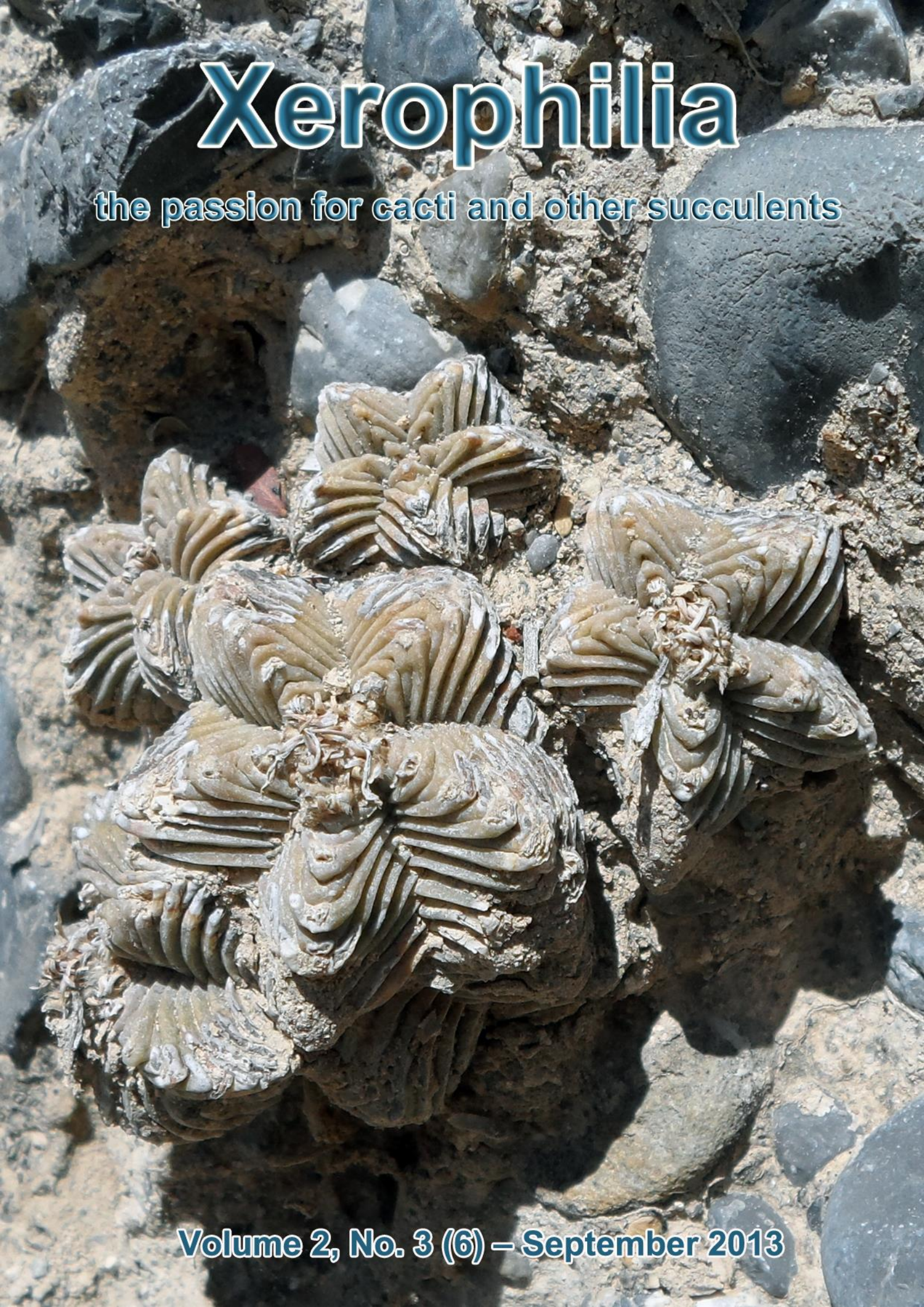
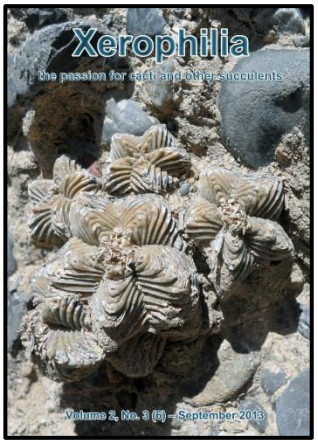


Xerophilia

the passion for cacti and other succulents

Volume 2, No. 3 (6) – September 2013

Summary



Front cover: ***Aztekium valdezii***
(Photo Mario Alberto Valdéz Marroquín)

Back cover: ***Aeonium urbicum***
(Photo Albert Leroy)

Xerophilia

The passion for cacti and other succulents

Founders and Senior Editors:

Eduart Zimer - Director and Editor (English)

Dag Panco - PR (Romanian)

Valentin Posea - Graphic layout and photo processing

Associate Editor: Pedro Nájera Quezada (Spanish)

Articles and other contributions, photos or other materials are always welcome! Please send them to the email address below. The Editorial Team will examine them carefully and decide on publication in one of the upcoming issues. The next issue is scheduled to appear on December 2013.

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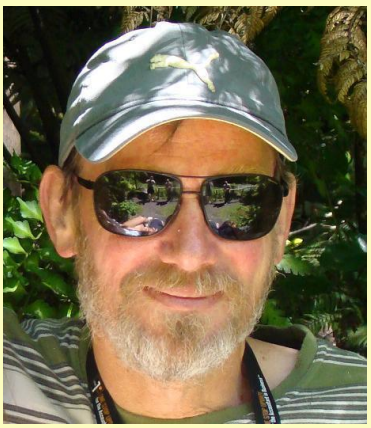
Editorial 6



At 15 months after releasing the first issue of the ***Xerophilia*** journal I want to point out the evolution of our editorial line but also regarding the collaboration with a wide range of authors. By directly comparing the first issue and the 6th is can be easily observed that - primarily conceptual, but also concerning the editorial quality – there are publications of a whole different level. With every issue we changed something ... sometimes changes were less obvious, sometimes the difference was immediately noticeable for our readers. We tried and we finally managed not to stick to a fixed publishing outline, inflexible... and maybe this was just our secret "formula". We didn't stop here and therefore you will find more important changes in this issue, underlining our efforts!

In time, we had to carefully reevaluate based on feedback every issue, especially in regards of its bilingual character. Initially we started as a Romanian magazine intended mainly for the Romanian readers, which, according to the content and the nature of the collaborations, could have been translated into English – in full or only abbreviated. But pretty soon we realized that on the one hand, there is significant interest coming from foreign readers, and, on the other hand, we noted the existence of a Romanian core interested in the magazine, regardless of the weight of the English text. Coupled with the growing number of foreign collaborators (*), our editorial team decided to increase weight of the English text and, at the same time, to reduce the weight of the Romanian text. However, this wasn't a new idea: it was a natural and gradual process, although not an absolute priority for us, but we could not ignore the necessity of reviewing the bilingual aspect.

So you don't get me wrong: we didn't turn our backs to the Romanian cactus enthusiasts. The best proof is our first special issue **Mâncătorii de Piatră / The Stone Eaters**, just recently released, written exclusively by Romanian authors and which was prepared first as a full Romanian version. We hope we can repeat such special issues if we get the required collaboration from Romanian authors. However, in order to have more important articles in Romanian language in our regular ***Xerophilia*** issues, these have to be written first by the Romanian authors.

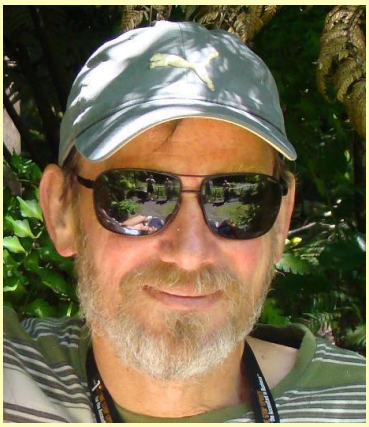
As a notable change, we welcome the appearance of a new permanent section ***Xero-Files***, co-ordinated by our colleague Pedro Nájera Quezada. In this issue we present the iconic *Ariocarpus fissuratus* ssp. *bravoanus*! More, as a result of the recent description of *Aztekium valdezii*, we also introduce a temporary section ***Aztekium valdezii* dossier**, intended to bring to the attention of responsible cactus enthusiasts and habitat conservation authorities issues like species and habitat protection, controlled seed production and in vitro plant propagation, and unfortunate events like habitat looting and illegal seed and plants trade.

As always at the end of the editorial - we want to thank, once again, from the bottom of our hearts, to our loyal readers from all over the world, from over 97 countries and territories, and to all our collaborators for this new issue! These are the ones who allowed us this time to share the knowledge: Albert Leroy, Belgium/Tenerife; Athena Mantle, Sunland, California; Carlos Alonso Hidalgo, Villa of San Pedro de La Paz, Chile; Carlos Gerardo Velazco Macías, Nuevo Leon, México; Claudia López Martinez, San Luis Potosi, México; Ján Baran, Zvolen, Slovakia; Josef Odehnal, Brno, Czech Republic; Jovana Jaime Hernández, San Luis Potosi, México; Judd Kirkel Welwitch, Johannesburg, South Africa; Mario Alberto Valdéz Marroquín, Nuevo Leon, México; Pedro Nájera Quezada, San Luis Potosi, México; Ray Stephenson, Choppington, Northumberland, England, United Kingdom; Ricardo Daniel Raya Sanchez, Celaya, Guanajuato, México; Sandi Karina Neri Cardona, San Luis Potosi, México.

(*) In the months since, we got to actually convinced that terms such as "Romanian", "foreign", "domestic", "from abroad", etc. start having increasingly less substance. Our passion is universal!

Eduard

Editorial 6



La 15 luni de la apariția primului număr al revistei ***Xerophilia*** doresc să subliniez evoluția avută, atât în plan editorial, cât și în ceea ce privește nivelul colaborărilor. Punând față în față primul număr al revistei și al 6-lea, se observă – conceptual în primul rând, dar și în ceea ce privește calitatea editorială – că sunt reviste de un nivel total diferit. La fiecare număr am schimbat câte ceva… uneori a fost mai puțin evident, alteori diferența a fost imediat vizibilă. Am încercat și am reușit să nu ne marginim la o schemă editorială fixă, rigidă… și poate că tocmai aceasta a fost „formula" noastră secretă. Nici acest număr nu dezminte eforturile noastre: veți găsi schimbări importante!

În timp, a trebuit să reevaluăm, la fiecare număr, elementul bilingv al revistei. Inițial am pornit să facem o revistă românească la care, în funcție de conținut și de natura colaborărilor, să existe o traducere – integrală sau parțială – în limba engleză. Am observat însă destul de repede că, pe de o parte, există un interes semnificativ venit din partea cititorilor străini; pe de altă parte, am remarcat existența unui nucleu de cititori romani interesați de revistă, indiferent de ponderea avută de textul în limba engleză. Coroborat cu numărul tot mai mare de colaboratori străini (*), redacția noastră a luat decizia amplificării ponderii textului în limba engleză și restrângerea corespunzatoare a ponderii textului în limba română. Decizia nu este fructul unei idei noi: a fost un proces natural și gradual, din care noi nu ne-am făcut o prioritate absolută, dar pe care nici nu am putut să-l ignorăm.

Ca să nu fiu înțeles greșit: nu întoarcem spatele cactofililor români. Cea mai bună dovadă este numărul nostru special **Mâncătorii de Piatră/The Stone Eaters**, scris exclusiv de autori români și care a avut o variantă integrală în limba română. Sperăm să mai putem repeta, un astfel de număr special, dacă va exista colaborarea românească necesară. În cazul numerelor obișnuite însă, pentru a putea include în ***Xerophilia*** articole importante, în limba română, acestea vor trebui să fie mai întâi scrise de români.

Ca schimbare notabilă, salutăm apariția unei noi secțiuni permanente, sub îngrijirea colegului nostru Pedro Nájera Quezada, intitulată ***Xero-Files***. Debutăm în acest număr cu prezentarea prestigiosului *Ariocarpus fissuratus* ssp. *bravoanus*! În plus, ca urmare a recentei descrieri a *Aztekium valdezii*, mai introducem o rubrică temporară ***Aztekium valdezii* dossier**, menită să aducă în atenția colecționarilor responsabili și a organismelor de conservare a mediului subiecte legate de protecția speciei și a habitatului, producerea controlată de semințe și plante, dar și evenimente nefaste cum ar fi jefuirea habitatului și vânzări ilegale de plante și semințe din natură.

Ca de fiecare dată, la finalul Editorialului – dorim să le mulțumim, încă o dată, din inimă, cititorilor noștri fideli de pe toate meridianele lumii, din peste 95 de țări și teritorii, precum și tuturor colaboratorilor noștri pentru acest nou număr! Iată-i deci, pe cei ce fac posibilă, de astă dată, împărțirea cunoașterii: Albert Leroy, Belgia/Tenerife; Athena Mantle, Sunland, California, SUA; Carlos Alonso Hidalgo, Villa of San Pedro de La Paz, Chile; Carlos Gerardo Velazco Macías, Nuevo Leon, Mexic; Claudia López Martinez, San Luis Potosi, Mexic; Ján Baran, Zvolen, Slovacia; Josef Odehnal, Brno, Republica Cehă; Jovana Jaime Hernández, San Luis Potosi, Mexic; Judd Kirkel Welwitch, Johannesburg, Africa de Sud; Mario Alberto Valdéz Marroquín, Nuevo Leon, Mexic; Pedro Nájera Quezada, San Luis Potosi, Mexic; Ray Stephenson, Choppington, Northumberland, Anglia; Ricardo Daniel Raya Sanchez, Celaya, Guanajuato, Mexic; Sandi Karina Neri Cardona, San Luis Potosi, Mexic

(*) În lunile care au trecut am ajuns să ne convingem practic că termeni ca români, străini, autohtoni, de peste hotare, etc. încep să aibă din ce în ce mai puțină substanță. Pasiunea noastră este universală!

Eduard

Judd Kirkel Welwitch

Judd is a qualified Botanical Horticulturist. Who specializes in the study of succulents, and is currently Chairman of the Johannesburg Succulent Society of South Africa. He has delivered numerous popular talks on wildflowers and succulents for many of the botanical societies and events around the country. Judd is also a very experienced traveller, keen botanist, excellent photographer, entertaining personality and, most of all, a wildflower and succulent expert. He speaks with authority on Southern African vegetation. His field trips and Tours are very informative and will leave you with memories with a 'chance of a lifetime experience'. **juddkirkel@yahoo.com**

My fascination with flowers started so early in life that I barely remember how or why it began. As a child I scouted the growing garden - smelling flowers, always taking plants back to the garden and watching the transformation from seed to flower. Armed with a spade and fork, I looked in the wild for the rarest species in order to own! Today I have a different way to collect these trophies..... through Knowledge and Photography! Let see together ten flowering Crassula species from the South-African flora!

Flowering South African *Crassula*

1. *Crassula mesembrianthemopsis* Dinter (1923)

Section *Argyrophylla*

Distribution: I have found very small plants with rosette leaves east of the Town of Pofadder in the Northern Cape, SA. Pofadder has an array of other interesting succulents and these crassulas were growing under the gravel and were relatively small. I was not expecting to see them so I was quite surprised when I saw several plants here. This species is recorded from western central Namibia near Cape Cross to near Witpütz, and from near the Orange River Mouth as far east as near Kenhard. They are typically found growing in sandy or gravelly soil in quartzite gravel and also in areas with surface limestone.

Description: Perennial plant with thick underground stem up to 2.5 cm long, with one to few dense rosettes. Plants are normally only seen with their leaf tips above the gravel and most of the plant is underground. This makes the plant very cryptic in the wild.

Leaves sessile, arranged spirally, 1 – 2 cm long, 0.3 – 0.6 cm wide and thick at the truncate apex, almost triangular in section, wedge-shaped to almost obpyramidal, gradually tapering towards the base, covered with small, hard, round papillae mainly on exposed surfaces, often clearly clustered around hydathodes; colour green to brown or grey-green when covered with papillae; old leaves persistent.

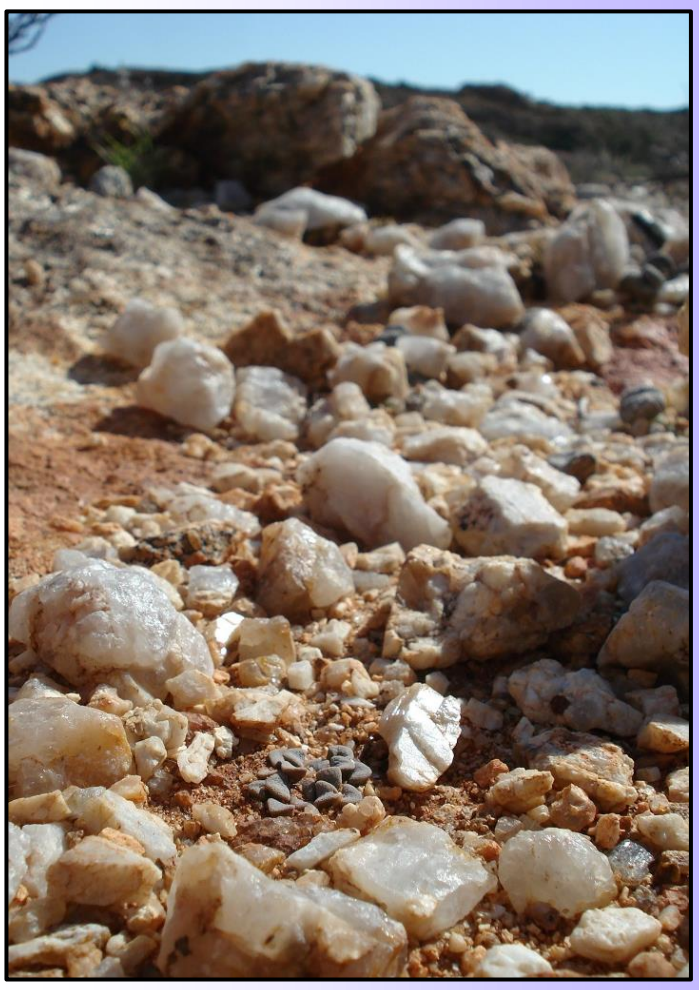


Fig. 1 *Crassula mesembryanthemopsis*
Pofadder, Northern Cape

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Fig. 2, 3 *Crassula mesembryanthemopsis* – Pofadder, Northern Cape

Inflorescence ia a terminal round topped compact dichasium, suppressed and partially hidden by the leaves.
Flowers shortly pedicellate, **corolla** tubular, **sepals** 2.5 – 3.5 mm long, oblong-triangular, apex rounded or bluntly acute, with few short scattered hairs towards apex, marginal cilia spreading, fleshy, green, **petals** 5 – 6 (-7) mm long, narrowly oblong, somewhat hooded, with indistinct dorsal appendage, white to cream, **anthers** yellow.
The flowers are strongly scented towards the evening.
Flowering time: March to May.

2. *Crassula namaquensis* ssp. *comptonii* (Hutchison & Pillans) Tölken, 1975

Section *Argyrophylla*
Synonym: *Crassula comptonii* Hutchison & Pillans (1946)
Distribution: I manged to locate Plants on the Bokkeveld escarpment in S.A.-Northern Cape near the town of Nieuwoudtville. Plants are growing usually on shallow soil on rocks of Table Mountain sandstone.Its the depressions of gravel that accumulate and are perfect habitat for this species.“ Comptons Corner“ on the Van Rhyns Pass is the famous locality for this species, however injudicious and illegal plant collecting has caused numbers to drastically drop here.
Description: Perennial plants**.** A dwarf tufted perennial to 10cm with a compact mound of leafy heads with very conspicuous papillate hairs on the leaves themselves. The basal rosettes consist of short branches 1 – 2 (-3) mm in diameter below the leaves.
Leaves: 4 – 10 (-15) mm long, oblanceolate to almost obpyramidal, obtuse, triangular to almost terete.
Inflorescence is a terminal thyrse with 1 (-3) dichasia, **peduncle** 15 – 30 (-50) mm long.
Flowers sessile, **corolla** 3 – 5 mm long, **petals** narrowly oblanceolate-panduriform with beak-like apex ca. 2 mm

Fig. 4 *Crassula namaquensis* ssp. *comptonii* - Bokkeveld plateau

long or about twice as long as the broadened part of the petals below, yellow, rarely white; **anthers** yellow.
Flowering time**:** September to October.

3. *Crassula plegmatoides* H.-C.Friedrich, 1967

Section *Arta*

Synonyms: *Crassula pseudocolumnaris* Dinter (1931)
Crassula arta sensu Jacobsen
Crassula deltoidea sensu Schönland & Baker

Distribution: These Photos were taken in the Western Richtersveld region (Alexander bay) they grow on gentle slopes near summit of hills in quartzite gravel. They are also found in loose sands associated around and in close proximity the Orange River in this Western Region. The distribution is mainly in a narrow coastal strip from near Port Nolloth to the Buchu Mountains in Namibia. I also found plants growing in the sensitive Lichen fields around Alexander Bay.

Description: Perennial plant, erect or decumbent with age, 15 cm high when flowering, and stems rarely branched, with short hairs.

Leaves broadly ovate, 0.5 - 0.9 cm long, 0.7 - 1.3 cm wide, apex bluntly acute, concave above and convex below, closely appressed around the stem, forming a 4-angled column 1 - 1.5 (- 2) cm in diameter, exposed surfaces densely covered with spherical papillae, colour grey (or grey-green).

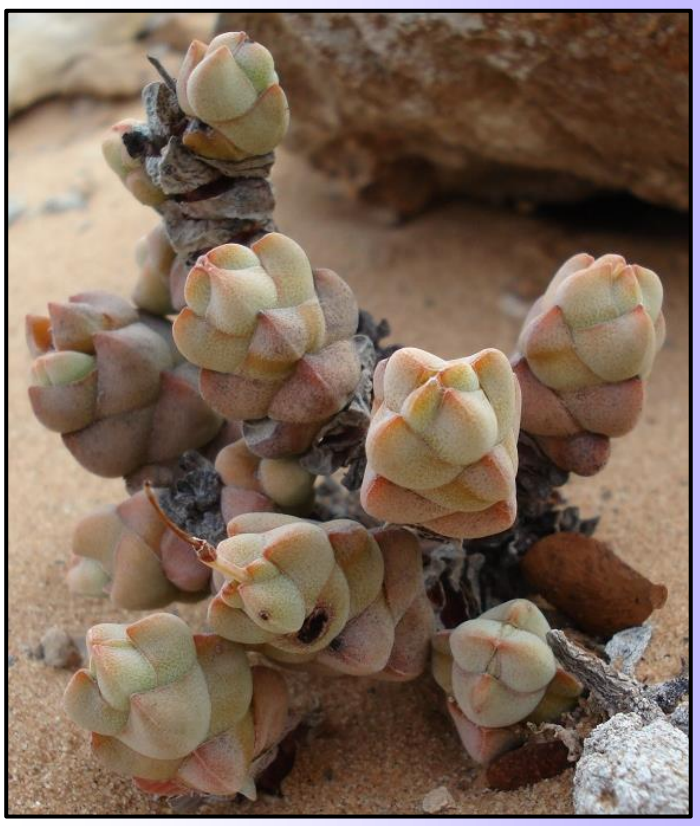


Fig. 5 *Crassula plegmatoides* - Western Richtersveld

Fig. 6 *Crassula plegmatoides* - Western Richtersveld

Inflorescence is a terminal thyrse with spreading branches ending in dichasia with 4 - 8 sessile flowers, **peduncle** 3 - 6 cm long with short recurved hairs, **bracts** oblong-triangular, apex bluntly acute.

Flowers: **Sepals** triangular, 1.5 - 2 mm long, bluntly acute, covered with short spreading hairs, marginal cilia, fleshy, grey-green, **petals** oblong, 2 - 3 mm long, apex obtuse, with more or less conspicuous dorsal appendages, tips recurved, colour cream to pale yellow, **anthers** brown.

Flowering time: March to April

Similar species:
Crassula plegmatoides is similar to *Crassula deceptor* but is easily distinguished by its adpressed leaf apices; please see respective photographs where this is quite evident.

Fig. 7 *Crassula plegmatoides* - Western Richtersveld

4. *Crassula alba* var. *alba* Forsskal, 1775

Section *Rosulares*

Synonyms:

Crassula rubicunda var. *rubicunda*
Rochea dichotoma Hochstetter in herb. Schimper (s.a.)
Rochea vaginata Hochstetter in herb. Schimper (s.a.)
Crassula puberula R. Brown (1814)
Globulea stricta Drège (1843)
Crassula abyssinica A. Richard (1847)
Crassula rubicunda Drège ex Harvey (1862)
Crassula recurva N. E. Brown (1890)
Crassula milleriana Burtt Davy (1926) / *Crassula rubicunda* v. *milleriana* (Burtt Davy) Schönland (1929)
Crassula stewartiae Burtt Davy (1926)
Crassula rubicunda var. *flexuosa* Schönland (1929)
Crassula rubicunda var. *hispida* Schönland (1929)
Crassula rubicunda var. *subglabra* Schönland (1929)
Crassula rubicunda var. *typica* Schönland (1929)

Distribution: Widespread and variable from Eastern South Africa northwards to Ethiopia and into Yemen and Arabia normally in high-montane grasslands, flowers in mid-summer to autumn. I have found plants In the Eastern regions of South Africa. The photos were taken in a locality just south of Johannesburg near Greylingstad. These plants had totally red flowers and there was hardly any white inside the petals. The white colour is how it gets its name, hence ,'alba'.

Fig. 8 *Crassula alba* var. *alba* - Southern Gauteng

The plants occurring more North of South Africa and into North Africa are more white in colour. In other words the more North you go in distribution, on the continent, the more white the flowers get in colour. The more south you go the flowers are redder in colour.

Description: Rosulate, usually solitary or proliferating from the base to form small groups, to 50 cm tall (incl. inflorescences), roots slightly fleshy.

Leaves 6 - 17 x 0.5 – 1.5 cm, spirally arranged, flattened, lanceolate to linear-lanceolate, upper face folded to channelled, glabrous, green to yellowish-green, sometimes with purple spots, lower face purplish, margin ciliate, tip acute.

Inflorescences are erect terminal flat-topped thyrses with many dichasia, **bracts** leaf-like, becoming shorter upwards.

Flowers pedicellate, **sepals** to 5 mm, narrowly to broadly triangular, margin distinctly ciliate, tips with apical sturdy hairs, **corolla** red to white, tubular, to 6 mm, erect, **petals** oblong-obovate, to 5.5 mm, fused shortly at the base, spreading to recurved, tips acute and slightly cucullate, **anthers** dark brown. Flowering time occurs from midsummer to autumn.

Fig. 9 *Crassula alba* var. *alba* - Southern Gauteng

5. *Crassula columnaris* ssp. *prolifera* H.-C. Friedrich, 1974

Section *Columnares*

Synonyms:

Tetraphyle columnaris var. *prolifera* (H.-C. Friedrich) P. V. Heath (1993)

Crassula semi-orbicularis Ecklon & Zeyher (1837)

Crassula columnaris var. *elongata* E. Meyer *ex* Drège (1843)

Common Names: Leather Button, Shaving Brush.

Distribution: S Namibia, SA (Northern Cape); Succulent Karoo. I have found plants in South Africa from The Knersvlakte region up into the Richtersveld region. They tend to be a column and have offsets from the base; the colour of the plants also ranges from greeny brown to a sand brown or blackish colour.

This sub-species differs in distribution from ssp. *columnaris* which mainly occurs in the Klein Karoo and Southern part of the Cape and which is not found in the far Northern Cape.

Only 1 – 2 cm in diameter, proliferating profusely from the base forming dense groups.

Fig. 10 *Crassula columnaris* ssp. *prolifera* - Northern Cape

Fig. 11, 12 *Crassula columnaris* ssp. *prolifera* - Northern Cape

Leaves lower face with a distinct keel.It is the keel or beak on the leaf tips that distinguish this sub species from one another

Flowers: Corolla 7.5 – 9 mm. They are whitish in colour and sometimes buds are tinged with red or pink

Flowering time: Mid-winter to spring

6. *Crassula macowaniana* Schönland & Baker fil., 1899

Section *Perfilatae*

Synonyms*:*

Rochea perfoliata var*. glaberrima* E. Meyer ex Grège (1844)

Crassula macowaniana var*. crassifolia* Schönland (1912)

Distribution: This is an incredible species. I have found Small plants in Northern Namaqualand and very large plants in the Khamiesburg Mountains in Central Namaqualand. The typical distribution is documented from south-western Namibia to the Northern Cape, where it is widespread in mountainous areas, growing among boulders or on rocky slopes. If one looks at the photographs you will see that almost all of the time plants are found amongst boulders and cliffs.

Fig. 13 *Crassula macowaniana* - Springbok

Fig. 14 *Crassula macowaniana* - Springbok

Description: A shrubby species with finger-like leaves. The Rounded and much-branched shrubs can reach a height of 1.2 m tall.

Branches: Older branches woody with reddish-brown to grey peeling bark, younger branches terete, 6 – 7 mm in diameter.

Leaves 35 – 55 x 7 – 18 mm, variable in shape, triangular-lanceolate to linear-lanceolate, flattened to subterete, green to grey-green, sometimes reddish or with a reddish margin, often with powdery bloom, upper face flat to convex, lower face convex, tip acute.
Inflorescences are terminal rounded thyrses, **peduncle** 3.5 – 5 cm, lower **bracts** erect, reddish, linear-lanceolate, 10 mm, **pedicels** 1 – 2 mm.

Flowers: Sepals linear, 1mm, **corolla** stellate, to 7 mm in diameter with short tube, **petals** shortly fused, white or pink, 2.5 – 4 x 1.8 mm, oblanceolate, tips slightly recurved, **anthers** black. The flowers are a dusty light pinky and mostly white in colour.
Flowering period: October to December

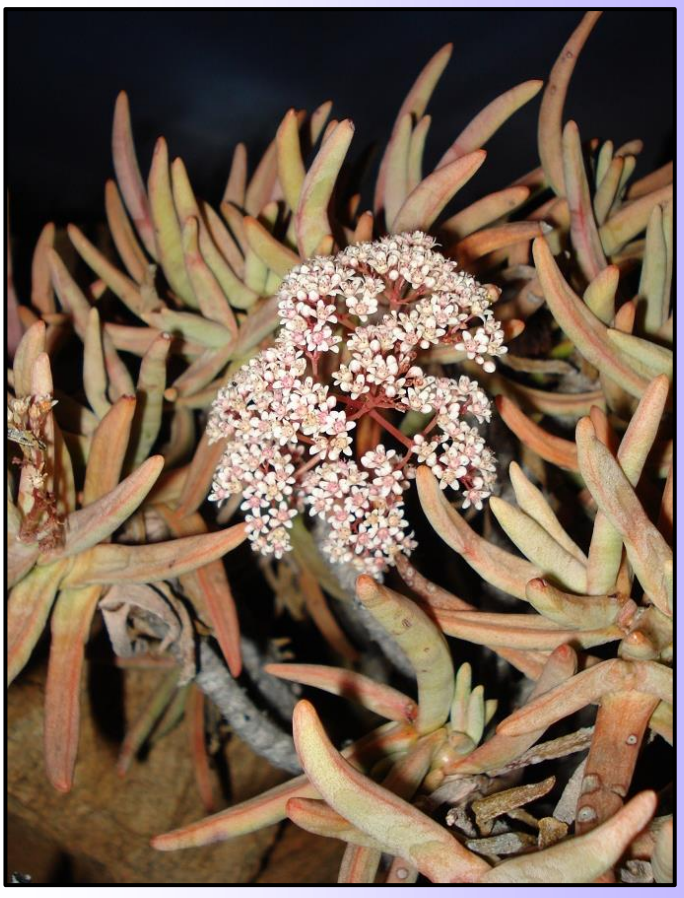
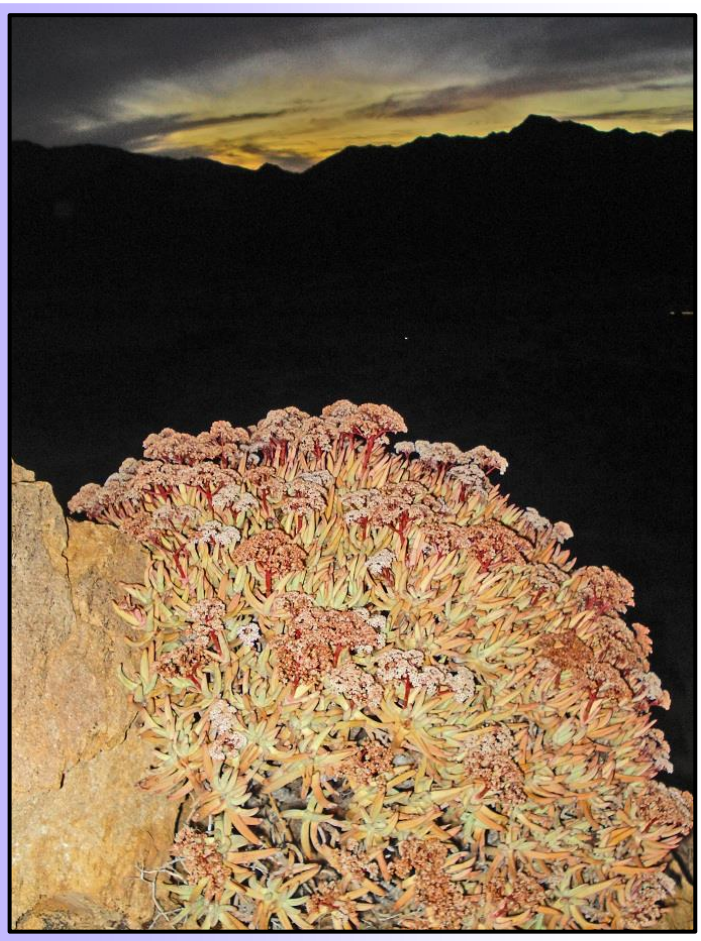


Fig. 15 *Crassula macowaniana* - Springbok



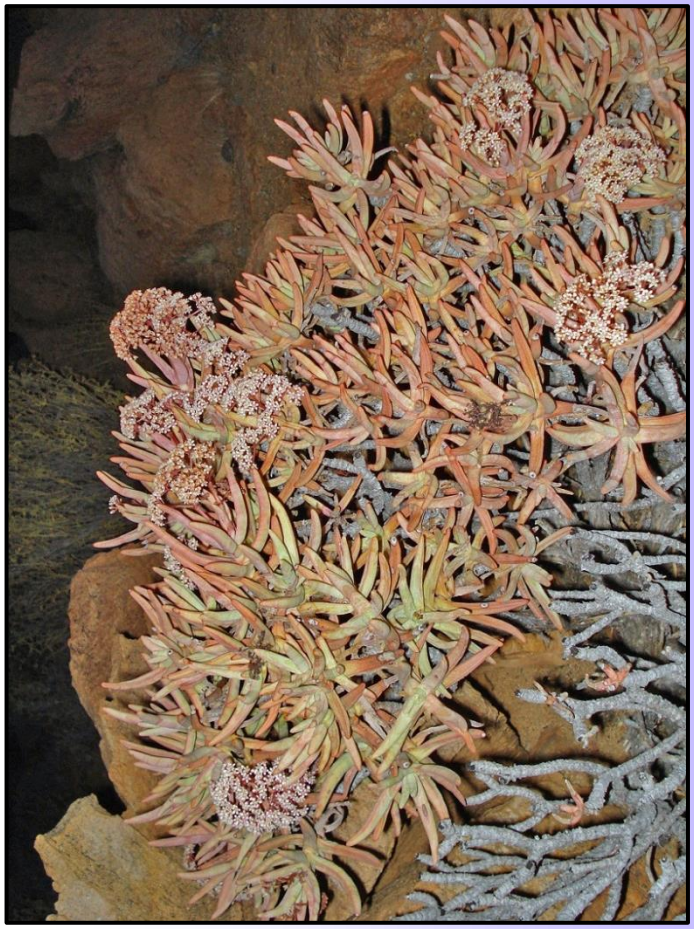


Fig. 16, 17 *Crassula macowaniana* - Khamiesburg Mountains

7. *Crassula deceptor* Schönland & Baker f., 1902

Section *Arta*

Synonyms:

Crassula cornuta Schönland & Baker fil. (1902)
Crassula arta (1929)
Crassula deceptrix Schönland (1929)

Distribution: Plants are known from Vanrhynsdorp to southern Namibia and inland into Bushmanland up to Kakamas; growing on quartzite outcrops and in shallow soil on granite rocks.I have found plants at many localities and they seem to be quite common within its distribution range. The largest plant colonies I have seen are in The richtersveld National Park. The photographs shown with the largest clumps are taken in the park. The Hydathodes (spots) are very typical and consistent with this species. When blown up in a photo they look most attractive.

Short description: Perennial plants, 15 cm high when flowering, much branched, old leaves persistent.

Leaves sessile, broadly ovate, 0.6-1.5 (-2) cm long, 0.6-1 (-1.5) cm wide, acute or obtuse, flat or slightly concave above, very convex below, closely adpressed around stem, forming clear 4-angled columns up to 2.5 cm in diameter, exposed surfaces densely papillose, green, grey or brown.

Fig. 18 *Crassula deceptor* - Northern Cape

Fig. 19, 20 *Crassula deceptor* - Northern Cape

Inflorescence a terminal thyrse with spreading branches with dense dichasia of sessile flowers, **peduncle** 2-8 cm long and covered with rounded papillae, bracts short triangular with acute apex.

Flowers: **Sepals** oblong-triangular, ca. 1.5 mm long, obtuse, hairy (or papillose) with marginal cilia, **petals** oblong-elliptic, 2-2.5 mm long, acute or obtuse, with dorsal appendage, tips recurved, colour cream fading to brown, **anthers** brown.

Flowering time: January to March

When this species is compared to *Crassula plegmatoides* it is almost always that the hydathode spots are not found on *C .plegmatoides* where they are almost always found on *C. deceptor*, I am not too sure if this is the case when identifying plants in cultivation.

8. *Crassula pyramidalis* Thunberg, 1778

Section *Columnares*

Synonyms:

Purgosea pyramidalis (Thunberg) G. Don (1834) / *Tetraphyle pyramidalis* (Thunberg)) Ecklon & Zeyher (1837)

Tetraphyle quadrangula Ecklon & Zeyher (1837) / *Crassula quadrangula* (Ecklon & Zeyher) Endlicher *ex* Walpers (1843) / *Tetraphyle pyramidalis* var. *quadrangula* (Ecklon & Zeyher) P. V. Heath (1993)

Crassula pyramidalis var. *ramosa* Schönland (1911)

Crassula cylindrica Schönland (1929) / *Tetraphyle pyramidalis* var. *cylindrica* (Schönland) P. V. Heath (1993)

Crassula archeri Compton (1931) / *Tetraphyle pyramidalis* var. *archeri* (Compton) P. V. Heath (1993)

Distribution: Western Cape going into and towards the Eastern Cape of S.A. Mainly found in the Karoo.

Description: This is one of South Africas most fascinating Crassulas. It looks like some strange sea anemone above ground. One would expect to find it in the ocean but alas it is on the ground. It is that strange. If you can manage to cultivate this specimen you will get lots of remarkable comments from admirers. I found plants, flowering in their spectacular glory, just South of Laingsburg in the Karoo. Plants are mostly erect to decumbent, sparingly branched, to 12 (-25) cm tall but variable in size.

Fig. 21 *Crassula pyramidalis*

Roots fibrous, internodes completely covered by the tightly clasping imbricate leaves in 4 ranks forming a neat quadrangular oblong body to ± 12 mm in diameter, tapering at the obtuse tip.

Leaves green to brownish-green, triangular-ovate, 3 – 12 x 4 – 8 mm, flat, ascending, margin entire, tip bluntly acute.

Inflorescences: dense terminal rounded cymose capitula, the basal part partly hidden by the leaves.

Flowers: Sepals to 5 mm, oblong-oblanceolate, margin ciliate, tips obtuse, **corolla** tubular, ampulliform, to 14 mm, white or cream, **petals** oblong elliptic, fused in the lower 1/3, tips with a blunt beak, **anthers** yellow.

Fig. 22, 23 *Crassula pyramidalis*

9. *Crassula rupestris* ssp. *rupestris* Thunberg, 1778

Section *Perfilatae*

Synonyms:

Crassula punctata Miller (1768),

Crassula monticola N. E. Brown (1882)

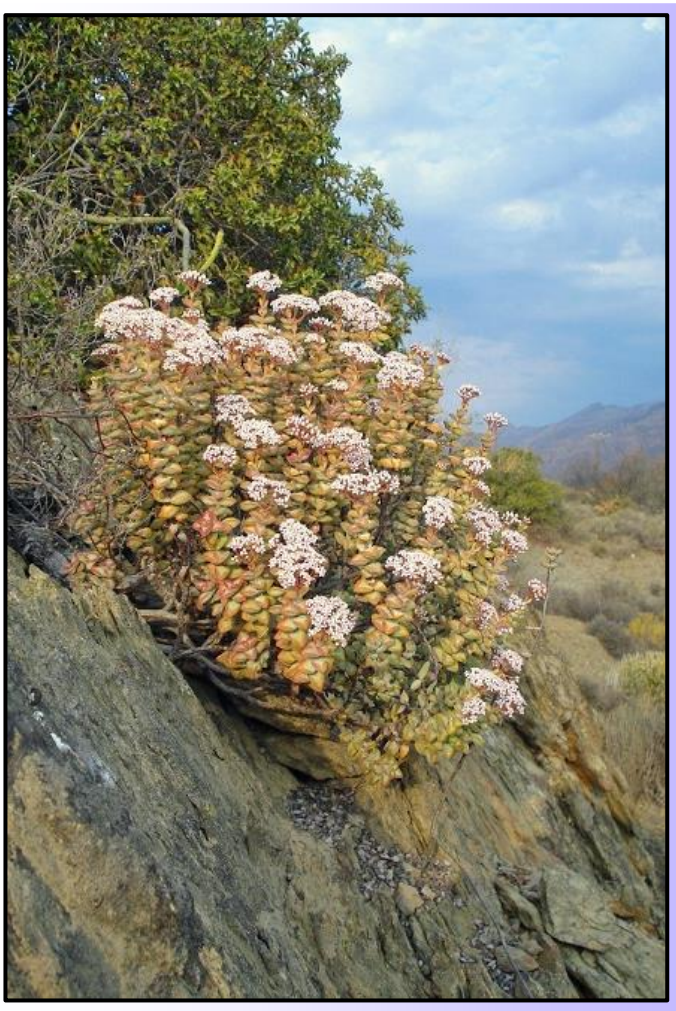
Crassula perfossa sensu Ecklon & Zeyher (1837)

Distribution: Growing in regions of the Southern Cape from Vanryhnsdorp to the Peninsular and across to Grahamstown usually found on north or east facing lower rocky ridges as well as in exposed positions amongst Rocks and on top of ledges but mainly in semi-arid regions.

Short description: Growing on north or east facing lower rocky slopes as well as in exposed positions among boulders and on top of ledges; occurring from Vanrhynsdorp to the Cape Peninsular to Grahamstown, but mainly in semi-arid regions of the central Cape.

Fig. 24 *Crassula rupestris* ssp. *rupestris*

Perennial shrublets. The subsp. *rupestris* is very variable in size and shape of the leaves and in how much leaf bases are fused, up to 50 cm high, with erect, spreading or rarely decumbent branches, usually more than 0.2 cm in diameter, not rooting.



Leaves: sessile, 0.5 – 1 (-1.5) cm long, (0.4-) 0.5 – 1 (1.5) cm wide, apex obtuse, rarely rounded, bases fused into a disc 0.1 – 0.6 cm long = less than half the length of the leaf, ovate to lanceolate, flat or concave above, convex below, fleshy, glabrous or with horny margin; colour glaucous-green to brownish-red to purple with red or yellow margin; internodes visible, old leaves deciduous.

Inflorescence: Thyrse with few to numerous dichasia, 2.5 – 4 (-5) cm in diameter, peduncle up to 2 cm long, often hidden by upper leaves, bracts spatulate or subulate, 0.3 cm long.

Flowers: pedicellate; sepals triangular, ca. 1 mm long, acute, glabrous, fleshy, glaucous-green to reddish; petals oblong-elliptic, 3 – 4 mm long, apex rounded, with dorsal ridge, almost not appendaged, tips recurved, colour white, more or less pinkish to reddish; anthers brown, stigmas conspicuous.

Flowering time: June to October.

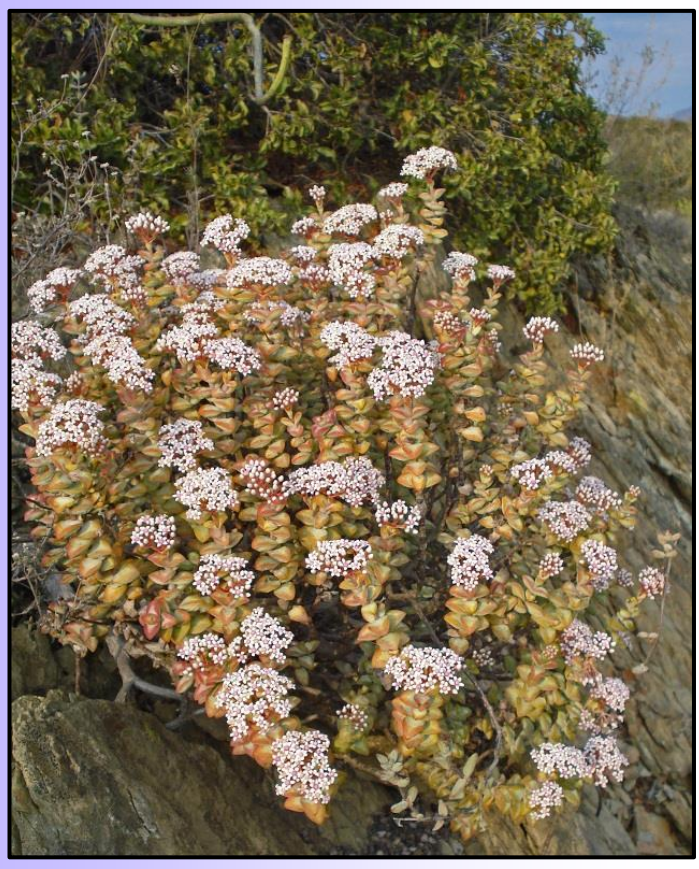


Fig. 25 - 27 *Crassula rupestris* ssp. *rupestris*

10. *Crassula dichotoma* L. 1760

Section *Dinacria*

Synonyms:

Vauanthes dichotoma (L.) Kuntze (1891)
Crassula retroflexa Thunberg (1778) / *Grammanthes retroflexa* (Thunberg) Sweet (1830)
Crassula gentianoides Lamarck (1785) / *Grammanthes gentianoides* (Lamarck) DC (1828)
Vauanthes chloraeflora Haworth (1821) / *Grammanthes chloraeflora* (Haworth) DC (1828) / *Crassula chloraeflora* (Haworth) D.Dietrich (1840) / *Grammanthes gentianoides* var. *chloraeflora* (Haworth) Harvey (1862)
Grammanthes gentianoides var. *vera* Harvey (1862)
Grammanthes chloraeflora var. *caesia* Hooker f. (1878)

Distribution: SA (Northern Cape, Western Cape); Strandveld vegetation. I have found plants concentrated along the Namaqualand Coastline in close proximity to the ocean.

Description: Erect glabrous dichotomously branched annuals, 0.6 - 11.5 cm tall.

Roots fibrous.

Branches to 2 mm in diameter, terete.

Leaves 5 - 18 x 4 - 10 mm, ovate-lanceolate, elliptic to obovate, somewhat cymbiform, purplish-green to grey-green, ascending-spreading, lower leaves deciduous towards anthesis, tips acute to obtuse.

Inflorescences: terminal thyrses, **bracts** 7 x 2 mm, lanceolate, **pedicels** 2 - 7 mm.

Flowers: Sepals 7 mm, basally fused for 4 mm, tips succulent, triangular-ovate, convex, closed **corolla** 20 mm, tubular, **petals** 10 x 4 mm, lanceolate to elliptic, basally fused for 5 mm, It has an unmistakable looking yellow flower which can be plain yellow in the centre or going to a red or deep orange centre. It is most striking in cultivation.

Fig. 28, 29 *Crassula dichotoma*

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Many thanks to the following Friends for facilitating my encounters with some of these precious species:
Joan Faiola – Trip to the Klein Karoo
Andrew Hankey – Trip to the Khamiesburg, Namaqualand
Tim Peatling – Trip to Namaqualand and coast.

Crassula Sud Africane înflorite

de Judd Kirkel Welwitch, Johannesburg, Africa de Sud

(Abstract)

Articolul prezintă – într-un mod foarte informativ și structurat – 10 specii de *Crassula*, parte din ele fiind mai puțin cunoscute colecționarilor români. Fotografiile prezintă plante în habitat și inflorescențele acestora și oferă informații prețioase privind caracteristicile habitatului:

1. ***Crassula mesembrianthemopsis* Dinter, 1923** – o miniatură cu tulpină subterană și rozete dense de frunze suculente, întâlnită în jurul localității Poffader, Northern Cape, dar cu populații cunoscute și în Namibia. Florile albe până la crem, cu antere galbene, sunt puternic parfumate în orele serii. Crește în soluri pietroase sau bogate în nisipuri cuarțitice. Este una din speciile mai cunoscute.
2. ***Crassula namaquensis* ssp. *comptonii* (Hutchison & Pillans) Tölken, 1975** – plantă întâlnită în jurul localității Nieuwoudtville, Northern Cape, unde crește în soluri bogate în fragmente de gresie formate prin eroziune. Florile sunt galbene, dar pot fi ocazional și albe. Foarte periclitată datorită colectării ilegale într-una din localitățile cele mai faimoase - Comptons Corner - aflată în Van Rhyns Pass.
3. ***Crassula plegmatoides* H.-C.Friedrich, 1967** – întâlnită în principal pe o fâșie costală îngustă în Western Region, între Port Nolloth și Buchu Mountains (Namibia). Este similară ca aspect cu *Crassula deceptor*, principalele diferențe fiind absența hiatodelor (punctele de pe frunze) precum și de apexul frunzelor. Comparând fotografii ale celor două specii aceste deosebiri devin foarte evidente.
4. ***Crassula alba* var. *alba* Forsskal, 1775** – o specie extrem de variabilă, întâlnită pe un areal imens care se întinde din regiunile estice ale Africii de Sud, spre nord până în Etiopia și Yemen. Numele 'alba' provine de la suprafața superioară albă a petalelor, în realitate însă acestea pot fi mai mult sau mai puțin albe, variind foarte mult de la o formă la alta, specimenelor prezentate (fotografiate la Greylingstad, la sud de Johannesburg), lipsindu-le aproape complet albul. Variabilitatea speciei a condus la apariția, în timp, a numeroase sinonime heterotipe.
5. ***Crassula columnaris* ssp. *prolifera* H.-C. Friedrich, 1974** – plantă întâlnită în Namibia și Northern Cape. Planta are tendința de a forma coloane înguste de numai 1 – 2 cm, cu frunze compacte, care pot lăstări de la bază. Culoarea poate varia de la verde-brun, până la brun nisipos sau brun negricios. Florile sunt albe, dar bobocii pot avea tonalități de roz sau roșu.
6. ***Crassula macowaniana* Schönland & Baker fil., 1899** – o plantă spectaculoasă, formând uneori colonii masive, răspândită în Namibia și Northern Cape. Formele nordice sunt mai mici, în timp ce cele sudice produc specimene foarte mari (Khamiesburg Mountains în Namaqualand). Plantele cresc aproape mereu pe stânci sau pe bolovani. Florile sunt mici, de culoare alb-roz prăfuit.
7. ***Crassula deceptor* Schönland & Baker f., 1902** – specie destul de des întâlnită în colecții, răspândită în Western Cape, Northern Cape și sudul Namibiei. Cresc de regulă pe aflorimente cuarțitice sau în soluri subțiri, pe un pat granitic. Hiatodele (punctele de pe frunze) sunt deosebit de atractive și pot fi un element de identificare și care o deosebesc de *Crassula plegmatoides*.
8. ***Crassula pyramidalis* Thunberg, 1778** – este o specie clasică, întâlnită în Western Cape și Eastern Cape și este o specie tipică de Karoo. Flori albe imaculate. Plantele sunt în general erecte până la decumbente și pot atinge 12-25 cm înălțime. Cultivată corespunzator poate produce exemplare deosebit de spectaculoase. Autorul a întâlnit plantele în plină glorie a înfloririi lor, la sud de Lainsburg în Karoo.
9. ***Crassula rupestris* ssp. *rupestris* Thunberg, 1778** – este o altă specie clasică, foarte populară în colecții dar și ca plantă de gradină în regiuni cu climat blând. Foarte răspandită în Southern Cape, dar prezentă mai ales în regiuni semi-aride. Crește de regulă pe pante pietroase cu expunere estică, pe bolovani și cornișe. Este o specie deosebit de variabilă, elementul de variabilitate fiind dat de forma și mărimea frunzelor, dar și de măsura în care acestea sunt fuzionate la bază. Unele forme sunt mai robuste, având tulpini erecte care formează tufișuri înalte de până la 50 cm.
10. ***Crassula dichotoma* L. 1760** – plantă anuală întâlnită în Northern Cape și Western Cape, cu populații concentrate în mod special în zona costală din Namaqualand, în proximitatea oceanului. Are o floare inconfundabilă, care poate fi complet galbenă sau cu centrul roșu sau portocaliu. După cum indică și numele, ramificarea se face dihotomic, plantele nu ating însă decât o înălțime de 11,5 cm.

Ariocarpus bravoanus ssp. *bravoanus* H.M. Hern. & E.F. Anderson

Descriptive profile of the species

(original Spanish file)

by Pedro Nájera Quezada, Jovana Jaime Hernández, Claudia López Martínez, Sandi Karina Neri Cardona

Description

Characteristics: Small cacti with the appearance of rosette shaped rocks, with a few triangular tubercles, finely rugose, rough tissues, grey colored and characteristically papilose with a woolly tuft on every tubercle. Spines absent, cryptic in habitat, imitates the surrounding substrate (Luthy, J. M., 2000) .

Fig. 1, 2 *Ariocarpus bravoanus* ssp. *bravoanus* – El Nuñez, Guadalcazar

Roots: Pivoting roots, branched from the subterranean base of the stem.

Stem: Simple, turnip-shaped, mostly subterranean, only the triangular tubercles emerge from the level of the soil in habitat, 6 (-8.5) cm of diameter (including the tubercles)

Tubercles: Ascendent or erected more than flattened, triangular shaped, grey or dark green olive with reddish tints, 3.7 cm of length and 2 cm o width at the base, adaxial surface finely fissured, rudimentary grooved side and papillose (depending on the size of the tubercle and the variability of the individual).

Areole: Woolly, round, located in the center of the concave top surface, is presented only on adult specimens.

Spines: Absent in adult specimens.

Flowers: Emerge from the apex of the stem, 2.5 cm of length, dark red-magenta colored.

Fruits: Dried and inconspicuous.

Seeds: Black colored and tubercle shaped.

Seedlings: Hypocotyls globose; with thin tubercles, ascendent, reddish to dark green colored, growing from the apex of the hypocotyls, with a few softly spines (Luthy, J.M., 2000). Seedling of *Ariocarpus bravoanus* ssp. *bravoanus*, with an age of approximately 5 years, presents a diameter of less than 4 cm and a height of less than 3 cm.

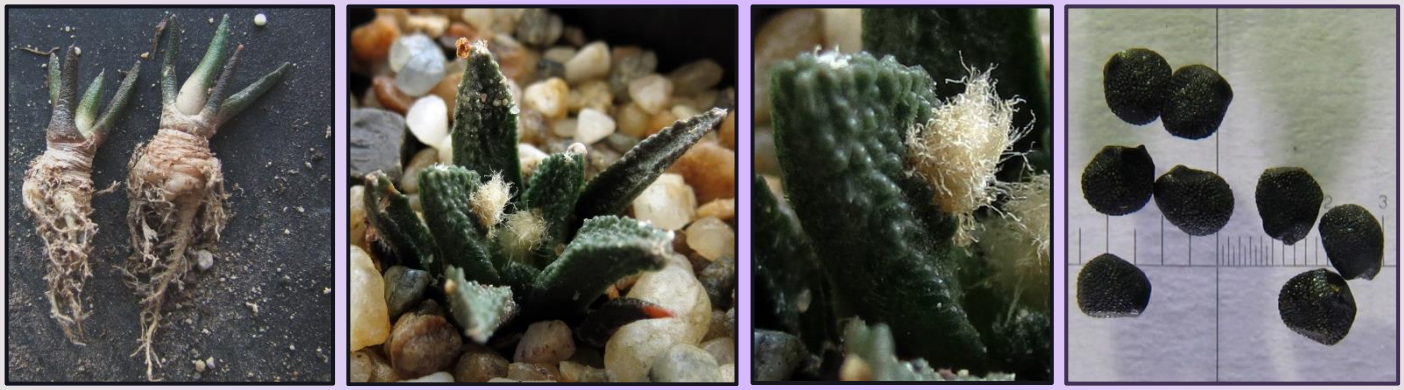

Fig. 3, 6 Stems and roots of young plants, a close-up areola and seeds of *Ariocarpus bravoanus* ssp. *bravoanus*

Fig. 7, 8 Approximately 5 years old plants in cultivation and in habitat

Habitat

The vegetation type corresponds to the "microphyll **(*)** desert scrub" sensu J. Rzedowski R. (1965); with the dominance of Mezquite (*Prosopis laevigata*), gobernadora (*Larrea tridentata*), Izote (*Yucca carnerosana*) and *Krameria cytisoides* as the most dominant plants.

The habitat also presents isolated patches of "rosetophilous **(**)** desert scrub" (Rzedowski 1965), on which can be found a dominance of Lechuguilla (*Agave lechuguilla*), Espadín (*Agave striata*) and Guapilla (*Hechtia glomerata*).

(*) Microphyll is a type of plant leaf, which has been defined as "an appendage supplied by a single, unbranched vein" (Wikipedia).

(**) Rosetophilous means rosette-forming vegetation.

Fig. 9 The habitat – Nuñez, Guadalcazar, San Luis Potosi

Distribution

This species is distributed only in the municipality of Guadalcazar in San Luis Potosí State, on the geological corridor between the Sierra los Librillos and Sierra la Trinidad, where there are areas of colluvium with mixtures of calcareous and chalky material and with a slope of less than 25% and a very low content of organic matter and virtually absent vegetative coverage on the areas where *Ariocarpus bravoanus* ssp. *bravoanus* grows, giving the appearance of barren islands in the shrubland. The rainfall amount, in El Nuñez, Guadalcazar, is about 700 mm; major falls are 50% in summer and 25% in winter.

The potential area of distribution is approximately 1 km^2 and the real occupation area is estimated on 0.13 km^2 (H. M. Hernández et al. 2010).

Cacti present in the distribution area	
Species that share habitat, approx. 200 m around	**Species found in the vicinity, on approx. 2 km radius**
Coryphantha delicata	***Ariocarpus retusus***
Cylindropuntia imbricata	***Astrophytum myriostigma* var. *strongylogonum***
Cylindropuntia kleiniae	***Astrophytum myriostigma var. nudum***
Cylindropuntia leptocaulis	***Coryphantha compacta***
Cylindropuntia x perrita	***Coryphantha echinoidea***
Cylindropuntia tunicata	***Coryphantha odorata***
Echinocactus platyacanthus	***Coryphantha radians***
Echinocereus pectinatus	***Echinocereus cinerascens***
Echinocereus pentalophus	***Echinocereus parkeri* ssp. *gonzalezii***
Ferocactus pilosus	***Epithelantha* sp.**
Ferocactus hamatacanthus	***Lophophora williamsii***
Neolloydia conoidea	***Mammillaria compressa* ssp. *centralifera***
Opuntia microdasys	***Mammillaria heyderi***
Opuntia stenopetala	***Mammillaria formosa***
Thelocactus hexaedrophorus	***Myrtillocactus geometrizans***
Sclerocactus uncinatus	***Stenocactus* sp.**
Leuchtenbergia principis	***Turbinicarpus schmiedickeanus* ssp. *klinkerianus***
Mammillaria candida	***Turbinicarpus schwarzii***

Other flora present in the distribution area	
Flora considered important to refer, either due to their presence in NOM 059, for its endemic character, for its	
Family	**Species**
Asparagaceae	***Dasylirion palaciosii* Rzed.**
Acanthaceae	***Carlowrightia serpyllifolia* A. Gray**
Burseraceae	***Bursera schlechtendalii* Engl.**
Crassulaceae	***Echeveria lutea* Rose**
Crassulaceae	***Echeveria paniculata* var. *maculata* (Rose) Kimnach**
Crassulaceae	***Echeveria unguiculata* Kimnach**
Cucurbitaceae	***Ibervillea lindheimieri* var. *tenuisecta* (A. Gray) M.C.**
Fabaceae	***Senna potosina* (Britton and Rose) Standl.**
Fouquieriaceae	***Fouquieria splendens* Engl.**
Krameriaceae	***Krameria navae* Rzed.**
Lamiaceae	***Clinopodium micromerioides* (Hemsl.) Govaerts**
Lentibulariaceae	***Pinguicula ehlersiae* Speta et Fuchs.**
Lentibulariaceae	***Pinguicula esseriana* B. Kirchn.**
Oleaceae	***Fraxinus potosina* Brandg.**
Passifloraceae	***Turnera diffusa* Wild. Ex Schult.**
Pinaceae	***Pinus pinceana* Gordon et Glend.**
Rosaceae	***Lindleya mespilioides* (Kunth) Rydb.**
Scrophulariaceae	***Leucophyllum revolutum* Rzed.**

Fig. 10 In the land of *Yucca carnerosana*

Particularly the genus *Ariocarpus* has a grade of cripticism, which makes more difficult their observation when the plants are not in the flowering season. This is one of the reasons why they are considered living stones. Its efficiency as a cryptic species and its reduced area of distribution were the fundamental factors for it to remain hidden to science, until the publication by Hernández and Anderson in Bradleya No.10 in 1992.

Fig. 11, 13 The genus *Ariocarpus* has a grade of cripticism, which makes more difficult their observation...

History

The plant was discovered by accident at the early 90's on removed soil while Hernández tried to collect another species of cacti, a bigger one (*Stenocactus* sp.). After detailed observation the plant proved to be a new species of *Ariocarpus* having a high affinity with *Ariocarpus fissuratus* var. *hintonii* (Stuppy & N.P. Taylor) E.F. Anderson & W.A. Fitz Maur which is distributed about 75 km to the north.

The new species was named in honor of Helia Bravo Hollis (1901-2001), emeritus researcher and doctor honoris causa, UNAM), who greatly contributed to the knowledge of Mexican cacti.

After its description in 1992, many wild collected plants and seeds were observed in illegal international commerce. The demand of the plant by collectors is very high and any legal exportation from México (except for scientific purposes) has been prohibited (CITES).

Fig. 14, 15 Flowering plants are easier observed

All adult material and of seeds observed in international commerce is surely from the wild and therefore illegally collected; legally it is found only as specimens obtained from plants that have been reproduced from confiscated specimens.

Because of illegal plunder the original location has been driven to the brink of extinction due to excessive collection by botanists and looting by national and foreign collectors that even pay the locals to serve as guides to the populations of plants.

In a vain attempt to protect the site a fence of barbed wire was placed to prevent access to livestock and avoid the impact of animal grazing, but this only facilitated the location of the population by new plant avid collectors and enabled more looting.

Furthermore in joint action between UNAM and UASLP **(***)** a research was conducted by a method which is quite aggressive for plants, as these were painted with oil paints to make indelible marks, but this caused high mortality of plants that have been prevented them from evapotranspiration and gas volatilization lethal to plants, such as ethylene, which facilitated their decay.

(***) UNAM = Universidad Nacional Autónoma de México; UASPL = Universidad Autónoma de San Luis Potosí.

Also placed pins with colored glass beads for plants to be located more easily by researchers, which also favored the looters and caused even more valuable species' loss.

Fig. 16, 17 Plants painted and marked with colored glass beads

Greed for obtaining these specimens came to such a degree that only ten years after its discovery, the villagers were already well aware of the market value of these plants, mainly due to foreigners who paid ridiculous amounts of money to be guided in the field into the plant's habitat. Plants have been even be collected by the villagers themselves to sell in town directly to people in exchange for barely twenty pesos or less per each plant.

This not only highlights the lack of interest and education by locals in conservation of their environment, the lack of economic opportunities and social welfare necessary for people, so that it doesn't become the only priority of survival based on the irrational exploitation of their environment.

In some visits in 2012 and 2013, twenty years after its discovery it was noted the incidence in the looting of adult and juvenile specimens, with several areas where plants had been recently removed being detected.

During recent visits in three locations were found less than 200 plants per site, in contrast to the numbers mentioned by E. F. Anderson, ranging in the thousands in each location.

Fig. 18 A big plant hiden in the stone aria

Threats

Regarding adverse factors, it was found that: the incidence of fires is negligible, there is presence of cattle grazing but does not seem excessive, logging or harvesting of other species is minimal in scale and in the traditional customs of the people do not have any application or commercial use outside the aforementioned.

Currently looting by foreigners has been reduced to virtually nil, mainly due to the Customs CITES signatory countries agreement, although it has not been possible to stop the illegal collection and smuggling of seeds obtained directly from habitat; in recent years a new phenomenon has been observed, the interest for the plants of the nationals who are extracting plants without concern for the conservation of the ecosystem, even saying that they are "saving the plant" arguing this is "rescue", believing that conservation can be achieved in pots or zoo cages.

Conclusions

The future for this species is quite uncertain while the same methodology for protection policy "only on paper" maintains and not fosters ownership of the problem by local as well as the provision of jobs preferably concerning conservation of their environment, such as community nurseries, forest guards and activities of soil and water conservation to promote the preservation of the ecological conditions for the entire ecosystem where the species is mentioned, and which could be maintained in a continuous stability.

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All pictures from habitat by Pedro Nájera Quezada and Jovana Jaime Hernández.
The pictures no. 3 – 7 by **Xerophiliiia**

Aztekium valdezii dossier

Xerophilia as a team (and each and every one of its members individually) is committed to study and protect cacti and succulent plants and nature in general. We always sensed that a genuine plant lover should be responsible before nature. Sadly, not everyone acts in this manner and illegal plant hunting and destruction of habitats are - especially in the case of rare and prized "trophies" - among the main causes forcing these species to extinction. Sadly, history seems to repeat itself in the case of *Aztekium valdezii*. Therefore, the editorial team of ***Xerophilia*** has decided to make this section available to everyone who wants to voice concern, and wants to fight habitat destruction, looting, illegal trade of this species, and wants to promote legal, non-invasive and non-destructive ways of conservation and mindful propagation of this species in an attempt to match the existing demand on the cacti collectors market. Until then please act responsibly and to reject any illegal offers.

Xerophilia **Editorial Team**

Carlos Gerardo Velazco Macías

Carlos Gerardo Velazco Macías is biologist, graduated from the Faculty of Biological Sciences of the UANL in 1997, passionate about the botanical biodiversity and focused on continuous learning and improvement; in 2002 he described a new genus for the cactus family – *Digitostigma*, and a new species in this genus – *Digitostigma caput-medusae*, while actively involved in issues regarding the knowledge of the flora and vegetation of Nuevo Leon. He currently works for Parks and Wildlife of Nuevo Leon in the Coordination of Natural Protected Areas. In 2009 he concluded a PhD in Biological Sciences in the Faculty of Biological Sciences of the same University, having the central theme of his research on the floristic knowledge of Nuevo Leon. Currently, he is a member of the National System of Researchers, and continues to work in surveys of the native flora. These days he is back on the front page of the botanical news with the description of *Aztekium valdezii* sp. nov., the most expected description of this summer, after the rumor of this plant discovery has troubled the virtual community.

Interview with Dr. Carlos Gerardo Velazco Macías

Xerophilia: Hi, Dr. Velazco, the entire ***Xerophilia*** team is very excited to be able to share your words with cactus enthusiasts worldwide! How does the scientist feel, after having the opportunity to describe two of the most exciting plants ever discovered, that are on any plant collector's wish list?

Dr. Velazco: Hi Dag, and thank you very much for giving me the opportunity to express my views in this Edition of ***Xerophilia***. How do I feel? Lucky! I've been a lucky person to be in the right place at the right time, I have been part of important experiences in my career as a biologist; I always had an affinity for cacti and I had the opportunity to propose new species is a unique experience for any botanist!

Xerophilia: What does a person in order to produce the description of a species? What stages implies the entire research process?

Dr. Velazco: First, you have to have the knowledge, and to think that the plant you have in your hands is really something new, then you have to believe that you submit a valuable thing to the world and that your work is reviewed by the rest of the scientific community and lovers of cacti; there will be always people who do not agree with what someone proposes as a new species. For some cactus genera like *Mammillaria* or *Coryphantha*, the description of new species is a complicated process because of the complexity of the component species within each genus; in the case of a genus such as *Aztekium* having only few species and some variation within same species, you have to find characters that distinguish conclusively the proposed new species.

Xerophilia: Does the researcher, who contributes by describing a new species, face the bureaucratic problems encountered by all citizens that come before the official clerk? Or has he any other problems of whatever nature with the fellow scientists?

Dr. Velazco: There are always problems with bureaucracy, ever, no way to escape it, but I would not say that we have problems with scientists, but rather are differences of opinion, as I mentioned before not everyone agrees with you, for example lumpers vs. splitters ...

Xerophilia: Now after finalizing the research work, and after publishing the official description of the species, what importance do you think it will have *Aztekium valdezii* sp. nov. within the genus? In what extent it completes and explains it?

Dr. Velazco: Very good question! The importance of this new proposed *Aztekium*, is itself a demonstration that is still so much to discover and analyze, we have always known that Mexico is the country with the highest importance to the family Cactaceae, from the point of view of endemic species; the new species, gives us a vision of how the genus has survived in the Sierra Madre Oriental in Nuevo Leon through thousands of years! It shows that this Sierra has been a haven for various genera and species of the family - how many micro-endemic genera do we have in its vicinity? *Obregonia*? *Aztekium*? *Geohintonia*? *Digitostigma*? Further south...*Strombocactus*! I do not think this species completes the genus, but to explain it? It does not explain it! But we added one more piece to the puzzle! Future molecular analysis could help explain this genus and its relations with the rest of the tribe!

Xerophilia: Which do you think will be the future of this species in habitat ...? Do you think there will be taken all the necessary measures in a timely fashion for the protection of this rare plant against looting and destruction by rare plant hunters and speculators?

Dr. Velazco: The future will be grim, dark and obscure!!!! Excuse me for being so pessimistic, but the collection of plants from habitat will always been enticement for collectors, not only foreigners but also Mexicans! Some populations will be eradicated to the last floor, others will remain hidden, some will be reborn from seed banks and others will vanish after countless years of being refugees in the mountains, that's what I feel, but I do not think that the future is bright and full of light.

Xerophilia: What is the message that the scientist and lover of nature to all xerophyte plant enthusiasts around the world?

Dr. Velazco: Enjoy, but take no plants from habitat!!!! Mexico is a country rich in natural resources, we are aware that this natural wealth has limits, is vulnerable and can be exhausted; surely there will be those who are already thinking about expeditions to come and see this plant in habitat, and sure there will be those who will accomplish this indeed; however, everyone is responsible for their own actions and each person offers a legacy to future generations. Let the plants in their habitat!

Xerophilia: Free sharing of the knowledge is one of our goals. ***Xerophilia*** Magazine thanks you for your willingness to share with all our readers, through our pages, not only knowledge but also science!

Aztekium valdezii dossier

Mario Alberto Valdéz Marroquín

Mario Alberto Valdéz Marroquín, is a biologist who graduated from the Biological Sciences Faculty, at Autonomous University of Nuevo Leon. After completing his education, because of his excellent skills in plant propagation, he has been focusing on this field, becoming the owner of a business specializing in propagation of ornamental species and especially of trees and of other native species. At the same time, Mario Alberto Valdéz Marroquín built up a career consisting in phenological studies on Nuevo Leon cactus populations, in order to study and understand and reveal unknown aspects of their vegetation cycles.

An interview with an already famous discoverer: Mario Alberto Valdéz Marroquín

The last two and half decades have been marked by a series of re-discoveries or new descriptions of some of the most prestigious species: *Ariocarpus bravoanus* ssp. *hintonii*, *Ariocapus bravoanus* ssp. *bravoanus, Mammillaria luethyi*, *Strombocactus disciformis* ssp. *esperanzae*, *Strombocactus corregidore* and others even more amazing than that. Thus, everybody remembers the early days of the autumn of 2002 when Velazco and Nevarez have announced *Digitostigma caput-medusae*! At first people simply refused to believe the news, and many said it was a digression, a joke or a hoax ... *Digitostigma* yet exist!

It is worth noting that among all these new gems *Aztekium hintonii* aroused, besides joy and bliss, a kind of respect that only an Aztekium could have been caused, as it was considered for over six decades a monotypic genus. Why? Because *Aztekium* is a legendary genus!

After the official description of the third species of this genus, published in "Xerophilia Special issue no 2 August 2013 - *Aztekium valdezii*", you can read below the story of the discoverer of the year, told for ***Xerophilia*** directly by biologist **Mario Alberto Valdéz Marroquín**:

Xerophilia: Hi Mario, it is known that every nature lover's dream is to discover a new species. What happens in the soul of a biologist who has such an achievement? What experiences and feelings have you had?

Mario Valdéz: For me it was very exciting because, as biologist, it is extremely rewarding to contribute a bit to the knowledge of the great world of Cactaceae, especially when a very special species was discovered.

Xerophilia: Was the joy even greater when you realized this was a new *Aztekium* species?

Mario Valdéz: At first I thought it was an *Aztekium hintonii*, mainly because the specimen was presenting the straight stretch marks. It was also the only other species that was known in this *Aztekium ritterii* site. However, when I checked *A. hintonii* and *A. ritteri* taxonomic information, I realized we were talking about something new, it happened the next day I found it. And my excitement was huge.

Fig. 1, 2 The habitat and an *Aztekium valdezii*

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Xerophilia: How did you know it was an *Aztekium*...? Are you passionate about cacti? Do you have a collection of such plants?

Mario Valdéz: It was very easy because about 20 years ago two enthusiastic researchers of Cactaceae, Dr. Jorge Verduzco and Dr. Alexander Lux had shown me the idenfification standards for *A. ritteri* in *Aztekium* populations and I already had a certain experience with the genus; in addition to this I knew the habitat where *Aztekium ritteri* was discovered, and this allowed me to recognize the habitat characteristics first then look for the new species. I had an *Aztekium ritteri* in my collection, acquired grafted from a nursery, but thanks to Dr. Raul de la Torre Lillingston I have now for the first time the entire *Aztekium* "family" gathered.

Fig. 3, 4 Flowering *Aztekium valdezii* on its own root and grafted

Xerophilia: How does Mario Valdez, the man, feel now thinking that he became famous and has made history...?

Mario Valdéz: I feel a great responsibility to start with, because if something would happen to the population in the wild I will definitely feel guilty about. I would rather not find out. So, at this stage we are doing everything possible to start propagation within the units where I keep specimens of the species that just has been described. I am harvesting seeds, which will be distributed for free among specialists of cactus reproductive biology, in order to take pressure off the habitat, sustain the population in the wild and as a result there will be no need for looting.

Fig. 5 An old and branched plant

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Xerophilia: Tell us please how things have happened, keeping the location secret of course! Our readers are eager to know more of this adventure!

Mario Valdéz: On that particular day my family and I decided to take a trip to the Sierra Madre, in order to admire the landscape and inspire respect for nature among our nephews. It was in the afternoon, about 2.30 pm when I spotted some 200 meters from where we were a mountain wall with soil type and orographic conditions that seemed to be very similar to the *Aztekium ritterii* habitat. This caught my attention and I was wondering if I would find a new location for the species. So, I went there to do a more thorough search of the area. Keep in mind that those Aztekium specimens do not exceed more than 5 cm in diameter and are therefore difficult to observe. However, even before starting a thorough search I found the first specimens. This was before the area was hit by a hurricane, which means today it would be more difficult to locate because the hurricane generated devastating streams of up to 4 m high, on a 2 km wide strip across the population. I estimate that this phenomenon caused the disappearance of more than 5.000 specimens in the area. If anyone wonders if climate change will affect *Aztekium valdezii* the answer is yes.

Fig. 6 – 9 *Aztekium valdezii* in habitat

Xerophilia: What do you think, as an environmental survey specialist, what should be done to protect this new species against unauthorized collectors? As you know last month plants already appeared on e-Bay and there are nurserymen already offering seed for sale...

Mario Valdéz: I ask your readers and generally all cactophiles to have a little patience. We want things to go through the legal channels, and anyone who wants to have this species in his collection shall obtain it for free. If you decide to spend money on buying illegally acquired specimens you will be partly responsible for the damage that would be done to the species and its habitat. We believe that massive propagation is needed first in order to lower the pressure on the habitat. We have enough seeds to distribute to major collectors and professional growers, all of

them having the interest and the desire to preserve this new species. In the first phase we will provide seeds to collectors, in the second phase we will provide plants. Later on, once collectors will have calmed their desire to have the plant because they already own one, then and only then we will disclose the original location.

Xerophilia: How could be this species quickly propagated?

Mario Valdéz: By tissue culture, seed and grafting, and by accelerating the micro-grafting process. We are working jointly with the Autonomous University of Nuevo Leon to produce *Aztekium valdezii* by micro-scale tissue culture.

Fig. 10, 11 Flowering plants

Xerophilia: What do you wish for the future...?

Mario Valdéz: I wish this species to survive out in the wild and serve as an example of how things should be done to conserve the world's natural resources, wherein now only few profit and, more, become a threat for the survival of a species, this is something that I utterly disapprove. As the discoverer I aim to reproduce and distribute this species non-profit; I'm not saying that one cannot sell or gift specimens but I hope whoever has it may also give away a part of the specimens grown from seed and thus ensure the survival of this species and, similarly, of many others.

Fig. 12 An adult and three young plants near *Selaginella lepidophylla*

Xerophilia: What is your final message for the Xerophilia readers?

Mario Valdéz: Please do not buy looted plants, not even a single one! So far there is no permission to market this species and therefore it's a crime! Stand up and denounce to the international cactophile community all those who generate so much damage to our planet! I am committed to distribute a controlled germplasm material for free reproduction. One that presumes in his collection a single *Aztekium valdezii* should be ashamed of, because there is no export permit yet and its origin is most certainly unlawful.

If you want to contribute positively towards the preservation of this and many other species, we do appreciate donations in order to improve the infrastructure and build well equipped propagation greenhouses, it is sounder. Anyway, with only few or with plenty of resources I intend to do it with or without help, so my goal is to protect to *Aztekium valdezii* from extinction in the wild.

Thank you very much and let the love various forms of life unite us, and do wonderful things for this world!

Xerophilia: In the end the editors of ***Xerophilia*** thank you for this interview and wish you further success!

Fig. 13 – 18 *Aztekium valdezii* in habitat

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A Tour with Judd

by Judd Kirkel Welwitch

Through Judd's passion of encountering indigenous flowers, he has persisted in finding ways to bring flowers of various regions to people who haven't yet had a chance of seeing them in Nature. He does this by combining photography with Valuable Locality Data and experience of how and where to look for particular species.

Finding the way to the Welwitschia's (left) and The road to Steinkopf - Home of some of the most amazing Succulents (right)

His passion for photographing and finding plants in their habitat has put him ahead of his time. He showcases the diversity of the flora and makes it available for each and everyone. Judd does many talks on the subject of Southern African Flowers and at the same time he highlights the different regions of Southern Africa and introduces the geography, because he believes that to conserve flowers one has to conserve their habitat.

The search is on for succulents - Heads down.

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The De Rust Valley with colony of Aloes on the right (De Rust Wildflower Festival)

Join Judd on one of his spectacular and customised wildflower tours anywhere in Southern Africa. Let him show you what extraordinary regions there are to discover and how to encounter the associated Flora. Custom tours by arrangement can be put together either on a specific group of plants or on a specific region of interest.

We found what we were looking for

My tours come complete with photo diary (CD) of your visit and the plants you have seen. The CD covers the species you see and contains all relevant and up to date, scientific names. Judd Has also developed chances to expose yourself to Night photography of certain Flora this means you will be able to go into the wild at night. He locates certain species for you during the day, then he GPS's the site and returns back at night with a customized lighting set up, so that you can have the experience at night. Everything is done in habitat and under no circumstances does Judd cut or remove any plant material from the original habitat.

Tenerife is not only a holiday destination!
Let us have a look at the special succulent flora of this island.

by Albert Leroy – Belgium/Tenerife
tenerifesucculents@hotmail.com

It is now about 25 years since I'm spending 4 to 5 months a year on this island, and 18 years since I obtained an official licence to study plants in situ. This gave me the advantage to run about everywhere on the island, from well known touristic places to highly protected areas such as "Parque rural de Anaga " and "Parque Nacional del Teide".
Here on Tenerife we have, as strange as it sounds, a lot of different climate zones. In the South you can find very arid nearly desertic places, in the North a temperate zone, which is very green (gets a lot more rain), while in the hinterland alpine and sub-alpine vegetation (with temperatures below 0°C and snow) thrives on the top of the high mountains (over the 2500m above sea level). At the same time we can divide the island in different geographic zones. The extreme North, the so called Anaga region, in the East the Guimar region, in the West the Teno region and in the South the Guaza/Roque del Conde region.

Fig. 1 Mount Teide

These geographical differences provide for a huge variety of fauna and flora patterns. So you can see, I'm here five months a year and I'm still visiting new places and see new things every time. In spring I stay here the months of April, May until mid June. For autumn I'm here from mid September until end October. Every time I can find new things to photograph and add to my big, big, big photo collection. Yes, up to this moment I have more than 20.000 slides and about a 45.000 digital pictures!!!! With all this "luggage" I'm travelling all over Europe to give some talks for plant lover's societies.

Fig.2 El Batan

Let us start in the South, where I have our apartments. This is an ideal stay for my visitors!!! Yes we are only 80 meters from the beach (for the ladies) in a quiet avenue and never the less in centre of Los Cristianos and near the bus station for those who want to join for a daytrip to the capital Santa Cruz.

Fig. 3-5 *Euphorbia canariensis, Monanthes pallens*, *Monanthes* spec nova aff *pallens*

Usually for the first excursion I take my friends to the "Malpais de Guaza" and the "Montana de Guaza". These are very arid regions with several interesting plants to see. We have here *Euphorbia canariensis*, *Euphorbia balsamifera*, *Euphorbia broussonetii*, *Monanthes* spec. nova aff. *pallens*, *Aeonium urbicum*, *Ceropegia fusca* with all its forms and varieties. This is concerning the succulents. As you can understand a there are lot of other non succulent plant species that can be found, but, for those who are interested, they have to discover this here in the field. The species list would be much to long!!!!! In regards to the fauna we don't have a large choice, we have to be happy with the wild rabbit (who is very small, weighting only about 0.800 kgs.) and the classic lizard *Gallotia gallotii*. There are no dangerous wild animals out there, such as lions, snakes or scorpions. For the amateurs of insects or other flying beings this is an ideal place since a lot of them can be found and observed!!!!

Fig. 6, 7 *Aeonium urbicum* and *Aeonium smithii*

A second place to visit here in the South is "El Roque del Conde". For this excursion you need a better fitness level and especially good legs!!!! Here we have to climb, but it is really a fantastic place to visit. And a lot of plants to observe. At the start we can admire *Euphorbia balsamifera* on a very easy to walk terrain in a beautiful landscape but soon things change. We have to descend into the "Barranco del Rey" (the Kings valley) and walking downhill it's easy but soon we have to climb again to reach the other side (from time to time we can meet here the introduced wild

mouflon sheep - *Ovis musimon*, considered the ancestor of domestic sheep). Once down we can find *Monanthes pallens*, a very small plant (only 15mm wide) but very nice indeed. This species grows always in a nearly vertical position on the rocks. Its colour is very confusing, mimicking the colour of the lava rocks. Continuing alongside an abandoned farmhouse (abandoned for more than 80 years) we can find the floor on which they battered the harvest to obtain the grains. Once the harvest done they used the same place to keep the cattle (goats). Near the farmhouse you can find some fig trees (*Ficus carica*) bearing ripe figs in September/October – they are simply delicious!!

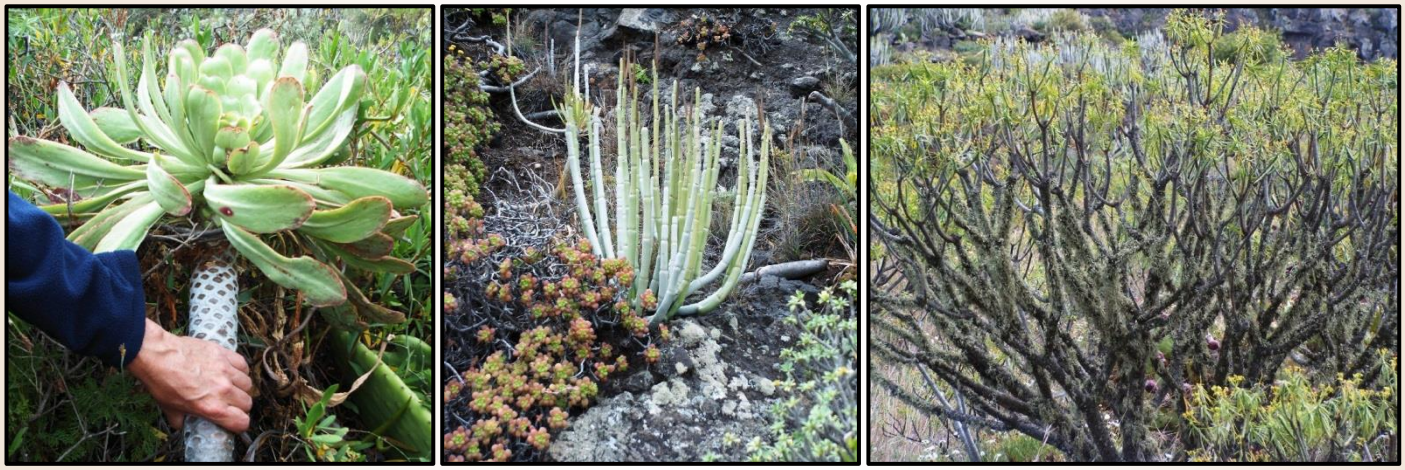


Fig. 8 – 10 *Aeonium urbicum, Ceropegia dichotoma, Euphorbia broussonetii* covered with lichens

Continuing on the path, now the real climb begins, slowly but for a long, long time. Very soon we can find the first *Ceropegia fusca* var. *fusca* plants. There's also a lot of *Opuntia ficus-indica* and also a real pest (!!) *Opuntia dillenii* with its strong and vicious spines but delicious fruit, red on the inside and very refreshing. Here at this altitude you will also find the so unique *Aeonium smithii* with its butter yellow flowers and his hairy stems. Please don't touch these plants (!!!!) here on this place you are constantly observed and controlled by the members of "Guardia del Monte" and the rangers of the "Medio Ambiente". They don't take it as a joke when people take plants from nature. You are here in a protected region so be careful. From time to time you will also find *Monanthes pallens* fa. *silensis* and the more common *Monanthes polyphylla*. When you finally arrive on top of the mountain, which is in fact a table mountain, you will find *Euphorbia atropurpurea* and with a little bit of luck *Monanthes icterica*. This last *Monanthes* species is a special case. It's a biannual very small plant and is green only during 2 or 3 weeks in a year. No one really knows if this plant should stay in the genus *Monanthes*. Once arrived here take your time to have a look around over the South of the island. You have a view from Playa Paraiso until the southern airport. From here you have also a nice view over the "Barranco del Infierno" (meaning the Hell's valley, due to temperatures rising in summer at over 50°C), which is an interesting place to visit but only with an official guide and following your registration and entrance fee payment.

Fig. 11, 12 *Aeonium ciliatum* and *Aeonium smithii* flowers

As far as I am concerned I prefer to walk to the top over this last Barranco, but this is just to make one of the hardest and most exhausting trips. We start just next to the Barranco here in Adeje to climb up to approximately 1200 meters above sea level and making a walk to join Ifonche. A trip of nearly 8.5 km, very challenging indeed but the reward is that you get to one of the very rare places where you can find *Ceropegia chrysantha*. Once again "DON'T TOUCH THESE PLANTS!!". There are only 3 locations on the island where these plants grow in a very poor number, so be correct and don't pick branches or offsets. Once again you are here in a protected area and if they catch you with plants in your bags, you are sure you will have an expensive extension of your holidays, this time assisted by lawyers. Your prison stay will cost you at least a 1.000 Euro plus legal expenses!!! Once arrived in Ifonche you will have to call a taxi to return to the civilised world. However, before your return you should better taste, in one of the small restaurants, the speciality of this place "RABBIT" and this for a very cheap price!

Fig. 13, 14 *Ceropegia fusca* var. *fusca*

Another easy access place to visit is certainly "El Medano" with the so famous "Montana Roja". This is just behind the Southern airport "Reina Sofia". This place is well known for the surfing possibilities. But we don't come here to swim or to look at the surfers but for the special *Euphorbia* species growing here. On the sandy beach with a constant influence of salty seawater grows *Euphorbia paralias*. Climbing the small mountain we still find vestiges of the second war '40-'45. Embedded bunkers are overlooking the Cristianos bay for protection. A lot of *Euphorbia balsamifera* is growing here but under those windy conditions they have a very special way to protect them against the stormy conditions. Also some *Ceropegia fusca* var *fusca* can be found in association with this *Euphorbia*. Once on top of the mountain you are looking over the nudist beach of the South, beware of your eyes!!!

In the North, there's a lot of opportunities!!! The walk to Faro de Anaga – also Barranco de Afur- and not to forget the walk from Batan el Alto to Punta Hidalgo. Just past San Andres you can visit the Barranco which climbs from Igueste de San Andres up into the mountains and so many others.

Fig. 15, 16 Roque del Conde view of cave Ichasagua and *Euphorbia balsamifera*

Fig. 17 – 19 *Monanthes pallens, Monanthes pallens* var *silensis, Monanthes polyphylla*

Between the Southern part of the Island and the North we have the Guimar region with also several interesting barrancos such as Barranco de Badajos, Barranco Del Agua, Barrance de Herques, Barranco de Linde, etc. No one may forget the "Ladera de Guimar" where we can find the so rare *Euphorbia bourgaeana*. On the other side of the island we have the Teno region with the famous Barranco de Masca and different others such as Barranco Juan Lopez here once again very special flora with a lots of local endemics.

All this will be presented to you in subsequent articles.

I hope you will grow interest in my virtul excursions on paper and perhaps you will decide to join me sometime in nature. If so you can always contact me by private email to ask for conditions and if places are still available.

Tenerife nu este numai o destinație de vacanță!
O privire asupra plantelor suculente de pe această insulă.

de Albert Leroy – Belgia/Tenerife

Abstract

Albert Leroy își petrece de aproximativ 25 de ani, cate 4-5 luni pe an pe această insulă; de 18 ani este posesorul unui permis oficial pentru studiul plantele in situ. În articolul său, autorul prezintă în trecere, flora insulei de la locurile turistice bine cunoscute și până la zone protejate, cum ar fi "Parque rural de Anaga" și "Parque Nacional del Teide", subliniind faptul că în Tenerife există mai multe zone climatice. În sud se pot întâlni zone foarte aride, aproape deșertice, iar în nord, unde climatul este temperat, totul este foarte verde; în același timp în interior vegetația alpină și sub-alpină prosperă în vârful munților înalți (peste 2500 m înălțime cu temperaturi ce pot scădea sub 0°C; uneori și ninge). În același timp, insula se poate împărți în patru zone geografice: nordul extrem este așa numita regiune Anaga, în est regiunea Guimar, la vest regiunea Teno, iar la sud regiunea Guaza/Roque del Conde. Aceste diferențieri geografice și climatice au permis o imensă diversificare a florei și faunei.

Autorul continuă arătând care sunt posibilele trasee de excursie pe unde se pot vedea *Euphorbia canariensis*, *E. balsamifera*, *E. broussonetii*, *Monanthes* spec. nova aff. *pallens*, *Aeonium urbicum* și *Ceropegia fusca* cu toate formele și varietățile ei. Un al doilea loc care merită să fie vizitat în sud este "El Roque del Conde" și "Barranco del Rey" unde creste *Monanthes pallens*, o plantă minusculă numai 15 mm diametru, această specie crecând aproape vertical poziționată pe stânci. Culoarea ei este foarte derutantă, întrucât mimeaza culoarea rocilor vulcanice. Aici se mai găsește și o plantă unică - *Aeonium smithii*, alturi de *Monanthes pallens* fa. *silensis, M. polyphylla*, *Euphorbia atropurpurea* și *M. icterica*. Această ultimă specie de *Monanthes* este un caz special. Este o plantă bianuală foarte mică ce este înverzită numai 2 sau 3 săptămani într-un an. Prin "Barranco del Infierno, cu temperaturi de peste 50°C vara, se urcă până la aproximatix 1200 m spre Ifonche. Aici crește rara *Ceropegia chrysantha*. Un alt loc ușor accesibil este "El Medano" cu faimosul său "Montana Roja". Locul este cunocut pentru halofita *Euphorbia paralias*. Între zonele nordice ale insulei se ajunge în regiunea Guimar care cuprinde mai multe văi interesante cum ar fi Barranco de Badajos, Barranco Del Agua, Barrance de Herques, Barranco de Linde, etc. Este de reținut locația "Ladera de Guimar" unde poate fi întâlnită foarte rara *Euphorbia bourgaeana*. La final autorul își exprimă speranța că articolul va trezi interesul cititorilor pentru o excursie în zonă.

Carlos Alonso Hidalgo Villa

My name is Carlos Alonso Hidalgo Villa of San Pedro de La Paz, Chile. I am qualified Forestry Engineer(Ingeniero Forestal) and over time, starting with 2007 I began to be interested in growing cacti; however, only with 2008, my interest turned to cultivation of Chilean cacti after I visited that same year for the first time Region III - Atacama.

I declare myself a fan of the Chilean *Cactaceae*, and therefore, my main goal is to educate new Chilean cactus enthusiasts to understand and to learn about the importance of habitat conservation and controlled propagation of rare and endangered cactus species.

Eriosyce napina ssp. *challensis* in habitat and cultivation

by Carlos Alonso Hidalgo Villa, San Pedro de la Paz, Chile

When I received the invitation from the editors of the magazine I did not know how to start this report or rather how raise awareness of this beautiful species from the point of view of my personal experience. In short, my experience in the observation and identification of cacti in habitat until 2011 was very negligible at best, if not almost non-existent. In that year I moved for work north of Chile with my family (My Wife), a move which resulted in many advantages for me in obtaining new knowledge in regard sof Chilean cacti.

Eriosyce napina ssp**. *challensis*** belongs to the sub-genus *Thelocephala,* the name meaning felt at the apex (Hoffmann & Walter, 2004) and was described and published in 2004 by Richard Keim and Ingrid Schaub, a Chilean couple who has devoted much of their life researching and describing new Chilean cactus species.

Fig. 1 *Calandriana* ssp.

Fig. 2 "El Desierto Florido" – the flowering desert

The species is globular to sub-globular or completely flat at ground level, dark green, 1 to 2.5 cm in diameter. The sunken apex is covered with dense white wool. Ribs are dissolved in nipples, all staying close together. Radial spines stay flat on the body, from 0.6 to 1.2 mm long. Flowers are 2 to 3.5 cm long, yellow, with floral tube completely covered by white or light brown hairs. The ripe fruit is 2 by 1 cm and is covered in hairs exactly like the floral tube (Walter & Hoffmann, 2004). Also, like, all *Eriosyce napina* subspecies,it has a large carrot shaped taproot.

Since August of 2011, for business reasons, I moved to live in the Atacama Region of Chile, specifically Puerto de Huasco (Port of Guasco) and, as all Chilean cacti enthusiasts already know, this region is a paradise for observing cacti in their natural habitat, so my job transfer to this region of Chile, was rather a blessing.
However, let's start the topic we are interested in. When I finished my shift, which lasted for 9 continuous days, I had 6 days off. I took the advantage of having this time off by getting to know and explore new habitats and new species. In one of those days, specifically in early October, I walked out there with my wife looking for *Eriosyce napina* ssp. *challensis*, having only vague references on the habitat and where it could dwell. We started our trip by car from Huasco advancing several kilometers north to a point where our car could not continue because of the rugged terrain. Because of this we had to continue the journey on foot, and yes, each carrying at least 2.5 liters of water. I should mention that the temperatures reached in the month of October 2011

**Fig. 3 *Eriosyce napina* ssp. *challensis*.
Flower buds make the plant visible**

an astonishing 30 °C on average, so it was necessary to stay well hydrated. We had walked a few hundred yards enjoying the scenery and the flowers that remained like remnants of the winter rains (Fig. 1), when all of a sudden we heard a sound, unknown to us until that moment. It was rather like a whistle sound.

Fig. 4, 5 *Echinopsis deserticola* accompanied by *Calandria* ssp. (pink flowers) and *Nolana* spp. (blue flowers) *Eriosyce napina* ssp. *challensis* has no more than 2 cm in diameter (right)

We stopped our walk and began to look around without knowing where the sound came from. Finding no source of the curious "whistle", we continue our way towards the main goal. However, as we went on we felt like something or someone was watching our steps. After a few minutes again that "birdie" whistle sound was heard, but this time much closer, so we stopped, looked up a hill and there they were staring at us. Responsible for the "birdie" whistle sound was no more and no less than a small family of guanacos (*Lama guanicoe*), a mammal belonging to the camel family, which roam the desert feeding on grasses, bulbs and roots, and also feed on cacti such as *Eriosyce napina* ssp. *challensis*.

Then, we stopped and took some pictures happy to find these beautiful places, like this spot offering us the last blooms of "the flowering desert" ... (Fig. 2).

I will try to explain in few words what "El Desierto Florido" (the flowering desert) means. This is a phenomenon that occurs every 8 or 10 years in the Atacama region, according to the botanical literature, due to the increased amount of rainfall. Generally rainfall occurs only sporadic between May and August, and maybe October. Where the bulbs, seeds, and cacti meristems are activated by rain, colouring the desert in green tones.

Lucky for us, the year 2011 witnessed this wonder of nature and allowed us to admire beautiful landscapes as shown in Fig. 4. Good, but let's not stray from the main topic. We kept walking and looking for the plants but without having positive results until my wife saw something that could have been an *E. napina*ssp. *challensis* between several quartz rocks; and it was indeed, although very difficult to spot when not in bloom. Below I will show a series of photographs of the plants we found during this first trip.

Fig. 6 A flower just beginning to open

As you can see, if not for the flower buds, the plant could have been easily overlooked as it has a perfect camouflage by mimicking the substrate (Fig. 5). We observed many cacti bearing buds, but unfortunately we did not have a ruler to measure the diameter of the plants; however, generally our estimation was that they did not exceed 2.0 cm in diameter. We also discovered that many cacti have already had their flowers, so we were initially a bit disappointed of not being able to find flowering plants.

We continued our search until we sighted the first yellow flowers between quartz rocks, some beginning to open as shown in the photograph (Fig. 8). You can also see plenty of white hairs on the floral tube, this being one indicator that characterizes this species.Then, we first saw the first *Eriosyce napina* ssp. *challensis*plants in full bloom (Fig. 9). This was exactly what we expected to see since we decided to take this trip and finally we've had our satisfaction. Really, from our point of view this species is a sophisticated beauty of all cacti. The next picture of a flowering cactus (Fig. 10) shows, besides the characteristic beauty of this species, a group of mites are one of the many insects responsible for pollination in the desert. Seeing this photograph more closely, it becomes hard to imagine that much of the plant is hidden underground, that it possesses a large carrot-shaped root that is responsible for sustaining the plant during prolongued periods of water stress.

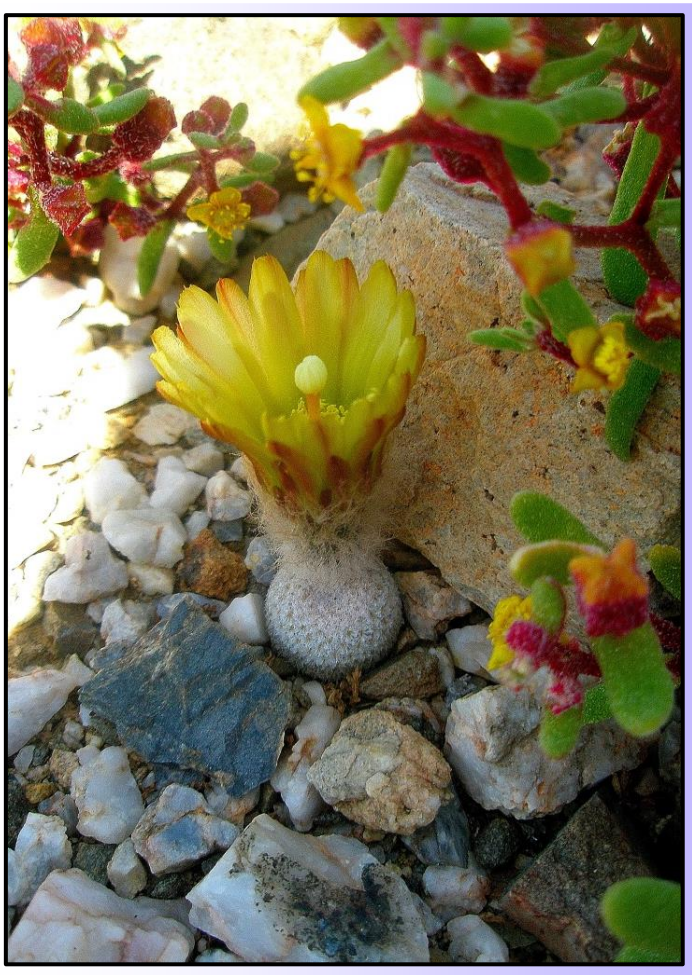


Fig. 7 *Eriosyce napina* ssp. *challensis* in full bloom

Fig. 8 *Eriosyce napina* ssp. *challensis* in full bloom, with pollinating mites

Fig. 9, 10 *Eriosyce napina* ssp. *challensis* with withered flowers.
Two months later, with fruits consumed perhaps by insect larvae...

While exploring the habitat, we assert that the blooms were performing better than we thought, and, like shown in the previous image, we noticed the presence of mites and beetles on other plants as well, so that we predict there will be numerous fruits here in due time. By having the privilege to see these wonderful flowers we got what we have bargained for. However, our plan was not oly to visit this habitat and considering that it was getting quite late, we started running back to our car and visit other species as beautiful as this. Specifically *Eriosyce napina* ssp. *aerocarpa*; good, but if the editors of the magazine wish there will be an interesting story to tell in the future.

But this story does not end here, it continues two months later. In December we returned to the Llanos del Challe Park to see if the observed flowering plants have formed fruits. We will not deny that apparently back in October we expected to see many plants with fruits, however this was generally not true two months later. Everywhere only cacti with dried flowers and consumed fruits, perhaps by insect larvae as seen in the sample photography (Fig. 12).

Repeated encounters, like shown in the previous picture, left us little hope of finding more any cactus fruits. We simply felt that the time passed without anything near to good results, and after a while I had quite a discomfort in my neck from looking down trying to find a plant with undamaged fruits (Fig. 13) and felt that we were looking for a needle in a haystack; if you don't believe me look at the next picture (Fig. 14).

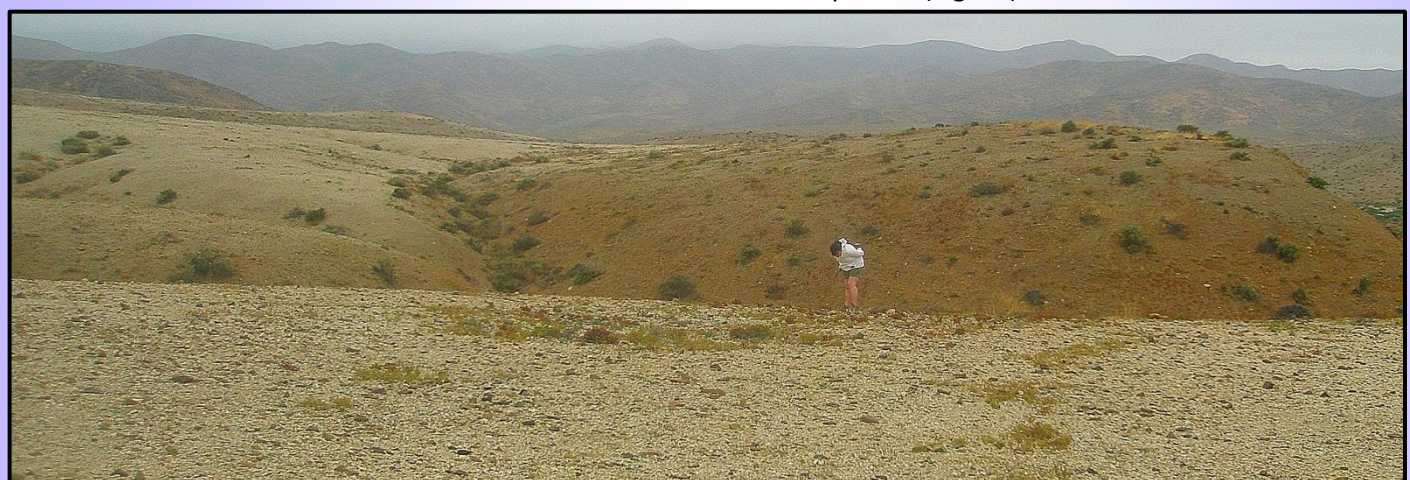


Fig. 11 ...and after a while I had quite a discomfort in my neck from looking down trying to find a plant with undamaged fruits...

That is why we said *Eriosyce napina* ssp. *challensis* plants are hard to see if they are not flowering, because they grow on a quartz rich a layer. However, we were faithful that sooner or later we should have good results and there was the first plant bearing a small, lonely and single fruit (Fig. 14). The description given in the books came immediately alive, yes, there were white hairs abundantly covering the fruit.

After traveling in the habitat and collecting some fruits, we finished our visit here. We were happy for having known this wonderful species and tracked it in the field from flowering to fruiting stage. It was also good to learn the environment, and this develops better understanding of the plants potential and adaptability to the environment, displaying the elements it is exposed to. More, it is as interesting to know the other cactus species it is associated with.

When we returned to Conception, which is our hometown, we sorted our data and information collected in the field. We also started to select some seeds and species in order to start propagation, so that December of 2011 found us sowing a lot *of Eriosyce napina* ssp. *challensis* seeds.

I took the picture of these seedlings in January 2013 (Fig. 15). I should mention that this first sowing session was not particularly successful because the original seed batch was attacked by fungi and I could only rescue some of the plants, but these are developing successfully now.

One of the characteristics of the species that I particularly wanted to highlight is the main root, completely thickened as it should be for this species.

Fig. 12 ... and finally!

As I couldn't extract such a plant from habitat to illustrate the huge taproot, I had to extract one from my small batch of young plants. While the plant is still small it already formed a sizeable taproot (Fig. 16).

After the unfortunate seedlings adventure conducted in December 2011, I sow a small amount of seeds in July 2012, which is midwinter for the southern hemisphere. I took the risk of sowing on this date as I did not want to wait until spring, due September, because I was intending to start grafting experiments, being at that time totally inexperienced in this matter. Sowing in July was a success regarding the germination rate, however, this time the problem was not the fungal attack, but a different one: with the passing months the plants did not grow.

Fig. 13 Two years old seedlings

I waited until December in order to grow large enough to withstand a grafting procedure, but these seedlings did not grow. However, this time having gained now the basic knowledge of grafts due to the excellent video tutorials that exist on the internet, I performed my first *Pereskiopsis* graft in January 2013.

The grafting experiment was a success (Fig. 17). Six months later, the main head is about 2 cm in diameter and the main feature of this species, and of all especially of this *E.napina* subspecies is that they tend to pull new heads, one thing to wonder of being that the above does not happen in habitat unless the apex was damaged.

This cultivation method is ideal to ensure within a collection the existence of the most prized and rare species, in this case making seeds order available quite early on, to make available plants and seeds to other collectors. In this way we also help by reducing plunder and habitat pressures for these cacti.

In Chile, for the past 10 years, a new generation of collectors has appeared, a generation mainly concerned in studying Chilean cacti and learn how to propagate them successfully, having the primary aspiration of protecting the cactus species in their habitat. I belong to this new generation of Chilean collectors who have great interest how to propagate plants only, meet new like-minded people and teach them about this wonderful world of the cacti.

Fig. 14, 15 *Eriosyce napina* ssp. *challensi s*- a sizeable taproot for such a small young plant and one grafted on *Pereskiopsis*

Eriosyce napina ssp. *challensis* în habitat și în cultură

de Carlos Alonso Hidalgo Villa, San Pedro de la Paz, Chile

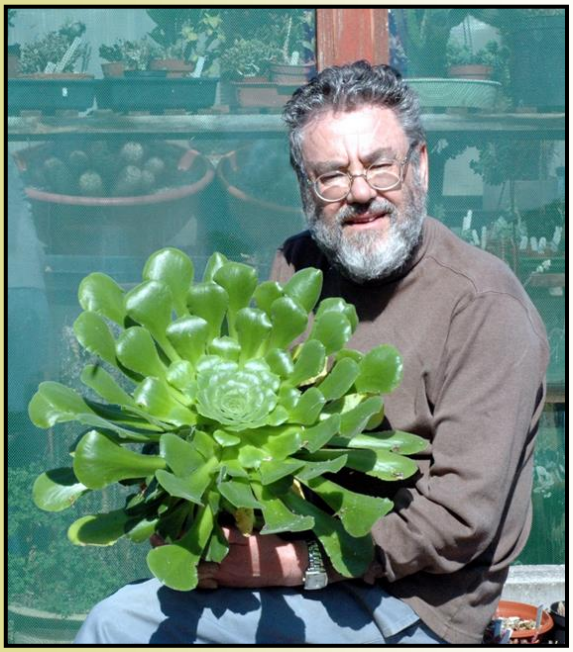
Abstract

Autorul articolului, **Carlos Alonso Hidalgo Villa**, este un tânăr inginer silvic din Chile care și-a descoperit pasiunea colecționării și cultivării cactușilor încă din 2008. În 2011 el a început să lucreze în Regiunea a III-a Atacama ceea ce a dus la descoperirea un nou orizont asupra unor specii de o mare raritate, trăind intr-un habitat extrem. Carlos se declară fascinat de plantele din habitat și de relațiile acestora cu mediul. În articolul de mai sus autorul își prezintă călătoria prin Deșertul Înflorit în căutarea uneia din bijuteriile oricărei colecții: *Eriosyce napina* ssp. *challensis* – subspecie descrisă recent, în 2004 de către compoatrioții săi Richard Keim și Ingrid Schaub. Cu un condei alert, ne sunt prezentate habitatul, particularitățile acestuia, din care subliniem solul cuarțos și perioadele de înflorire și de fructificare ale speciei citate, în mediul ei natural. Așa cum se poate vedea în fotografii, aceste locuri sălbatice sunt locuite de flori frumoase, de animale stranii și de insecte minuscule, dar distrugătoare – autorul fiind uimit de multitudinea de fructe de *Eriosyce napina* ssp. *challensis* distruse de acestea.

Autorul își conchide articolul cu experiențele sale în semănarea speciei *Eriosyce napina* ssp. *challensis*, marcând eșecurile și cauzele acestora, dar și reușitele. La final Carlos propune altoirea ca metodă de propagare mai rapidă a acestei specii, în scopul scăderii presiunii exercitate de colectorii ilegali asupra exemplarelor din habitat.

Carlos Alonso Hidalgo Villa intenționează să revină cu un alt articol în care va prezenta ***Eriosyce napina* ssp. *areocarpa*.**

Ray Stephenson



I started growing all manner of succulents at the age of 4 on a windowsill. At the age of 8 I borrowed Britton & Rose from the library but was not strong enough to carry all the volumes at once and wheeled each home on my bike saddle.

As long as I remember I have had *Sedum* but throughout my life as new material became available I concentrated on South American cacti, odd African caudiciforms, hardy succulents etc. My wife Joyce shares my enthusiasm. I built up a large collection of sedums in the widest sense and now find greatest pleasure in photographing species in the wild, trading clones with other enthusiasts, and editing and producing the **Sedum Society Newsletter** (busy with issue 108 at present), so all in all retirement which includes about 25 lectures a year keeps me busy.

In addition to this, **Ray Stephenson** (with an *Aeonium subplanum* in the picture above) is the holder of the National *Sedum*, *Rhodiola*, *Hylotelephium*, *Phedimus*, & *Prometheum* collections (which were awarded scientific status in 1999 and the Brickell award in 2007). He also is Chairman of the **Sedum Society** and the Editor of the **Sedum Society Newsletter** as mentioned above, and has had over 200 papers published in various journals. (***Xerophilia***, ref. BCSS website).

Do not become a plant snob!

Xerophilia: Ray Stephenson, you are widely known among the succulentophiles as the ultimate *Sedum* authority. I can't help asking you – why *Sedum*? Why not main stream cacti, ant-plants or tropical orchids?
Ray Stephenson: From the age of 4 I was fascinated with cacti & cacti-like plants. My 2nd 'cactus' was a Mexican *Sedum*. In the 1960s I was particularly interested in South American cacti. When I had two greenhouses full of all succulent families I systematically got rid of lawns to grow hardy succulents on screes. Ron Evans' book was like a bolt of lightning and fired my already strong interest when I realised most of my plants were wrongly labelled.

Xerophilia: You have a long time commitment to the hobby – you established the ***Sedum* Society**, you keep the British National *Sedum*, *Rhodiola*, *Hylotelephium*, *Phedimus* and *Prometheum* collections, you published hundreds of notes, articles and papers on these plants – what was the drive for such extraordinary accomplishments?
Ray Stephenson: Difficult to say. I didn't start the society single-handed but I find the relationships between species and variability of species utterly fascinating. I have 140+ different *Sedum album* plants!!!!

Xerophilia: Your *Sedum* monograph (*Sedum*: Cultivated Stonecrops, Timber Press, 1994) is certainly the ultimate reference for the genus. What sparked the idea of writing this book?
Ray Stephenson: I was asked to do it.

Xerophilia: You have travelled a lot; you have seen many places, many plants and habitats. Of all places which one has overwhelmed you the most?
Ray Stephenson: In the early days - Portugal (we're due back in September) but now probably Turkey (we're going back in April) though Northern California/Oregon was special.

Temporary outdoor *Sedum* gardens

Xerophilia: … and of all plants which was the ONE that left you breathless when you first saw it?

Ray Stephenson: *Sedum tuberiferum* – mainly because it had been so elusive for so long!

Xerophilia: Which was the most important or emotional event you witnessed during your long career?

Ray Stephenson: Joyce (my wife) becoming as excited as me upon finding something special in the wild.

Xerophilia: Who was for you the most influential C&S personality and why?

Ray Stephenson: Ron Evans, he showed just how varied and interesting are *Sedum*. Lloyd Praeger too was a man who loved and understood all he grew.

Greenhouse and gardens overview

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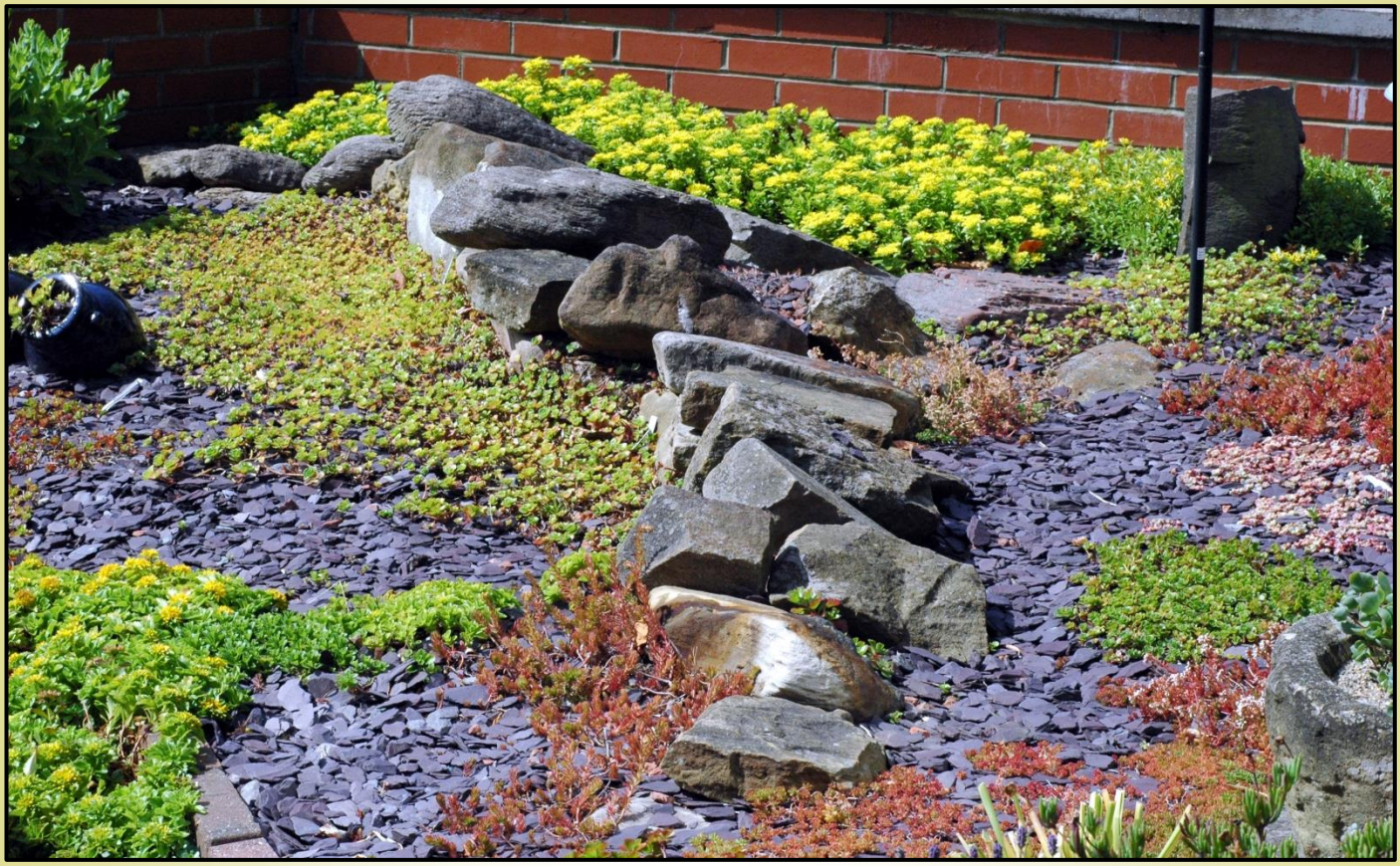
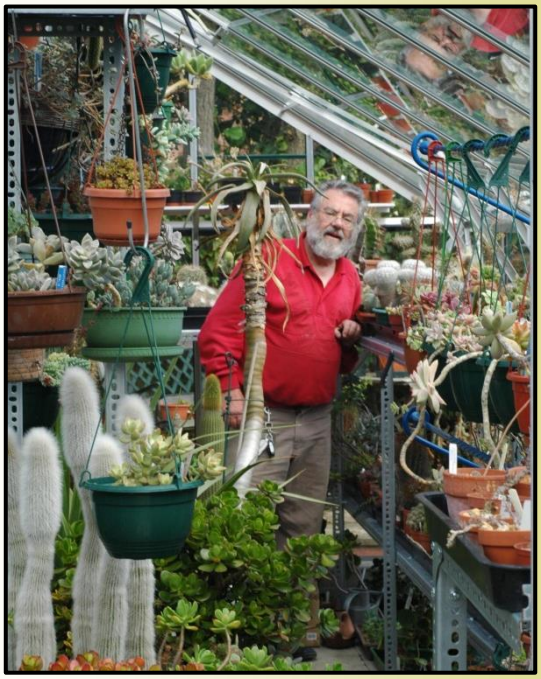


Permanent outdoor *Sedum* gardens

Xerophilia: I have seen you in pictures holding musical instruments – guitar or bagpipe. What role does music play in your life?

Ray Stephenson: Really important to me – I play ragtime and blues guitar quite proficiently (and also blues harmonica, dobro, cigar-box guitar, and banjo) and English bagpipes (badly).



Ray Stephenson in his greenhouse

Xerophilia: By any chance have you ever been interested in exotic fish? I somehow feel that this hobby is often associated with growing xerophytes. And with growing a beard. At least for Romanian hobbyists it seems to be true.

Ray Stephenson: I have friends who have this hobby and have been nearly won over, but music (vintage gramophones / records / phonographs/ juke-xoxes) + playing absorbs most of my time.

Xerophilia: We often acknowledge just one side of personalities, the most visible one. Any other hobbies that you have or had or anything else that defines you but wasn't really known beyond the circle of your close friends and family?

Ray Stephenson: No other hobby besides the ones mentioned above.

Xerophilia: Any publishing plans for the near future?

Ray Stephenson: Papers rather than books – depending on how successful or not are our field expeditions.

Xerophilia: … and in the end what would you like to say to the ***Xerophilia*** readers? Maybe a quintessential advice for the young Romanian hobbyist?

Ray Stephenson: **Do not become a plant snob** – the most common, humble, or easy plants can give immense pleasure.

Xerophilia: Thank you Ray, we would like to wish you all the best in the future!

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Tristerix aphyllus – an exotic cactus parasite

by Ján Baran, Zvolen, Slovakia

Tristerix aphyllus is known as the Chilean mistletoe, and indeed it is very wide-spread in this country. In our neighbourhood it is often encountered in association with its relative, the white mistletoe. The white mistletoe (*Viscum album*), also known as the European mistletoe, is a tree dwelling parasitic plant of the *Santalaceae* family (and was formerly in the *Viscaceae* and *Loranthaceae* families). It usually doesn't harm the trees. However, both plants are aerial parasites. *Tristerix aphyllus* is very interesting to look at. It grows mainly in Chile (see distribution map) and is parasitic mainly on cacti, especially on *Echinopsis chilensis*, *Eulychnia acida*, *Copiapoa coguibana*, *Opuntia miguelii* but is encountered on other species as well.

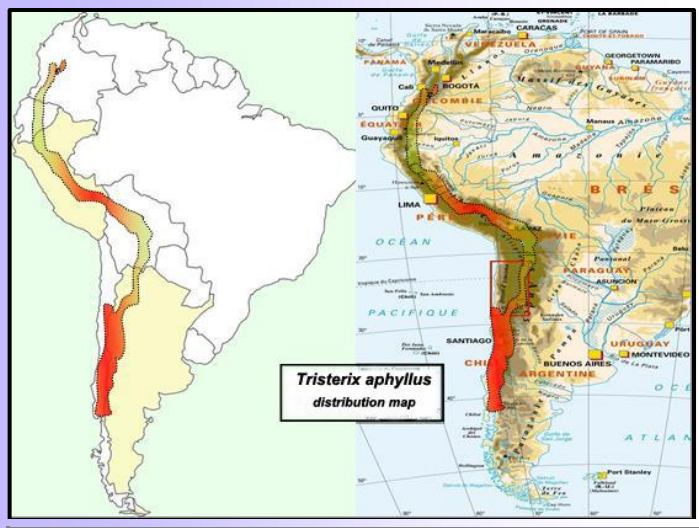
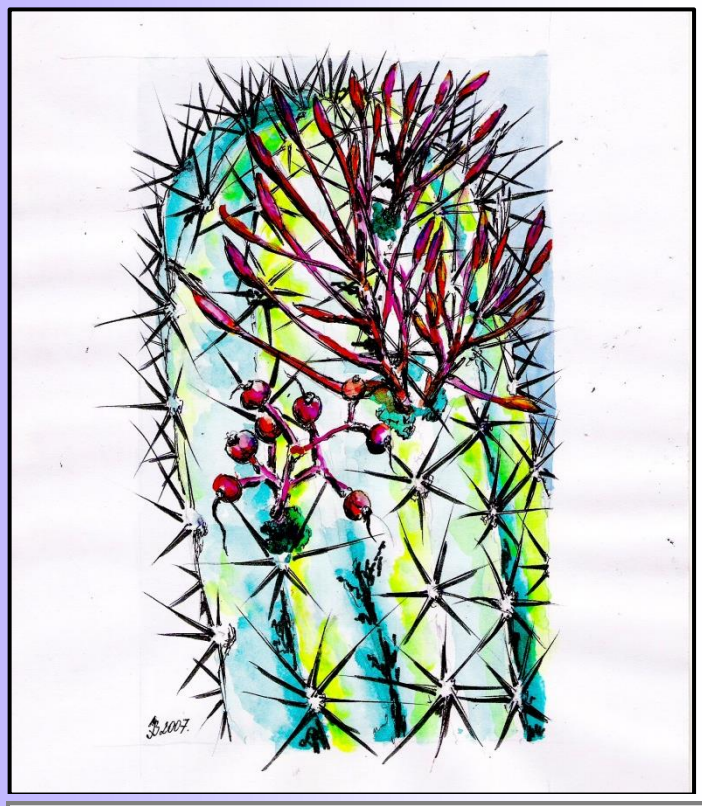


Fig. 1 Distribution map.

Fig. 2 *Tristerix aphyllus*. Photo Josef Odehnal

On such hosts *Tristerix aphyllus* can produce in time severe damages. It looks like a very nice decoration at first glance, as it has beautiful bright red flowers. *Tristerix aphyllus* has been reported to be a nonphotosynthetic holoparasite (*), however, the presence of green tissues in seedlings strongly suggests that chlorophyll is present.



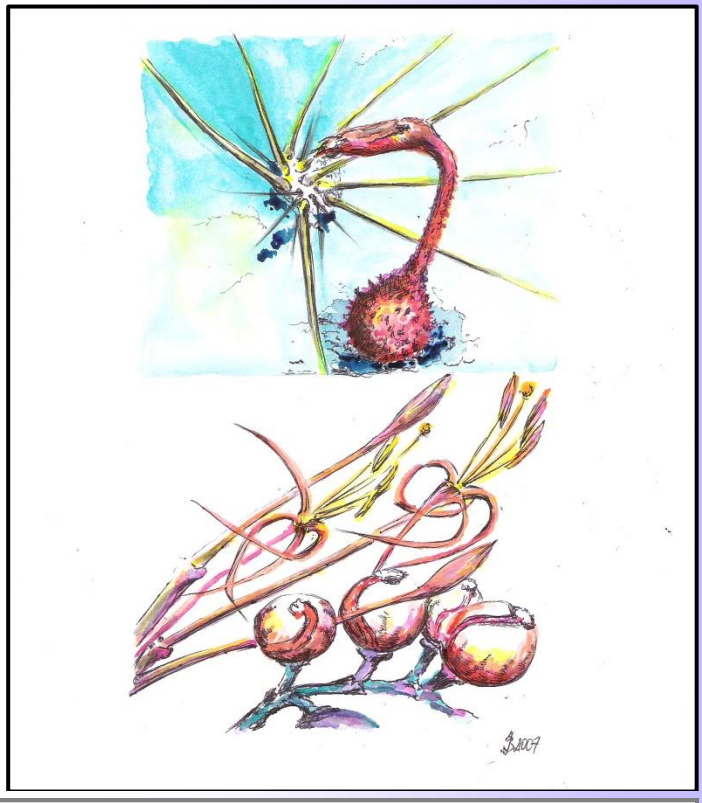


Fig. 3, 4 *Tristerix aphyllus* Drawings Jan Baran

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The parasitic life cycle and propagation are as follows. The red flowers are full of nectar and therefore attract mainly insects and hummingbirds to cater for pollination. The plant produces sticky, spherical fruits containing seeds. The sticky extension will take care of seeds that birds eat them and scatter into the surroundings. The birds simply love it. The infestation is carried out mainly by birds like the endemic Chilean Mockingbird *Mimus tenca*. Seeds discarded in appropriate conditions begin to sprout and quickly form variable roots armed with sticky suction cups fixing themselves to the epidermis of the host plant. The variable root is able to take hold and grow through the epidermis, or through the areole of the host cactus. They are able to penetrate the vascular system of the host where the parasite draws both organic and inorganic nutrients.

During the juvenile stage of development *Tristerix aphyllus* generates a crisscross of wires on the cactus body. In favourable conditions the parasite continues to grow until it covers the entire body of the host. With the flowering the cycle is closed.

Fig. 5 The „crisscross of wires"

As I mentioned above, the parasite draws nutrients directly from the host. Although it almost lacks chlorophyll there is a photosyntetic process taking place. Under normal circumstances it takes place in chloroplasts, which are enclosed by membranes tightly folded into cylindrical organs called thylakoids, in the presence of chlorophyll which is an assimilation pigment. In addition to chlorophyll, which is apparently very reduced in *Tristerix aphyllus*, photosynthesis involves also other pigments, such as carotenoids. They cause the characteristic red colouring we can see in *Tristerix aphyllus*. Photosynthesis occurs only in the presence of light, which has to be absorbed in order to keep the process going. Chlorophyll is the main assimilation pigment and the parasite has strongly reduced chlorophyll, which has almost alone the ability to absorb incoming photons... However, the lack of chlorophyll is partly compensated by other pigments which generate different colours. All other colours rather than green are due to the auxiliary assimilation pigments. They form a sort of "network" in which is capturing incoming photons.

Fig. 6, 7 *Tristerix aphyllus* in blossom. Photo Josef Odehnal The crisscross of wires on the cactus body.

There are several factors affecting the photosynthetic levels:

Wavelength and light intensity. The most useful for photosynthesis are the red and blue-violet light wavelenghts. The plant is capable of absorbing only 2% of the light it is receiving. The rest is reflected. By increasing light intensity the photosynthetic process is accelerated, however, increases of light intensity above a certain limit do not contribute to further increases of photosynthetic activity.

Carbon dioxide. The CO_2 concentration of the atmosphere is 0.03%. Large increase or decrease in the concentration slows or even stops photosynthesis, minor changes do not affect it.

Temperature. Temperature greatly affects photosynthesis. In different plant species the optimum temperature varies between 25 - 30 °C, however, in most plant photosynthesis takes place between 0 - 40 °C. This means photosynthesis occurs above or below the optimal levels, but not with the same efficiency.

Water. Water is absolutely necessary for photolysis; more, photosynthesis highly contributes to the overall waterloss in plants. If waterstressed plants close their stomata in order to preserve water. This shuts down the „vents" through which CO_2 penetrates into the plant and therefore photosynthesis slows down.

Fig. 8 *Tristerix aphyllus* on *Echinopsis chilensis*. Photo Josef Odehnal

On the surface of the host *Tristerix aphyllus* produces clumps of inflorescences and the development cycle is repeated. In most hosts the parasitic activity is prevented or slowed down by production of natural defence systems, such as phenols. However, regardless the defensive reactions of its host *Tristerix aphyllus* can adapt and vegetate. Because of this ability *Tristerix aphyllus* increases its chances of successfully parasitizing and reproducing, but still it is dependent on the host plant condition. Normally *Tristerix aphyllus* occurs in host plants on top of vegetative development. Localized expansions or severe infestations of *Tristerix aphyllus* are causally linked to the size of the population of the conveying vector - birds and so on.

After conquering the cactus-hos, after several years of expansion of the parasite, to the extent that the host plant is not enough to produce the required amount of nutrients, the cactus dies. The speed of this process depends on the conditions on the site and the extent of the damage. The pictures show all developmental stages of *Tristerix aphyllus*.

Fig. 9 The development stages of *Tristerix aphyllus*

Despite its exotic appearance and beautiful flowers *Tristerix aphyllus* is a serious problem for the cactus populations and, as supported by the attached map, it is in full expansion in the South American continent.

(*) Holoparasite is a nonphotosynthetic plant parasite that obtains all its nutritional requirements from the host.

Tristerix aphyllus – un parazit exotic al cactușilor

de Ján Baran, Zvolen, Slovacia

Abstract

Articolul prezintă un parazit al cactușilor, *Tristerix aphyllus*, o plantă răspândită în America de Sud și în mod special Chile. *Tristerix aphyllus* este înrudită cu vâscul (*Viscum album*) și aparține familiei *Santalaceae*. Parazitează în mod special *Echinopsis chilensis*, *Eulychnia acida*, *Copiapoa coguibana*, *Opuntia miguelii*, dar poate fi întâlnită și la alte specii de cactuși. Propagarea: florile roșii conțin un nectar care atreag insecte și colibri, aceștia fiind responsabili cu polenizarea. Ulterior răspândirea semințelor se face cu ajutorul păsărilor (în mod special mierla endemică *Mimus tenca*) care consumă fructele lipicioase. Dacă sunt abandonate în locuri propice (în general pe corpul unor cactuși), semințele germinează și formează rădăcini care penetrează epiderma. Parazitul își procură toate substanțele nutritive direct din corpul gazdei. *Tristerix aphyllus* are o activitate fotosintetică redusă, clorofila lipsind aproape complet. Totuși, în fotosinteză sunt implicați și alți pigmenți, cum ar fi carotenoizii, iar aceștia împrumută culoarea roșie atrăgătoare. *Tristerix aphyllus* este un parazit periculos pentru că poate acoperi în timp întreaga plantă cu o rețea de tulpini, iar dacă cactusul încetează să mai facă față cantităților crescânde de substanțe nutritive necesare parazitului, atunci intră în colaps. Este de asemenea adaptabil la substanțele naturale de apărare ale cactușilor (fenoli). În ciuda aspectului sau exotic *Tristerix aphyllus* reprezintă o problemă serioasă pentru populațiile de cactuși din natură (vezi harta) și este în plină expansiune pe continentul Sud American.

Athena Mantle

www.athenamantle.com
www.facebook.com/athenamantle

Born in Santa Monica California, Athena Mantle lived in Southern California until the age of 8 when her mother decided it was time for a change. She spent the next ten years on the Gulf Coast of Florida growing up. Always an independent spirit, Athena left home at 18 to go back to her native land and has never looked back.

Athena's artistic journey began as a child who loved to draw. She studied perspective and figure drawing from books and often spent her free time sketching animals and faces from magazines with pencil and paper. Encouraged by a friend, she continued her art education at Mission Renaisssance in Los Angeles.

In 1994 she became an art instructor, and began teaching children to draw and paint. Today painting full-time, she lives in the San Gabriel Mountains with her husband and two dogs. While she does bear the famous Mantle name, she did not inherit the baseball gene but does enjoy biking on the weekends. In her hillside home, which she likes to call her tree house, she maintains an array of succulent and cactus specimens which can be found in her work.

A Prickly Infatuation

by Athena Mantle, Sunland, California

Agave and Succulents have always fascinated me. They are such a resilient plant species and yet hold so much beauty. Although I've grown many different varieties in my own garden in Southern California, I'm not very familiar with the correct plant species names. I'm an artist, not a horticultural specialist. I do however know something beautiful when I see it. I like to do close-ups focusing in on the details and color of the plants or place them in an urban setting. I think the details get lost on some people but in my book they are what make these plants so unique. I've been painting mostly specimen from my own garden and that of my close friend, Trish. She has quite the green thumb with succulents, even going so far as to create a framed hanging succulent garden. It's quite spectacular! I'm always eager to go to her house and see what's new. She has shared with me many pups to propagate in my own garden. Probably one of my favorite paintings was from a photo I took in her garden. It's an *Echeveria* of a variety I couldn't say but wow…what color and grace! It's titled, "Shooting Off Rainbows", because the blooms on it were just glowing with color.

Shooting Off Rainbows

My most recent succulent painting is another stunning echeveria from Trish's garden that I found nestled in the waterfall rocks of her backyard. Capturing the subtle changes of color required many layers of paint. This one is titled "Sunburst". It was painted with acrylic on paper. I left the white of the paper because I felt the starkness of the white background would really make the succulent pop!

Sunburst

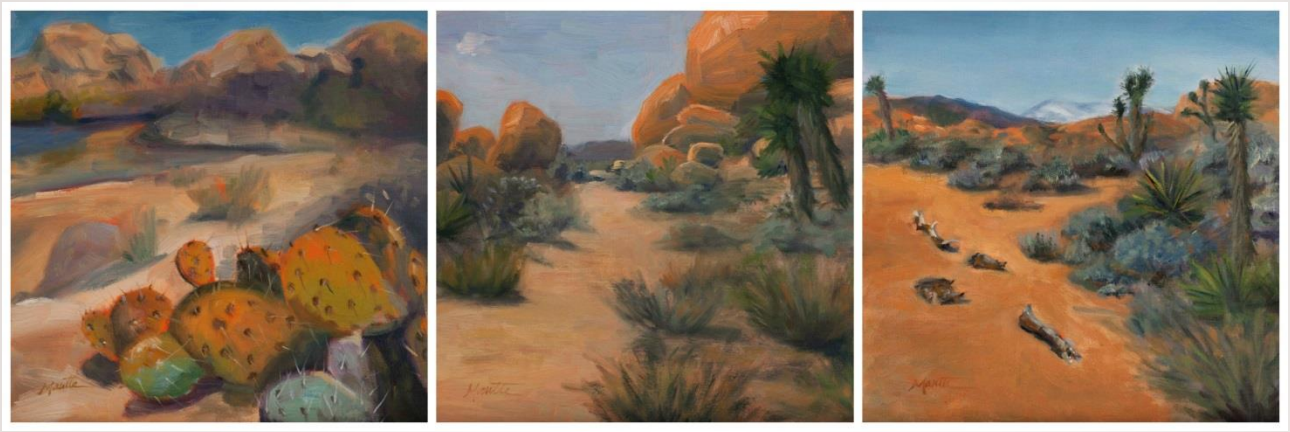
My challenge in painting these delicate creatures is capturing the light and subtle colors that define their beauty. Many people think that they are just boring desert plants and pass them by without a second look. Not me, they always cause me to stop in my tracks and grab my phone to take a photo. I'm fortunate to find them in everyday places like street medians and in many home and commercial landscapes. I'll take a desert garden full of cacti, succulents and agave any day over green grass! I think they turn a average street into a beautiful scene. In this area, many home owners have incentives to turn their water thirsty lawns into draught tolerant landscapes so there is a definite trend in Los Angeles to have these low water yards instead of the traditional grass and hedges that we used to see everywhere.

I've captured some local scenes that include as the focal point *Agave attenuata*. I did three paintings from the same location looking opposite ways down the street in front of this incredible garden. I had to paint all three viewpoints because they totally captured me! This house had a fully mature desert garden and it was a feast to see, so many different specimens, if I could only peek in the backyard to see what I missed there.

"Broadview Collage"

"Jardin de Cactus"

A few years ago, I took a trip to Joshua tree and discovered a more true desert landscape. I did a few paintings of the desert but I actually prefer a more densly clustered landscape like the gardens I see around town. Probably because the variety is so great and it is much more colorful. But it was interesting to see the plants in their natural environment.



Joshua Tree Collage

Word got out that I was painting desert plants and I started receiving photos from friends as suggestions for possible subjects. I had scouts all over town on the lookout for beautiful plants. The best part was that I was getting others to see the beauty that surrounded them. I received some photos from a friend of these Coral Aloes and created a series of oil paintings on paper.

Coral Aloe Collage

In my own garden, I have a large blue agave that is perfectly symmetrical planted in a copper fire pit that we decided had better use as a pot for our prized agave. It has sprouted many pups since it has been in the fire pit and one day I walked by it and saw these amazing shadows cast on the pups. I ran back inside and grabbed my camera to capture it. I titled this series, “Shadow Dance”, as it was really a study in the beauty of the shadows. I love the colors and the shape of the menacing thorns of the agave leaves found in the shadows that remind us just how painful these can be.

Shadow Dance Collage

This particular Agave has given me much material to work from. I admire it out in my garden every day.

Prickly Collage

Sometimes a plant requires more than one interpretation. In this case I did a pastel study, titled “prickly” of a blue agave on black paper. I love the texture that pastel can create. I used the same photo reference to create a much larger (3’x5’) painting in oil and “Prickly 2” was born. I really love playing with the subtlety of color changes that occur on the leaves and showing the impressions on the leaves from the ones that surround it as it grows, painting it in oil allowed me to show all the details. I could just get lost in all those patterns. Could I be more obsessed? I suppose I could have pet names for my plants, but thankfully, I don’t.

To see more of my prickly obsessions you can visit my website or follow me on Facebook.

Athena

O pasiune înțepătoare

de Athena Mantle, Sunland, California
(traducere prescurtată)

Agavele și suculentele în general m-au fascinat întotdeauna. Sunt atât de rezistente, dar răspândesc și multă frumusețe. Nu cunosc numele lor, eu sunt doar o artistă și nu specialistă în horticultura. Îmi place să mă concentrez asupa detaliilor plantelor, sau să le plasez într-un cadru urban, atunci când le pictez. Cred că mulți oameni nu observă detaliile, dar tocmai acestea fac suculentele atât de unice. De cele mai multe ori pictez plante din gradina mea sau a prietenei mele Trish. Una din picturile mele preferate este o *Echeveria*, după o fotografie făcută în gradina ei. Ce culori și câtă grație! Este intitulată “Shooting Off Rainbows”, deoarece inflorescențele ei străluceau în culori diferite. O altă *Echeveria* din grădină a fost pictată în ulei acrilic pe hârtie și surprinde schimbările subtile de culoare, lucru pentru care a trebuit să folosesc straturi succesive. Este intitulată "Sunburst".

Aceste creaturi delicate sunt o provocare pentru mine. Mulți oameni le consideră plictisitoare, dar eu prefer oricând o gradină plină cu cactuși, suculente și agave, unui gazon mărginit de garduri vii. Am câteva scene locale, care includ ca punct focal *Agave attenuata*. Am făcut trei picturi, cu plante din aceeași locație, o grădină incredibilă. O grădină deșertică matură, cu specimene atât de diferite, aproape că-mi venea să intru în curtea din spate, numai ca să vad ce am pierdut acolo.

Acum câțiva ani, am făcut o excursie la Joshua Tree și am descoperit un peisaj deșertic mai adevărat. Am făcut și în deșert câteva picturi, dar eu tot prefer peisaje mai dens grupate, ca în grădinile urbane. Probabil că varietatea lor este mult mai mare și sunt mai divers colorate. Dar a fost interesant pentru că am văzut plante în mediul lor natural. Prietenii au aflat că am pictat în deșert și am început să primesc fotografii și sugestii. Printre altele și câteva fotografii cu o *Aloe* coral, după care am făcut o serie de picturi în ulei pe hârtie.

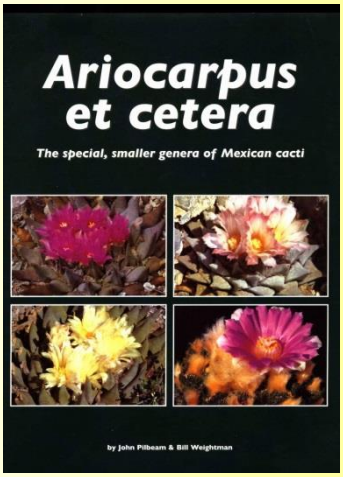
Am în grădină o agavă albastră mare, lăstărită și, într-o zi, trecând întâmplător, am observat umbrele uimitoare împrăștiate. Am luat repede aparatul de fotografiat pentru a captura imaginea. Am intitulat această serie, "Shadow Dance", pentru că a fost cu adevarat un studiu al frumuseții umbrei. Această agavă mi-a oferit mult material de studiu. Uneori, o plantă necesită mai mult decât o simplă interpretare. Am făcut un studiu de pastel, intitulat "Înțepător", de agave albastre pe hârtie neagră. Îmi place textura care o poate crea pastelul. Am folosit aceeași referire fotografică pentru a crea un tablou mult mai mare (3'x5 ") în ulei și astfel s-a nascut "Înțepător 2 ". Chiar imi place să mă joc cu subtilele tranziții de culoare care apar pe frunze iar pictura în ulei mi-a permis să arăt toate detaliile. Aș putea fi mai obsedată decât atât? Cred că aș putea da nume plantelor mele, dar din fericire, nu o fac.

Pentru a vedea mai multe dintre obsesiile mele puteți vizita site-ul meu sau puteți să mă urmați pe Facebook.

Athena

Ariocarpus et cetera - the special, smaller genera of Mexican cacti (2006, The British Cactus and Succulent Society)

by John Pilbeam and Bill Weightman



Although it is a fairly old book, ***Ariocarpus et cetera*** written by John Pilbeam and the late Bill Weightman, I think it definitely presents a huge interest for cactus enthusiasts even today, seven years after being published. I have to admit, once again, that I held the book in my hands for the first time only a few months ago. Unlike other Pilbeam books, this is not a monograph, but presents several minor Mexican genera not necessarily closely related to each other. However, even if not closely related – from botanical point of view - this book brings together a number of species that are naturally appreciated by the same category of collectors. Generally particularly interesting genera that include a low number of species, and therefore unlikely to be treated in a dedicated book. There is one exception though: *Cumarinia*, which is usually included in *Coryphantha*; however, the authors have seen plants in habitat and they felt it was necessary to treat them separately.

Unlike other cactus books there are little comments and advices on cultivation, propagation, pests and diseases ... but still addressing the essential aspects (anyway it can only be very unspecific, if we take into account the diversity of species discussed here). These issues are taken up, when and if appropriate, in the chapters dedicated for the species.

Following genera are treated here: *Acharagma*, *Ariocarpus*, *Astrophytum*, *Cumarinia*, *Epithelantha*, *Geohintonia*, *Leuchtenbergia*, *Lophophora*, *Neolloydia*, *Obregonia*, *Ortegocactus*, *Pelecyphora*, *Stenocactus*, *Strombocactus*, *Toumeya*, and *Turbinicarpus*.

Being numerous and very diverse genera, the authors take their time and freedom to deal in more detail, dwelling on elements often skipped in similar works. The plant descriptions are sufficiently detailed and readers can find sometimes anecdotal reports and references to other authors or their very own experience in habitat. All species / subspecies recognized at the time are generally treated; often there are references and comments in regards to synonyms and other taxonomic issues, and - as always in Pilbeam's books – there is bibliographical guidance on each and every taxon.

The photos are excellent and show both cultivated and habitat plants.

Overall, this is a great book for the more demanding rare Mexican cactus collector!

Therefore our rating is 

Alfriston Botanic Gardens (partea 3-a)

Eduart Zimer, Auckland, Noua Zeelandă

În acest episod am să vă prezint câteva din Agavele din Alfriston Botanic Gardens (ABG) precum și câteva plante aparținând unor genuri aliate cum ar fi *Yucca* sau *Beaucarnea* (oricât ar încerca taxonomiștii să le reclasifice și să le recombine, pentru mine tot genuri aliate rămân). Dacă Aloele sunt spectaculoase mai ales în perioadele mai răcoroase ale anului – și în mod special iarna, atunci când înfloresc – Agavele din ABG sunt, pentru mine cel puțin, o atracție permanentă. Și nu vorbim numai de câteva plante, ci de peste 50 de specii diferite care reprezintă probabil cea mai completă colecție de *Agave* cultivate în aer liber în Noua Zeelandă. Ce este fascinant la genul *Agave* este imensa diversitate cu care este exprimată o formă monotonă și strictă și nici foarte originală de altfel. Priviți, comparativ, fotografiile următoarelor plante și veți înțelege perfect ce vreau să spun: *Agave angustifolia*, *A. cupreata*, *A. geminiflora* și *A. decipiens* – câte variațiuni splendide pe o temă dată! Cele mai multe specii sunt originare din Mexic și SUA.

Fig. 1 *Agave angustifolia*

Fig. 2 *Agave cupreata*

Fig. 3 *Agave geminiflora*

Fig. 4 *Agave decipiens*

Ceea ce particularizează Agavele față de alte plante este statura lor – plante masive dar elegante, cu forme arhitecturale, care pot avea un mare impact vizual în orice grădină. Prin aceasta, „micile“ variații pe care încercăm să le deslușim febril la alte plante (ca de exemplu subtile variații ale spinației sau formei areolelor la cactuși) capătă cu totul alte dimensiuni... din punctul meu de vedere Agavele sunt plante miraculoase. Și (cunoscând habitatul lor de regulă uscat până la semi-arid) deosebit de adaptabile la iernile ploioase din Auckland. Unele cel puțin...

Fig. 5 *Agave ocahui* var. *longifolia*

Fig. 6 *Agave chiapensis*

Fig. 7 *Agave atrovirens*

Fig. 8 *Agave atrovirens* - bulbils

Dacă admirarea și fotografierea inflorescențelor de *Aloe* este o adevărată pasiune pentru mine, nu pot spune, din păcate, același lucru și despre *Agave*. Lucru oarecum de mirare, pentru că nu întâlnești în orice zi „stâlpi de telegraf" înalți de 6-7 metri încărcați cu flori... Dar, adevărul este că nu am decât foarte puține fotografii ale acestora... și nu tocmai reușite. Cert este că acord mai multă atenție semințelor sau bulbililor care se formează la unele specii (vezi fotografiile cu *A. atrovirens* și *A. obscura*).

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Fig. 9 *Agave scabra*

Fig. 10 *Agave scabra*

Fig. 11 *Agave ocahui* var. *longifolia*

Fig. 12 *Agave obscura* - bulbils

Cum am mai spus, ABG găzduiește poate cea mai completă colecție de *Agave* ce pot fi cultivate în aer liber în Noua Zeelandă, lipseste însă cea mai comună dintre specii – *Agave americana*, care cunoaște numeroase forme interesante (inclusiv câteva splendori variegate). În orice caz colecția ABG include *Agave franzosinii*, despre care se banuiește că este o mutație spontană a *A. americana* apărută în cultură și care a fost descoperită (cultivată evident) în Europa spre sfârșitul sec. 19. O altă absență de marcă este *A. attenuata*, deosebit de populară în grădinile din Noua Zeelandă.

O specie deosebit de spectaculoasă este *Agave striata*, cu aspect foarte diferit de plantele cu frunze late, puternice și înarmate cu țepi viguroși.... frunzele acestei plante sunt extrem de numeroase (de ordinul sutelor) și înguste de numai 1 cm, plantele putând avea, în funcție de formă, de la 30 cm la 120 cm înălțime și diametru. O plantă frumoasă și neobișnuită mai ales când lăstărește... eu unul nu mă mai satur privind-o!

Fig. 13 *Agave franzosinii*

Fig. 14 *Agave striata*

Desigur, multe *Agave* din colecția ABG nu sunt tocmai rarități ci plante chiar foarte populare: *Agave ferox* (specie care am avut bucuria și surpriza să o găsesc în curs de naturalizare la Napier, Hawkes Bay, Noua Zeelandă - poate va exista cândva un articol pe această temă), *A. macroacantha*, *A. kerchovei*, *A. palmeri* – cu frunze arcuite elegant, o adevărată splendoare!, *A. macroculmis*, *A. parryi* var. *parryi*, *A. guadalajarana*, etc. Nu raritatea speciilor mă fascinează însă, ci caracterul acestor plante. Mai mult, o Agavă este doar o Agavă și pot trece pe lângă ea fără să mă opresc prea mult, dar când sunt înconjurat de mai multe zeci de specimene, uneori atât de asemănătoare, dar și atât de diferite în același timp, fiecare având parcă o personalitate unică – eu unul mă simt copleșit.

Colecția ABG se completează în fiecare an cu 2 – 3 specii noi și cuprinde și câteva specii mai puțin comune în colecții. Una dintre ele este *Agave pelona* – o frumoasă specie mexicană cu frunze verzi, mărginite de o muche cornoasă de culoare sângerie până la brun-roșcat închis, și care este și o mică enigma (*). Mai mult, foarte multe forme din natură nu au muchea sângerie, plantele având un aspect mult mai banal. Aparent, din habitat au fost colectate preponderent clone... mai colorate și mai spectaculoase!

Fig. 15 *Agave macroacantha*

Fig. 16 *Agave kerchovei*

Ca să închid capitolul *Agave* – mai există o specie ce nu a putut fi identificată încă (Fig. 23), numită „oficial“ *Agave* no ID pe plăcuțele de indentificare; mie mi se pare oarecum asemănătoare cu *A. obscura*, dar aș fi recunoscător dacă cineva, văzand fotografia, ar avea o sugestie în ceea ce privește numele. Am colectat semințe, dar sunt încă în stadiul de plantule foarte tinere.

Nu pot să omit ceea ce în mod obișnuit sunt numite genuri evident „aliate“, aliațe destul de răvășite însă de avalanșa de recombinări și reclasificări recente (care a culminat cu dispariția oficială a fam. *Agavaceae*) – *Beaucarnea* / *Nolina*, *Dasylirion*, *Beschorneria*, *Yucca*, etc.

Fig. 17 *Yucca carnerosana*

Fig. 18 *Yucca guatemalensis*

Chiar dacă selecția ABG este mai puțin reprezentativă în această privință, pot fi admirate exemplare superbe de *Yucca guatemalensis* (mai cunoscută sub numele de *Y. elephantipes*), *Y. glauca* – minunată când înfloreste, *Y. rostrata* – o splendoare de plantă cu multe sute de frunze înguste, persistente și când se usucă, terminate cu un spin perfid, *Y. whipplei* (lipsește însă *Y. gloriosa*, plantă naturalizată în Noua Zeelandă), mai multe exemplare frumușele de *Beaucarnea* (*Nolina*) *guatemalensis*, *Beschorneria yuccoides*, etc.

Vă las deocamdată în compania fotografiilor, iar în episodul următor o să încerc să vă prezint cactaceele cultivate în aer liber la ABG.

Fig. 19 *Agave titanota*

Fig. 20 *Manfreda variegata*

(*) Deși inclusă în seria *Marginatae*, habitatul acesteia (lângă Caborca, în miezul deșertului Sonora) se află la mare distanță de cel al altor plante din serie; în plus *A. pelona* se deosebește prin muchia cornoasă **continuă** (în mod tipic zimțată la *Marginatae*) și florile în forma de clopoțel (mici și tubulare la *Marginatae*).

Alfriston Botanic Gardens (part 3)

by Eduart Zimer, Auckland, New Zealand

In this episode I will try to present some of the *Agave* plants being cultivated at Alfriston Botanic Gardens (ABG) and very briefly also few of the allied genera, such as *Yucca* or *Beaucarnea* (whatever the taxonomists try to reclassify and recombine them into, I can't help but see them as *Agave* relatives). If the Aloes are spectacular especially in cooler periods of the year - and especially in winter, when flowering - the Agaves of ABG represent, for me at least, a permanent attraction. And we're not talking just a few plants, but well over 50 different species - this is probably the most complete outdoors grown *Agave* collection in New Zealand. What fascinates me at the Agaves is the boundless diversity expressed by a form which is basically very meticulous but somewhat pedestrian, and not very original or uncommon at all! Look comparatively at the plants in following pictures and you will understand exactly what I mean: *Agave angustifolia*, *A. cupreata*, *A. geminiflora* and *A. decipiens* – how many beautiful variations on a given theme! Most species are native to Mexico, USA and Central America.

Fig. 21 *Agave palmeri*

Fig. 22 *Agave guadalajarana*

The one thing that makes *Agave* very special, particularizing them from other plants is their size – they are large plants but ensuring elegant and architectural shapes that can have a big visual impact in any garden. By this, all the „small" variations we often consider of strategic importance when we feverish observe in other plants (such as subtle variations in spine or areole size, colour and shape in cacti) gain new magnitudes... from my point of view the Agaves are miraculous plants. And (knowing that their natural habitat is usually dry to semiarid) very easy-going in Auckland's rainy winters. Some of them at least ...

Fig. 23 Agave no ID (aff. obscura)

Fig. 24 *Agave pelona*

While admiring and photographing *Aloe* inflorescences became in time a real passion for me, unfortunately I cannot say the same thing about the Agaves. This might look somewhat surprising, because you don't encounter any day 6-7 meters tall "telegraph poles" loaded with flowers ... But it's not my thing and it happens that I have only very few such pictures... and not the greatest ever taken anyway. Fact is that I paid more attention to the seeds or bulbils that form in some species (see the pictures of *A. atrovirens* and *A. obscura*).

Fig. 25 *Agave potatorum* (var. *verschaffeltii*)

Fig. 26 *Agave dasylirioides*

Like I said, ABG hosts perhaps the most complete New Zealand outdoors grown *Agave* collection, but the most common species is missing – the sculptural *Agave americana*, very variable and of which many interesting forms are known (included some variegated beauties). However the ABG collection includes *Agave franzosinii*, which is believed to be a spontaneous mutation occurred in cultivated *A. americana*, and was discovered (obviously in cultivated state) in Europe towards the end of the 19th century. Another unfortunate absence is *A. attenuata*, a very popular feature of New Zealand gardens.

A very spectacular species is *A. striata*, a species looking quite different from the typical strong, wide-leaved and heavily spined plants ....the species has very numerous leaves (literally hundreds of them) and very narrow – up to 1 cm; the plants size varies, depending on the form, from 30 cm to 120 cm in both height and diameter. A beautiful and unusual plant, especially when offsetting ... I simply can't get enough of it!

Fig. 27 *Agave ferox* ssp. *ferox*

Fig. 28 *Agave parryi* var. *parryi* (*Agave patonii*)

Of course, many of the Agaves from the ABG collection are not exactly rare but very popular plants: *Agave ferox* (I had the enjoyment and surprise to see it in full naturalization process in Napier, Hawkes Bay, New Zealand, and maybe someday I'll write an article about this), *A. macroacantha*, *A. kerchovei*, *A. palmeri* - with gracefully arching

leaves, really gorgeous!, !, *A. macroculmis*, *A. parryi* var. *parryi*, *A. guadalajarana*, etc. However, it is not the rarity of a species that fascinates me... but the character of those plants. More, an *Agave* is an *Agave* and and can stream past it without stopping too much or at all, but if I'm surrounded by dozens and dozens of specimens, sometimes so similar, but so different at the same time, each with a unique personality though - I for one feel simply overwhelmed.

Fig. 29 *Agave schidigera*

Fig. 30 *Agave obscura*

Fig. 31 *Agave macroculmis*

Fig. 32 *Dasylirion longissimum*

Fig. 33 *Dasylirion acrotrichum*

Fig. 34 *Yucca glauca*

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Yearly ABG adds 2 – 3 new species to its collection, which includes also some of the more unusual Agaves. One of them is *A. pelona* – a beautiful mexican plant with green leaves with blood-red to brown-red entire corneous margins and terminal spine, a plant which is actually a small mystery (*). Furthermore, many natural forms in habitat don't have that blood-red margin, plants being more commonplace. Apparently, mostly the colourful and spectacular clones... were collected from the habitat!

Fig. 35 *Beaucarnea guatemalensis* (*Nolina guatemalensis*)

Fig. 36 *Beaucarnea stricta* (*Nolina stricta*)

To wrap up the *Agave* chapter now, there is this species that has not been identified yet (Fig. 22), "officially" mentioned on ID tags as *Agave* sp. No ID; it seems to me somewhat similar to *A. obscura*, but I would be grateful if anyone seeing the picture, would have a suggestion. I have collected seeds, but seedlings are much too small for identification at this stage.

I cannot overlook plants commonly regarded as obviously "allied" genera, alliances that have been somewhat torn apart by the avalanche of recent reclassifications and recombinations (culminating with the official write-off of *Agavaceae* family) – *Beaucarnea* / *Nolina*, *Dasylirion*, *Beschorneria*, *Yucca*, etc.

Even if the ABG selection is less representative in this regard, you still have the chance to admire superb specimens of *Yucca guatemalensis* (usually labelled *Y. elephantipes*), *Y. glauca* – amazing when in flower, *Y. rostrata* – a magnificent plant with several hundreds of narrow leaves, persistent after they dry out, and bearing a treacherous but less obvious terminal spine, *Y. whipplei* (however, the common *Y. gloriosa*, a New Zealand naturalized species is missing), several artsy specimens of *Beaucarnea* (*Nolina*) *guatemalensis*, *Beschorneria yuccoides*, etc.

I will leave you in the company of the pictures for now, while in the next episode I will try to present the cacti scattered outdoors here at ABG.

Fig. 37 *Yucca elata*

Fig. 38 *Yucca whipplei*

Fig. 39 *Nolina beldingii*

(*) Although included in series *Marginatae*, its habitat (near Caborca, in the core of the Sonoran desert) is far away from the other species of the series; more, *A. pelona* is distinguished by the entire corneous leaf margin (typically toothed in *Marginatae*) and bell-shaped flowers (small and tubular in *Marginatae*).

Cacti on trees

by Ricardo Daniel Raya Sanchez, **Celaya, Guanajuato, México**

Epiphytic cacti?????? What comes to mind are genera like *Epiphyllum*, *Rhypsalis* and *Hylocereus*. These species are mostly tropical, but this way of life is not unique to these genera and these climatic types, as life has capricious ways of coping with challenges. Some other cactus species turn, when in need, to the epiphytic way of life. I will present this in this short report.

Cacti are plants that are, as we all know, mostly adapted to drought conditions, low fertility substrates, and generally extreme conditions; these adaptations have been developed over thousands and thousands of years, through natural selection. Because of this type of adaptations they can live in small cracks between the stones, on almost sterile soils and – as we will show here - this time on the trunks of trees and climbed on other plants.

Fig. 1, 2 The tree with *Tillandsia* and cacti – *Mammillaria elongata* and *Ferocactus echidne*. Some of them in a close-up photos.

First of all we must understand that these cacti do not pose any harm to their host (these are not parasitic plants), as this only serves as protector and as direct support. This creates an association without damage to either party.

This way of life had not seen before in typically non-epiphytic cactus species, and it was a very pleasant surprise when I saw the first plant to grow in this way: a *Mammillaria elongata* in Sierra del Doctor! This has got me thinking. It was pretty strange how they managed to grow and actually to survive. How did they get the water from? Or the nutrients? I started then making deductions: perhaps there is a little amount of soil that has been blown by wind and deposited there, or maybe from the leaves and bark chips from trees which over time breaks down and begins to turn into compost, or perhaps some nitrogen input from bird droppings, etc.

Fig. 3, 4 *Ferocactus echidne*, Sierra El Infiernillo, Qro. and *Mammillaria hahniana* in *Bursera morelense*, Xichu, Gto.

Fig. 5, 6 *Mammillaria hahniana* in *Bursera morelense*, Xichu and in *Calibanus hookeri*, El Guamuchil, Guanajuato

Besides the specific conditions that had to have seeds to germinate there and how they got there, the fact is that it must have been a combination of many different factors so that a plant could get to survive, grow and – as you can see - even thrive in such conditions.

And this was not the only sight of plants growing in this kind of association, later I saw the same situation but this time on a very unique plant, respectively on the trunks and logs of a resinous tree *Bursera morelense*, a tree having a very thin peeling bark, which maintained a *Mammillaria hahniana* in a fork of its trunks. The trunk of this particular tree becomes extremely difficult for any other plant to grow on, since its bark characteristics are unfavourable for the attachment and germination of seeds, but yet this did not stop them to go ahead provide us with such a wonderful view.

…and these are just few of the cases… in the future I hope to find many more species growing on trees and to present many more photos

The photographs have been taken in two different sites, both located in the municipality of Guadalcazar, San Luis Potosi, Mexico. The majority of these plants flower in November but the sluggish ones as late as December.

Cactuși în copaci

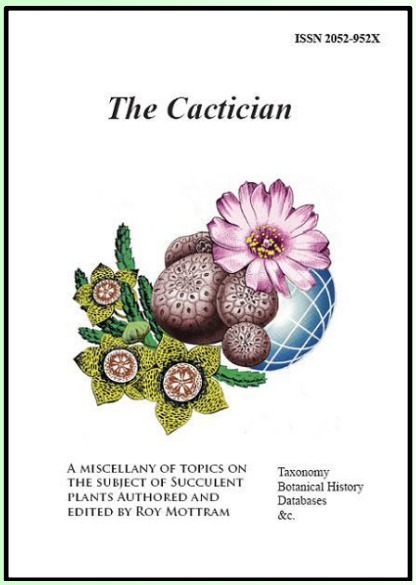
de Ricardo Daniel Raya Sanchez, **Celaya, Guanajuato, Mexic**

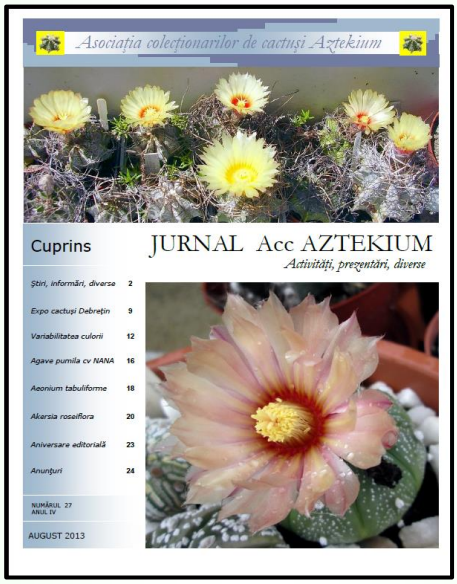
Abstract

Când te gândești la cactuși epifiți gândul îți zboară spre genuri tropicale cum ar fi *Epiphyllum*, *Rhypsaliss* sau *Hylocereus*. Restul cactușilor sunt întâlniți în mod special în zone aride, cu sol puțin fertil, crescând în condiții extreme. Totuși, capacitatea lor de adaptare este atât de mare, încât – oricine ar putea fi surprins – ei pot crește și în condiții epifite, pe ramuri sau îmbinările acestora, unde probabil că s-a putut forma o acumulare superficială de sol. În continuare sunt prezentate câteva cazuri cum ar fi un arbore în care, pe mai multe etaje cresc atât *Mammillaria elongata*, cât și *Ferocactus echidne*. Spectaculoasă este prezența total neașteptată a unei *Mammillaria hahniana* crescând pe trunchiurile unui arbore rășinos - *Bursera morelense* – a cărui scoarță netedă nu permite acumularea de praf și nici ascunderea rădăcinillor plantei în crăpături adânci unde ar putea găsi umiditate. În sfârșit ne este prezentată o altă *Mammillaria hahniana*, crescând pe trunchiul unui caudeciform: straniul *Calibanus hookeri*. Fotografiile au fost făcute în două locații diferite din Municipalitatea Guadalcazar, San Luis Potosi, Mexico.

Online magazines

Various publications: We start with a new free online journal that we missed last issue – The Cactician, edited by Roy Mottram and hosted by International Crassulaceae Network. This journal is focused on taxonomy, botanical history, botanical databases and other topics on cacti and succulents. Three issues have been published to date, each discussing a distict topic: Typification and application of the name *Aloe perfoliata* L.; Notes on *Desmidorchis retrospiciens* Ehrenb.; and the Linnaean cactus legacy. A wealth of information! By the time we write this no other new Crassulacea issue has been published, however, we have to remind you about this excellent journal containing miscellaneous notes and observations published by the International Crassulaceae Network.





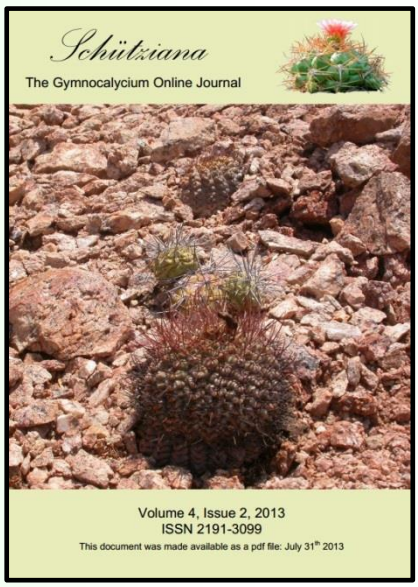
Monthly journals: The Acc Aztekium Journal continues its monthly appearances, with the same interesting and varied summary (in Romanian). After a summer holiday break Avonia-News is back in August with a double issue packed with highly interesting articles on succulent flora, written by German and International authors: Plant Profile - *Crassula pyramidalis* Thunberg, 1778 (by Judd Kirkel Welwitsch), Cultivation Tips for *Gibbaeum* (by Eddy Harris), *Sempervivum* - Novelties 2013 (by Erwin Geiger), An extensive travel report from Zimbabwe (by Judd Kirkel Welwitsch), and much more... In German, with some articles also in English. And, as usual, the layout is impeccable; it's been a real pleasure to read the 54 long pages journal!

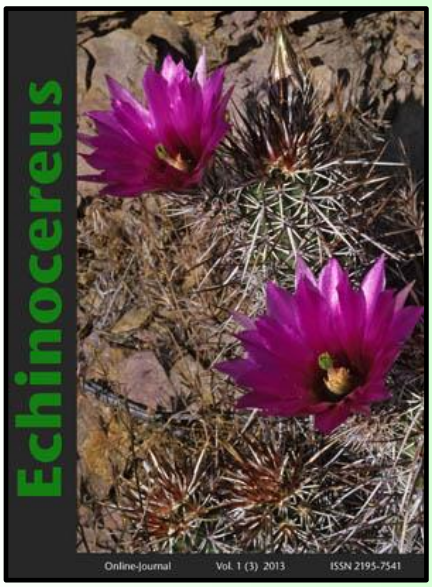
Quarterly journals: Schütziana, Vol. 4, No. 2 (2013) continues the important work of removing the uncertainties discovered in botanical literature and field works and clarify taxonomic issues, based of field collections and documented material. In this issue Massimo Meregalli starts a new series: *Gymnocalycium*, subgenus *Scabrosemineum*, of the surroundings of Mazan (Argentina, provinces La Rioja and Catamarca) - 1. *Gymnocalycium ferrarii* Rausch 1981.

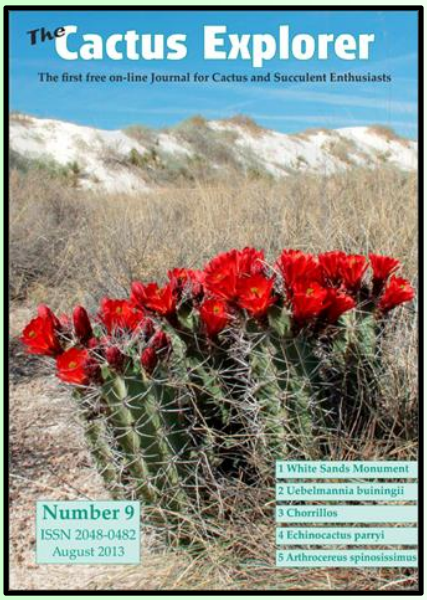
Succulentopi@, the journal edited by our francophone colleagues, includes in its latest issue (No. 6), a number of interesting articles focused specifically on the presentation and description of cacti and succulent plants. From this number there we mention: *Conophytum*, *Lithops* & Co. series – *Juttadinteria*, *Astridia*, and *Hereroa*; a reprint from ***Xerophilia*** Vol. 2, No. 4, March 2013: an excellent article by Daniel Schweich - The genus Lobivia Br. et R. in 2013, and other highly interesting pictures and information. (In French).

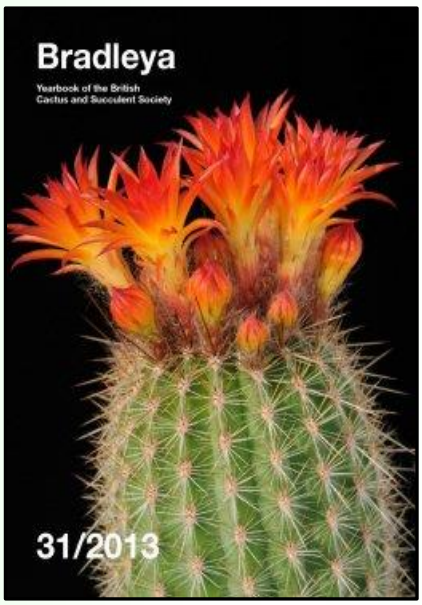
In early July has appeared the third issue of Echinocereus Online-Journal, dedicated to the study of these plants (classification, morphology and evolution). The articles, in German and accompanied by English abstracts, are written by some of the great specialists of the genus: Dieter Felix, Wolfgang Blum, Herbert Bauer and Werner Rischer. We

want to point out especially the particularly inciting open letter entitled "*Academicians and Cactus Lovers - Professionals and Amateurs*?". A fourth issue is in an advanced stage of production and will be put online in early October. A special note for the exceptional editorial quality of this publication. (Well, all German publications are exceptional!)









Last, but not least, Cactus Explorer – the first free on-line Journal for Cactus and Succulent Enthusiasts, is now online with No. 9 (August), and is very consistent and packed with reports on plants and their habitats or related topics: The elusive *Echeveria juarezensis* (by John Pilbeam), Meet *Echinocactus parryi* (by Aldo Delladio), A day out at Chorillor (by Graham Charles), an outstanding article on *Uebelmannia buiningii* by Rudy Krajca, and few others. Once again, an excellent issue.

Now, we wish to mention this time around a printed publication as well. Graham Charles is the new Editor of the yearbook Bradleya, the flagship of the British Cactus & Succulent Society, and Vol. 31/2013 just came out from the print. It includes very inciting and technical articles on new taxons (*Matucana rebutiiflora*, *Ferocactus wislizeni* ssp. *ajoensis*, new *Borzicactus* and *Ectotropis* species), regional monographs (The genus *Aloe* in Djibouti, The family *Crassulaceae* in continental Portugal), nomenclatural notes (on various *Agave*, *Aloe*, *Lobivia* and *Gymnocalycium* species, *Knersia* gen. nov.), notes on biology and morphology of cacti and other succulents, etc.

Jurnale online publicate în ultimele luni: The Cactician (o revistă nouă, editată de Roy Mottram, pe care v-o recomandăm cu căldură), Crassulacea, Jurnalul Acc Aztekium, Avonia-News, Schütziana, Succulentopi@, Echinocereus Online-Journal, Cactus Explorer. Toate aceste jurnale – care împărtășesc cunoașterea – pot fi descărcate gratuit. Dorim să menționăm de asemenea și o publicație tipărită – anuarul BCSS Bradleya, al cărui număr 31/2013, îngrijit de noul editor, Graham Charles, tocmai a apărut.

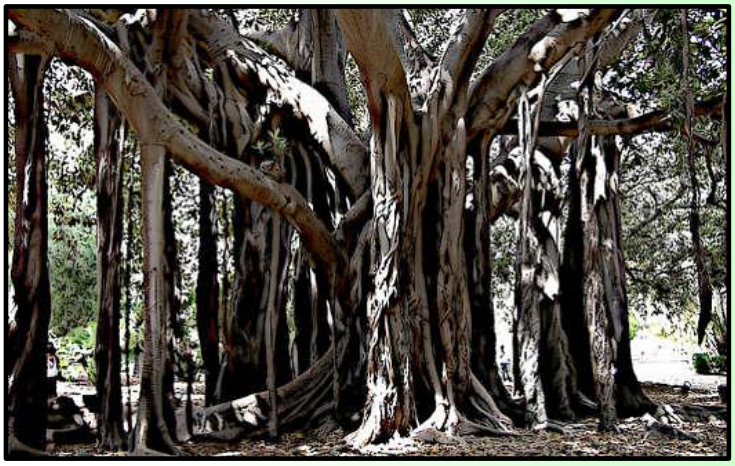
Bits and Pieces

Website Stories

As cactus enthusiasts we are always keen to look for internet ressources which might help us improve our cultivation skills, for the good of our beloved plants. From general gardening, to habitat and travelogue, to forums, to monographic and personal pages, or anything in between... there's always a lot of useful information out there. But we rarely go beyond certain limits that seem so natural to us. Apparently no need for high level science stuff, especially when we face a problem plant in our pot – we look instead for an easy fix. However, there are some other, alternative sources I would say, that may not fix immediately our current problems but may help us on the long term. The readers of our first special issue – The Stone Eaters – may have noticed that the bibliography indicated at the end of the feature article referred several times to papers on rock colonization and breakdown, microbiologic populations of desert environments or of the rhizoplane, and similar stuff... quite dry scientific papers... most of them being downloaded for free from a single source: The Bashan Foundation.

The Bashan Foundation, established in 1999 by Dr. Yoav Bashan, an eminent environmental microbiologist, is a giant data bank for free scientific information that contains many thousands of scientific papers on various issues that support environmental science, conservation of natural resources in environmentally sensitive areas, ecological sites surveys, various, scientific and educational publications, art (painting and music), and conducts also its own graduate student fellowship program. It's not all about deserts or xerophytes, but certainly you will find incredible amounts of information on xeric environments. A huge archive of publications (by author) is available, mainly on soil microbiology, plant pathology, plant-bacteria interactions, plant growth promoting bacteria, plant pathology, cell biology, bio-chemistry, xeric environments and plant populations, and much more. Extremely useful for gaining a different perspective. Worth browsing for specific topics as it is a wealth of knowledge.

I will stick with the non-conventional cactophile resources by presenting you another scientific project, but of a very different nature: the website of the International Laboratory of Plant Neurobiology, Florence, Italy. Well, some of us might see in plants – succulent or not – intelligent living beings, being able of communicating and signalling, of having intellectual responses, of solving problems and planning ahead, of intentional movement, generally of having intelligent behaviour, and so on. However, for most of us, in the absence of neural structures similar to the animals, it becomes hard to believe that plants are so much different from the passive beings we mostly consider them to be. I.L.P.N. champions the *„scientific interest in plant movements, sensitivity, and possible intelligence*" by supporting research and making available to the public and scientists alike several studies on plant neurobiology and cellular chemistry. *„Our viewing of plants is changing dramatically away from passive entities being merely subject to environmental forces and organisms that are designed solely for accumulation of photosynthate. In contrast, plants emerge as dynamic and highly sensitive organisms that actively and competitively forage for limited resources, both above and below ground, organisms that accurately compute their circumstances, use sophisticated cost benefit analysis, and that take defined actions to mitigate and control diverse environmental insults. Moreover, plants are also capable of a refined recognition of self and non-self and are territorial in behavior*." Highly interesting ! One might think twice now, before beheading a plant and use it as a grafting stock.



Cactus Hobby Brno

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Erratum

Aldo Delladio has kindly pointed out a typing error which slipped undetected in our special issue **The Stone Eaters**.

The caption of Fig. 14 reads by mistake *Pelecyphora aseliformis* instead of *Pelecyphora aselliformis*, which is the correct orthography… Mille volte grazie, Aldo!

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