be the starting point for the cultivation of some plants originating from arid and very arid areas. Quite quickly, gardeners, who, finding an economic niche, have specialized in Cactaceae, found that organic fertilizers of animal origin could produce unpleasant surprises, so they enjoyed greatly, in the emergence of chemical fertilizers of industrial origin.

Since then, professional cactus growers - all gardeners! - continue to use fertilizers in one, because their cacti will grow as big and "beautiful" as possible. They need to produce much and fast, to sell well and to have the greatest profit, the future fate of the plant, being the problem of buyers and not theirs. If you do not sell cacti on the peat, do you despise the cuts from the day of their planting?

Since then, professional cultivators of cacti - all gardeners - continue to use fertilizers, because their cacti will grow as big and "beautiful" as possible. They need to produce much and quickly in order to have good sales and to achieve the best possible profit, the future fate of the plant being the problem of buyers and not theirs. So, don't they sell cacti planted in peat, destined to a definite death, from the very day they were planted?!

flowering in spring.

The collectors, reading their advice and opinions, through books, commissioned or written by them, followed the same system. Not one or the other, though seeing the plants growing up at home, did not ask themselves how where the cacti fertilized in their habitat. It seemed normal for plants to be fertilized, and cacti should normally be fertilized. The supreme argument was and still remained: "To give them what they lack, what they have in nature, and we do not have here, in the pots we planted them. But must they be fertilized or not? Certainly, cacti must be fertilized!

And then you will ask yourself: why are we getting so crazy?? Well... because it depends on fertilization! For example, all these farmers/ gardeners/producers/growers when talking about fertilization they always refer to the socalled macro-elements: N (nitrogen), P (phosphorus), K (potassium). Depending on the company and producer, the proportion of these elements vary in different blends, but they are always in large proportion, exactly like farmers and gardeners used them.

I will not extend the subject now, because I have already extensively wrote about it in The Stone Eaters, but I will point out that although these elements exist in natural, even arid soils, they are there in proportions similar to the microelements - those mineral salts that the cactus extracts, especially from rocks and stones.



More importantly, cacti - living in artificially created soils, the so-called captive soil in pots, must find only what they need and not exactly what they have available in habitat. For these reasons, we believe that – when growing cacti - we need to avoid dedicated macro-elements solutions. We will be happy to offer them micro-elements.

Given that our plants still need NPK, half a dose of commercial fertilizer once every two to three years is sure enough for the next time.

There are some who give the plant the macerate extract of bird excrement - of all natural fertilizers, it is - after all - the only one that can be used if the doses are very moderate. Personally, I am against this system, which runs counter to the natural aspect of the plant, and which, over time, creates vulnerabilities. Remember, in cacti the vulnerabilities can be observed in years and

some even in decades. Maybe we think if we had a plant for 20 years, it does not really matter if it did not live 40, because we cannot really know if it lived that much. You can be sure the cactus would have lived! Even some small cacti

can become easily centenarians.

There are cacti that - specifically - do not offset or do offset only at very old age. One of the consequences of their exaggerated fertilization is that after a while, if they do not die, they start to grow or become multicephalous.

As in the case of grafting, the main meristem of the plant, unable to overcome the natural rhythm of the DNA, needs to grow somewhere ... and then you get all sorts of heads and off shoots. Slowly, the plant grows, becomes impressive, becomes a monster, as it has never been seen, becomes a monster like the monster on this page!

The vegetative development of the stem, reaching a limit beyond which the plant can no longer sustain the required growth rate, but having to continue to transform the nutrients which will be absorbed but has nothing to do with, being genetically adapted to another feeding regime, is bound to apply any available vegetative solution.

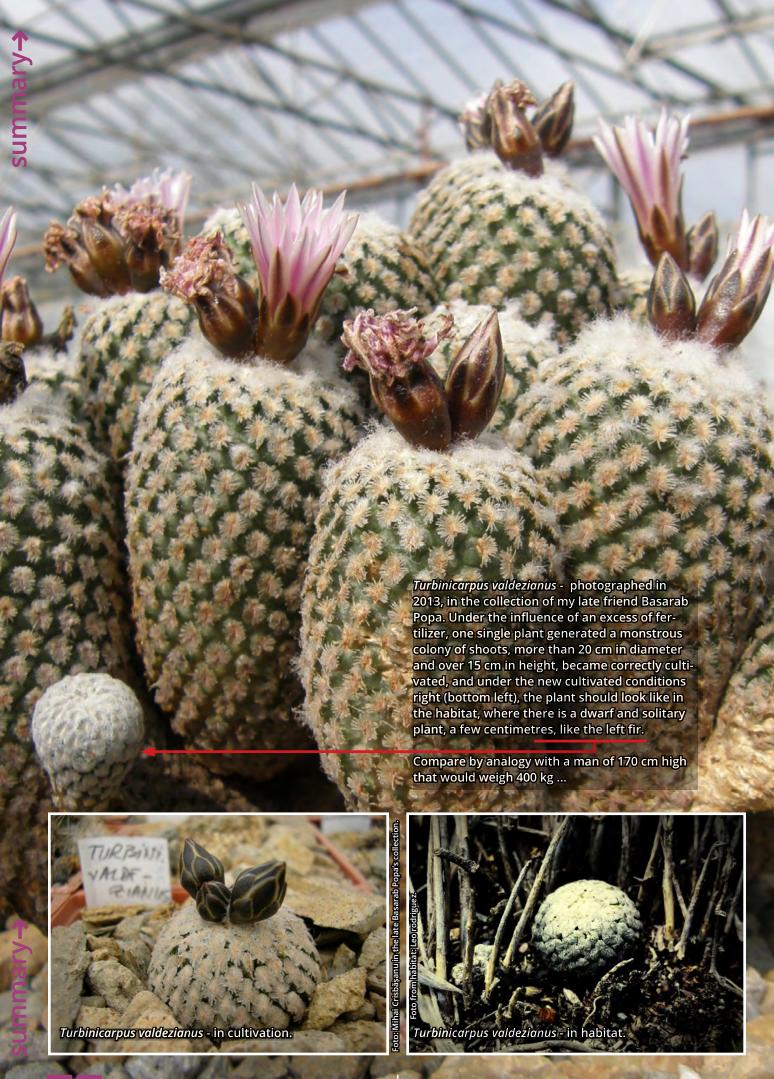
Desperately, it uses the most expensive way for the plant: flowering. But the phenomenon is explosive and aberrant, as you can see (again) in the following pictures.

I do not need to remember how the Mammillaria cacti flower normally: one single flower, on each axilla, and never on the areole of the tubercle. Here it is, for the second time in this issue, the opposite! Without realizing that he is experiencing an alienated manifestation, the collector sees it as an extraordinary success and rejoices.

But the plant, NO!









get in time.

Stimulating the blooming amount of flowers

of a plant, can mask problems, which we cannot

strous. Anomalies and monstrosities

always have vulnerabilities that we will

not know over time to deal with them.



Cultivation in a Temperate Continental Climate", a revised edition already published by Xerophilia, in November 2017, in Romanian.



Natural growth leads to plants slower stronger

and more likely to have us committed all our

lifes, both them and out life as well.

#### **Thanks**

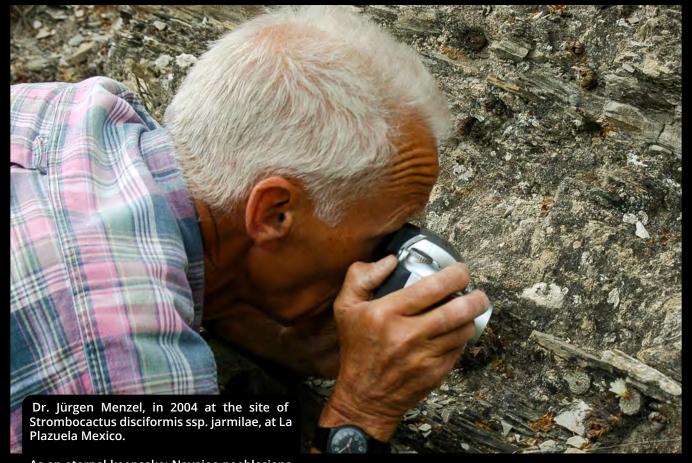
For their constant courtesy and availability to help us, whenever we need photography, data or information, in alphabetical order, I thank the following collaborators of the magazine Xerophilia:

- Mihai Crisbășanu;
- Grzegorz Matuszewski;
- Stefan Nitzschke;
- Elton Roberts;
- Leo Rodriguez.













Jürgen has contributed significantly to the protection of species at their natural sites by his control of propagation. The legal import, propagation and

distribution of *Digitostigma caput-medusae* must be emphasized here. He laid the foundation for working with this species on our joint trip to Mexico in 2004, with a visit to the discoverer of the species, Manuel Nevarez.

Many long-lost species, e.g. *Escobaria abdita, Turbinicarpus nieblae, Turbinicarpus krainzianus* and *Turbinicarpus sphacellatus* were in the process of propagation long before the first description - and therefore even before their rediscovery. This often resulted from the fact that since the 1960s be bas rediscovery. This often resulted from the fact that since the 1960s he has maintained worldwide contacts and lively exchange with many of the cactus world's greats.



Dr. Jürgen Menzel in spring 2017 at La Bufadora, Baja California.

I like to think back to visits made back in the 1980s in Hamburg, laterin Mallorca and in California as well as on trips and telephone conversations. I am very grateful for the last two meetings with Jürgen in October 2016 and in April 2017 in El Cajon / California with a short trip to the Baja California. At this point, none of us had any idea that it would be a goodbye forever. His name is the cactus world forever with the, discovered by him in Arizona, Navajoa peeblesiana ssp. menzelii, to be preserved.

Our deepest sympathy in these difficult hours is his wife Beate.



#### **In Memoriam**

credits to

**CSSNZ Auckland Newsletter** 

# Philip Edwin Downs is gone

6 january 1936 26 December 2017



Born on 6 January 1936 in Yorkshire, England, Philip later graduated from Sheffield University with a degree in dentistry. Although botany was his passion, he realized he had to support a family and thus chose dentistry.

He married Annette Forster, and they had three daughters, Susan, Helen and Georgina. It was after the birth of Helen that the family emigrated to South Africa, with its more appealing climate, and where job opportunities led the family to Amanzimtoti, south of Durban in 1967. A few years later, their third daughter, Georgina, was born.

Philip worked for the South African

government in various public hospitals where he was respected and a very successful dental surgeon. In 1974 Philip and Annette's marriage came to an end, where the three girls continued to visit their Dad regularly.

In 1980 Philip met Ansie and were married six months later.

It was during the years spent in South Africa that Philip's passion for plants flourished and his quest to find many succulent plants to add to his collection which led him to all corners of Southern Africa and other parts of the world. The family have very fond memories of holidays spent hunting for plants in these remote areas.



The first plant to be named after him: Sansevieria downsii, he found in Malawi, and the second, Aloe downsiana, was named in Philip's honour by two other well-known botanists - T.A. McCoy and John Lavranos.

Philip was a walking encyclopaedia and had many other passionate pursuits. With close ties to the Natal Parks Board he organised visitor's wilderness trails in the game reserves. He became an authority in identifying trees, birds, wildlife, geography, history (especially of the South African Boer War), the South African Bantu cultures and languages, even world politics and classical music. Ask him about any subject and Philip had the answer, if he didn't he'd look it up for you... and this was before Google!

With the political unrest in South Africa, Philip and Ansie returned to England in 1986 to settle in Chesterfield where Philip was chief dentist for North Derbyshire for a number of years.

On retiring in 2000 Philip and Ansie left for New Zealand where both

Susan and Georgina had already settled. Helen and her family continued living in Amanzimtoti and are still there.

Philip and Ansie established their home in Waiuku where they have been very happy ever since. He became involved in many local community organisations like Rotary, Probus, the Cactus and Succulent Society of NZ, and the Auckland branch of the CSSNZ, of which Philip spent some time as president.

Philip also took an active role in the Pukekohe Methodist Church where he was a dedicated and enthusiastic contributor to their activities and established many lasting and meaningful relationships over time.

Philip was diagnosed with lymphoma at the end of 2016 and fought a brave battle but sadly passed away on 26 December 2017. Members of the Auckland Branch of the Society attended the celebration of Philip's life on 29 December at the Pukekohe Methodist Church.

Farewell Philip, we will miss you. Rest in Peace.

# Free online magazines



Acc Aztekium Journal (Romanian) - The Romanian Acc Aztekium journal. Latest issue: **No. 47, December 2017**.

Sansevieria Online (German) - The free online journal about the genus Sansevieria. The next issue will be published on 01/11/2017: No. 5 (2), November 2017.

Succulentopi@ (French) - free online journal published by the site "Le Cactus Francophone" Latest issue: No. 16, May 2017.

Sukkulenten (German) - Monthly free online journal of the FGaS - Fachgesellschaft andere Sukkulenten (formerly Avonia-News). Latest issue: Vol. 11, No. 1, January 2018.

The Cactus Explorer (English) - The first free online C&S journal. Latest issue: No. 20, November 2017.

Online Journal

Index 2013 - 2017

ISSN 2197-7



## Huitzilopoehtlia



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 week at St Veit, Austria, working and sleeping in a room at the end of Reppenhagen's potting shed, poring over a set of maps of Mexico on which he had marked his collection localities, and read

herbarium vouche booklet did not get much of the data to Pavid Hint Milhorne Port, GB other commitments compared and occasional Mammillaria newsletter with continuous formula other and occasional Mammillaria newsletter with continuous formula occasional mammillaria newsletter pooklet did not get an occasional Mammillaria ne visual much of the data to English, edited by O ar Appenzeller, in 1992, and propagated and some doubtless photographs

Quite early on in our control of the service of the part of the part of the service of the part of th

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 d sent me a draft report and photographs which I ev 66. 1979), followed three months later by the first 106-107) and other Lau novelties.

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

(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 2014

VOLUME 23 NUMBER 73



Photo:- J. Lambert



#### **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 explor-

ers 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 Castus Explorers website allowing free access to digitized versions of this bibliographical marvel!



#### ABSTRACT - scurtă sumarizare a articolelor





După o lungă absență, colegul nostru se reîntoarce, secondându-l pe antropologul Fernando Augusto Olvera Galarza, într-un articol documentat despre comunitățile indigene din Mexic care consumă peyote în ceremoniile lor sacre.

#### Plantele dușmane pagina 25 Carlo Zanovello

Cunoscutul autor și coautor al mai multor cărți în domeniu, mare colecționar, dar și cultivator profesionist, apare în paginile noastre cu un artcol despre mai multe specii suculente invazive, care pot transforma viata colectionarului, într-un infern.

#### Noi inregistrări ale unor suculente invazive în Alicante, Spania pagina 33 Filip Verloove & al.

Articolul interesant și documentat al unui grup de cercetători europeni, prezentând elemente invazive din flora suculentă, în provincia Alicante, Spania.

#### *Mammillaria orcuttii* Bödeker, nu rară, dar frumoasă pagina 43 Juan Miguel Artigas Azas

Un alt foarte interesant articol despre una dintre mamilariile foarte mari și frumoase, documentat, cu fotografii pe măsură. Este splendidă în natură și ușor de cultivat, în colecțiile noastre.

#### Note despre unele specii de *Ariocarpus*; apă, lumină, înflorire pagina 55 Elton Roberts

Cunoscutul nostru colaborator revine și de astă dată cu expresia experienței sale de o viață.

#### Suculente din padurile de foioase din sudul României pagina 69 Alexandru Bușe-Dragomir

Un tânăr pasionat de cactuși și suculente prezintă observațiile sale din teren.

#### Prima înregistrare pentru Noua Zeelandă a *Aeonium simsii* hibrid pagina 75 Eduart Zimer

O documentare interesantă care premerge un număr special despre Banks Peninsula, Noua Zeelandă.

#### Suprafertilizarea, factor determinant în creșterea aberantă la *Cactaceae* pagina 81 Dag Panco

Extras tradus în engleză din Cultura cactușilor într-un climat temperat-continental.





#### **CACUS & SUCCULENT FIELD TOUR MEXICO**

Biologo. Rodrigo H. Gonzalez G. Rio Yukon 419 Col. Del Valle CP 66220

San Pedro Garza Garcia N.L.

**#** +52 81 83353764

**+52 81 8115996184** 





nodrigo@curadoresdepaisaje.com

## Cacti seeds from South America

Greatest selection from

The Chaco in Paraguay Bolivia

Argentina

Brazil

Volker Schädlich

volker@gymnos.de

www.gymnos.de







#### Fachgesellschaft andere Sukkulenten e.V.

www.fgas-sukkulenten.de



"Avonia", the quarterly member journal of the German Society for other Succulents, written in German with English summaries, non-German manuscripts in original language too, containing colour photographs, excellent drawings and articles on all aspects of the other Succulents.

Annual subscription:

Germany: 30 € incl. PP Other countries: 35 € incl. PP

Free available coloured online journal "Avonia-News", annual seed list for members and many more. Stakeholders for Aloe (incl. Haworthia a.s.), Ascleps, Euphorbia, Mesembs and Yucca/winter-hardy Succulents.

For membership and further information please contact:
Dr. Jörg Ettelt, Morgenstr. 72, D-59423 Unna, praesident@fgas.sukkulenten.de

Wilfried Burwitz, Postfach 100206, D-03002 Cottbus, geschaeftsstelle@fgas.sukkulenten.de



Xerophilia – Volume VI, No. 4 (23), February 2018

# www.xerophilia.ro

ISSN 2285-3987