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FREE online journal

CACTUS ADVENTURES International

Canary Islands, Aloe jacksonii, Weingartia longigibba, the genus Calochortus, Morocco, Perú...

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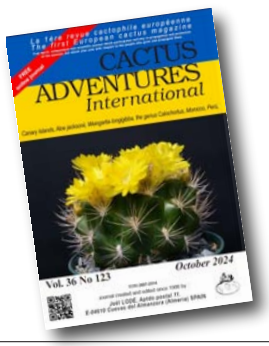

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Edito

Chers Cactus-Aventuriers,

Le monde régresse dans de nombreux domaines : je n'étais pas certain de l'absolue nécessité d'intégrer le droit à l'avortement dans la constitution, mais lorsque l'on regarde une démocratie comme les Etats-Unis, qui bafoue ce droit dans de nombreux états, on ne peut plus se poser la question.

On peut aussi rester perplexe ou aveugle, devant une certaine France négationniste qui refuse nos symboles religieux, devenus culturels, comme la nativité dans certaines villes, et dans d'autres où des contraintes religieuses médiévales extérieures à nos valeurs, notre culture (voile, ramadan, nourriture halal, prières de rue, blasphème, charia) sont acceptées, mais où la radicalité barbare conduit jusqu'à la mort de Musulmans modérés parce qu'ils ont bu de l'alcool, de "crimes d'honneur" (horreur serait plus en adéquation avec ces drames) ou simplement d'un passage à tabac d'une lycéenne qui a mangé durant la période du ramadan, ou pire, d'assassinat de jeunes femmes violées par des individus étrangers dangereux qui n'auraient jamais dû être en France, et jusqu'aux attentats terroristes, que certains irresponsables politiques confondent avec des actes résistants.

Nous ne pouvons cacher ces actes haineux et contraires à nos valeurs, notre culture, ils montrent que quelque chose est entré insidieusement dans notre pays, et qui nous dévore lentement. Ce ne sont plus des faits divers, mais des faits d'une société malade d'un cancer dont on espère qu'il n'est pas incurable. En France, nul ne peut imposer sa religion par la violence. Seule, l'une d'elles est la plus active et cette minorité prend de plus en plus les Français en otage, appuyés par les nostalgiques de la Terreur.

Il me semble bizarre, pour ne pas dire plus, que des étudiants et groupes LGBTetc. appellent au boycott d'Israël, le seul pays du Moyen-Orient qui sauve et protège les homosexuels, et ne disent rien de pays comme l'Iran, où les homosexuels sont pendus ou lapidés à mort. Cela illustre un état d'esprit qui dépasse l'entendement. Dans onze pays musulmans, pour des relations homosexuelles, la peine de mort est la sanction prévue.

Igor R déclare : les pays islamistes qui encerclent Israël considèrent cet état démocratique comme une verrue qu'il faut extirper, cependant que le monde occidental considère que ces états islamistes sont un cancer qu'il faut éradiquer avant que la partie saine (Israël) ne soit touchée à son tour. Mais le cancer s'est étendu bien au-delà de leurs frontières et continue de s'étendre insidieusement dans toute l'Europe et l'Afrique. Le principal problème de l'islamisme est qu'il va bien au-delà de la religion. C'est a une idéologie politique collectiviste et un système totalitaire qui n'évolue pas et qui n'est qu'une question de soumission ("Islam"). L'islam fondamental est une menace pour l'Europe, en raison de sa nature suprématiste : Daesh, Boko Haram, ISIS, Al Qaida, Hamas, Hezbollah, etc. importent leur vision d'un islamisme esclavagiste, pédophile, intolérant, haineux et raciste, mysogine, homophobe, antisémite et anti à peu près tout.

La France est touchée de tous côtés dans ses symboles : le respect n'existe plus ni pour notre drapeau, ni pour les serviteurs de l'État : bleu (les policiers) blanc (les infirmières), rouge (les pompiers).

Rien n'est jamais acquis : le Haut-Karabakh a été envahi et vidé de sa population arménienne, la guerre en Ukraine continue, le Hamas et le Hezbollah tuent pour imposer leurs lois, Israël tue pour continuer à exister, mais tout ces massacres ne débouchent sur rien de positif ; ils montrent seulement que l'être humain a encore beaucoup à faire pour devenir civilisé. Mais cela montre aussi que la faiblesse génère la soumission. Nous ne nous soumettrons pas.

Joël Lodé

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Editorial

Dear Cactus-Adventurers,

The world is regressing in many areas: I wasn't certain about the absolute necessity of incorporating the right to abortion into the French Constitution, but when we look at a democracy like the United States, which flouts this right in many states, we can no longer ask the question.

We can also remain perplexed or blind, when faced with a certain France denialist that rejects our religious symbols, which have become cultural, such as the nativity scenes in some cities, while in others, medieval religious constraints foreign to our values, our culture (veil, Ramadan, halal food, street prayers, blasphemy, Sharia law) are accepted. This radical barbarism leads to the death of moderate Muslims because they drank alcohol, to so-called "honour crimes" (horror would be a better fit for these tragedies), or simply to the beating of a high school girl who ate during Ramadan, or worse, the rape and murder of young women by dangerous foreign individuals who should never have been in France, and even to terrorist attacks that some irresponsible politicians confuse with acts of resistance.

We cannot hide these heinous acts that go against our values, our culture; they show that something has insidiously entered our country and is slowly devouring us. These are no longer isolated incidents, but symptoms of a society sick with a cancer that we hope is not incurable. In France, no one can impose their religion through violence. Only one religion is the most active in this, and this minority is increasingly taking the French hostage, supported by those nostalgic for the Reign of Terror.

It seems strange to me, to say the least, that students and LGBT groups call for a boycott of Israel, the only country in the Middle East that saves and protects homosexuals, while saying nothing about countries like Iran, where homosexuals are hanged or stoned to death. This illustrates a mindset beyond understanding. In eleven Muslim countries, the death penalty is the punishment for homosexual relations.

Igor R. declares: the Islamist countries surrounding Israel view this democratic state as a wart that must be eradicated, while the Western world views these Islamist states as a cancer that must be eliminated before the healthy part (Israel) is affected in turn. But the cancer has spread far beyond their borders and continues to spread insidiously throughout Europe and Africa. The main problem with Islamism is that it goes far beyond religion. It is a collectivist political ideology and a totalitarian system that does not evolve and is only a question of submission ("Islam"). Fundamentalist Islam is a threat to Europe due to its supremacist nature: Daesh, Boko Haram, ISIS, Al-Qaeda, Hamas, Hezbollah, etc., all import their vision of an Islamism that is enslaving, paedophilic, intolerant, hateful and racist, misogynistic, homophobic, anti-Semitic, and anti-almost everything. They are all terrorists.

France is under attack from all sides when it comes to its symbols: there is no longer respect for our flag, nor for the servants of the State: blue (the police), white (the nurses), red (the firefighters).

Nothing is ever acquired: Nagorno-Karabakh was invaded and emptied of its Armenian population, the war in Ukraine continues, Israel kills to continue existing, but all these massacres do not lead to anything positive; they only show that humanity still has a long way to go to become civilised. But it also shows that weakness generates submission. We will not submit.

Joël Lodé

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The rediscovery of *Aloe jacksonii.*

Roman Štarha (Czech Republic)
E-mail: xin.xiu@email.cz

I have always liked the miniature Ethiopian *Aloe jacksonii,* so it was only a matter of time before I tried to find it in nature. I was a bit discouraged by the fact that no one had found it again since its description and the fact that it grows in the unstable Ogaden region in Ethiopia.

Aloe jacksonii is a small-leaved, rhizomatous plant. The stem is short, usually up to 10 cm long. There are 5-7 leaves in a rosette, 10-15 cm long. Young leaves are semi-erect, while older rosettes are wide open. The upper side of the leaves is slightly concave, the skin grey-green, mottled with a varying number of light to almost white spots. In some specimens, the spots are arranged in stripes. The unbranched inflorescence is up to 25 cm tall, cylindrical, relatively sparse The racemes are 5-7 cm long, consist of about 10 flowers. The flower pedicel is 5-7 mm long and the floral sheath is scarlet red.

Aloe jacksonii in habitat, Ethiopia © R. Štarha

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Aloe jacksonii in habitat, Ethiopia © R. Štarha

The aforementioned tiny aloes were collected in 1943 by the British civil affairs officer and entomologist T. H. E. Jackson near “El Carre”. Jackson sent the discovered plants to P. R. O. Bally, Chief Botanist of the Coryndon Museum in Nairobi, who in 1951 sent them to ***Aloe*** specialist G.W. Reynolds for identification. ***Aloe jacksonii*** was described by Reynolds in The Journal of South African Botany in 1955.

Since the description of the taxon, there are no records in the literature of the species being found again in the wild, and all ***A. jacksonii*** available in culture are probably descendants from Jackson’s original collections. Several botanical expeditions subsequently attempted to find ***A. jacksonii***. Some were successful in discovering other new taxa, such as M. Dioli with ***Aloe elkerriana, Euphorbia bertemariae***, Sebsebe Demissew ***Gnidia elkerensis, Plectranthus spananthus***, and Ib Friis with ***Croton elkerensis***. However, ***A. jacksonii*** remained undiscovered.

Maurizio Dioli came closest to recovering this Ethiopian jewel. He is a veterinarian by profession, he spent a long time in Ogaden and tried to rediscover this saxicolous aloe based on the available information. Jackson's comment near the description suggests that the plants originally grew on the steep side of the cliff after the path curved sharply into a rock cleft. Given that you descend from the Bur Caddas Plateau (part of the Gerire Hills system) to El Kere by serpentine paths in the rocks, then any curve would more or less fit this description.

Dioli visited the first major curve of the road lying away from El Kere into the hills, and there he found the aforementioned ***A. elkerriana***, but not ***A. jacksonii***. My observations also showed that ***Aloe jacksonii*** does not grow nearby at El Kere. Today, we no longer know whether Jackson confused the two species of aloes at "El Kere", the larger ***A. elkerriana*** still growing there, and the smaller ***A. jacksonii*** no longer at its declared "type" locality.

Aloe jacksonii in habitat, Ethiopia © R. Štarha

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Aloe jacksonii in habitat, Ethiopia, with ***Euphorbia bertemariae*** © R. Štarha

Aloe jacksonii in habitat, Ethiopia © R. Štarha

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Aloe jacksonii inflorescence © R. Štarha

Personally, I am inclined to think that Jackson, as the proper collector, moved over a considerable area of the mountains, not only on foot, but probably also on horseback. He collected the plants at a given location and placed the specific collecting site near the nearest village in existence at the time (almost 80 years ago).

While the biologists of most expeditions that were organized to this area just stopped at the main access road from Monte Ellot to El Kere and explored the surrounding area for an hour or two by car, I always got a ride to the mountains at dawn during my week-long stay.

I spent the whole day exploring the different plateaus and hills of the Gerire Hills, and was picked up by the driver again at the same place in the evening. The entire area is extremely rich in reptiles, insects and plants. Of the non-succulent flora I would mention ***Commiphora serrulata, Boswellia neglecta, Euclea racemosa*** **subsp.** ***schimperi, Croton elkerensis, Plectranthus spananthus*** and of the typical succulents, ***Kleinia isabellae, Euphorbia bertemariae, Euphorbia glochidiata, Euphorbia dauana, Aloe parvidens*** and ***Aloe elkerriana***.

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Aloe jacksonii in culture © JL, flower © R. Štarha

I was able to locate the habitat of *A. jacksonii* based on my knowledge of the bedrock, elevation, and an old map showing even extinct roads and settlements in the Ogaden. I would also point out that the roads eighty years ago went in a different direction than we have them laid out today. The ecotope of *A. jacksonii's* occurrence in Bur Caddas is relatively small, occupying an area of about 100 x 30 meters, and is relatively far from the access road. The density of plants on the site is relatively high, and the plants on the site flower and fruit sufficiently and are almost uniform.

What can I say in conclusion? In 2020, another travel-botanical dream came true.

La redécouverte d'*Aloe jacksonii.*

Roman Štarha (République tchèque)
Courriel : xin.xiu@email.cz

J'ai toujours aimé l'*Aloe jacksonii* éthiopien miniature**, ce n'était donc qu'une question de temps avant que j'essaye de le trouver dans la nature. J'étais un peu découragé par le fait que personne ne l'avait retrouvé depuis sa description et par le fait qu'il pousse dans la région instable de l'Ogaden en Éthiopie.**

Aloe jacksonii est une plante rhizomateuse à petites feuilles. La tige est courte, mesurant généralement jusqu'à 10 cm de long. Elle a 5 à 7 feuilles en rosette, de 10 à 15 cm de long. Les jeunes feuilles sont semi-dressées, tandis que les rosettes plus âgées sont bien ouvertes. La face supérieure des feuilles est légèrement concave, la peau est gris-vert, marbrée d'un nombre variable de taches claires à presque blanches. Chez certains spécimens, les taches sont disposées en rayures. L'inflorescence non ramifiée mesure jusqu'à 25 cm de haut, cylindrique, relativement clairsemée. Les grappes mesurent 5 à 7 cm de long et sont composées d'environ 10 fleurs. Le pédicelle floral mesure 5 à 7 mm de long et la gaine florale est rouge écarlate.

Aloe jacksonii dans son habitat, Éthiopie © R. Štarha

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Aloe jacksonii dans son habitat, Éthiopie © R. Štarha

Les minuscules aloès susmentionnés ont été collectés en 1943 par l'officier des affaires civiles et entomologiste britannique T.H.E. Jackson près de « El Carre ». Jackson a envoyé les plantes découvertes à P.R.O. Bally, botaniste en chef du musée Coryndon à Nairobi, qui les a envoyées en 1951 au spécialiste des ***Aloe*** G.W. Reynolds pour identification. ***Aloe jacksonii*** a été décrit par Reynolds dans The Journal of South African Botany en 1955.

Depuis la description du taxon, il n'y a aucune trace dans la littérature de l'espèce retrouvée dans la nature, et tous les ***A. jacksonii*** disponibles en culture sont probablement des descendants des collections originales de Jackson. Plusieurs expéditions botaniques ensuite tenté de trouver ***A. jacksonii*** . Certains ont réussi à découvrir d'autres nouveaux taxons, tels que M. Dioli avec ***Aloe elkerriana, Euphorbia bertemariae***, Sebsebe Demissew avec ***Gnidia elkerensis , Plectranthus spananthus*** et Ib Friis avec ***Croton elkerensis*** . Cependant, ***A. jacksonii*** n'a pas été découvert.

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Maurizio Dioli a été bien près de récupérer ce joyau éthiopien. Vétérinaire de profession, il a longuement séjourné dans l'Ogaden et a tenté de redécouvrir cet aloès saxicole en se basant sur les informations disponibles. Le commentaire de Jackson sur la description suggère que les plantes poussaient à l'origine sur le côté abrupt de la falaise après que le chemin se courbait brusquement dans une fente rocheuse. Étant donné que vous descendez du plateau de Bur Caddas (qui fait partie du système de collines de Gerire) jusqu'à El Kere par des sentiers serpentins dans les rochers, n'importe quelle courbe correspondrait plus ou moins à cette description.

Dioli a visité le premier grand virage de la route s'éloignant d'El Kere dans les collines, et là, il a trouvé l'***A. elkerriana*** susmentionnée , mais pas l'***A. jacksonii*** . Mes observations ont également montré qu'***Aloe jacksonii*** ne pousse pas à proximité d'El Kere. Aujourd'hui, nous ne savons plus si Jackson a confondu les deux espèces d'aloès à « El Kere », le plus grand, ***A. elkerriana*** y poussant toujours, et le plus petit, ***A. jacksonii*** qui n'a plus sa localité « type » déclarée.

Aloe jacksonii dans son habitat, Éthiopie © R. Štarha

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Aloe jacksonii, habitat, Éthiopie, avec ***Euphorbia bertemariae*** © R. Štarha

Aloe jacksonii dans son habitat, Éthiopie © R. Štarha

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Aloe jacksonii inflorescence © R. Štarha

Personnellement, j'ai tendance à penser que Jackson, en tant que véritable collectionneur, s'est déplacé sur une partie considérable des montagnes, non seulement à pied, mais probablement aussi à cheval. Il a collecté les plantes à un endroit donné et a placé le site de collecte spécifique à proximité du village le plus proche existant à l'époque (il y a près de 80 ans).

Alors que les biologistes de la plupart des expéditions organisées dans cette zone se contentaient de s'arrêter sur la route principale d'accès de Monte Ellot à El Kere et exploraient les environs pendant une heure ou deux en voiture, je partais toujours explorer les montagnes à l'aube pendant mon séjour d'une semaine.

J'ai passé toute la journée à explorer les différents plateaux et collines des collines de Gerire, et j'ai été repris par le chauffeur au même endroit dans la soirée. L'ensemble de la région est extrêmement riche en reptiles, insectes et plantes. Parmi la flore non succulente, je mentionnerai ***Commiphora serrulata*** **,** ***Boswellia négligéa*** **,** ***Euclea racemosa*** **subsp.** ***schimperi*** **,** ***Croton elkerensis*** **,** ***Plectranthus spananthus*** et des plantes succulentes typiques, ***Kleinia isabellae, Euphorbia bertemariae, Euphorbia glochidiata, Euphorbe dauana, Aloe parvidens*** et ***Aloe elkerriana*** .

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Aloe jacksonii en culture © JL, fleur © R. Štarha

J'ai pu localiser l'habitat d'**A. jacksonii** grâce à ma connaissance du substrat rocheux, de l'altitude et d'une ancienne carte montrant même des routes et des colonies disparues dans l'Ogaden. Je voudrais également souligner qu'il y a quatre-vingts ans, les routes allaient dans une direction différente de celle tracée aujourd'hui. L'écotope de l'occurrence *d'**A. jacksonii*** à Bur Caddas est relativement petit, occupant une superficie d'environ 100 x 30 mètres, et est relativement éloigné de la route d'accès. La densité des plantes sur le site est relativement élevée et les plantes du site fleurissent et fructifient suffisamment et sont presque uniformes.

Que puis-je dire en conclusion ? En 2020, un autre rêve botanique de voyage est devenu réalité.

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Taxonomical changes in Cactaceae and other Succulents

Fritz Hochstätter (Germany)

CACTACEAE:

Coryphantha stipitata *(*Scheidweiler) Hochstätter **comb. nov**.

(Website: http:) fhirt.org/news Jan 17.

Type: (neo) Mexico, Munc. de San Luis Potosi, NW La Amapola, R. Hernandez, 282, SLPM 193.96.

Variabel in Wuchs und Form, wächst in unterchiedlichen Bodenformationen.

Variable in growth and form, grows in different soil formations.

Occurrence: Mexico; Zacatecas, Jalisco, San Luis Potosi, Guanajuato.

Zusammenfassung - Literatur Auswahl / Summary - Literature selection

Backeberg, C. (1942): Untergattung *Neocoryphantha* Backeberg, Jahrb. DKG 2: 61. 1942.

Backeberg, C. (1984): Die *Cactaceae*. 2. Auflage Band V. *Ceroideae.*

Hochstätter, F. (2017): *Coryphantha* (Engelmann) Lemaire 2017.52.

Cylindropuntia fulgida *(*Engelmann) Knuth ssp. ***mamillata*** (Schott) Hochstätter **comb. nov**.

Basionym: *Opuntia mamillata* Schott in Engelmann Proc. Amer. Acad. 3: 308. 1856. ,

(Website: http:fhirt.org/news Jun. 2020, page 77.)

Type: Mexico, Sonora, southern range of the Sierra Barboquivari, and southeastward, in fertile valleys. Schott. 6.

Variabel in Wuchs und Form, wächst in unterchiedlichen Bodenformationen.

Variable in growth and form, grows in different soil formations.

Occurrence: USA, Arizona - Mexico, Baja California, Sonora, Sinaloa.

Zusammenfassung - Literatur Auswahl / Summary - Literature selection

Backeberg, C. (1958): Die *Cactaceae*.

Hochstätter, F. (2020): *Cylindropuntia* (Engelmann) Knuth.

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Coryphantha stipitata

© G. Matuszewski

Cylindropuntia fulgida ssp. ***mamillata***

© JL

Agave americana ssp. ***expansa***

South Africa

© G. F. Smith

Agave angustifolia ssp. ***rubescens***

© Photo. M. Bechtold

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Aufgrund weitere Studien mit dokumentiertem Material wurden Varietäten in den Rang Subspezies klassifiziert. / Based on further studies with documented material, varieties were classified to the rank of subspecies.

Agave americana (L.) ssp. ***expansa*** (Jacobi) Hochstätter **comb. et stat. nov.**

Basionym: *Agave expansa* Jacobi Abh. Schles. Ges. Vaterl. Cult. Abt. Naturw. 1868: 151. (1868).

Die in mediterranen Regionen vorkommende Subspezies expansa formt im Alter einen kurzen Stamm und bildet Auslüfer. Der panikulata Blütenstand wird 7-9 m hoch.

The subspecies expansa, which occurs in Mediterranean regions, forms a short trunk and runners when it ages. The paniculate inflorescence reaches a height of 7-9 m.

Agave americana L. ssp. ***oaxacensis*** (Gentry) Hochstätter **comb. et stat. nov.**

Basionym: *Agave americana L. var. oalxacensis* Gentry, *Agave*s of Continental North America, 285. 1982.

Type: Mexico, Oaxaca, Gentry & Arguelles, 12260, US, DES, MEXU.

In Kultur, speziell aus dem Oaxaca Valley in Mexico bekannt. Der panikulata Blütenstand wird bis 10 m hoch.

In cultivation, especially known from the Oaxaca Valley in Mexico. The paniculate inflorescence grows up to 10 m high.

Agave angustifolia Haworth ssp. ***deswayana*** (Trelease) Hochstätter **comb. et stat. nov.**

Basionym: *Agave deswayana* Trelease, Trans. Acad. Sci. 15: 393. 1925.

Type: Mexico, Oaxaca, Gentry & Arguelles, 12260, US, DES, MEXU.

Anpflanzungen finden sich in der Region Tamaulipas, Mexico. Selten in Kultur.

Agave angustifolia Haworth ssp. ***letonae*** (Taylor ex Trelease) Hochstätter **comb. et stat. nov**.

Basionym: *Agave letonae* Taylor *ex* Trelease, J. Wash. Acad. Sci. 15: 393. 1925.

Type: El Salvador, Milner, s. n. MO.

Occurrence: Guatemala, El Salvador.

Wird zur Faserproduktion verwendet / Used for fiber production

Agave angustifolia Haworth ssp. ***rubescens*** (Salm-Dyck) Hochstätter **comb. et stat. nov**.

Basionym: *Agave rubescens* Salm-Dyck, Hort. Dyck. 306. 1834.

Type : Trelease, plat 32-24, Mo. Bot. Gard. Ann. Rep. 1907.

Wächst stammlos und bildet Ausläufer. Der rispige Blütenstand wird bis 3 m hoch. Die

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Blüten bilden sich an unregelmäßigen Verzweigungen am obeen Blütenstand.

Grows stemless and forms runners. The paniculate inflorescence grows up to 3 m high. The flowers form on irregular branches on the upper inflorescence.

Occurrence: Mexico.

Agave angustifolia Haworth ssp. ***sargentii*** (Trelease) Hochstätter **comb. et stat. nov.**

Basionym : *Agave angustifolia var. sargentii,* Trelease, Mo. Bot. Gard. Ann. 22: 99. 1911 (publ. 1912).

Type : lecto-icono, Mo. Bot. Ann. Rep. 22: pl. 100-101, 1912.

Agave angustifolia ssp. *sargentii* bildet einen kurzen Stamm bis 0,25 m Höhe.

Das begrenzte Verbretungsgebiet erstreckt sich von Puebla bis Morelos in Mexico.

Forms a short trunk up to 0.25 m high.The limited distribution area extends from Puebla to Morelos in Mexico.

Agave antillarum Descourt ssp. ***grammontensis*** (Trelease) Hochstätter **comb. et stat. nov.**

Basionym : *Agave antillarum var. grammontensis,* Trelease, Rep. Spec. Nov. Regni. Veg. 23: 362. 1927.

Type : Hispaniola, Haiti, *Eckmann*, 3355, MO.

Occurrence: Dominican Republic, Hispaniola. Rare in culture.

Agave ocahui ssp. ***ocahui*** (Gentry) Hochstätter **comb. et stat. nov.**

Basionym : *Agave ocahui var. ocahui,* Gentry, US. Dept. Agric. Handb. 399. 72. 1972.

Type : Mexico, Sonora, Gentry & Arguelles, 16637, US, DES, MEXU.

Bildet einen kurzen Stamm und wächst an vulkanschen Hängen in Mexico.

Forms a short trunk and grows on volcanic slopes in Mexico.

Agave ocahui ssp. ***longiflora*** (Gentry) Hochstätter **comb. et stat. nov.**

Basionym: *Agave ocahui var. longiflora* Gentry, *Agaves* of Continental North America.,78. 1982.

Type : Mexico, Sonora, Gentry, 11610, US, DES.

Wächst in Gebirgsregionen in unterschiedlichen Bodenformationen im mexikanischen Bundesstaat Sonora.

Grows in mountainous regions in various soil formations in the Mexican state of Sonora.

Agave parryi Engelm. ssp. ***couesii*** (Engelm. ex Trelease) Hochstätter **comb. et stat. nov**.

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Agave parryi Engelm. ssp. ***couesii***

Agave salmiana ssp. ***ferox*** © Photo. M. Bechtold

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Basionym : *Agave cousii* Engelm. ex Trelease, 1911.

Type : Breitung, CAS.

In USA, Zentral Arizona in Bergregionen angesiedelt. In Blüte und Blattform kleiner als Subspezies parryi.

In the USA, native to mountainous regions of central Arizona. Smaller in flower and leaf shape than subspecies parryi.

Agave parryi Engelm. ssp. ***huachucensis*** (Baker) Hochstätter **comb. et stat. nov.**

Basionym : *Agave huachucensis* Baker, 1888.

Type : USA, Arizona, *Pringle*, s. n. K, NY.

Stärkere Rosetten, In Blüten- und Blattform größer. In USA, Arizona und Mexiko verbreitet.

Stronger rosettes, larger in flower and leaf shape. Widely distributed in USA, Arizona and Mexico

Agave parryi Engelm. ssp. ***truncata*** (Gentry) Hochstätter **comb. et stat. nov.**

Basionym : *Agave parryi var. truncata* Gentry, 1982.

Type : Mexico, Zacatecas, Durango, Gentry & Gilly, 10566, US, DES, MEXU, MICH.

Ocurrence: Mexico, rare.

Agave salmiana Otto ex Salm-Dyck ssp. ***ferox*** (Koch) Hochstätter **comb. et stat. nov.**

Basionym : *Agave ferox* Koch, 1860.

Neotype: Kew Herbarium, Hanbury Garden, La Mortola, Flowers, leaf.

MONTIACEAE

Lewisia Pursh Fl. Amer. Sept. 2: 360. 1814.

Type : *Lewisia rediviva* Pursh

Lewisia cotyledon (Watson) Robinson ssp. ***heckneri*** (Munz) Hochstätter **comb. nov.**

Basionym : *Obreobroma heckneri* Morton, Proc. Bio. Soc.Wash. 44: 9. 1931.

Type: USA, California, Heckner. US, 143965.

Endemic, Trinity Co., California.

Occurrence: USA.

Lewisia cotyledon (Watson) Robinson ssp. ***howellii*** (Munz) Hochstätter **comb. nov.**

Basionym : *Calandrinia howellii* Watsonorton, Proc. Amer. Acad. 23: 2262. 1888.

Type: USA, Oregon, Deer Creek Mts., *Howell*, GH 732.

Occurrence: USA, California, Oregon.

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Lewisia cotyledon ssp. ***heckneri*** © Photo. D. York

Lewisia cotyledon ssp. ***howellii*** © Photo. S. Matson

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YUCCA (Agavaceae)

Section Hesperoyucca Engelmann (1871)

Serie McKelveyanae Hochstätter (2015)

Yucca mckelveyana *(*Hochstätter) Hochstätter **comb. nov.**

Basionym : *Yucca newberryi* McKelvey ssp. *mckelveyana* Hochstätter (2015)

F. Hochstätter (2015): *Yucca* Section *Yucca (Agavaceae*), International Cactus Adventures No. 106-107.

McKelvey Yucca

Type : USA, Arizona, Hochstätter, fh 1186.20, SRP. For protection no exact locality details.

Representatives Material: fh 1186.20, fh 118621.

Yucca mckelveyana is the intermediate species of the section *Hesperoyucca* Hochstätter, endemischer Vertreter wächst an exponierten Stellen nahe des Colorado Rivers.

Yucca mckelveyana wächst einzeln Blätter steif, grau bis grün, Blattränder fein gezahnt, bis 30 cm lang, 2 cm breit. Der verzweigte variablle Blütenstand variabel, verzweigt bis 3 m hoch, Blüten glockenförmig, cremefarben, 2 mm lang und im Durchmesser.

Der botanische Name wurde zu Ehren von **Susan Delano Mc Kelvey**, der großen amerikanischen Botanikern des letzen Jahrhunderts gewählt.

Hochstätter, endemic representative grows in exposed places near the Colorado River.

Yucca mckelveyana grows individually, leaves are stiff, grey to green, leaf edges are finely serrated, up to 30 cm long, 2 cm wide.The branched variable inflorescence is variable, branched up to 3 m high, flowers are bell-shaped, cream-coloured, 2 mm long and in diameter.The botanical name was chosen in honour of **Susan Delano Mc Kelvey**, the great American botanist of the last century.

Zusaamenfassung - Literatur Auswahl / Summary - Literature selection

Mc Kelvey, S. *Yucca* of the South Western United States. 2 Bänder The Arnold Arboretum of Harvard University, Jamaica Plain, Mass. 1938, 1947.

Hochstätter, F. *Yucca (Agavaceaea*) 3 Bände Yucca I -Yucca II, Yucca III, 2000, 2002, 2004.

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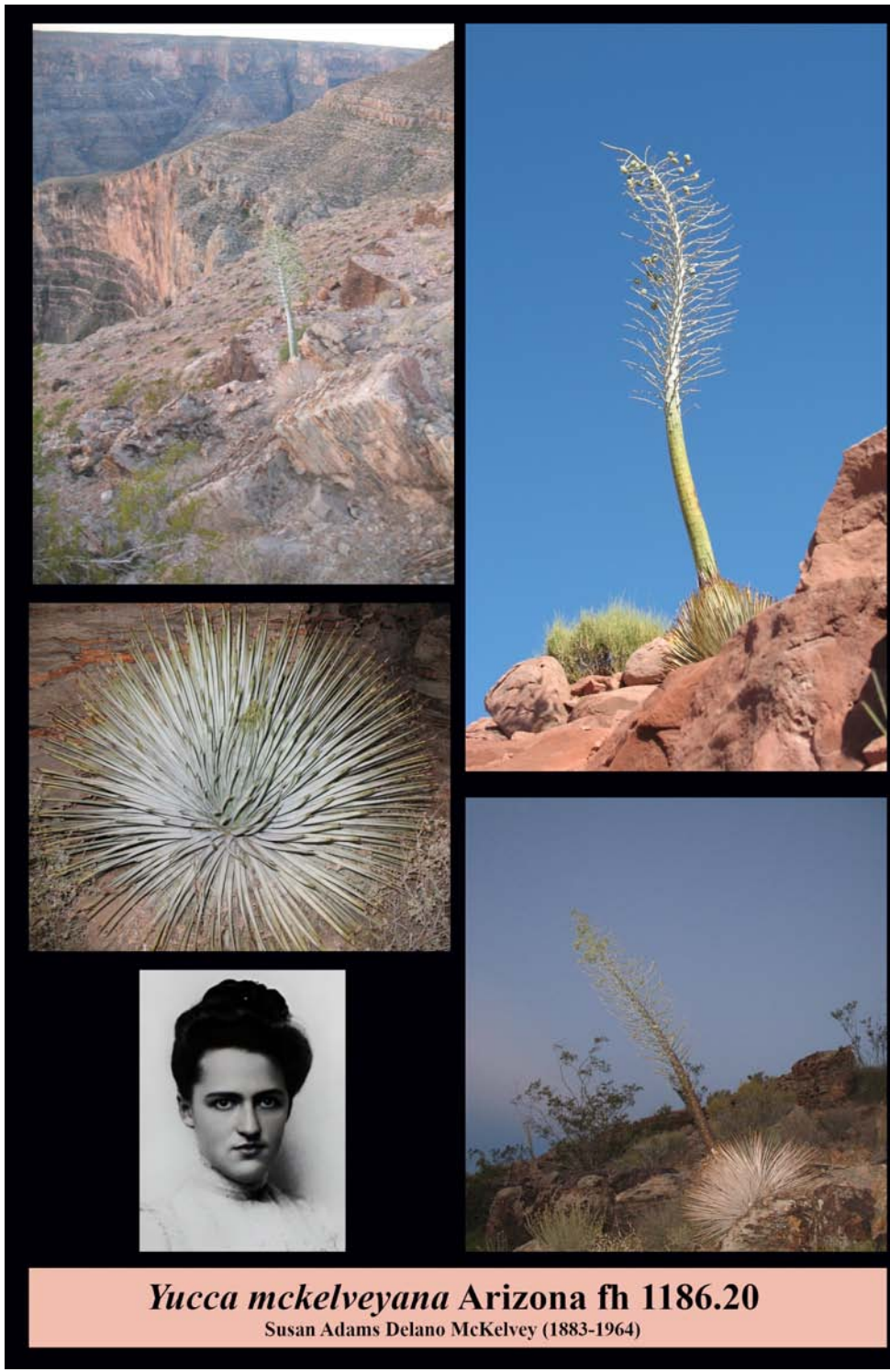

Danke an A. Mühl für die Bildbearbeitung / Thanks to A. Mühl for image editing.

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Nelly Bilemdjian 7-12-2023

L'année dernière, Nelly Bilemdjian, l'exprésidente d'ARIDES nous quittait, et je voudrais ici rendre hommage à son action dans l'Association qui était alors à une période troublée de son existence.

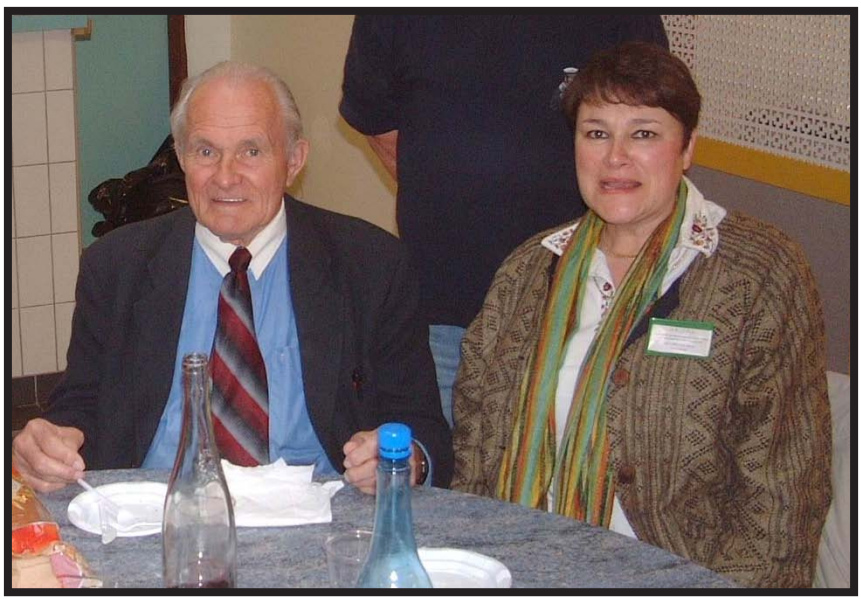
Nelly était une femme volontaire, courageuses, impliquée, diplomate, et qui, avec Laurent Dehay et une poignée d'autres fidèles, ont lutté pour sauver ARIDES de la vindicte de cinq personnes qui ne voulaient que la dissolution de l'Association, pour n'avoir pu la contrôler.

Durant les années qui ont suivi, Nelly a su, malgré les difficultés économiques de l'association, remettre en ordre de marche ARIDES, et la hisser au sommet des associations cactophiles françaises, ce dont tous les membres lui sont reconnaissants.

Le congrès annuel CACTUS s'est installé à Tiercé, près de son village, et avec l'aide de son mari, Jean-Michel, Nelly a su organiser et animer cet évènement international avec brio.

Nous ne pouvons que saluer la mémoire d'une femme avec des valeurs, et un dévouement sans faille durant tout son mandat.

Nous nous joignons à la tristesse de Jean-Michel et sa famille, et les assurons de notre fidèle amitié et reconnaissance pour notre ex Présidente, qui aura marqué l'histoire d'ARIDES.



Nelly Bilemdjian, en compagnie du regretté Dr Alfred Lau

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Los conocidos problemas hacia la extinción del drago en Socotra (*Dracaena cinnabari*)

José Herrera Plaza (España)

El único lugar en el planeta donde se mantiene un bosque de dragos es en la isla de Socotra (Yemen) con ejemplares de 200-300 años de media, que en algunos casos superan los 600. El paisaje que crean, algo fantástico e insólito respecto al resto de ecosistemas, resulta extraordinario y ha sido una de las grandes bazas para la declaración del archipiélago en 2003 por parte de la UNESCO como Reserva de la Biosfera, además de servir de inspiración para algunos escenarios de la película "Avatar" (2009). Pero al igual que otras muchas especies, se halla afectado por un proceso de regresión, con una ostensible pérdida de ejemplares, que obliga a adoptar medidas de reproducción y repoblación, entre otras, para evitar su desaparición.

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Tras tres décadas de estudios científicos, se ha podido certificar el creciente peligro hacia una extinción en su hábitat de origen para un futuro no muy lejano, si no se toman medidas de protección. Una de las causas, extrapolables a otras especies de dragos arboriformes, es la ausencia de una regeneración natural, inducida por el sobrepastoreo y la aridificación, algo que no afecta a otra especie emblemática de Socotra, como la conocida "Rosa del Desierto" (***Adenium socotranum)*** gracias a sus propiedades tóxicas.

Por tratarse de ejemplares muy maduros y vulnerables, padece además un incremento de mortandad de ejemplares, habitualmente enfermos o moribundos, generadas por los vendavales cada vez más numerosos, junto con otros fenómenos meteorológicos adversos. La frecuencia de los ciclones son la causa –quizás no la única– de cuando son arrancados de raíz o quiebran el tronco. En concreto, los dos ciclones de 2015 y el de 2018, generaron muchas muertes y numerosos daños en los dragos. Por si fuera poco, las enfermedades ocasionadas por las heridas para la tradicional extracción de la savia de color rojo sangre, de uso medicinal antes y recuerdo para turistas ahora, parece ser otro factor de suma importancia que actúa en sinergia con el resto.

El archipiélago de Socotra tiene un elevado número de especies endémicas (307; 37% del total), como Las Galápagos (229; 42%) o Canarias (569; 28%), lo que resulta un lugar valioso e interesante para los amantes de la naturaleza. La especie emblemática de la isla es el drago y es una de las que se halla en peligro, pero no la única. Del género ***Dracaena*** existen 190 especies descritas (familia *Asparagaceae*), de ellas solo hay cinco de dragos arboriformes, con tres subespecies. La mayoría se encuentran ahora en peor situación. Según la Lista Roja de la Unión Internacional para la Conservación de la Naturaleza (IUCN) se le ha asignado la siguiente calificación:

Dracaena cinnabari (Isla de Socotra)..... Vulnerable.
" " " ***drago*** (Macaronesia y Marruecos)..... En peligro.
" " " ***ombet*** (Este de África)..... En peligro.
" " " ***serrulata*** (Sur Península Arábica)..... En peligro.
" " " ***tamaranae*** (Isla de Gran Canaria)..... En peligro crítico.

Falta de regeneración

El que se halle ***D. cinnabari*** con una calificación menos grave que el resto se debe a que el número de ejemplares es aún alto en la isla, pero una serie de condicionantes está acelerando que su número decrezca de manera alarmante sin que se regenere de forma natural ni hasta el momento se haya adoptado ninguna medida de calado para frenar dicha tendencia. Algo que sucede en mayor o menos medida con el resto de especies.

Bosque de *Dracena cinnabari* en Firmihin, Socotra. © J. Herrera Plaza

Se ha calculado que los primeros pobladores llegaron a la isla alrededor de hace 3000 años. Por la falta de ejemplares de menos de 200 años en los bosques, se deduce que las prácticas del pastoreo mal gestionadas comenzaron hace dos siglos, posiblemente por un incremento demográfico y de la cabaña ganadera. Quien haya viajado a Socotra podrá haber comprobado cómo las cabras, no en rebaño, sino desperdigadas, sin control y a su libre albedrío, pueblan casi todos los rincones de la isla, incluido los entornos urbanos. Los distintos tipos de dragos no han evolucionado con la incorporación de tóxicos en sus hojas para defenderse de los herbívoros, porque seguro que en sus hábitats primitivos no lo necesitaban. Hasta el momento, existe consenso entre los científicos que apuntan al sobrepastoreo y a la disminución de los periodos de lluvias. Esto afecta a otros géneros endémicos de la isla, como los árboles del incienso (***Boswellia***) o mirra (***Commiphora***), algunos a punto de extinguirse (***B. scopulorum, B. samhaensis***, o ***B. hesperia***) cuyos plantones pueden ser también devorados por el ganado.

Se había rumoreado que una probable baja tasa de germinación de semillas en el drago de la isla podría ser otro de los motivos, pero se ha podido demostrar que no es así, evidenciando que hasta cerca de un 85 % de germinación es posible en condiciones favorables. Se ha comprobado *in situ* que tras las lluvias aparecen plántulas de drago, para desaparecer en el periodo estacional seco por el incremento del pastoreo.

La presión de las cabras llega incluso a uno de los pocos viveros financiados por la cooperación extranjera en una aldea próxima al bosque de Firmihin. Allí pudimos atestiguar que habían conseguido penetrar en donde crecían las plantas y comido sus hojas más bajas, según puede apreciarse en la foto. Los ejemplares más crecidos se hallaban un poco mejor, pero las de menor tamaño estaban tan comidas que parecían irrecuperables.

Vivero de dragos en Firmihin, y cabras dentro del recinto. © JL

Otro gran inconveniente que no facilita su recuperación es el crecimiento extraordinariamente lento del ***D. cinnabari***, como también ***D. serrulata***, de la Península Arábica, que crecen en estado silvestre entre 2-3 cm. de altura por año, muy diferente al vigoroso drago de Canarias.

Extracción de la "Sangre de dragón"

A través de los siglos se ha venido utilizando la savia del drago de la isla para usos medicinales. Hoy están documentadas sus propiedades antibacterianas y antifúngicas. Algo que cuadra con la vulnerabilidad de los dragos a las enfermedades a través de las heridas sin proteger, una vez que se ha quebrado una rama o se ha herido.

Como se ha tratado de una actividad de tipo etnobotánica, anclada en la tradición local, que aprovecha uno de los pocos recursos que ofrecía la aislada isla, no se solía incluir entre las hipotéticas causas que incrementaban la muerte y desaparición de los ejemplares. Solo en los últimos años, estudios científicos realizados en la República Checa, califican esta actividad como no sustentable. Otro equipo del mismo país corrobora esta afirmación, pero le resta importancia al considerar que esta tradición va menguando y que afecta con especial incidencia a los ejemplares más viejos.

De forma independiente a la veracidad de esto último, se ha podido comprobar que en la zona más poblada: el bosque de Firmihin, el 84% de los árboles presentan heridas. Las mismas que todos los años allí están sometidas a permanentes neblinas a base de una humedad relativa superior al 95%, originadas por el monzón de verano, con vientos del suroeste. Hay además una realidad innegable y es que el turismo no para de crecer. Pocos productos autóctonos puedes adquirir allí de recuerdo, como no sea miel, incensarios o una bolsa con resina de drago, ofrecida por doquier por los niños de las aldeas.

Sobre mi percepción personal, centrada en los ejemplares caídos o enfermos y análisis de las heridas practicadas en los troncos, pude comprobar que muchas de las incisiones se practicaban sobre otras anteriores en el tronco, en su mayoría entre uno a dos metros de altura. Estas habían generado lesiones profundas que iban de 10 cm. de diámetro hasta más de 40. Me extrañó que al transitar por los caminos vimos numerosos ejemplares con la copa todavía verde, pero con el tronco quebrado. Pensé que serían aquellos que habían sido tronchados por el vendaval, pero al reconocerlos coincidían en que tenían el tronco podrido como si padecieran una fusariosis vascular u otra patología con similares síntomas, tal como se puede observar en la foto. Solo una parte minoritaria de los caídos habían cedido sus raíces. Queda pendiente el análisis de estos tejidos y los microorganismos que lo han afectado.

Dracaena cinnabari con patología © J. Herrera Plaza

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Bosque de dragos en Firmihin, Socotra © J. Herrera Plaza

En el Parque Natural de Homhil, vimos que los pocos dragos que había se hallaban llenos de heridas hasta una altura de tres metros. Al ver que nos interesábamos por su estado, el guía local lanzó una piedra al tronco de uno de ellos, lo que nos sorprendió porque sonó a hueco. A pesar de su buen aspecto, con la copa, ramas y hojas en aparente perfecto estado, el tronco estaba seco, casi negro y como hueco. Todo era una pura cicatriz; tanto su tronco como sus ramas primarias. Incluso afectaban a las secundarias a cuatro metros de altura. A su lado había otro con heridas semejantes (ver foto). Su tronco, aunque sí presentaba zonas negras, como de incipiente necrosis, no sonaba a hueco. ¿Por cuánto tiempo?

Los dragos, por su estructura no leñosa, pueden ser muy vulnerables a las enfermedades fúngicas y bacterianas. No es casualidad que la evolución los haya provisto en su savia de sustancias contra hongos y bacterias. La selección natural también ha generado que se protejan con unas escamas en la parte baja, lo que refuerza su corteza ante posibles daños en escorrentías y la protegen del exceso de humedad. La práctica de extracción de su resina, constituye una actividad mucho más profunda, invasiva y destructora que las incisiones en los árboles de incienso y la mirra. Resulta plausible lanzar la hipótesis de que sea el origen de muchas de las patologías y muertes que padecen.

Mortandad en dragos en Socotra © J. Herrera Plaza

Posible desaparición

En un estudio realizado en la Universidad Mendel (República Checa) aparecido en abril del presente año 2023, se utilizaron ultraligeros para la elaboración de un censo del bosque de Firmihin, que tiene una superficie de 1490 hectáreas. Con tales instrumentos se consiguieron inventariar su número total: 35 542, con una edad media de 300 años, lo que supone un 40 % del total de la isla, estimado en 80 000 dragos. Con el recuento se pudieron censar también los caídos (2123), lo que supone un 5,6 % del total que habían muerto en los últimos diez años.

Las incertidumbres asociadas al cambio climático y la posibilidad de que la meteorología adversa continúe, como sucede con los ciclones, va creciendo en frecuencia e intensidad. También aparece la tendencia a una pérdida del periodo estacional de las lluvias, su torrencialidad y el decremento del volumen total por año. A esto hay que sumar el continuo abuso del pastoreo, que irá a más por el exponencial crecimiento demográfico. También se ha de tener en cuenta las heridas practicadas hace años, más las nuevas que se realizan para satisfacer la frivolidad del turista que ignora la problemática, de su posible relación con un incremento de las patologías. Todos estos factores conducen a una aceleración en la merma de los últimos bosques de dragos del planeta.

Las posibles medidas sugeridas por los científicos que han estudiado la situación se dirigen a impulsar la regeneración natural, evitando la entrada de ganado, así como la artificial, con campañas anuales de reforestación, para lo cual se necesitaría la creación de amplios viveros protegidos.

Dado el lento crecimiento de esta especie, unido a la más lenta respuesta de las autoridades, no se ha tomado hasta el momento ninguna medida importante, a pesar de las evidencias. Lo más probable será que en pocas décadas resulte lo suficientemente ostensible la pérdida de un alto porcentaje de ejemplares centenarios, para romper la indolencia de los responsables. Algo parecido sucederá con otros endemismos, como los árboles del incienso y la mirra. Lo existente en el presente solo será, para las generaciones futuras, un recuerdo conservado en fotos y demás material audiovisual, como un ejemplo más de nuestro desdén e incompetencia para cuidar de nuestro patrimonio natural.

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The well-known problems towards the extinction of the dragon tree in Socotra (*Dracaena cinnabari*)

José Herrera Plaza (Spain)

The only place on the planet where a dragon forest is maintained is on the island of Socotra (Yemen) with specimens that are 200-300 years old on average, which in some cases exceed 600. The landscape they create, something fantastic and unusual regarding the rest of the ecosystems, it is extraordinary and has been one of the great assets for the declaration of the archipelago in 2003 by UNESCO as a Biosphere Reserve, in addition to serving as inspiration for some settings in the film “Avatar” (2009). But like many other species, it is affected by a regression process, with an obvious loss of specimens, which requires the adoption of reproduction and repopulation measures, among others, to prevent its disappearance.

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After three decades of scientific studies, it has been possible to certify the growing danger of extinction in its habitat of origin in the not-too-distant future, if protection measures are not taken. One of the characteristics, extrapolated to other species of dragon trees, is the absence of natural regeneration, induced by overgrazing and aridification, something that does not influence another emblematic species of Socotra, such as the well-known "Desert Rose" (***Adenium socotranum***) thanks to its toxic properties.

Because they are very mature and vulnerable specimens, they also suffer from an increase in mortality of specimens, usually sick or dying, generated by the increasingly numerous gales, along with other adverse meteorological phenomena. The frequency of cyclones is the cause – perhaps not the only one – of when they are uprooted or break the trunk. Specifically, the two cyclones of 2015 and 2018 caused many deaths and numerous damages to the dragon trees. As if that were not enough, the diseases caused by wounds from the traditional extraction of the blood-red sap, used medicinally before and souvenirs for tourists now, seem to be another extremely important factor that acts in synergy with the rest.

Socotra archipelago has a high number of endemic species (307; 37% of the total), such as the Galápagos (229; 42%) or the Canary Islands (569; 28%), which is a valuable and interesting place for lovers of nature. The emblematic species of the island is the dragon tree and it is one of those that is in danger, but not the only one. From the genus ***Dracaena*** there are 190 described species (family *Asparagaceae*), of which there are only five arborescent dragon trees, with three subspecies. Most are now in a worse situation. According to the Red List of the International Union for Conservation of Nature (IUCN), it has been assigned the following rating:

Dracaena cinnabari (Socotra Island)..... Vulnerable.

" " " ***drago*** (Macaronesia and Morocco)..... In danger.

" " " ***ombet*** (East Africa)..... In danger.

" " " ***serrulata*** (South Arabian Peninsula)..... In danger.

" " " ***tamaranae*** (Gran Canaria Island).. In critical danger.

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Lack of regeneration

D. cinnabari is found with a less serious rating than the rest because the number of specimens is still high on the island, but a series of conditions is accelerating its number to decrease alarmingly without regenerating alarmingly. nor has any significant measure been adopted to stop this trend. Something that happens to a greater or lesser extent with the rest of the species.

It has been estimated that the first settlers arrived at the island around 3000 years ago. Due to the lack of specimens less than 200 years old in the forests, it is deduced that poorly managed grazing practices began two centuries ago, possibly due to an increase in population and livestock numbers. Anyone who has travelled to Socotra may have seen how goats, not in flocks, but scattered, uncontrolled, and of their own free will, populate almost every corner of the island, including urban environments. The different types of dragon trees have not evolved with the incorporation of toxins in their leaves to defend themselves against herbivores, because they surely did not need it in their primitive habitats. Until now, there is consensus among scientists that points to overgrazing and a decrease in rainy periods. This affects other endemic genera on the island, such as incense trees (***Boswellia***) or myrrh trees (***Commiphora***), some on the verge of extinction (***B. scopulorum , B. samhaensis*** , or ***B. hesperia***) whose seedlings can also be devoured by the cattle.

It had been rumoured that a probable low seed germination rate in the island's dragon tree could be another reason, but it has been demonstrated that this is not the case, showing that up to about 85% germination is possible in favourable conditions. It has been verified *in situ* that dragon tree seedlings appear after the rains, only to disappear in the dry seasonal period due to increased grazing.

The pressure from the goats even reaches one of the few nurseries financed by foreign cooperation in a village near the Firmihin forest . There we were able to witness that they had managed to penetrate where the plants grew and ate their lowest leaves, as can be seen in the photo. The larger specimens were a little better, but the smaller ones were so eaten that they seemed unrecoverable.

Forest of *Dracena cinnabari* at Firmihin, Socotra. © J. Herrera Plaza

Another major drawback that does not facilitate its recovery is the extraordinarily slow growth of the ***D. cinnabari***, as well as ***D. serrulata***, from the Arabian Peninsula, which grow in the wild between 2-3 cm. in height per year, very different from the vigorous dragon tree of the Canary Islands.

Extraction of "Dragon Blood"

Through the centuries, the sap of the island's dragon tree has been used for medicinal uses. Today, its antibacterial and antifungal properties are documented. Something that fits with the vulnerability of dragon trees to diseases through unprotected wounds, once a branch has been broken or injured.

As it was an ethnobotanical activity, anchored in local tradition, which took advantage of one of the few resources that the isolated island offered, it was not usually included among the hypothetical causes that increased the death and disappearance of the specimens. Only in recent years have scientific studies carried out in the Czech Republic classified this activity as unsustainable. Another team from the same country corroborates this statement but downplays its importance, considering that this tradition is decreasing and that it especially affects the oldest specimens.

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Independently of the veracity of the latter, it has been found that in the most populated area: the Firmihin forest, 84% of the trees have wounds. The same ones that every year there are subject to permanent fog based on a relative humidity greater than 95%, caused by the summer monsoon, with south westerly winds. There is also an undeniable reality, and that is that tourism does not stop growing. You can buy a few native products there as souvenirs, other than honey, incense burners or a bag with dragon resin, offered everywhere by the children of the villages.

Dragon Trees nursery at Firmihin, and goats inside the fenced terrain. © JL

Based on my personal perception, focused on fallen or sick specimens and analysis of the wounds made on the trunks, I was able to verify that many of the incisions were made on previous ones on the trunk, mostly between one and two meters high. These had generated deep lesions ranging from 10 cm. in diameter up to more than 40. I was surprised that when travelling along the roads we saw numerous specimens with the crown still green but with the trunk broken. I thought they would be those that had been severed by the gale, but upon recognizing them they agreed that their trunks were rotten as if they were suffering from vascular fusariosis or another pathology with similar symptoms, as can be seen in the photo. Only a minority of the fallen had given up their roots. The analysis of these tissues and the microorganisms that have affected them is pending.

At Homhil Natural Park, we saw that the few dragon trees there were full of wounds up to a height of three meters. Seeing that we were interested in their condition, the local guide threw a stone at the trunk of one of them, which surprised us because it sounded hollow. Despite its good appearance, with the crown, branches, and leaves in apparently perfect condition, the trunk was dry,

almost black and hollow. Everything was a pure scar; both its trunk and its primary branches. They even affected the secondary schools four meters high. Next to him was another with similar injuries (see photo). Its trunk, although it did present black areas, as if from incipient necrosis, did not sound hollow. For how long?

Dragon trees, due to their non-woody structure, can be very vulnerable to fungal and bacterial diseases. It is no coincidence that evolution has provided them with substances against fungi and bacteria in their sap. Natural selection has also caused them to protect themselves with scales on the lower part, which reinforces their bark against possible damage from run-off and protects it from excess humidity. The practice of extracting its resin constitutes a much more profound, invasive, and destructive activity than the incisions in incense and myrrh trees. It is plausible to hypothesize that it is the origin of many of the pathologies and deaths they suffer from.

Possible disappearance

In a study carried out at Mendel University (Czech Republic) that appeared in April of this year 2023, ultralights were used to carry out a census of the Firmihin forest, which has an area of 1,490 hectares. With such instruments, their total

Dracaena cinnabari with patology © J. Herrera Plaza

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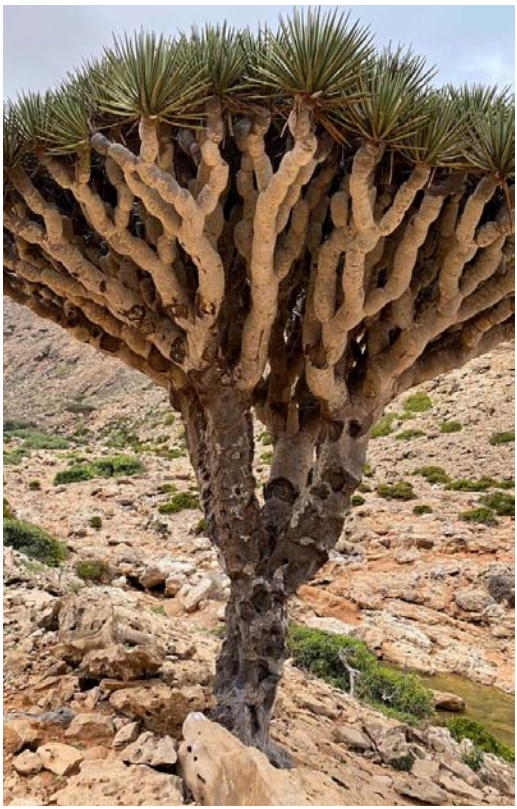
Dragon trees forest at Firmihin, Socotra © J. Herrera Plaza



number was inventoried: 35,542, with an average age of 300 years, which represents 40% of the island's total, estimated at 80,000 dragon trees. With the count, it was also possible to register the fallen (2,123), which represents 5.6% of the total who had died in the last ten years.

The uncertainties associated with climate change and the possibility that adverse weather conditions continue, as happens with cyclones, are growing in frequency and intensity. There is also a tendency towards a loss of the seasonal period of rain, its torrentiality and a decrease in the total volume per year. To this, we must add the continuous abuse of grazing, which will increase due to exponential

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population growth. The wounds performed years ago must also be taken into account, plus the new ones that are done to satisfy the frivolity of the tourist who ignores the problem, its possible relationship with an increase in pathologies. All these factors lead to an acceleration in the decline of the last dragon forests on the planet.

The possible measures suggested by scientists who have studied the situation are aimed at promoting natural regeneration, avoiding the entry of livestock, as well as artificial regeneration, with annual reforestation campaigns, for which the creation of large protected nurseries would be needed.

Given the slow growth of this species, together with the slower response of the authorities, no important measure has been taken so far, despite the evidence. The most likely thing will be that in a few decades, the loss of a high percentage of centenary specimens will be sufficiently noticeable to break the indolence of those responsible. Something similar will happen with other endemisms, such as incense and myrrh trees. What exists in the present will only be, for future generations, a memory preserved in photos and other audiovisual material, as one more example of our disdain and incompetence to take care of our natural heritage.

Mortality among dragon trees in Socotra © J. Herrera Plaza

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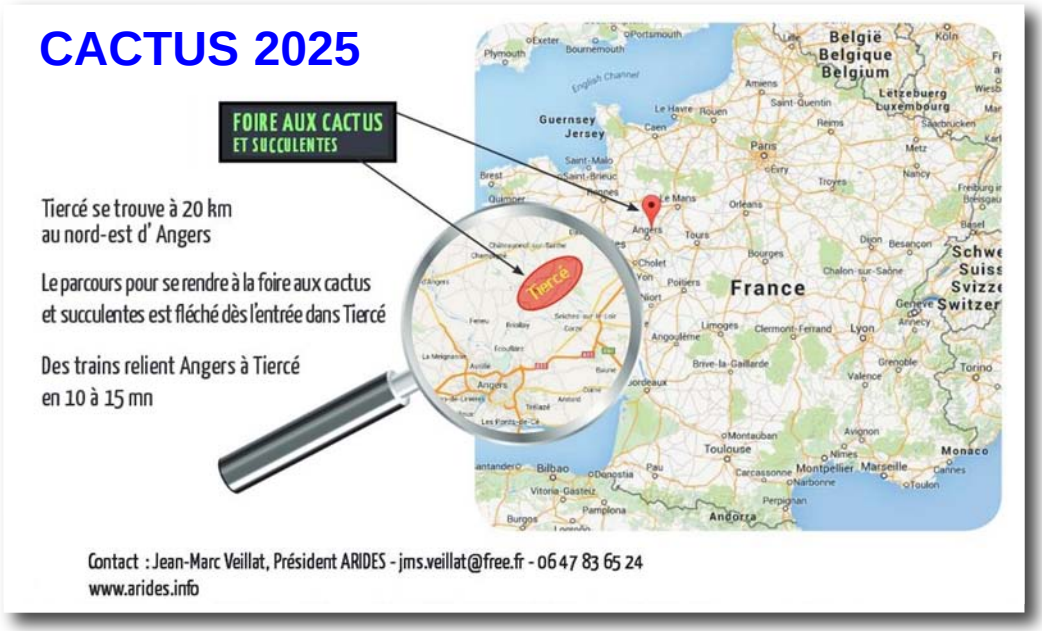
L’évènement ARIDES:

Congrès **A**nnuel **C**actophile **T**raitant de l’**U**nivers des **S**ucculentes

Oganisé par l’Association ARIDES, le CACTUS 2025, aura lieu les **samedi 3 et dimanche 4 mai** à Tiercé (49).

Pour l’installation (puis le démontage), des bénévoles sont bienvenus le vendredi 2 !

Consultez le site indiqué ci-dessous ou contactez le président. A bientôt !



Les problèmes bien connus vers l'extinction du dragonnier à Socotra (*Dracaena cinnabari*)

José Herrera Plaza (Espagne)

Le seul endroit sur la planète où l'on conserve une forêt de dragonniers est l'île de Socotra (Yémen) avec des spécimens âgés en moyenne de 200 à 300 ans, qui dans certains cas dépassent les 600 ans. Le paysage qu'ils créent, a quelque chose de fantastique et d'inhabituel par rapport au reste des écosystèmes, il est extraordinaire et a été l'un des grands atouts pour la déclaration de l'archipel en 2003 par l'UNESCO comme réserve de la biosphère, en plus d'avoir inspiré certains décors du film « Avatar » (2009). Mais comme beaucoup d'autres espèces, elle est affectée par un processus de régression, avec une perte évidente de spécimens, qui nécessite l'adoption de mesures de reproduction et de repeuplement, entre autres, pour éviter sa disparition.

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Après trois décennies d'études scientifiques, il a été possible de certifier le danger croissant d'extinction dans son habitat d'origine, dans un avenir pas trop lointain, si des mesures de protection ne sont pas prises. L'une des caractéristiques, extrapolée à d'autres espèces de dragonniers arborescents, est l'absence de régénération naturelle, induite par le surpâturage et l'aridification, ce qui n'affecte pas une autre espèce emblématique de Socotra, comme la célèbre « Rose du désert » (***Adenium socotranum***) grâce à ses propriétés toxiques.

Parce qu'il s'agit de spécimens très matures et vulnérables, ils souffrent également d'une augmentation de la mortalité des spécimens, généralement malades ou mourants, générée par les vents de plus en plus nombreux, ainsi que par d'autres phénomènes météorologiques défavorables. La fréquence des cyclones est la cause – peut-être pas la seule – de leur déracinement ou de la rupture du tronc. Concrètement, les deux cyclones de 2015 et 2018 ont causé de nombreux morts et de nombreux dégâts sur les dragonniers. Comme si cela ne suffisait pas, les maladies causées par les blessures pour l'extraction traditionnelle de la sève rouge sang, utilisée autrefois en médecine et aujourd'hui comme souvenir pour les touristes, semblent être un autre facteur extrêmement important qui agit en synergie avec le reste.

L'archipel de Socotra compte un nombre élevé d'espèces endémiques (307 ; 37 % du total), comme les Galapagos (229 ; 42 %) ou les îles Canaries (569 ; 28 %), ce qui constitue un lieu précieux et intéressant pour les amoureux de la nature. L'espèce emblématique de l'île est le dragonnier et il fait partie de celles qui sont en danger, mais pas la seule. Du genre ***Dracaena*** il y a 190 espèces décrites (famille *des Asparagacées*), dont il n'existe que cinq dragonniers arborescents, avec trois sous-espèces. La plupart se trouvent désormais dans une situation pire. Selon la Liste Rouge de l'Union internationale pour la Conservation de la Nature (UICN), il lui a été attribué la note suivante :

Dracaena cinnabari (Île de Socotra)..... Vulnérable.
" " " ***draco*** (Macaronésie et Maroc)…….... En danger.
" " " ***ombet*** (Afrique de l'Est)..... En danger.
" " " ***serrulata*** (Péninsule sud-arabique)..... En voie de disparition.
" " " ***tamaranae*** (Île Grande Canarie)..... En danger critique.

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Manque de régénération

D. cinnabari représente une note moins grave que les autres, et cela est dû au fait que le nombre de spécimens est encore élevé sur l'île, mais une série de conditions accélère sa diminution de manière alarmante sans qu'elle ne se régénère naturellement et jusqu'à présent aucune mesure significative n'a été adoptée pour stopper cette tendance. C'est quelque chose qui arrive plus ou moins avec le reste des espèces.

On estime que les premiers colons sont arrivés sur l'île il y a environ 3 000 ans. En raison du manque de spécimens de moins de 200 ans dans les forêts, on en déduit que des pratiques de pâturage mal gérées ont commencé il y a deux siècles, probablement en raison d'une augmentation de la population et du cheptel. Quiconque a voyagé à Socotra a peut-être vu comment les chèvres, non pas en troupeaux, mais dispersées, incontrôlées et de leur plein gré, peuplent presque tous les coins de l'île, y compris les environnements urbains. Les différents types de dragonniers n'ont pas évolué avec l'incorporation de toxines dans leurs feuilles pour se défendre contre les herbivores, car ils n'en avaient sûrement pas besoin dans leurs habitats primitifs. Jusqu'à présent, il existe un consensus parmi les scientifiques sur le surpâturage et la diminution des périodes de pluie. Cela touche d'autres genres endémiques de l'île, comme les arbres à encens (***Boswellia***) ou les arbres à myrrhe (***Commiphora***), certains en voie d'extinction (***B. scopulorum, B. samhaensis***, ou encore ***B. hesperia***) dont les plantes peuvent également être dévorés par les oiseaux et les bovins.

Selon certaines rumeurs, le faible taux de germination des graines du dragonnier de l'île pourrait être une autre raison, mais il a été démontré que ce n'est pas le cas, et que jusqu'à environ 85 % de germination est possible dans des conditions favorables. Il a été vérifié *in situ* que les semis de dragonniers apparaissent après les pluies, pour disparaître pendant la saison sèche en raison de l'augmentation du pâturage.

La pression des chèvres atteint même l'une des rares pépinières financées par la coopération étrangère dans un village proche de la forêt de Firmihin. Là, nous avons pu constater qu'elles avaient réussi à pénétrer là où poussaient les plantes

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Bosque de *Dracena cinnabari* en Firmihin, Socotra. © J. Herrera Plaza

et à manger leurs feuilles les plus basses, comme on peut le voir sur la photo. Les plus gros spécimens étaient un peu plus protégés, mais les plus petits étaient tellement mangés qu'ils semblaient irrécupérables.

Un autre inconvénient majeur qui ne facilite pas sa régénération est la croissance extraordinairement lente du ***D. cinnabari***, ainsi que ***D. serrulata***, de la péninsule arabique, qui pousse à l'état sauvage entre 2 et 3 cm de hauteur par an, très différents du vigoureux dragonnier des îles Canaries.

Extraction du « Sang de Dragon »

Au fil des siècles, la sève du dragonnier de l'île a été utilisée à des fins médicinales. Aujourd'hui ses propriétés antibactériennes et antifongiques sont documentées. Quelque chose qui correspond à la vulnérabilité des dragonniers aux maladies par blessures non protégées, une fois qu'une branche a été cassée ou blessée.

Comme il s'agissait d'une activité ethnobotanique, ancrée dans la tradition

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locale, qui exploitait l'une des rares ressources qu'offrait l'île isolée, elle n'était généralement pas incluse parmi les causes hypothétiques qui augmentaient la mort et la disparition des spécimens. Ce n'est que ces dernières années que des études scientifiques menées en République tchèque ont classé cette activité comme non durable. Une autre équipe du même pays corrobore cette affirmation, mais minimise son importance considérant que cette tradition est en déclin et qu'elle touche surtout les spécimens les plus anciens.

Vivero de dragos en Firmihin, y cabras dentro del recinto. © JL

Indépendamment de la véracité de ces dernières, il a été constaté que dans la zone la plus peuplée : la forêt de Firmihin, 84 % des arbres présentent des blessures. Les mêmes qui chaque année y sont soumis à un brouillard permanent basé sur une humidité relative supérieure à 95%, provoqué par la mousson d'été, avec des vents du sud-ouest. Il existe également une réalité indéniable : le tourisme ne cesse de croître. On peut y acheter peu de produits indigènes comme souvenirs, autres que du miel, des brûle-encens ou un sac de résine de dragon, offerts partout par les enfants des villages.

Sur la base de ma perception personnelle, centrée sur les spécimens tombés ou malades et de l'analyse des blessures faites sur les troncs, j'ai pu vérifier que de nombreuses incisions étaient faites sur les précédentes du tronc, la plupart du temps entre un et deux mètres de hauteur. Celles-ci avaient généré des lésions profondes allant de 10 cm. de diamètre jusqu'à plus de 40. J'ai été surpris qu'en parcourant les routes, nous ayons vu de nombreux spécimens avec la couronne encore verte, mais avec le tronc cassé. Je pensais que ce seraient ceux qui avaient

été sectionnés par le vent, mais en les reconnaissant, ils ont convenu que leurs troncs étaient pourris comme s'ils souffraient de fusariose vasculaire ou d'une autre pathologie présentant des symptômes similaires, comme on peut le voir sur la photo. Seule une minorité de ceux qui sont tombés dans la bataille, ont renoncé à leurs racines. L'analyse de ces tissus et des micro-organismes qui les ont affectés est en cours.

Dans le parc naturel de Homhil, nous avons vu que les quelques dragonniers étaient pleins de blessures pouvant atteindre trois mètres de hauteur. Voyant que nous nous intéressions à leur état, le guide local a jeté une pierre sur le tronc de l'un d'eux, ce qui nous a surpris car cela sonnait creux. Malgré son bel aspect, avec une couronne, des branches et des feuilles apparemment en parfait état, le tronc était sec, presque noir et creux. Tout n'était qu'une pure cicatrice ; à la fois son tronc et ses branches primaires. Même les branches secondaires de quatre mètres de haut sont touchées. A côté de lui se trouvait un autre avec des blessures similaires. Son tronc, même s'il présentait des zones noires, comme s'il s'agissait d'un début de nécrose, ne sonnait pas creux. Pour combien de temps?

Dracaena cinnabari con patología © J. Herrera Plaza

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Bosque de dragos en Firmihin, Socotra © J. Herrera Plaza

Les dragonniers, en raison de leur structure non ligneuse, peuvent être très vulnérables aux maladies fongiques et bactériennes. Ce n'est pas un hasard si l'évolution leur a fourni dans leur sève des substances contre les champignons et les bactéries. La sélection naturelle les a également amenés à se protéger avec des écailles sur la partie inférieure, ce qui renforce leur écorce contre d'éventuels dommages dus au ruissellement et la protège de l'excès d'humidité. La pratique de l'extraction de sa résine constitue une activité bien plus profonde, invasive et destructrice que les incisions des arbres à encens et à myrrhe. Il est plausible d'émettre

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l'hypothèse qu'elle soit à l'origine de nombreuses pathologies et morts dont ils souffrent.

Disparition possible

Dans une étude réalisée à l'Université Mendel (République tchèque) parue en avril 2023, des engins ultra-légers ont été utilisés pour effectuer un recensement de la forêt de Firmihin, qui a une superficie de 1490 hectares. Grâce à de tels instruments, leur nombre total a été recensé : 35542, avec une moyenne

Mortandad en dragos en Socotra © J. Herrera Plaza

d'âge de 300 ans, ce qui représente 40 % du total de l'île, estimé à 80000 dragonniers. Grâce au décompte, il a également été possible d'enregistrer les morts (2123), ce qui représente 5,6% du total des morts au cours des dix dernières années.

Les incertitudes liées au changement climatique et la possibilité que des conditions météorologiques défavorables perdurent, comme cela se produit avec les cyclones, augmentent en fréquence et en intensité. Il existe également une

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tendance à la perte de la période saisonnière des pluies, de leur torrentialité et à une diminution du volume total annuel. À cela, il faut ajouter l'abus continu du pâturage, qui va augmenter en raison de la croissance exponentielle de la population. Il faut également prendre en compte les blessures pratiquées il y a des années, ainsi que les nouvelles pratiquées pour satisfaire la frivolité du touriste qui ignore le problème, sa possible relation avec une augmentation des pathologies. Tous ces facteurs conduisent à une accélération du déclin des dernières forêts de dragons de la planète.

Les éventuelles mesures proposées par les scientifiques qui ont étudié la situation visent à promouvoir la régénération naturelle, en évitant l'entrée du bétail, ainsi que la régénération artificielle, avec des campagnes annuelles de reboisement, pour lesquelles il faudrait créer de grandes pépinières protégées.

Compte tenu de la lente croissance de cette espèce et de la réaction plus lente des autorités, aucune mesure importante n'a été prise jusqu'à présent, malgré les preuves. Le plus probable sera que dans quelques décennies la perte d'un pourcentage élevé de spécimens centenaires sera suffisamment perceptible pour briser l'indolence des responsables. Quelque chose de similaire se produira avec d'autres endémismes, tels que les arbres à encens et à myrrhe. Ce qui existe aujourd'hui ne sera, pour les générations futures, qu'un souvenir préservé dans des photos et autres supports audiovisuels, comme un exemple supplémentaire de notre mépris et de notre incompétence à prendre soin de notre patrimoine naturel.

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A Tenerife nelle isole Canarie: l'euphorbia che non c'è.

Massimo Afferni (Italia)

Ho preso liberamente e fantasiosamente spunto dal film di animazione di Walt Disney 'Le avventure di Peter Pan' ambientato << nell'isola che non c'è >> per parlare di una nuova specie di Euphorbia, che sarebbe stata trovata da alcuni ricercatori botanici in una spedizione scientifica a Tenerife verso la fine del 1700, a cui è stato dato il nome *Euphorbia tribuloides* Lamark.

Ma il naturalista, zoologo, botanico francese Jean-Baptiste Lamarck (1744-1829), in estrema sintesi, non descrisse questa euphorbia, come riportano Lawant & Winthagen (2006), sulla base di un campione di essa ma da pianta nata da seme collezionato dai sopra citati ricercatori botanici a Tenerife, coltivata nel 1785 nel Royal Botanical Garden di Londra.

Lamarck dette poi la seguente breve descrizione di questa euphorbia (vedasi due immagini) nel 1788 in "Encyclopédie Métodique: Botanique, Tome II, p. 415": << Euphorbe tribuloïde, Euphorbia tribulòides. Euphorbia humillima diphylla aculeata quadrangularis, fpinis geminatis patentibus >>. (Euphorbia tribuloide, Euphorbia tribuloides. Piccola euphorbia doppiamente aculeata quadrangolare, con spine aperte).

Ma per ricollegarsi a quanto riportato nel titolo, nonostante le indicazioni di Lamarck ed altri botanici dell'epoca come ad esempio Carl Ludwig Willdenow, Christian Hendrik Persoon, John Lindley e successivamente in tempi più recenti Léon Camille Marius Croizat (vedi sempre Lewant & Winthagen (2006)), quella che viene indicata essere una nuova specie in *Euphorbia tribuloides*, sebbene perduta per sempre, in realtà non era che una ipotesi errata, in quanto si trattava e si tratta di *Euphorbia canariensis* o tutt'al più, a mio parere, di una forma forse anomala della stessa, anche se ciò non è da tutti condiviso!

Il ricercatore botanico della spedizione scientifica a Tenerife alla fine del 1700 chissà che semenzali ha raccolto, sicuramente da piante diverse dalle adulte ritenute essere una euphorbia.

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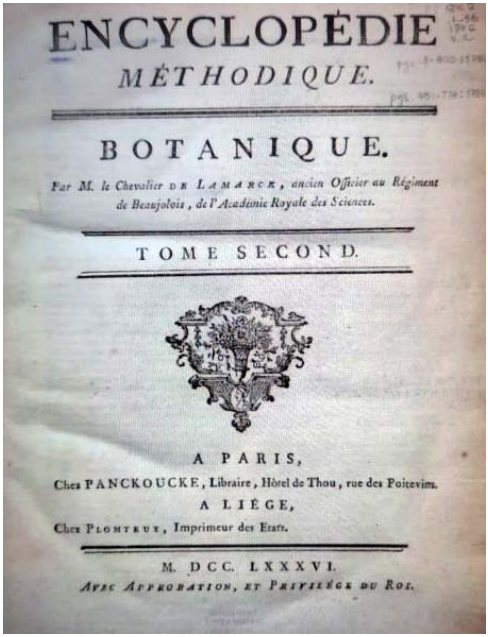


ENCYCLOPÉDIE
MÉTHODIQUE.

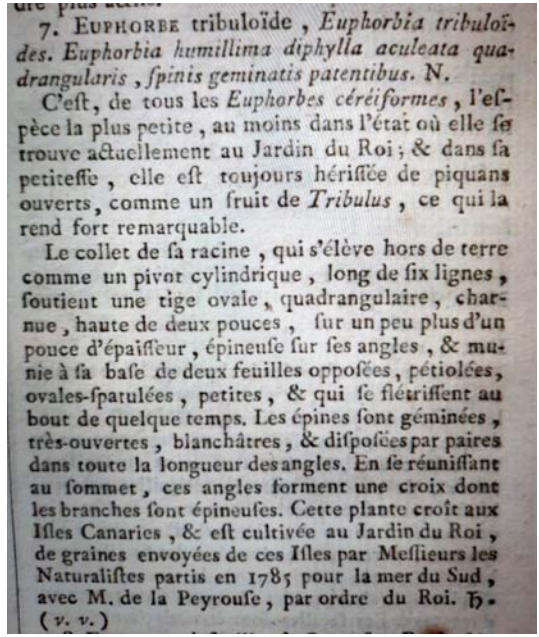
BOTANIQUE.

Par M. le Chevalier DE LAMARCK, ancien Officier au Régiment de Beaujolois, de l'Académie Royale des Sciences.

TOME SECOND.

A PARIS,
Chez PANCKOUCKE, Libraire, Hôtel de Thou, rue des Poitevins.
A LIÉGE,
Chez PLOMTEUX, Imprimeur des Etats.

M. DCC. LXXXVI.
AVEC APPROBATION, ET PRIVILÉGE DU ROI.



7. EUPHORBE tribuloïde, *Euphorbia tribuloïdes. Euphorbia humillima diphylla aculeata quadrangularis, ſpinis geminatis patentibus. N.*

C'eſt, de tous les *Euphorbes céréiformes*, l'eſpèce la plus petite, au moins dans l'état où elle ſe trouve actuellement au Jardin du Roi; & dans ſa petiteſſe, elle eſt toujours hériſſée de piquans ouverts, comme un fruit de *Tribulus*, ce qui la rend fort remarquable.

Le collet de ſa racine, qui s'élève hors de terre comme un pivot cylindrique, long de ſix lignes, ſoutient une tige ovale, quadrangulaire, charnue, haute de deux pouces, ſur un peu plus d'un pouce d'épaiſſeur, épineuſe ſur ſes angles, & munie à ſa baſe de deux feuilles oppoſées, pétiolées, ovales-ſpatulées, petites, & qui ſe flétriſſent au bout de quelque temps. Les épines ſont géminées, très-ouvertes, blanchâtres, & diſpoſées par paires dans toute la longueur des angles. En ſe réuniſſant au ſommet, ces angles forment une croix dont les branches ſont épineuſes. Cette plante croît aux Iſles Canaries, & eſt cultivée au Jardin du Roi, de graines envoyées de ces Iſles par Meſſieurs les Naturaliſtes partis en 1785 pour la mer du Sud, avec M. de la Peyrouſe, par ordre du Roi. ♄. (*v. v.*)

Lamarck poi, che aveva ricevuto i semi, quando vide nascere le plantule dimostrò di non avere le idee per niente chiare dando nel 1788 la descrizione sopra riportata alla pianta nata, che chiamò *Euphorbia tribuloides;* non aveva capito che in realtà consisteva nella forma giovanile di *Euphorbia canariensis* che coincide pienamente con la descrizione data da Lamarck, ovvero che si trattava di "piccola euphorbia", poiché descritta sulla base di giovane pianta nata da seme, e "quadrangolare" cioè con solo quattro costole, come appunto si presenta *E. canariensis* in tale fase iniziale di vita (solo da adulta ne può avere da 5 a 9).
Errore questo di valutazione simile ad altri fatti a quei tempi nella descrizione di qualche euforbie anche da alcuni esimi botanici come Emilio Chiovenda o dal ricercatore-esploratore Luigi Robecchi!

Riferendosi poi ad indicazioni riportate nell'articolo di Lewant & Winthagen, che di seguito verranno analizzate per essere facilmente confutate, non è per niente chiaro perché Lamarck vide nelle plantule, nonostante la descrizione fatta, della a suo parere nuova specie di euphorbia, il frutto di una specie di Tribulo, ovvero T*ribulus terretris* appartenente alla famiglia delle Zygophyllaceae (vedi foto 1).

Chissà, davvero. che semi aveva ricevuto e seminato, ma comunque è sicuramente da detto Tribulo che ebbe l'idea di chiamarla *Euphorbia tribuloides*!
Successivamente Hendrik Persoon include *Euphorbia tribuloides* nel suo manuale che espone gli ordini delle piante e poiché esso la descrive

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sostanzialmente come Lamarck, ma in modo solo un poco più dettagliato, Lewant & Winthagen ritengono, non è dato sapere però perché e quindi evidentemente ipotizzano, che egli l'abbia vista nel Giardino Botanico di Parigi o che ne abbia lui stesso curato un esemplare.

foto 1 - ***Tribulus terrestris***. foto 2 - semi di ***Euphorbia canariensis***.

fotos 3 & 4 - Giovani piante di ***Euphorbia canariensis***.

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Però nessun campione di erbario di *Euphorbia tribuloides* è mai stato recuperato! Carl Willdenow e John Lindly poi non aggiungono altro a quanto detto da Lamarck e Persoon in quanto sostanzialmente fanno proprie le loro descrizioni, mentre il botanico svizzero Pierre Edmond Boissier in tempi seguenti, nel 1862, pragmaticamente indica e considera *Euphorbia tribuloides* niente altro che un sinonimo di *Euphorbia canariensis*, anticipando quella che è in effetti la sola versione corretta su di essa.

Ma nonostante quanto sopra esplicitato Léon Croizat, molti decenni dopo, nel 1934 addirittura ritiene che gli oramai famosi semi raccolti fine 1700 siano di *Euphorbia handiensis* (che si ricorda cresce solo in alcuni barranca a Fuerteventura) e che quindi *Euphorbia tribuliodes* possa essere indicata come una euphorbia che morfologicamente (costole, spine, ecc.) non ha proprio niente a che fare con la descrizione data di essa da Lamarck, essendo invece *Euphorbia canariensis* come correttamente indica Boissier.

Ma per concludere questo coinciso excursus Lewant & Winthagen (2006) ritengono *Euphorbia tribuloides* una nuova specie valida anche se andata per sempre perduta basandosi, non sulla descrizione di Lamarck del 1788, ma su quelle dettagliate (?) ricavate da Persoon e Willdenow, perché tra l'altro indicanti il fiore biancastro e le foglie ovato-spatulate delle plantule, ivi designate per *Euphorbia tribuloides*!

Vorrei anche fare presente che l'amico Roberto Mangani profondo esperto di piante in particolare di quelle succulente delle Canarie e che vive oramai da molti anni a Tenerife e che ha esplorato anche habitat remoti e difficilmente accessibili di questa (e delle altre isole) non ha mai osservato alcuna pianta ascrivibile a *Euphorbia tribuloides*. Non solo ma anche dalla coltivazione di semi da lui raccolti di *Euphorbia canariensis* (vedi foto 2, 3 e 4) si è convinto, qualora ve ne fosse bisogno, che l'*Euphorbia tribuloides* di Lamarck non può proprio che essere *Euphorbia canariensis*!

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In Tenerife in the Canary Islands: the euphorbia that isn't there.

Massimo Afferni (Italy)

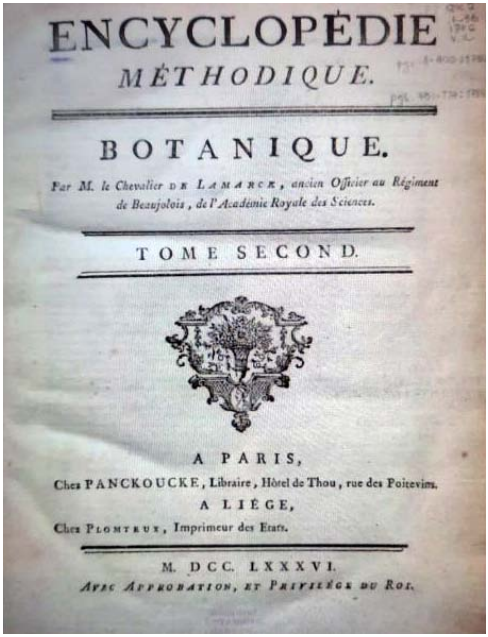
I freely and imaginatively took inspiration from Walt Disney's animated film 'The Adventures of Peter Pan' set <<on the island which isn't there>> to talk about a new species of Euphorbia, which would have been found by some botanical researchers on a scientific expedition to Tenerife in the late 1700s, which was given the name *Euphorbia tribuloides* Lamark.

But the French naturalist, zoologist, botanist Jean-Baptiste Lamarck (1744-1829), in extreme summary, did not describe this euphorbia, as reported by Lawant & Winthagen (2006), on the basis of a sample of it but from a plant born from collected seed by the above-mentioned botanical researchers in Tenerife, cultivated in 1785 in the Royal Botanical Garden in London.

Lamarck then gave the following brief description of this euphorbia (see two images) in 1788 in "Encyclopédie Métodique: Botanique, Tome II, p. 415": << *Euphorbe tribuloide, Euphorbia tribulòides. Euphorbia humillima diphylla aculeata quadrangularis, fpinis geminatis patentibus* >>. (Tribuloid euphorbia, Euphorbia tribuloides. Small quadrangular doubly aculeated euphorbia, with open spines).

But to reconnect with what is reported in the title, despite the indications of Lamarck and other botanists of the time such as Carl Ludwig Willdenow, Christian Hendrik Persoon, John Lindley and subsequently in more recent times Léon Camille Marius Croizat (see always Lewant & Winthagen (2006)), that which is indicated to be a new species in *Euphorbia tribuloides*, although lost forever, was in reality nothing more than an incorrect hypothesis, as it was and is *Euphorbia canariensis* or at most, in my opinion, of a perhaps anomalous form of the same, even if this is not shared by everyone!

The botanical researcher of the scientific expedition in Tenerife at the end of the 1700s who knows what seedlings he collected, certainly from plants other than the adults believed to be a euphorbia.



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Par M. le Chevalier DE LAMARCK, ancien Officier au Régiment de Beaujolois, de l'Académie Royale des Sciences.

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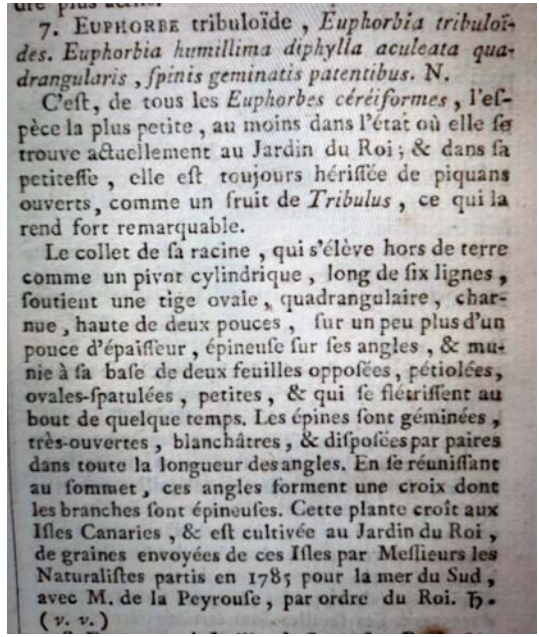

7. EUPHORBE tribuloïde, *Euphorbia tribuloïdes. Euphorbia humillima diphylla aculeata quadrangularis, spinis geminatis patentibus. N.*

C'eſt, de tous les *Euphorbes céréiformes*, l'eſpèce la plus petite, au moins dans l'état où elle ſe trouve actuellement au Jardin du Roi; & dans ſa petiteſſe, elle eſt toujours hériſſée de piquans ouverts, comme un fruit de *Tribulus*, ce qui la rend fort remarquable.

Le collet de ſa racine, qui s'élève hors de terre comme un pivot cylindrique, long de ſix lignes, ſoutient une tige ovale, quadrangulaire, charnue, haute de deux pouces, ſur un peu plus d'un pouce d'épaiſſeur, épineuſe ſur ſes angles, & munie à ſa baſe de deux feuilles oppoſées, pétiolées, ovales-ſpatulées, petites, & qui ſe flétriſſent au bout de quelque temps. Les épines ſont géminées, très-ouvertes, blanchâtres, & diſpoſées par paires dans toute la longueur des angles. En ſe réuniſſant au ſommet, ces angles forment une croix dont les branches ſont épineuſes. Cette plante croît aux Iſles Canaries, & eſt cultivée au Jardin du Roi, de graines envoyées de ces Iſles par Meſſieurs les Naturaliſtes partis en 1785 pour la mer du Sud, avec M. de la Peyrouſe, par ordre du Roi. ♄. (*v. v.*)

Then Lamarck, who had received the seeds, when he saw the seedlings being born, demonstrated that he did not have clear ideas at all, giving the above description in 1788 to the born plant, which he called *Euphorbia tribuloides*; he had not understood that in reality it consisted of the juvenile form of *Euphorbia canariensis* which fully coincides with the description given by Lamarck, that is, that it was a "small euphorbia", since it was described on the basis of a young plant born from seed, and "quadrangular" that is with only four ribs, as *E. canariensis* presents itself in this initial phase of life (only as an adult it can have from 5 to 9).

This error of evaluation was similar to others made at that time in the description of some euphorbias even by some eminent botanists such as Emilio Chiovenda or by the researcher-explorer Luigi Robecchi!

Referring then to indications reported in the article by Lewant & Winthagen, which will be analyzed below to be easily refuted, it is not at all clear why Lamarck saw in the seedlings, despite the description given, of what in his opinion was a new species of euphorbia, the fruit of a species of Tribulus, namely *Tribulus terretris* belonging to the Zygophyllaceae family (see photo 1).

Who really knows what seeds he had received and sown, but in any case it is certainly from said Tribulus that he had the idea of calling it *Euphorbia tribuloides*!

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Subsequently Hendrik Persoon includes *Euphorbia tribuloides* in his manual which exposes the orders of plants and since he describes it substantially like Lamarck, but in only a little more detail, Lewant & Winthagen believe, although it is not known why and therefore evidently hypothesize, that he has seen it in the Botanical Garden of Paris or has himself cared for a specimen.

photo 1 - ***Tribulus terrestris***. photo 2 - seedling of ***Euphorbia canariensis***.

photos 3 & 4 - Young piant of ***Euphorbia canariensis***.

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However, no herbarium specimen of *Euphorbia tribuloides* has ever been recovered!

Carl Willdenow and John Lindley then do not add anything else to what was said by Lamarck and Persoon as they essentially make their descriptions their own, while the Swiss botanist Pierre Edmond Boissier in later times, in 1862, pragmatically indicates and considers *Euphorbia tribuloides* nothing more than a synonym of *Euphorbia canariensis*, anticipating what is in fact the only correct version about it.

But despite what was stated above, Léon Croizat, many decades later, in 1934, even believed that the now famous seeds collected at the end of the 1700s were of *Euphorbia handiensis* (which is remembered as growing only in some barranca in Fuerteventura) and that therefore *Euphorbia tribuliodes* could be indicated as a euphorbia which morphologically (ribs, spines, etc.) has absolutely nothing to do with the description given of it by Lamarck, being instead *Euphorbia canariensis* as Boissier correctly indicates.

But to conclude this concise excursus Lewant & Winthagen (2006) consider *Euphorbia tribuloides* a valid new species even if it has been lost forever based, not on Lamarck's description of 1788, but on the detailed ones (?) obtained by Persoon and Willdenow, because between the other indicating the whitish flower and the ovate-spatulate leaves of the seedlings, there designated for *Euphorbia tribuloides!*

I would also like to point out that my friend Roberto Mangani, a profound expert in plants, in particular the succulent ones of the Canary Islands and who has now lived in Tenerife for many years and who has also explored remote and difficult to access habitats on this (and the other islands) has not I have never observed any plant attributable to *Euphorbia tribuloides*.
Not only that but also from the cultivation of Euphorbia canariensis seeds he collected (see photos 2, 3 and 4) he was convinced, if there were any need, that Lamarck's *Euphorbia tribuloides* can only be *Euphorbia canariensis*!

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Á Tenerife dans les îles Canaries : l'euphorbe imaginaire.

Massimo Afferni (Italie)

Je me suis inspiré librement et avec imagination du film d'animation de Walt Disney "Les Aventures de Peter Pan" se déroulant « sur l'île imaginaire de Neverland » pour parler d'une nouvelle espèce d'*Euphorbia,* qui aurait été trouvée par des chercheurs en botanique sur une expédition scientifique à Tenerife à la fin des années 1700, qui reçut le nom d'*Euphorbia tribuloides* Lamark.

Mais le naturaliste, zoologiste et botaniste français Jean-Baptiste Lamarck (1744-1829), de manière extrêmement sommaire, n'a pas décrit cette euphorbe, comme le rapportent Lawant & Winthagen (2006), sur la base d'un échantillon de celle-ci mais à partir d'une plante née de graines collectées par les chercheurs botaniques mentionnés ci-dessus à Tenerife, cultivées en 1785 dans le Jardin Botanique Royal de Londres.

Lamarck donne ensuite la brève description suivante de cette euphorbe (voir deux images) en 1788 dans « Encyclopédie Méthodique : Botanique, Tome II, p. 415" : << *Euphorbe tribuloide, Euphorbia tribulòides. Euphorbia humillima diphylla aculeata quadrangularis, fpinis geminatis patentibus* >>. (Euphorbe tribuloïde, *Euphorbia tribuloides*. Petite euphorbe quadrangulaire doublement aculée, à épines ouvertes).

Mais trouver une relation avec ce qui est rapporté dans le titre, malgré les indications de Lamarck et d'autres botanistes de l'époque comme Carl Ludwig Willdenow, Christian Hendrik Persoon, John Lindley et ensuite plus récemment Léon Camille Marius Croizat (voir toujours Lewant & Winthagen (2006)), ce qui est indiqué comme étant une nouvelle espèce d'*Euphorbia tribuloides*, bien que perdue à jamais, n'était en réalité rien de plus qu'une hypothèse incorrecte, puisqu'elle était et est *Euphorbia canariensis* ou tout au plus, à mon avis, peut-être d'une forme anormale du même, même si cela n'est pas partagé par tout le monde !

Le botaniste de l'expédition scientifique de Tenerife à la fin du XVIIIe siècle sait quels plantes il a collectées, certainement sur des plantes autres que les adultes que l'on croit être une euphorbe.

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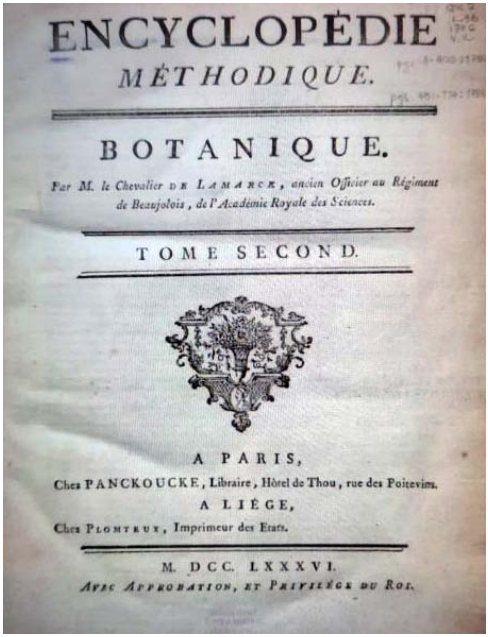

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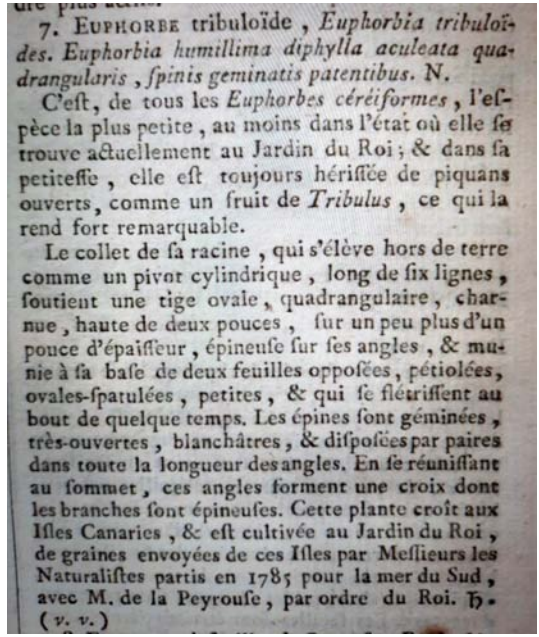

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Alors Lamarck, qui avait reçu les graines, lorsqu'il vit naître les plants, démontra qu'il n'avait pas tout à fait les idées claires, donnant en 1788 la description ci-dessus à la plante née, qu'il appela *Euphorbia tribuloides* ; il n'avait pas compris qu'il s'agissait en réalité de la forme juvénile d' *Euphorbia canariensis* qui coïncide tout à fait avec la description donnée par Lamarck, c'est-à-dire qu'il s'agissait d'une "petite euphorbe", puisqu'elle a été décrite à partir d'une jeune plante née à partir de graines, et "quadrangulaire", c'est-à-dire avec seulement quatre côtes, comme *E. canariensis* se présente dans cette phase initiale de la vie (à l'âge adulte, elle peut en avoir de 5 à 9).

Cette erreur d'évaluation était semblable à d'autres commises à cette époque dans la description de certaines euphorbes, même par d'éminents botanistes comme Emilio Chiovenda ou par le chercheur-explorateur Luigi Robecchi ! En se référant donc aux indications rapportées dans l'article de Lewant & Winthagen, qui seront analysées ci-dessous pour être facilement réfutées, on ne voit pas du tout pourquoi Lamarck a vu dans les plantes, malgré la description donnée, ce qui était à son avis une nouvelle espèce d'euphorbe, fruit d'une espèce de Tribulus, à savoir *Tribulus terrestris* appartenant à la famille des Zygophyllacées (voir photo 1).

Qui sait vraiment quelles graines il avait reçues et semées, mais en tout cas c'est certainement à partir dudit ***Tribulus*** qu'il a eu l'idée de l'appeler *Euphorbia tribuloides* ! Par la suite, Hendrik Persoon inclut *Euphorbia tribuloides* dans son

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manuel qui expose les ordres de plantes et comme il la décrit sensiblement comme Lamarck, mais avec seulement un peu plus de détails, Lewant et Winthagen croient, bien qu'on ne sache pas pourquoi et émettent donc évidemment l'hypothèse, qu'il l'a vu au Jardin Botanique de Paris ou en a lui-même cultivé un spécimen.


photo 1 - *Tribulus terrestris.* photo 2 - semis d'***Euphorbia canariensis***.


photos 3 & 4 - Jeunes plantes d'***Euphorbia canariensis***.

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Cependant, aucun spécimen d'herbier d'*Euphorbia tribuloides* n'a jamais été récupéré !

Carl Willdenow et John Lindley n'ajoutent alors rien d'autre à ce qui a été dit par Lamarck et Persoon puisqu'ils s'approprient essentiellement leurs descriptions, tandis que le botaniste suisse Pierre Edmond Boissier plus tard, en 1862, indique et considère avec pragmatisme *Euphorbia tribuloides* comme rien de plus qu'un synonyme d'*Euphorbia canariensis*, anticipant ce qui est en fait la seule version correcte à son sujet.

Mais malgré ce qui a été dit ci-dessus, Léon Croizat, plusieurs décennies plus tard, en 1934, croyait même que les graines désormais célèbres récoltées à la fin des années 1700 étaient celles d'*Euphorbia handiensis* (dont on se souvient comme ne poussant que dans certaines barrancas de Fuerteventura) et que donc *Euphorbia tribuloides* pourrait être indiquée comme une euphorbe qui, morphologiquement (côtes, épines, etc.) n'a absolument rien à voir avec la description qu'en donne Lamarck, étant plutôt *Euphorbia canariensis* comme l'indique correctement Boissier.

Mais pour conclure cet excursus concis, Lewant & Winthagen (2006) considèrent *Euphorbia tribuloides* comme une nouvelle espèce valable même si elle a été perdue à jamais en se basant, non pas sur la description de Lamarck de 1788, mais sur celles détaillées (?) obtenues par Persoon et Willdenow, car entre l'autre indiquant la fleur blanchâtre et les feuilles ovales-spatulées des plantules, désignées là pour *Euphorbia tribuloides !*

Je voudrais également souligner que mon ami Roberto Mangani, un grand expert en plantes, en particulier des succulentes des îles Canaries et qui vit maintenant à Tenerife depuis de nombreuses années et qui a également exploré des habitats éloignés et difficiles d'accès celle-ci (et les autres îles) n'a jamais été observée de plante attribuable à *Euphorbia tribuloides* .

Non seulement, mais aussi grâce à la culture des graines d'*Euphorbia canariensis* qu'il a récoltées (voir photos 2, 3 et 4) il était convaincu, s'il en était besoin, que l'*Euphorbia tribuloides* de Lamarck ne pouvait être qu'*Euphorbia canariensis* !

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En Tenerife en las Islas Canarias: La euforbia imaginaria.

Massimo Afferni (Italia)

Me inspiré libre e imaginativamente en la película animada de Walt Disney "Las aventuras de Peter Pan" que tiene lugar "en la isla imaginaria de Neverland" para hablar sobre una nueva especie de *Euphorbia,* que habría sido encontrada por investigadores botánicos en una expedición científica a Tenerife a finales del siglo XVIII, que recibió el nombre de *Euphorbia tribuloides* Lamark.

Pero el naturalista, zoólogo y botánico francés Jean-Baptiste Lamarck (1744-1829), de manera extremadamente sumaria, no describió esta euforbia, como reportan Lawant & Winthagen (2006), a partir de una muestra de esa, sino de una planta nacida de semillas recogidas por los investigadores botánicos antes mencionados en Tenerife, cultivadas en 1785 en el Real Jardín Botánico de Londres.

Lamarck da luego la siguiente breve descripción de esta euforbia (ver las dos imágenes) en 1788 en "Encyclopédie Méthodique: Botanique, Tome II, p. 415": << *Euphorbia tribuloides, Euphorbia tribulòides. Euphorbia humillima diphylla aculeata quadrangularis, fpinis geminatis patentibus* >>. (Euforbia tribloide, *Euphorbia tribuloides* . Pequeño tártago cuadrangular, doblemente aculeato, con espinas abiertas).

Pero encontrar una relación con lo que se relata en el título, a pesar de las indicaciones de Lamarck y otros botánicos de la época como Carl Ludwig Willdenow, Christian Hendrik Persoon, John Lindley y luego más recientemente Léon Camille Marius Croizat (ver siempre Lewant & Winthagen (2006)), lo que se afirma como una nueva especie de *Euphorbia tribuloides*, aunque perdida para siempre, en realidad no era más que una hipótesis incorrecta, ya que era y es *Euphorbia canariensis* o como mucho, en mi opinión, quizás una forma anormal de lo mismo, ¡aunque no sea compartido por todos!

El botánico que participó en la expedición científica a Tenerife a finales del siglo XVIII sabe qué plantas recogió, seguramente de plantas distintas de las adultas que se cree que son euforbias.

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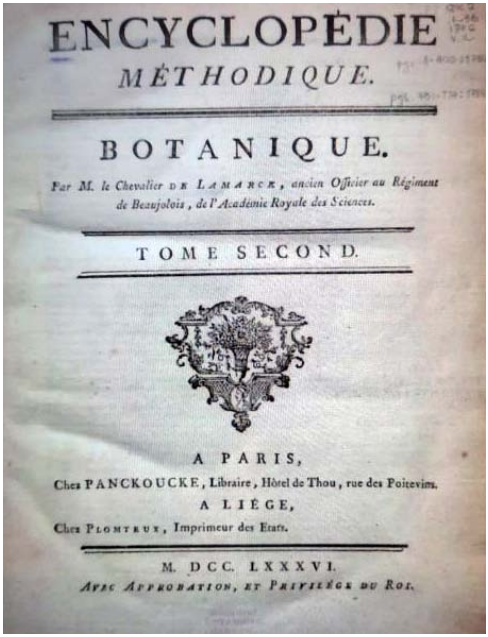


ENCYCLOPÉDIE
MÉTHODIQUE.

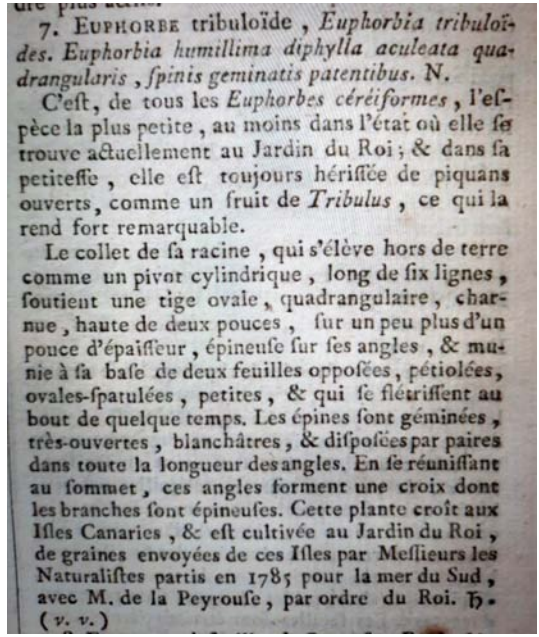
BOTANIQUE.

Par M. le Chevalier DE LAMARCK, ancien Officier au Régiment de Beaujolois, de l'Académie Royale des Sciences.

TOME SECOND.

A PARIS,
Chez PANCKOUCKE, Libraire, Hôtel de Thou, rue des Poitevins.
A LIÉGE,
Chez PLOMTEUX, Imprimeur des Etats.

M. DCC. LXXXVI.
AVEC APPROBATION, ET PRIVILÉGE DU ROI.



7. EUPHORBE tribuloïde, *Euphorbia tribuloïdes. Euphorbia humillima diphylla aculeata quadrangularis, ſpinis geminatis patentibus. N.*

C'eſt, de tous les *Euphorbes céréiformes*, l'eſpèce la plus petite, au moins dans l'état où elle ſe trouve actuellement au Jardin du Roi; & dans ſa petiteſſe, elle eſt toujours hériſſée de piquans ouverts, comme un fruit de *Tribulus*, ce qui la rend fort remarquable.

Le collet de ſa racine, qui s'élève hors de terre comme un pivot cylindrique, long de ſix lignes, ſoutient une tige ovale, quadrangulaire, charnue, haute de deux pouces, ſur un peu plus d'un pouce d'épaiſſeur, épineuſe ſur ſes angles, & munie à ſa baſe de deux feuilles oppoſées, pétiolées, ovales-ſpatulées, petites, & qui ſe flétriſſent au bout de quelque temps. Les épines ſont géminées, très-ouvertes, blanchâtres, & diſpoſées par paires dans toute la longueur des angles. En ſe réuniſſant au ſommet, ces angles forment une croix dont les branches ſont épineuſes. Cette plante croît aux Iſles Canaries, & eſt cultivée au Jardin du Roi, de graines envoyées de ces Iſles par Meſſieurs les Naturaliſtes partis en 1785 pour la mer du Sud, avec M. de la Peyrouſe, par ordre du Roi. ♄. (*v. v.*)

Entonces Lamarck, que había recibido las semillas, al ver nacer las plantas, demostró que no tenía las ideas muy claras, dando en 1788 la descripción anterior a la planta nacida, a la que llamó *Euphorbia tribuloides*; no había comprendido que en realidad se trataba de la forma juvenil de *Euphorbia canariensis* que coincide completamente con la descripción dada por Lamarck, es decir que se trataba de una "pequeña euphorbia", ya que fue descrita a partir de una planta joven nacida de semillas, y "cuadrangular", es decir con sólo cuatro costillas, ya que *E. canariensis* se presenta en esta fase inicial de la vida (en la edad adulta puede tener de 5 a 9).

Este error de valoración fue similar a otros cometidos en aquella época en la descripción de determinadas euforbias, ¡incluso por eminentes botánicos como Emilio Chiovenda o por el investigador-explorador Luigi Robecchi! Refiriéndose pues a las indicaciones recogidas en el artículo de Lewant & Winthagen, que serán analizadas a continuación para ser fácilmente refutadas, no entendemos en absoluto por qué Lamarck vio en las plantas, a pesar de la descripción dada, lo que en su opinión era una nueva especie de euforbia, el fruto de una especie de ***Tribulus***, concretamente *Tribulus terrestris*, perteneciente a la familia Zygophyllaceae (ver foto 1).

Quién sabe realmente qué semillas había recibido y sembrado, pero en cualquier caso seguramente fue de dicho ***Tribulus*** de donde tuvo la idea de llamarlo *Euphorbia tribuloides*. Posteriormente, Hendrik Persoon incluyó *Euphorbia*

tribuloides en su manual que establece los órdenes de las plantas y, como él mismo las describe de manera muy similar a Lamarck, pero con solo un poco más de detalle, creen Lewant y Winthagen, aunque no está claro por qué y, por lo tanto, obviamente plantean la hipótesis de que lo vio en el Jardín Botánico de París o cultivó un espécimen él mismo.

photo 1 - *Tribulus terrestris.* photo 2 - semilleros d'***Euphorbia canariensis***.

photos 3 & 4 - plantas jovenes de ***Euphorbia canariensis***.

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¡Pero nunca se ha recuperado ningún espécimen de herbario de *Euphorbia tribuloides !*

Carl Willdenow y John Lindley no añaden nada más a lo dicho por Lamarck y Persoon ya que se apropian esencialmente de sus descripciones, mientras que el botánico suizo Pierre Edmond Boissier más tarde, en 1862, indica y considera pragmáticamente *Euphorbia tribuloides* como nada más que un sinónimo de *Euphorbia canariensis*, anticipando la que de hecho es la única versión correcta al respecto.

Pero a pesar de lo dicho anteriormente, Léon Croizat, varias décadas después, en 1934, incluso creyó que las ahora famosas semillas recolectadas a finales del siglo XVIII eran las de *Euphorbia handiensis* (que se recuerda que no crece en ciertas barrancas de Fuerteventura) y que por tanto *Euphorbia tribuloides* podría indicarse como una euforbia que, morfológicamente (costillas, espinas, etc.) no tiene absolutamente nada que ver con la descripción dada por Lamarck, siendo más bien *Euphorbia canariensis* como Boissier lo indica correctamente.

Pero para concluir este conciso excursus, Lewant & Winthagen (2006) consideran *a Euphorbia tribuloides* como una nueva especie válida incluso si se perdió para siempre basándose, no en la descripción de Lamarck de 1788, sino en las detalladas (?) obtenidas por Persoon y Willdenow, porque entre el otro indica la flor blanquecina y las hojas ovaladas-espatuladas de las plántulas, ¡designadas allí para *Euphorbia tribuloides!*

También me gustaría señalar que mi amigo Roberto Mangani, gran conocedor de plantas, especialmente suculentas de Canarias y que ahora vive en Tenerife desde hace muchos años y que también ha explorado hábitats remotos y de difícil acceso (y las otras islas) nunca se ha observado ninguna planta atribuible a *Euphorbia tribuloides* .

No sólo, sino que también gracias al cultivo de las semillas de *Euphorbia canariensis* que recogió (ver fotos 2, 3 y 4) se convenció, si fuera necesario, de que *la Euphorbia tribuloides* de Lamarck ¡Solo podría ser *Euphorbia canariensis* !

Bibliografía .

Lawant P. & D. Winthagen (2006) - *Euphorbia tribuloides*: ¿una especie perdida para siempre? -World Euphorbia, 2(1):26-29.

Un ***Gymnocalycium*** con paciencia

Eduardo Alcalde García (España)

Probablemente pocos coleccionistas han observado tal fenómeno; una flor de *Gymnocalycium stenopleurum* ("*friedrichii*") ha estado abierta durante varios meses.

El botón floral empezó a crecer a mediados de noviembre de 2018 y a mediados de diciembre ya estaba formada la flor y abierta (lo poco que llegó a abrirse). Al ver que el 13 de enero de 2019 seguía abierta, seguí fotografiándola. El 16 de febrero comenzó a cerrarse y aguantó así hasta que en junio se cerró del todo y se secó.
Aquí van las fotos del proceso: la primera foto es de enero de 2019 y la última de junio de 2019.

A ***Gymnocalycium*** with patience

Eduardo Alcalde García (Spain)

Probably few collectors have observed such a phenomenon; a *Gymnocalycium stenopleurum* ("*friedrichii*") flower has been open for several months.

The flower bud started to grow in mid-November 2018 and by mid-December the flower was already formed and open (as little as it ever opened). Seeing that it was still open on January 13, 2019, I continued photographing it. On February 16, it began to close and remained that way until it closed completely and dried up in June.
Here are the photos of the process: the first photo is from January 2019 and the last one from June 2019.

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Taxonomic Changes in the Genus ***Calochortus*** (Liliaceae)

Fritz Hochstätter (Germany)

Calochortus Pursh Serie *Pulchelli* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Pulchelli* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 393. 1940.

Type: *Cyclobothra alba* Bentham.

Calochortus albus, Calochortus amabilis, Calochortus amoenus, Calochortus pulchellus, Calochortus raichei.

Calochortus Pursh Serie *Nitidi* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Nitidi* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 436. 1940.

Type: *Calochortus nitidus* Doglas.

Calochortus coxii, Calochortus greenei, Calochortus howellii, Calochortus longibarbatus ssp. *longibarbatus, Calochortus longibarbatus* ssp. *peckii, Calochortus lyallii, Calochortus minimus, Calochortus nitidus, Calochortus umpquaensis.*

Calochortus Pursh Serie *Eleganti* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Eleganti* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 404. 1940.

Type: *Cyclobothra elegans Bentham.*

Calochortus apiculatus, Calochortus coerulateus, Calochortus elegans ssp. *elegans, Calochortus elegans* ssp. *nanus, Calochortus elegans* ssp*. selwayensis, Calochortus minimus, Calochortus subalpinus, Calochortus tolmiei, Calochortus westonii.*

Calochortus Pursh Serie *Nudi* Hochstätter comb. et stat. nov.

Basionym: *Calochortus* Subsection *Nudi* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 425. 1940.

Type: *Cyclobothra uniflora* Kunthh.

Calochortus nudus, Calochortus umbellatus, Calochortus uniflorus.

Calochortus Pursh Serie *Venusti* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Venusti* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 452. 1940.

Calochortus Serie *Pulchelli*

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1: *Calochortus albus.* California. Photo. B. Nelson.
2: *Calochortus amabilis.* Lake Co., California. Photo. S. Zona.
3: *Calochortus amoenus.* Madera Co., California. Photo. B. Breakling.
4: *Calochortus pulchellus*. California. Photo. Ventan.
5: *Calochortus raichei.* Austin Creek Region, California. Photo. J. Game.

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Calochortus Serie *Nitidi*

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1: *Calochortus lyallii*. Okanogan Co., Washington. Photo. Solmarm.
2: *Calochortus minimus*. Desolation Wilderness Region, California. Photo. Kendallei.
3: *Calochortus nitidus.* Photo. M. Hays.
4: *Calochortus umpquaensis.* Oregon. Photo. Ump.

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Calochortus Serie *Nitidi*

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1: ***Calochortus coxii***. **Myrte Creek, Oregon. Photo. T. Becher.**
2: ***Calochortus greenei***. **Jackson Co., Oregon. Photo. G. Monroe.**
3: ***Calochortus howellii***. **Josephine Co., Oregon. Photo. M. J. Jules.**
4: ***Calochortus longibarbatus***. **Washington. Photo. T. Tuason.**
5: ***Calochortus longibarbatus* ssp. *peckii***. **Oregon. Photo. E. Gnairy.**

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Calochortus Serie *Eleganti*

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1: ***Calochortus minimus.*** **Desolation Wilderness Region, California. Photo. Kendallei.**
2: ***Calochortus subalpinus.*** **Mount Hood Region, Oregon. Photo. Penst.**
3: ***Calochortus tolmiei*****. San Mateo Co., California. Photo. Lynn.**
4: ***Calochortus westonii.*** **Shirley Meadows Region, California. Photo. N. Kramer.**

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Calochortus Serie *Eleganti*

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1: *Calochortus apiculatus.* Glacier Nationalpark, Montana. Photo. B. Mouton.
2: *Calochortus coeruleus.* Mable Mountain Wilderness, California. Photo. T. Hilton.
3: *Calochortus elegans* ssp. *elegans.* Klamath Range, California. Photo. J. K. Nelson.
4: *Calochortus elegans* ssp. *nanus.* Crater Lake Nationalpark Region, Oregon. Photo. K. Morse.
5: *Calochortus elegans* ssp. *selwayensis*. Idaho. Photo. J. Reveal.

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Calochortus Serie *Nudi*

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3

1: *Calochortus nudus.* Trinity Mountains, Siskiyou/Trinity County, California. Photo. D. Fristrom.
2: *Calochortus umbrellatus.* San Farncisco Bay Region, Californa. Photo. L. M.
3: *Calochortus uniflorus*. California. Photo. Passiv.

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Calochortus Serie *Venusti*

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1: *Calochortus palmeri* ssp. *palmeri*. Kern Co., California. Photo. A. Schuster.
2: *Calochortus palmeri* ssp. *sanjacintoensis.* California. Photo. J. Zylstra.
3: *Calochortus simulans*. San Luis Obispo Co., California. Photo. M. Harms.
4: *Calochortus splendens.* San Diego Co., California. Photo. K. Morse.
5: *Calochortus striatus*. Calico Basin, Nevada. Photo. S. Shebs.
***6: Calochortus superbus.* Placer Co., California. Photo. Eric.**

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Calochortus Serie *Venusti*

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3

1: *Calochortus syntrophus.* California. Photo. S. Lowens.
2: *Calochortus venustus.* California. Photo. Zappey.
3: *Calochortus vestae.* Mendocino Co., California. Photo. Eric.

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Calochortus Serie *Venusti*

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1: *Calochortus argillosus.* San Luis Obispo Co., California. Photo. J. Kirkhart.
2: *Calochortus catalinae.* Ventura Co., California. Photo. N. Elhardt.
3: *Calochortus dunnii.* Photo. B. Bouton.
4: *Calochortus flexuosus.* Red Rock Canyon Region, Nevada. Photo. S. Shebs.
5: *Calochortus leichtlinii.* California. Photo. J. Z. Zipkin.
***6: California luteus.* Mt. Tamalpais, California. Photo. Eric.**

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Calochortus Serie *Macrocarpi*

1

2

1: *Calochortus macrocarpus* ssp. *macrocarpus*. Ellensburg Region, Washington. Photo. J. Brews.

2: *Calochortus macrocarpus* ssp. *maculosus.* Asotin County, Washington. Photo. B. McClain.

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Type: *Calochortus venustus clobothra* Douglas ex Bentham.

Calochortus argilosus, Calochortus catalinae, Calochortus flexuosus, Calochortus leichtliii, Calochortus luteus, Calochortus monanthus, Calochortus palmeri ssp. *palmeri, Calochortus palmeri* ssp*. sanjacintoensis, Calochortus simulans, Calochortus splendens, Calochortus striatus, Calochortus superbus, Calochortus syntrophus, Calochortus venustus, Calochortus vestae.*

Calochortus Pursh Serie *Macrocarpi* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Macrocarpi* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 480. 1940.

Type: *Calochortus macrocarpus* Douglas.

Calochortus macrocarpus ssp. *macrocarpus, Calochortus macrocarpus* ssp. *macrulosus.*

Calochortus Pursh Serie *Nuttalliani* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Nuttalliani i* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 485. 1940.

Type: *Calochortus luteus.*

Calochortus aureus, Calochortus bruneaunis, Calochortus clavatus ssp. *Calochortus clavatus* ssp. clavatus*, Calochortus clavatus* ssp. avius*, Calochortus clavatus* ssp*. gracilis, Calochortus clavutus* ssp*. pallidus, Calochortus clavatus* ssp. *recurviflorus, Calochortus concolor, Calochortus invenustus, Calochortus* kennedyi ssp. *kennedyi, Calochortus kennedyi* ssp*. munzii, Calochortus nuttallii, Calochortus panamintensis.*

Calochortus Pursh Serie *Gunnisoniani* Hochstätter **comb. et stat. nov.**

Basionym: *Calochortus* Subsection *Gunnisoniani* Ownbey, Monograph of the genus *Calochortus* , Ann. Miss. Bot. Gard. 27: 505. 1940.

Type: *Calochortus gunnisonii.*

Calochortus ambiguus, Calochortus gunnisonii ssp*. gunnisonii, Calochortus gunnisonii* ssp*. perpulcher.*

Calochortus Pursh Serie *Barbati* (Ownbey) Hochstätter comb. et stat. nov.

Basionym: *Calochortus* Subsection *Barbati* M. Ownbey. Monograph of the genus Calochortus, Annals of the Missouri Botanic Garden 27: 525. 1940.

Type: *Fritillaria barbata Humboldt, Bonpland & Kunth Nova Gen . Spec. Plant. 1: 288. 1816.*

Flowers nodded; sepals hairy; often bulbiferous at the upper leaf axis; bulb skin fibrous-reticulate.

Calochortus balsensis, barbatus, marcelliae, nigrescens.

Calochortus Serie *Gunnisoniani*

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1: ***Calochortus ambiguus*. Gila Co., Arizona. Photo. S. Jones.**
2: ***Calochortus gunnisonii* ssp. gunnisonii. Teller Co., Colorado. Photo. C. Hoffard.**
3: ***Calochortus gunnisonii* ssp. *perpulcher*. New Mexco. Photo. R. Sivinski.**

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Calochortus Serie *Barbati*

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4

1: ***Calochortus balsensis.*** **Chilpancingo de los Bravo, Mexico. Photo. M. Garcia-Martinez.**
2: ***Calochortus barbatus.*** **Photo. E. Padilla.**
3: ***Calochortus marcellae.*** **Ciudad Victoria, Tamaulipas, Mexico. Photo. L. Garcia.**
4: ***Calochortus nigrescens.*** **Oaxaca, Mexico. Photo. C. Martorell.**

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Calochortus clavatus Watson ssp. ***gracilis*** (Ownby) Hochstätter **comb. nov.**

Basionym: *Calochortus clavatus var. gracilis* Ownby. Ann. Miss. Bot. Gard. 27: 504. 1940.

Type: USA, California, Crow, s. n.

Endemic to San Gabriel Mts., California.

Calochortus elegans Pursh ssp. ***nanus*** (Wood) Hochstätter **comb. nov.**

Basionym: *Calochortus elegans var. nanus* Wood. Proc. Acad. Nat. Sci. Philadelphia. 20. 168. 1868.

Type: USA, California, s. n.

Endemic to California, Oregon.

Occurrence: USA.

Calochortus elegans Pursh ssp. ***selwayensis*** (John) Hochstätter **comb. nov.**

Basionym: *Calochortus selwayensis* Johnood. Proc. Biol. Soc. Wash. 41: 192. 1928.

Type: USA, Idaho, Paradise Creek. Baker, WS.

Endemic to Idaho.

Occurrence: USA.

Calochortus gunnisonii Watson ssp. ***perpulcher*** (Cockerell) Hochstätter **comb. nov.**

Basionym: *Calochortus gunnisonii* var. *perpulcher* Cockerell Bot. Gaz. 29: 28.1900.

Type: USA, New Mexico, Beschle, s. n.

Endemic to Sangre de Christo Mts., New Mexico.

Occurrence: USA.

Calochortus kennedyi Porter ssp. ***munzii*** (Jepson) Hochstätter **comb. nov.**

Basionym: *Calochortus kennedyi* var. *munzii* Jepsonckerell Man. Fl. Pl. Calif. 236. 1923.

Type: USA, California, Bonanza King Mine area. Jepson.

Geophytic.

Occurrence: USA, Mexico.

Calochortus longibarbatus Watsonorter ssp. ***peckii*** (Ownbey) Hochstätter **comb. nov.**

Basionym: *Calochortus longibarbatus* var. *peckiii* Ownbey Bot. Gaz. 104: 556. 1943.

Type: USA, Oregon, Ochoco Mts. Ownbey & Ownbey.

Endemic.

Occurrence: USA, Oregon.

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Calochortus macrocarpus Douglasts ssp. ***maculosus*** (Nelson & Macbride) Hochstätter **comb. nov.**

Basionym: *Calochortus macrocarpus* var. *maculosusi* Nelson & Mcbride Country Gray. Herb. 56: 14. 1918.

Type: USA, Idaho, Lewiston area. Henderson.

Endemic.

Occurrence: USA, Oregon, Idaho, Washington.

Calochortus palmeri Watson ssp. ***sanjacintoensis*** (Ownbey) Hochstätter **comb. nov.**

Basionym: *Calochortus palmer* var. *munzii* Ownbey Aliso 4: 88.1958.

Type: USA, California, San Jacinto Mts. Munz & Everett.

Endemic.

Occurrence: USA, California.

Calochortus venustulus Greene ssp. ***imbricus*** (Reveal & Hess) Hochstätter **comb. nov.**

Basionym: *Calochortus venustuslus* var. *imbricus* Reveal & Hess Rhodora. 74: 350. 1972.

Type: Mexico, Durango Lauritz et al.

Endemic.

Occurrence: Mexico, Durango.

Calochortus weedii Wood ssp. ***intermedius*** (Ownbey) Hochstätter **comb. nov.**

Basionym: *Calochortus venustulus weedii* var. *intermedius* Ownbey Ann. Miss. Bot. Gard. 27: 519. 1940.

Type: USA, California. Howell.

Endemic.

Occurrence: USA, California.

Calochortus weedii Wood ssp. ***peninsularis*** *s* (Ownbey) Hochstätter **comb. nov.**

Basionym: *Calochortus venustulus weedii* var. *peninsularis* Ownbey Ann. Miss. Bot. Gard. 27: 519. 1940.

Type: Mexico, Baja California,Sierra San Pedro Martin, Meeling.

Endemic.

Occurrence: Mexico, Baja California.

Acknowledgement:
Thanks to A.Mühl for editing the photographic material.

Summary - Literature selection:

Hochstätter, F. (2020*): Liliaceae Calochortus.*
Pursch, F. (1814): *Liliaceae Calochortus.*

Apteranthes in Morocco and the pressures they face

Eloy Rivas & Paula Warren Jiménez (Spain)

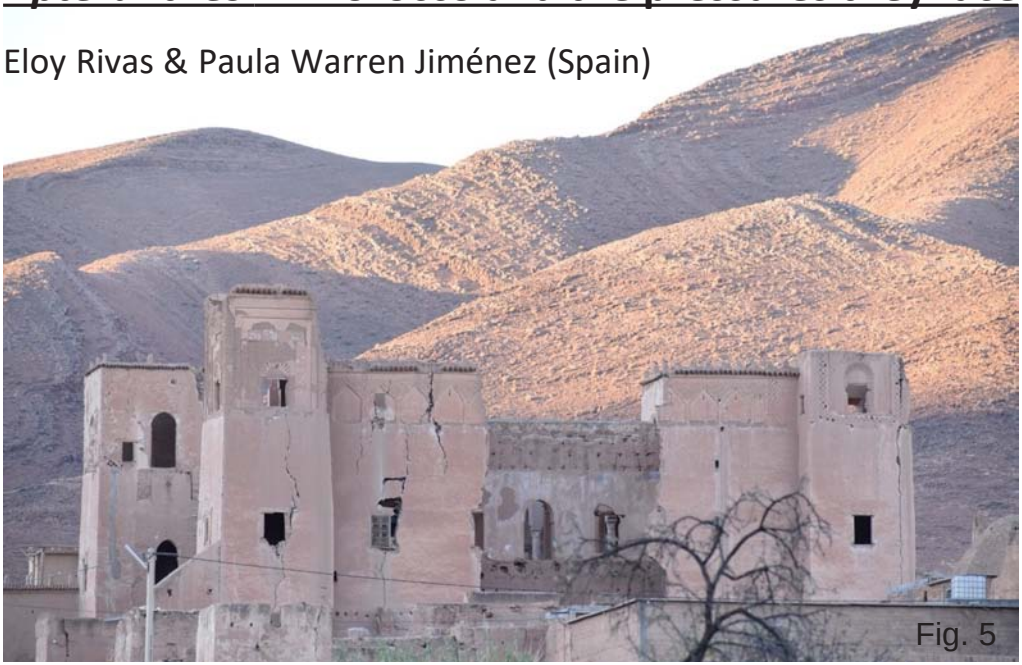

Fig. 5

The Apocynaceae family, and more specifically the subtribe *Stapeliinae*, represents a group of plants that have made a remarkable evolutionary effort to attract their pollinators. The scent and colour of their flowers resemble decaying flesh or dung, among other things, thus deceiving flies and beetles, which are then attracted (Meve *et al*., 2017).

This fascinating group of plants is mainly distributed across southern and eastern Africa and comprises many genera and species, with even more variable taxonomy. Some species of this subtribe have barely been documented a few times, and many of them are in imminent danger due to habitat deterioration caused by livestock grazing and human activity.

The expedition to Morocco was undertaken with the intention of documenting these plants, to better describe their environment, location, and conservation status. Raising awareness of such interesting plants is crucial to ensure their conservation and perseverance over time.

Our journey began with an early morning arrival in Marrakech, from where we left the next day to explore the Souss Valley, a very interesting area in terms of fauna and flora, located between the Atlas and Anti-Atlas Mountains and bathed by the Souss River.

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Fig.1

Our first stop was in Agadir, a very touristic and busy town, where we took the opportunity to visit its large market, the *Souk El Had*. There we encountered an unpleasant surprise: a small stall offered a box full of stems from plants of the genus *Apteranthes* collected from the surrounding area (Fig. 1). The seller assured us that these were stems from a plant called *daghmous* and that these stems are consumed dried as a digestive remedy.

They also mentioned that the pollen from this plant is used to make a famous honey, known as *daghmous* honey, which is widely sold. In reality, the word *daghmous* refers to plants of the genus *Euphorbia*. According to the literature, the pollen for this honey mainly comes from *Euphorbia officinarum* L., while honey derived from *Euphorbia resinifera* O. Berg is referred to as *Zakoum* honey, although they generally use one type of *Euphorbia* or another indistinctly (Imtara *et al*., 2019). Therefore, it seems that locals use the same name for both Euphorbia and *Apteranthes.*

Unfortunately, this was not the only time during the trip that we saw *Apteranthes* stems being sold under the name *daghmous*. We do not know why the name *daghmous* is used for both *Apteranthes* and *Euphorbias*, perhaps due to confusion between the two genera. We are particularly concerned about the indiscriminate collection of these *Apteranthes* stems for sale in Morocco, as it could lead to increased demand from tourists and contribute to the indiscriminate harvesting of the environment. Upon further

investigation, this type of honey is not only common in Morocco but also in Algeria (Sahri *et al*., 2023), where something similar might be happening. Additionally, in Yemen, there is a type of honey called *Saal* honey, made with *Euphorbia cactus* Ehrenb. ex Boiss. (Mohammed *et al*., 2018), which can easily be confused with some species of the *Stapeliinae* subfamily present there, such as the genus *Desmidorchis*.

To fulfill the purpose of our trip, we asked the Agadir seller about the area where those stems had been collected so that we could document their presence and population status. He kindly indicated the area where they were usually found; however, we were unable to observe them. This could be due to the imprecise location or the intensive collection.

Our first successful stop in the search for *Apteranthes* was Imsouane, a famous fishing village north of Agadir that has seen a tourism boom in recent years, particularly for surfing. Generally, the coast of Morocco is undergoing a drastic shift towards large luxury constructions, which not only destroy habitats for plants and animals but also significantly alters the economy of many Moroccans, making it increasingly dependent on tourism, which is seasonal and very destructive to the environment.

Fig.2

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On a small hill overlooking the sea in Imsouane, we were able to observe the first specimens of *Kleinia anteuphorbium* (L.) HAW and *Euphorbia regis-jubae* GAY. The area was arid, though with some coverage of various shrub species that are often found accompanying *Apteranthes*, so we were optimistic in our search. After examining the stems of various shrubs, we found our first *Apteranthes burchardii* subsp. *maura* (MAIRE) MEVE & F. ALBERS, many of them in bloom. This species of *asclepiad* is well represented in the country. Additionally, we also found a single specimen of *Orbea decaisneana* subsp. *hesperidum* (MAIRE) H.A. JONKERS, a less common species in this area that we hoped to see in the following days. Fortunately, this one was also in bloom (Fig. 2).

Our next stop was the Souss Massa National Park, a site of particular importance as one of the few nesting areas for the endangered bird, the hermit ibis (*Geronticus eremita*), which we were lucky enough to see flying over our heads, as well as spoonbills (*Platalea leucorodia*), flamingos (*Phoenicopterus roseus*), and other typical marsh birds.

There we observed more specimens of *Apteranthes burchardii*, which almost always appeared associated with *K. anteuphorbium* or *Lycium intricatum* Boiss. This particularly caught our attention, as there are some locations in southern Spain, specifically in the locality of Almería, where specimens of *Apteranthes europaea* (GUSS.) PLOWES grow among the stems of these shrubs (Fig. 3).

Fig. 3

The following day, we headed to Aoulouz. On the way, we made a stop on the outskirts of Taroudant, following the road south and near Hafaïa. There stretched a vast desert plain dedicated to grazing by a few locals who live in the area. We found several specimens of *Apteranthes europaea* subsp. *maroccana* (GUSS.) PLOWES, many of which had lost the turgidity of their

stems due to the lack of rainfall that has been plaguing Morocco for the past three years, yet we were still able to observe them in bloom. This species is particularly variable, and in Morocco, we observed different morphologies within a single small population, with the striping on the flowers varying from one to another (Bensusan, 2009). The plants grew freely, without any shelter from the sun, and very close to goat herds, making them easily accessible to these animals; however, the population was numerous, maybe due to their exceptional camouflage (Fig. 4).

Fig. 4

Another impact we observed on the environment, and therefore on the *Apteranthes,* was pollution from anthropogenic waste. We were saddened to see the state of that field, more akin to a landfill than a natural area.

The main objective of our trip was to observe specimens of *Apteranthes joannis* (Maire) Plowes in bloom. For this purpose, we headed to Aoulouz, where it was found three years after its original discovery (Jonkers, 1993). The story of its discovery sparked our interest in this species. The first recorded description dates back to 1933, located in the village of "Taberbourt" in the Taroudant province, an imprecise location that, after several attempts, have never been relocated on maps. On our way to Aoulouz, we stayed at a small campsite in a nearby village called Taliouine. Taliouine is a small village without tourists, with a main street that lights up at night, where people gather to dine or have tea. Noteworthy is the great friendliness of its inhabitants, the warm hospitality we received, and the quality of its lamb. Amid the reddish landscape, one can observe the *Kasbah of Glaoui*, a fortified palace of a former political leader from the 20th century named Glaoui, which today has been adapted by locals to build stables and small houses (Fig. 5).

The next morning, we'd tried asking local residents, showing them photos of the *A. joannis* flower, but they did not recognize it. A small glimmer of hope

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arose when someone suggested we ask at the first house upon entering the village for a man named Ahad, who turned out to be the village herbalist, famous for knowing every plant species, as we were assured, but he also did not recognize it.

Our search for the elusive *A. joannis* led us to examine the Aoulouz reservoir, where, despite finding the accompanying vegetation and the conditions for it to grow, we could not find it. We climbed some stone walls in the area, where we hopefully believed we might find it, but it still did not appear. Undoubtedly, Aoulouz and its surroundings have been heavily modified by human activity, with the construction of the reservoir and all its infrastructure, and it is possible that the populations of *A. joannis* have been affected.

The next day, we drove the road leading to the Anti-Atlas Mountains. At an altitude of 1800m, and with less and less vegetation present, we decided that we would not find it there. However, we wanted to reach the end of the road; along the way, we were able to visit remote villages of the Anti-Atlas (Fig. 6), many of them unknown to us, observe some reptiles such as *Agama bibronii* or *Quedenfeldtia moerens*, and also enjoy spectacular views.

Fig. 6

Desperate, on our last day of searching, we decided to deviate from our route back to Marrakech. Our friend Andrew Gdaniec, a Ph.D. candidate at the University of Reading, recommended that we check the road connecting Aït Baha and Tafraout, where he saw them during his 2014 expedition, so we headed there. On a west-facing slope, where we could see numerous specimens of *K. anteuphorbium* and *E. officinarum* from the road, at the top of

this slope and surrounded by *O. decaisneana* subs. *hesperidum*, we were fortunate to find several specimens of *Apteranthes joannis*, with their long stems hanging from the crevices between the rocks, but without flowers. However, we did not stop there; our goal was to see it in bloom, and we continued searching along that slope until we finally found a plant in bloom and then another, and another after that (Fig. 7). We were pleased, and with our objectives fulfilled, we were able to return to Spain.

This journey was prompted by the need to highlight the presence of the *Apteranthes* genus in Morocco. We conclude that although some of the *Apteranthes* populations we observed were high in density, none of them were free of some kind of pressure, either for herbivory, contamination, consumption or global change. Regarding *A. joannis*, the only population we found wasn't plentiful but in a good state, so the main threats we identified affecting this concrete species were habitat destruction and ignorance. Only by studying their total distribution and populations would we be able to protect them.

Nonetheless, during our journey, we could observe every species we expected to see, with the only one not seen being *A. munbyana*. This species is generally poorly represented worldwide. In Spain, it is limited to a very specific area in the east of the Iberian Peninsula. However, a population was recently observed in a mountainous enclave, in the "barranco de la Coladilla" (Nerja, southern Spain) (Fuentes *et al*., 2024). Whereas in Morocco, it is described in the Uchda region, in the northwest of the country, and some other locations in Algeria. It is a barely visible plant that grows on calcareous soils, and its presence is also severely compromised due to anthropogenic activity and a lack of awareness.

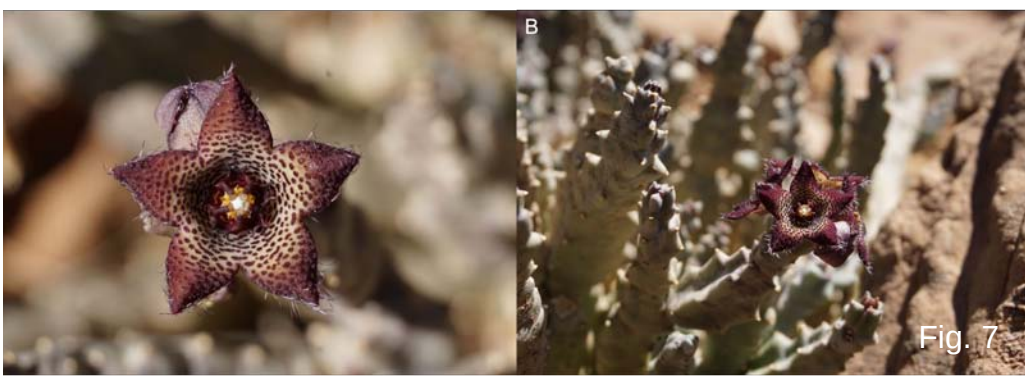

Fig. 7

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Which genus is that?

(answer in the following pages)

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WEINGARTIA LONGIGIBBA KK 867

Elton Roberts (USA)
(photos of the author)

Many years ago, I ordered a packet of 100 seed of *Weingartia longigibba* KK 867 from Mesa Garden. I sowed the seed and in time I had a tray of seedling plants that had grown to about 3 to 4 cm in diameter. When they got to about that size they started to flower. The tray was awash with golden yellow flowers. Then one day I went to check on that house and there in the tray of golden yellow flowers was a red-violet flower. I picked that plant out and inspected it and it looked just like the rest of the plants but it had a red violet flower. I have seen trays of seedlings that now and then will throw a white flower in a tray of yellow flowers but up to that time, never a flower that was so stunningly different. By the time all the plants had flowered only the one was so different flower color wise, all the rest were golden yellow.

I am thankful that I have some books that have descriptions of the plants before Hunt started lumping plant names under other names. In the NCL if you want to find anything about any ***Weingartia*** you have to look under ***Rebutia*** and the same in the almost worthless Anderson book. In the Anderson book, he follows Hunt and his lumping. Anderson has 31 different ***Weingartia*** names listed under one name, that being *Rebutia neocumingii*. To me it shows that neither Anderson or Hunt grew the plants and knew nothing about them. In 1985 John Pilbeam published a book; "*Sulcorebutia* and ***Weingartia*** A Collectors Guide". In my way of thinking, it is a very good book as it shows all the different plants known back then and has good photos of the plants. Backeberg's Lexicon has descriptions but not always photos. Going on the Web there is also photos and description of most plants. Below is the description taken from the Web from Llifle site under the plant name.

Description: ***Weingartia longigibba*** is generally included within (as a synonym of) *Rebutia neocumingii*, suggesting that there is not really a fundamental difference between the two, and hard to name accurately without knowing where they come from. The bodies are more or less spherical, 5 to 9 cm Ø, or more in cultivation and clustering from around the base; the tubercles are large and prominent and very similar to those of ***Weingartia riograndensis***. The

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areoles are woolly like those of ***Weingartia lanata*** and the flowers are about 3 cm long and wide, golden yellow, sometimes paler yellow. Derivation of specific name: The name ***longigibba***, meaning "long humpy", refers to the large tubercles that helps distinguish this cactus from the other related taxon. Stem: At fist solitary often clustering from around the base with age, globose to short cylindrical , light green, with a spiny crown, not depressed, 5 to 9 cm Ø, or more in cultivation, later becoming 2 or 3 times as tall as broad. Ribs: 16-18 tuberculate, often spiralling. **Tubercles:** large and prominent 25-40 mm long, 15-25 mm wide, and 10 to over 15 mm high, steep, lacking a chin below the areole. **Areoles**: 8 to 12 mm long, 3 to 6 mm wide, with pale brownish wool, more developed in the younger, upper part of the stem, the areole groove continues downwards as a dividing furrow between the tubercles. **Central spines**: 3-8, longer and stronger than the radials (15-35 mm long) pale greyish brown, with slightly darker brown tips. **Radial spines**: 7-12, similarly colored, 10-25 mm long, the upper the longer, straight or a little curved. **Flowers**: Approximately 3 cm long and wide in diameter golden yellow, or paler yellow, the tepals often darker-tipped. The flowers are produced near the crown of the plant especially near the very tips of the stem or at the shoulder of the stem. **Fruits**: Longish, pale green, about 10 mm long and 6 mm wide. Blooming season: The flowers are produced in early summer and remain open for five or six days.

Photo 1. ***Weingartia longigibba*** KK 867.

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I could copy down the description from Pilbeam and Backeberg but they are almost the same. Most of the people that write a book and use descriptions, copy the original one almost word for word. True some will add their own flair to a description but they are all the same. I have seen where Pilbeam will add some more information to a description because he has been a grower for many years and so knows what he is talking about.

Photo 1 is a typical plant in flower, it has reached flowering age and is flowering from around the shoulder of the plant. This plant is about 9 cm in diameter and 5 cm tall. The flower in the center is open to about 3 cm wide. The plant is still young enough that the long tubercles do not show up very well. That will come as the plant grows.

Photo 2 shows a plant that is 13 cm in diameter and 11 or 12 cm tall. It is hard to tell with that golden crown of bright flowers although there are spines that are sticking up through the flower petals. In this photo the areoles show up very well as do the spines and tubercles. The wool on the areoles looks to be tan and as the description calls for light brown, that to me is tan. When I was a kid the word tan was used for a very light brown color and I seldom hear the word used any more. There are times when I do not know if an areole is supposed to be white or light tan or if it is dust that has dirtied the white wool. Quite often that is what happens to plants that are supposed to have white hair or wool. If you look to the far left and right just under the flower petals there are two buds. Notice that even at that stage of growth they are green with lighter areas between and around the sepals.

Now look at the buds on the plant in photo 3, there are 3 that are easy to see. They are dark in color except for around the edge of each of the outer sepals. This is the plant when it was first starting to flower, it is only about 5 cm in diameter and maybe 3 cm tall.

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Photos 4 and 5 show the plant when it is much larger. Here we see that the plant offsets from the base and also up near the shoulder of the plants. The tubercles show as being quite long and that shows up a lot more in photo 5. In photo 3, the spines are quite long, in photo 4 they are not as long and in photo 5 they are again longer. In photo 6, the wool shows up and it is what we called

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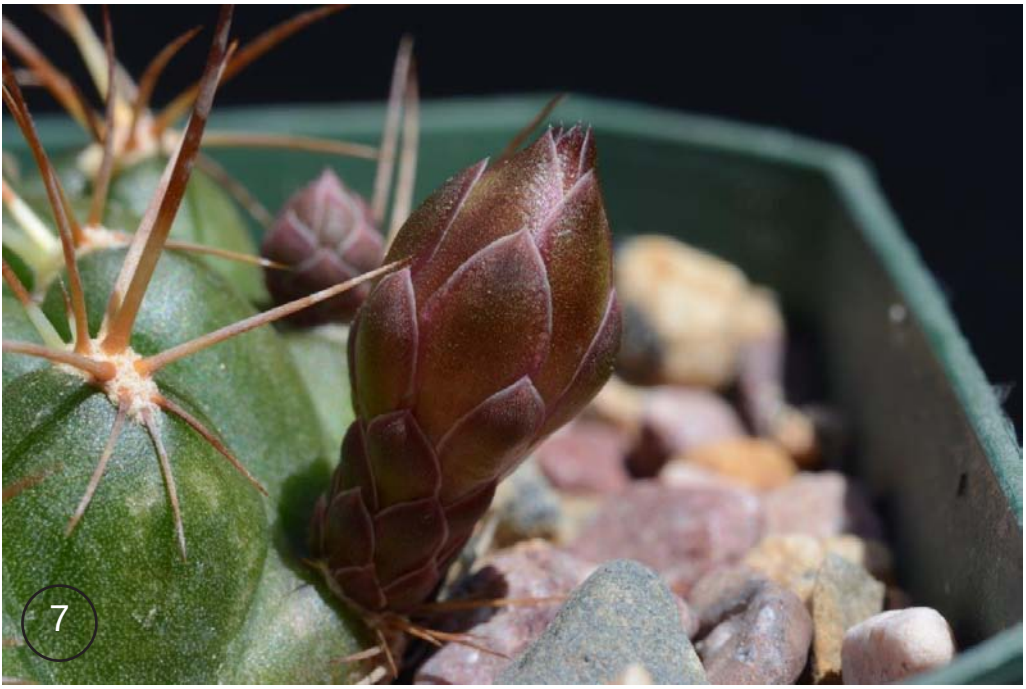
tan in color, 70 years ago. Putting aside the spines and areoles, notice the texture on the skin of the plant. That texture or minute dots, are microscopic puffs of wool, those are meant to protect the plant from too much sunshine or maybe UV light. The elevation the plants grow at in habitat is from 6200 feet to 8500 feet (1900 to 2600 meters). At 8000 feet the temperature can be 40 F (4.4° C) and feel like it is hot and the sunshine is trying to burn the skin off of you. Step in the shade of a tree and freeze to death. Notice in the photos of the plants when young, they are quite green. In photos 4 and 5 the plants look greyer in color. Even the offsets in photo 4 are more greyish than green, like in photo 3. That is because the plants in photos 4 and 5 have endured many years of heat and light and so have grown more microscopic puffs of wool.



In photo 7, if you look close at the tubercle you can make out the tan dots of wool. The thing that amazes me is that the sepals on the flower bud also has those dots of wool on them. The reason I took this photo was for the dark bud for it did not seem right compared to all the rest of the 89 plants in the tray. Even that bud in the back ground was dark colored. When I walked in the hothouse later on, the flower had opened and photo 8 is what I found. Needless to say, I was really surprised, for all the rest of the plants made golden yellow flowers. I figure that somewhere along the line a stray piece of pollen from maybe a Sulcorebutia got in the mix. I say Sulcorebutia because

they make wonderful colored flowers like this. I see I have on the photo, that the flowers are 5.5 cm in diameter. That is larger than the golden flowers by about 2.5 cm. The plant is the only one that had that color of flower on it. I kept it as my own for I love flowers that color. I have taken off sets from the original plant and the plants in photos 4 and 5 are plants taken as offsets from the original plant. Photo 9 shows the flowers face on in all their glory.

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Now to photo 10 which is a golden flowered plant again. One thing that none of the descriptions mention is that Weingartia plants can and do throw multiple flowers from one areole at the same time. If you look just left of center of the plant there near the top is an areole that has 3 flower buds growing from it at the same time. To the right of the plant is an areole with 2 buds in it. I was looking at one Weingartia plant some years ago and discovered that several areoles had 4 flowers on it open at the same time. Along with the 4 flowers there were areoles with 3 flowers and those with 2, besides areoles with 1 flower open in them. Another thing is that the plant can flower from the same areole time and time again.

Weingartia are high elevation plants and as such should be protected from hot sunshine. Here in the central valley of California I try to give the plants good afternoon shade. The plants grow in elevations of about 6000 feet to about 14000 feet. At that rate they can take a lot of UV sunrays but they do not do good in hot weather. The plants are quite frost hardy some down to 10F (-12 C). I try to give the plants the same growing conditions as Sulcorebutia and Rebutias. I give my plants my regular soil mix and they get watered when the rest of the plants are watered. The plants do go dormant in the heat of summer and they come alive in the cool of fall nights. They can even have a drink of water in the winter, just do not overdo it.

WEINGARTIA LONGIGIBBA KK 867

Elton Roberts (États-Unis)
(photos de l'auteur)

Il y a plusieurs années, j'ai commandé un paquet de 100 graines de *Weingartia longigibba* KK 867 chez Mesa Garden. J'ai semé les graines et avec le temps, j'ai eu un plateau de semis qui avaient atteint environ 3 à 4 cm de diamètre. Quand ils ont atteint cette taille, ils ont commencé à fleurir. Le plateau était couvert de fleurs jaune d'or. Puis un jour, je suis allé voir la serre et là, dans le plateau de fleurs jaune d'or, il y avait une fleur rouge-violet. J'ai choisi cette plante, je l'ai examinée et elle ressemblait au reste des plantes, mais elle avait une fleur rouge violet. J'ai vu des plateaux de semis qui, de temps en temps, présentaient une fleur blanche dans un plateau de fleurs jaunes, mais jusqu'à ce moment-là, jamais une fleur aussi étonnamment différente. Au moment où toutes les plantes avaient fleuri, seule une était si différente en termes de couleur de fleur, toutes les autres étaient jaune doré.

Je suis heureux d'avoir quelques livres contenant des descriptions des plantes avant que Hunt ne commence à regrouper les noms de plantes sous d'autres noms. Dans le New Cactus Lexicon, si vous voulez trouver quelque chose sur un ***Weingartia,*** vous devez regarder sous ***Rebutia*** et pareil dans le livre presque sans valeur d'Anderson. Dans le livre d'Anderson, il suit Hunt et son regroupement. Anderson a 31 noms différents de ***Weingartia*** répertoriés sous un seul nom, à savoir *Rebutia neocumingii* . Pour moi, cela montre que ni Anderson ni Hunt n'ont cultivé ces plantes et n'y connaissaient rien. En 1985, John Pilbeam a publié un livre «*Sulcorebutia* et ***Weingartia*** Un guide des collectionneurs ». À mon avis, c'est un très bon livre car il montre toutes les différentes plantes connues à l'époque et contient de bonnes photos des plantes. Le Lexique de Backeberg contient des descriptions mais pas toujours des photos. En allant sur le Web, vous trouverez également des photos et des descriptions de la plupart des plantes. Vous trouverez ci-dessous la description tirée du site Web de Llifle sous le nom de la plante.

Description : ***Weingartia longigibba*** est généralement inclus dans (comme synonyme de) *Rebutia neocumingii* , ce qui suggère qu'il n'y a pas vraiment de différence fondamentale entre les deux, et difficile de les nommer avec précision sans savoir d'où ils viennent. Les corps sont plus ou moins sphériques, de 5 à 9 cm de Ø, ou plus en culture et regroupés autour de la base ; les tubercules sont gros et proéminents et très semblables à ceux de ***Weingartia riograndensis***. Les aréoles sont laineuses comme celles de ***Weingartia lanata*** et les fleurs mesurent environ 3 cm de long et de large,

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jaune d'or, parfois jaune plus pâle. Dérivation du nom spécifique : Le nom ***longigibba*** , signifiant « longue bosse », fait référence aux gros tubercules qui permettent de distinguer ce cactus des autres taxons apparentés. **Tige** : au début solitaire, souvent cespiteuse autour de la base avec l'âge, globuleuse à courte cylindrique, vert clair, à couronne épineuse, non déprimée, de 5 à 9 cm de Ø, ou plus en culture, devenant plus tard 2 ou 3 fois plus haute que large. **Côtes** : 16 à 18, tuberculées, souvent en spirale. **Tubercules :** gros et proéminents, de 25 à 40 mm de long, 15 à 25 mm de large et 10 à plus de 15 mm de haut, raides, sans menton sous l'aréole. **Aréoles** : 8 à 12 mm de long, 3 à 6 mm de large, à laine brunâtre pâle, plus développées dans la partie supérieure la plus jeune de la tige, le sillon de l'aréole se poursuit vers le bas comme un sillon de séparation entre les tubercules. **Epines centrales** : 3-8, plus longues et plus fortes que les radiales (15-35 mm de long) brun grisâtre pâle, avec des pointes brun légèrement plus foncées. **Epines radiales** : 7 à 12, de même couleur, de 10 à 25 mm de long, la supérieure la plus longue, droites ou légèrement courbées. **Fleurs** : Environ 3 cm de long et de large de diamètre, jaune doré ou jaune plus pâle, les tépales ont souvent l'extrémité plus foncée. Les fleurs sont produites près de l'apex de la plante, en particulier près de l'extrémité de la tige ou à l'épaule de la tige. **Fruits** : longs, vert pâle, d'environ 10 mm de long et 6 mm de large. Période de floraison : Les fleurs apparaissent au début de l'été et restent ouvertes pendant cinq ou six jours.

Photo 1. ***Weingartia longigibba*** KK 867.

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Je pourrais copier la description de Pilbeam et Backeberg mais ce sont presque les mêmes. La plupart des gens qui écrivent un livre et utilisent des descriptions copient l'original presque mot pour mot. Il est vrai que certains ajouteront leur propre style à une description, mais ils sont tous pareils. J'ai vu où Pilbeam a ajouté des informations supplémentaires à une description, car il est cultivateur depuis de nombreuses années et sait donc de quoi il parle.

La photo 1 est une plante typique en fleur, elle a atteint l'âge de floraison et fleurit autour de l'épaule de la plante. Cette plante mesure environ 9 cm de diamètre et 5 cm de hauteur. La fleur au centre est ouverte sur environ 3 cm de large. La plante est encore suffisamment jeune pour que les longs tubercules ne soient pas très visibles. Cela viendra au fur et à mesure que la plante grandira.

La photo 2 montre une plante de 13 cm de diamètre et de 11 ou 12 cm de hauteur. C'est difficile à dire avec cette couronne dorée de fleurs aux couleurs vives, bien qu'il y ait des épines qui dépassent à travers les pétales de fleurs. Sur cette photo, les aréoles ressortent très bien ainsi que les épines et les tubercules. La laine sur les aréoles semble être beige et comme la description demande du marron clair, pour moi c'est beige. Quand j'étais enfant, le mot bronzage était utilisé pour désigner une couleur marron très clair et j'entends rarement ce mot aujourd'hui. Il y a des moments où je ne sais pas si une aréole est censée être blanche ou légèrement beige ou si c'est de la poussière qui a sali la laine blanche. C'est très souvent ce qui arrive aux plantes censées avoir des poils ou de la laine blancs. Si vous regardez à l'extrême gauche et à droite, juste sous les pétales de fleurs, vous verrez deux boutons. Notez que même à ce stade de croissance, ils sont verts avec des zones plus claires entre et autour des sépales.

Regardez maintenant les bourgeons de la plante sur la photo 3, il y en a 3 qui sont faciles à voir. Ils sont de couleur foncée, sauf autour du bord de chacun des sépales externes. C'est la plante lorsqu'elle a commencé à fleurir, elle ne mesure qu'environ 5 cm de diamètre et peut-être 3 cm de hauteur.

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Les photos 4 et 5 montrent la plante lorsqu'elle est beaucoup plus grande. Ici, nous voyons que la plante se décale à partir de la base et également près de l'épaule des plantes. Les tubercules apparaissent assez longs et cela apparaît beaucoup plus sur la photo 5. Sur la photo 3, les épines sont assez longues, sur la photo 4 elles ne sont pas aussi longues et sur la photo 5 elles sont encore plus longues. Sur la photo 6, la laine apparaît et c'est ce qu'on appelait la couleur beige, il y a 70 ans. En mettant de côté

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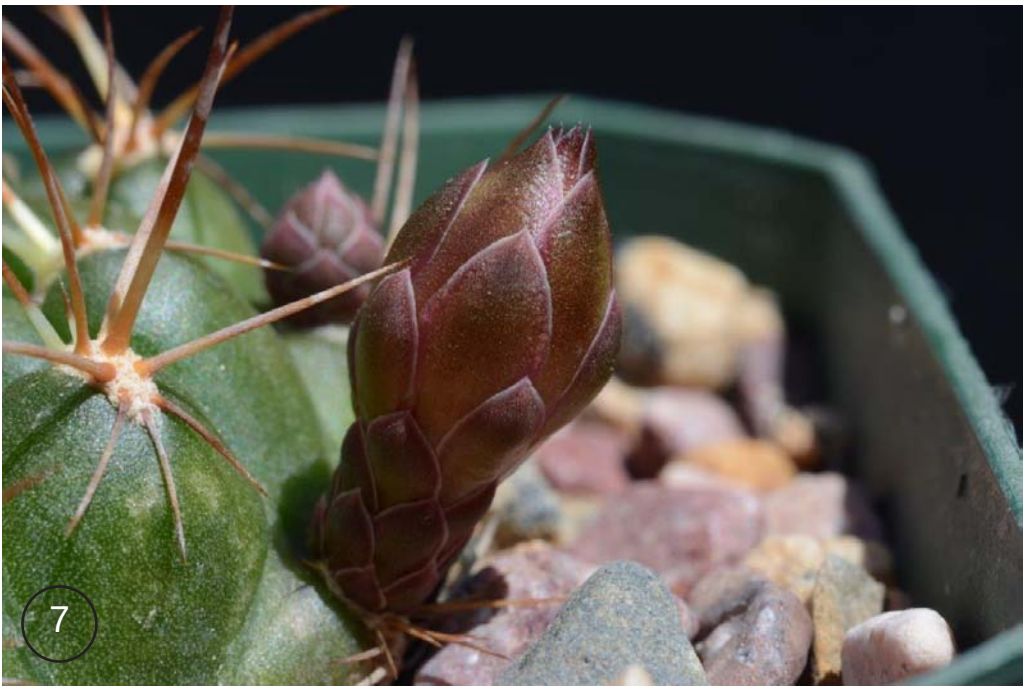
les épines et les aréoles, remarquez la texture de la peau de la plante. Cette texture ou ces minuscules points sont des bouffées de laine microscopiques, destinées à protéger la plante de trop de soleil ou peut-être de lumière UV. L'altitude à laquelle les plantes poussent dans leur habitat est comprise entre 6 200 et 8 500 pieds (1 900 à 2 600 mètres). À 8 000 pieds, la température peut atteindre 4,4 ° C (40 F) et vous donner l'impression qu'il fait chaud et que le soleil essaie de vous brûler la peau. Entrez à l'ombre d'un arbre et mourez de froid. Remarquez sur les photos des plantes lorsqu'elles sont jeunes, elles sont bien vertes. Sur les photos 4 et 5, les plantes semblent plus grises. Même les décalages de la photo 4 sont plus grisâtres que verts, comme sur la photo 3. En effet, les plantes des photos 4 et 5 ont enduré de nombreuses années de chaleur et de lumière et ont donc développé des bouffées de laine plus microscopiques.



Sur la photo 7, si vous regardez de près le tubercule, vous pouvez distinguer les points beiges de la laine. Ce qui m'étonne, c'est que les sépales du bouton floral portent également ces points de laine. La raison pour laquelle j'ai pris cette photo était pour le bourgeon sombre car il ne semblait pas correct par rapport au reste des 89 plantes du plateau. Même ce bourgeon à l'arrière-plan était de couleur sombre. Plus tard, lorsque je suis entré dans la serre, la fleur s'était ouverte et la photo 8 est ce que j'ai trouvé. Inutile de dire que j'ai été vraiment surpris, car toutes les autres plantes produisaient des fleurs jaune doré. Je suppose que quelque part le long de la ligne, un morceau de pollen égaré provenant peut-être d'un Sulcorebutia est entré dans le mélange. Je dis Sulcorebutia parce qu'ils font de merveilleuses fleurs colorées comme

celle-ci. Je vois que j'ai sur la photo, que les fleurs font 5,5 cm de diamètre. C'est plus grand que les fleurs dorées d'environ 2,5 cm. La plante est la seule à avoir cette couleur de fleur. Je l'ai gardé comme mien car j'adore les fleurs de cette couleur. J'ai retiré des décors de la plante d'origine et les plantes des photos 4 et 5 sont des plantes prises en compensation de la plante d'origine. La photo 9 montre les fleurs de face dans toute leur splendeur.


8


9

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Passons maintenant à la photo 10 qui est à nouveau une plante à fleurs dorées. Une chose qu'aucune des descriptions ne mentionne est que les plantes de Weingartia peuvent lancer et jettent plusieurs fleurs d'une aréole en même temps. Si vous regardez juste à gauche du centre de la plante, près du sommet, vous trouverez une aréole sur laquelle poussent 3 boutons floraux en même temps. À droite de la plante se trouve une aréole contenant 2 bourgeons. Il y a quelques années, je regardais une plante de Weingartia et j'ai découvert que plusieurs aréoles portaient 4 fleurs ouvertes en même temps. À côté des 4 fleurs, il y avait des aréoles avec 3 fleurs et celles avec 2, en plus des aréoles avec 1 fleur ouverte. Une autre particularité est que la plante peut fleurir encore et encore à partir de la même aréole.

Weingartia est une plante de haute altitude et doit donc être protégée du soleil brûlant. Ici, dans la vallée centrale de Californie, j'essaie de donner aux plantes de l'ombre l'après-midi. Les plantes poussent à des altitudes d'environ 6 000 pieds à environ 14 000 pieds. À ce rythme-là, ils peuvent absorber beaucoup de rayons UV du soleil, mais ils ne résistent pas bien par temps chaud. Les plantes sont assez résistantes au gel, certaines jusqu'à 10F (-12C). J'essaie de donner aux plantes les mêmes conditions de croissance que Sulcorebutia et Rebutias. Je donne à mes plantes mon mélange de terre habituel et elles sont arrosées lorsque le reste des plantes est arrosé. Les plantes entrent en dormance dans la chaleur de l'été et reprennent vie dans la fraîcheur des nuits d'automne. Ils peuvent même boire de l'eau en hiver, mais n'en abusez pas.

Le Portulaca alle isole Canarie.

Massimo Affferni (Italia)

La mia curiosità ed interesse per l'unica specie del genere Portulaca presente in Italia (*Portulaca oleracea*) è nato nell'estate del 2022 quando per la prima volta ho visto alcuni cespi di questa piantina erbacea annuale succulenta in piena fioritura presentando piccoli fiori gialli con 5 petali bilobati anche se non facili da distinguere nitidamente. Essa è particolarmente conosciuta per il suo uso alimentare e medicinale (Afferni, 2023).

Mentre facevo ricerche più accurate su di essa mi sono ricordato di aver visto nel paesino sul mare di Playa Quemada nel Sud-Est di Lanzarote (Afferni, 2015), in uno dei miei viaggi botanici alle Canarie, un'altra Portulaca che l'amico canario Jaime Gil González, grande esperto della flora di queste isole, mi indicò chiamarsi *Portulaca canariensis*.

Questa è una pianta endemica dell'Arcipelago che come altre specie di Portulaca ivi presenti, ma introdotte, quali *P. granulato-stellulata*, *P. nitida*, *P. stellata* e *P. nicaraguensis*, oltre alla onnipresente in molte parti del mondo *P. oleracea*, si distinguono solo per i loro caratteri del rivestimento del seme, le loro dimensione ed il numero di cromosomi.

Quindi secondo quanto indicato in letteratura non sono dette specie distinguibili morfologicamente l'una dall'altra anche se, a mio parere, un'attenta osservazione dei loro caratteri fogliari possono aiutare nell'individuazione di alcune di esse.

Ad esempio proprio *Portulaca canariensis* ha le sue foglie più grandi e stondate di quelle che hanno le citate specie presenti alla Canarie (in particolare *P. oleracea*) e poi, in base a quanto indicano González y Hernández (2018), "tiende a vegetar preferibilmente en espacios más << naturales >>" cioè "tende a vegetare preferenzialmente in spazi più << naturali >>", non in ambienti cittadini quali strade, marciapiedi o aiuole come solitamente avviene per le altre.

La pianta di Lanzarote precedentemente citata è stata trovata sulla spiaggia sassosa di Playa Quemada, 'spazio naturale' di detta località: un ulteriore buon indicatore che si tratta proprio di *Portulaca canariensis*.

I citati autori specificano inoltre nel loro libro che a Lanzarote sono presenti anche *P. granulato-stellulata* e *P. nitida.*

Della prima specie (dal nome comune canario 'verdolaga') si trova la seguente breve descrizione nel sito 'Flora vascular de Canarias' data da Manuel Luis Gil González, cugino di Jaime:

"Pianta annuale, con foglie obovate e fiori terminali sessili, con petali gialli. I semi presentano sulle loro facce laterali cellule epidermiche a contorno lobato

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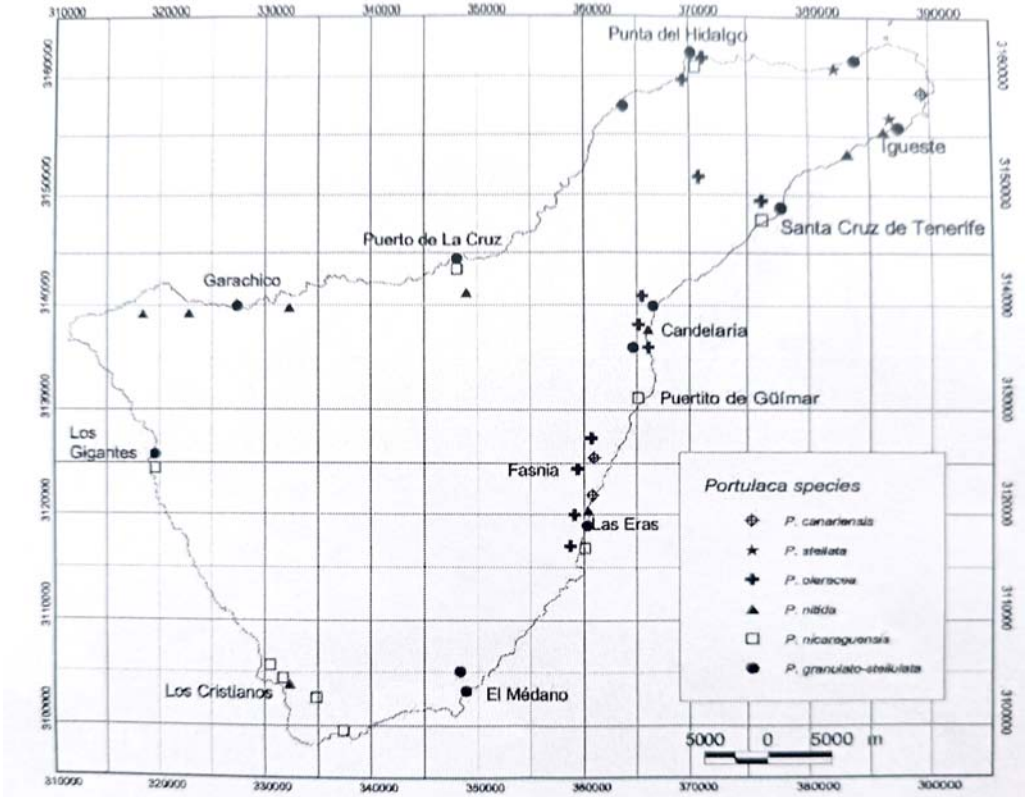

Fig. 1. Locations of the collection sites of *Portulaca* species in Tenerife.

Portulaca oleracea, Torre del Lago (LU), Italia.

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che si sovrappongono più o meno alle cellule attigue. Questa specie si differenzia perché i semi hanno una dimensione di 0,65-0,85 mm e perché le cellule epidermiche sulle facce laterali presentano papille all'estremità dei lobi o papille o tubercoli, distribuite apparentemente in modo irregolare".

Mentre per l'endemica *Portulaca canariensis* González y Hernández (2018) indicano:

"Pianta annuale, glabra, succulenta, a portamento prostrato, provvista di fusti carnosi pressoché cilindrici lunghi fino a 30 cm, ramificati dicotomicamente. Foglie alterne brevemente peduncolate, piatte, intere, da obovate o oblunghe, opache, prima verdastre, poi pigmentate rosso pallido. Fiori sessili posti all'estremità dei rami in gruppi di 2-3; sepali presto decidui; petali (5) gialli, emarginati. Frutto capsulare con deiscenza trasversale (pixidium) che contiene semi di circa 1 mm di diametro, neri, con testa sulle facce laterali costituita da cellule allungate."

Le altre isole delle Canarie in cui è indicata la presenza delle Portulaca sin qui ricordate sono Tenerife (Danin & Reyes-Betancourt, 2006) ed El Hierro (Romo et alii, 2008); per le altre sembrerebbe non esserci alcuna notizia al riguardo.

In quest'ultima isola è stata trovata in due località solamente *Portulaca granulato-stellulata*, al Nord vicino all'aeroporto ed a Sud in una località tra Montaña de Orchilla e Playa de Orchilla.

Portulaca canariensis, Isola di Lanzarote.

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A Tenerife sono state individuate invece in molti habitat costieri, raggruppate in modo diverso, tutte le specie inizialmente elencate in questa nota, come rappresentato nella planimetria riportata nel lavoro di Danin & Reyes-Betancourt, che si ricorda indicano che la loro distinzione si ha solamente per le diverse caratteristiche della scultura e la testa dei loro semi.
Nel mio ultimo viaggio a Tenerife nel Marzo del 2023 ho cercato e trovato, in quasi tutti i siti costieri di cui alla citata planimetria, molte Portulaca che per la loro morfologia ritengo siano in gran parte *Portulaca granulato-stellulata* (forma delle foglie obovato-allungata con una bordatura marrone-rossastra: vedasi foto a Las Eras) e, ad in vicinanza del piccolo cimitero di Igueste, *Portulaca stellata.*

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> Romo A. M., Silva M.& Danin A. (2008) - *Portulaca granulato-stellulata* new for El Hierro Island (Canary Islands) - Collectanea Botanica (Barcellona), vol. 27: 108-109.

Portulaca granulato-stellata Las Eras, Tenerife.

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Portulacas in the Canary Islands.

Massimo Afferni (Italy) photos of the author

My curiosity and interest in the only species of the *Portulaca* genus present in Italy (*Portulaca oleracea*) was born in the summer of 2022 when for the first time I saw some tufts of this succulent annual herbaceous plant in full bloom presenting small yellow flowers with 5 bilobed petals although not easy to clearly distinguish. It is particularly known for its food and medicinal use (Afferni, 2023).

While I was doing more careful research on it, I remembered having seen in the seaside village of Playa Quemada in the south-east of Lanzarote (Afferni, 2015), on one of my botanical trips to the Canary Islands, another Portulaca that the friend Canario Jaime Gil González, a great expert on the flora of these islands, told me it is called ***Portulaca canariensis***.

This is an endemic plant of the Archipelago which, like other species of ***Portulaca*** present there, but introduced, such as ***P. granulato-stellulata, P. nitida, P. stellata*** and ***P. nicaraguensis***, in addition to the omnipresent in many parts of the world ***P. oleracea*** , are distinguished only by their seed coat characters, their size and number of chromosomes.

Therefore, according to what is indicated in the literature, they are not said species to be morphologically distinguishable from each other even if, in my opinion, careful observation of their leaf characters can help in identifying some of them.

For example, ***Portulaca canariensis*** itself has larger and rounded leaves than those of the aforementioned species present in the Canary Islands (in particular ***P. oleracea***) and then, based on what González y Hernández (2018) indicate, "it tends to vegetate preferably en espacios más << naturales >>" that is, not in city environments such as streets, sidewalks or flowerbeds as usually happens for the others.

The previously mentioned Lanzarote plant was found on the stony beach of Playa Quemada, the 'natural space' of said locality: a further good indicator that it is indeed ***Portulaca canariensis***.

The aforementioned authors also specify in their book that ***P. granulato-stellata*** and ***P. nitida*** are also present in Lanzarote.

The following brief description of the first species (from the Canarian common name 'verdolaga') can be found on the 'Flora vascular de Canarias' site given by Manuel Luis Gil González, Jaime's cousin:

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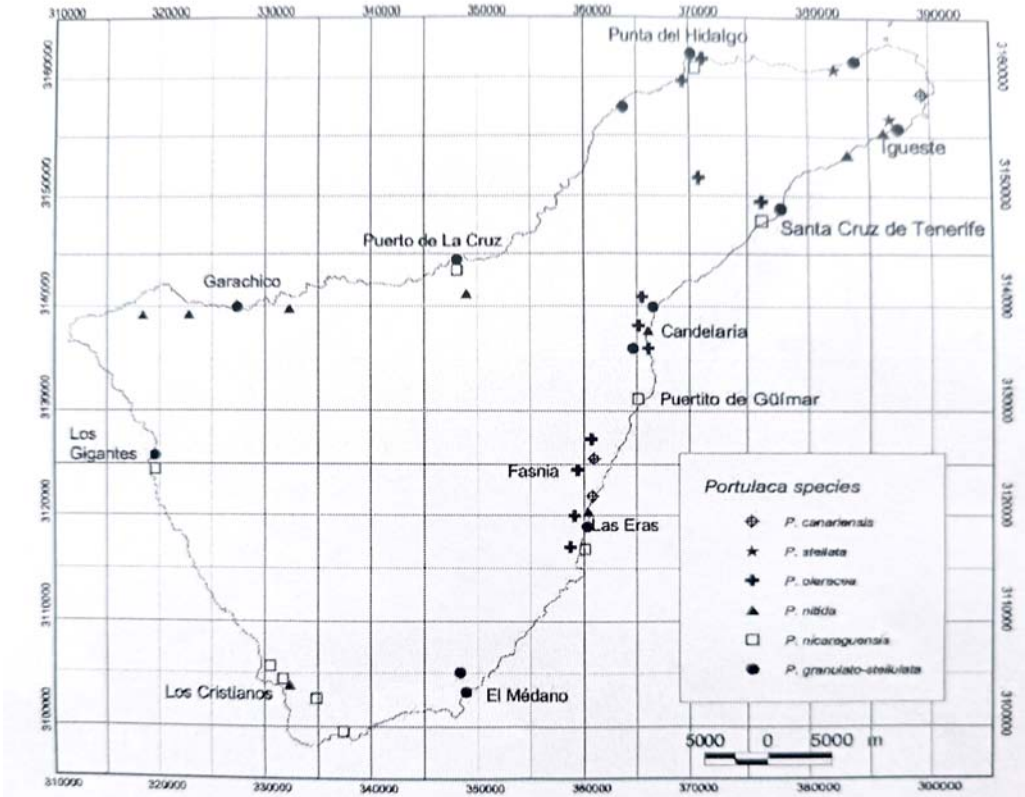

Fig. 1. Locations of the collection sites of *Portulaca* species in Tenerife.

Portulaca oleracea, Torre del Lago (LU), Italy.

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“Annual plant, with obovate leaves and sessile terminal flowers, with yellow petals. The seeds have lobed-shaped epidermal cells on their lateral faces that more or less overlap with the adjacent cells. This species differs because the seeds have a size of 0.65-0.85 mm and because the epidermal cells on the lateral faces have papillae at the end of the lobes or papillae or tubercles, apparently distributed in an irregular manner”.

While for the endemic ***Portulaca canariensis*** González y Hernández (2018) indicate:

“Annual, glabrous, succulent plant, with a prostrate aspect, equipped with almost cylindrical fleshy stems up to 30 cm long, branched dichotomously. Alternate leaves briefly pedunculated, flat, entire, obovate or oblong, opaque, first greenish, then pale red pigmented. Sessile flowers placed at the ends of the branches in groups of 2-3; sepals soon deciduous; petals (5) yellow, margined. Capsular fruit with transverse dehiscence (pixidium) containing seeds of about 1 mm in diameter, black, with a head on the lateral faces made up of elongated cells.”

The other Canary Islands where the presence of the ***Portulaca*** mentioned so far is indicated are Tenerife (Danin & Reyes-Betancourt, 2006) and El Hierro (Romo et alii, 2008); for the others there seems to be no news on the matter.

On the latter island, only ***Portulaca granulato-stellata*** was found in two localities, in the north near the airport and in the south in a locality between Montaña de Orchilla and Playa de Orchilla.

Portulaca canariensis, Island of Lanzarote.

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In Tenerife, however, all the species initially listed in this note have been identified in many coastal habitats, grouped in different ways, as represented in the plan reported in the work of Danin & Reyes-Betancourt, which, remember, indicates that their distinction is only for the different characteristics of the sculpture and the head of their seeds.

On my last trip to Tenerife in March 2023 I looked for and found, in almost all the coastal sites referred to in the aforementioned plan, many ***Portulaca*** which, due to their morphology, I believe are largely ***Portulaca granulato-stellata*** (obovate-elongated leaf shape with a reddish-brown border: see photo in Las Eras) and, near the small cemetery of Igueste, ***Portulaca stellata***.

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Portulaca granulato-stellata Las Eras, Tenerife.

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Portulacas en Canarias.

Massimo Afferni (Italia) fotos por el autor

Mi curiosidad e interés por la única especie del género *Portulaca* presente en Italia (*Portulaca oleracea*) nació en el verano de 2022 cuando vi por primera vez algunos mechones de esta suculenta planta herbácea anual en plena floración que presenta pequeñas flores amarillas con 5 pétalos bilobulados aunque no fáciles de distinguir claramente. Es particularmente conocida por su uso alimentario y medicinal (Afferni, 2023).

Mientras investigaba más detenidamente al respecto, recordé haber visto en el pueblo marinero de Playa Quemada, en el sureste de Lanzarote (Afferni, 2015), en uno de mis viajes botánicos a las Islas Canarias, otra Portulaca que el amigo El canario Jaime Gil González, gran conocedor de la flora de estas islas, me dijo que se llama ***Portulaca canariensis*** .

Se trata de una planta endémica del Archipiélago que, al igual que otras especies de ***Portulaca*** presentes allí, pero introducidas, como ***P. granulato-stellulata, P. nitida , P. stellata*** y ***P. nicaraguensis***, además de la omnipresente en muchas partes del mundo ***P. oleracea***, se distinguen únicamente por los caracteres de la cubierta de sus semillas, su tamaño y número de cromosomas.

Por lo tanto, según lo indicado en la literatura, no se trata de especies morfológicamente distinguibles entre sí, aunque, en mi opinión, una observación cuidadosa de las características de sus hojas puede ayudar a identificar algunas de ellas.

Por ejemplo, ***Portulaca canariensis.*** Tiene hojas más grandes y redondeadas que las de las citadas especies presentes en Canarias (en particular ***P. oleracea***) y luego, según indican González y Hernández (2018), “tiende a vegetar preferentemente en espacios más << naturales >>” es decir, no en entornos urbanos como calles, aceras o parterres como suele ocurrir con los demás.
La mencionada planta lanzaroteña fue encontrada en la playa pedregosa de Playa Quemada, el ‘espacio natural’ de dicha localidad: un buen indicador más de que efectivamente se trata de ***Portulaca canariensis*** .
Los citados autores también especifican en su libro que ***P. granulato-stellata*** y ***P. nitida*** también están presentes en Lanzarote.

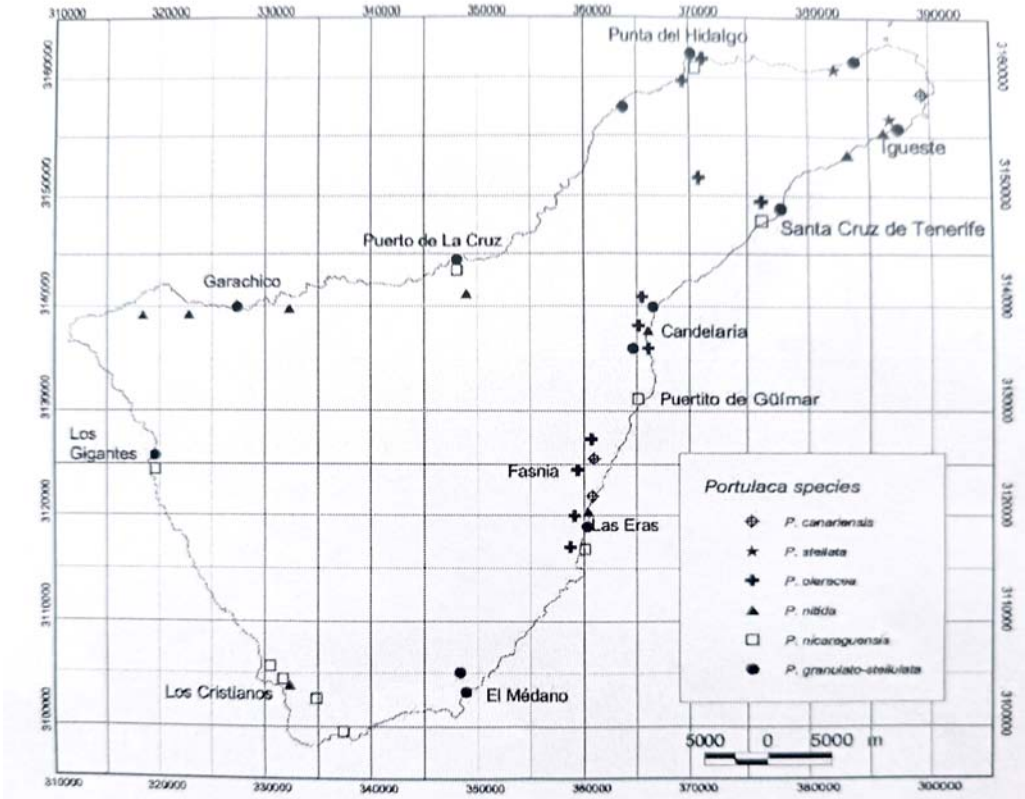

Fig. 1. Locations of the collection sites of *Portulaca* species in Tenerife.

Portulaca oleracea, Torre del Lago (LU), Italia.

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La siguiente breve descripción de la primera especie (del nombre común canario ‘verdolaga’) se puede encontrar en el sitio ‘Flora vascular de Canarias’ dada por Manuel Luis Gil González, primo de Jaime:
“*Planta anual, de hojas obovadas y flores terminales sésiles, con pétalos amarillos. Las semillas presentan células epidérmicas de forma lobulada en sus caras laterales que se superponen más o menos con las células adyacentes. Esta especie se diferencia porque las semillas tienen un tamaño de 0,65-0,85 mm y porque las células epidérmicas de las caras laterales presentan papilas al final de los lóbulos o papilas o tubérculos, aparentemente distribuidas de manera irregular*”.

Mientras que para la endémica ***Portulaca canariensis*** González y Hernández (2018) indican:
“*Planta anual, glabra, suculenta, de aspecto postrado, provista de tallos carnosos casi cilíndricos de hasta 30 cm de largo, ramificados dicotómicamente. Hojas alternas brevemente pedunculadas, planas, enteras, obovadas u oblongas, opacas, primero verdosas, luego pigmentadas de rojo pálido. Flores sésiles colocadas en los extremos de las ramas en grupos de 2-3; sépalos pronto caducifolios; pétalos (5) amarillos, con márgenes. Fruto capsular con dehiscencia transversal (pixidium) que contiene semillas de alrededor de 1 mm de diámetro, de color negro, con una cabeza en las caras laterales formada por células alargadas*”.

Portulaca canariensis, Isla de Lanzarote.

Las otras Islas Canarias donde se señala la presencia de la ***Portulaca*** mencionada hasta el momento son Tenerife (Danin & Reyes-Betancourt, 2006) y El Hierro (Romo *et al.*, 2008); para los demás parece que no hay novedades al respecto.

En esta última isla sólo se encontró ***Portulaca granulato-stellata*** en dos localidades, al norte cerca del aeropuerto y al sur en una localidad entre Montaña de Orchilla y Playa de Orchilla.

En Tenerife, sin embargo, todas las especies inicialmente enumeradas en esta nota han sido identificadas en numerosos hábitats costeros, agrupadas de diferentes formas, tal y como representa el plano recogido en el trabajo de Danin & Reyes-Betancourt, que, recordemos, indica que su distinción Es sólo por las diferentes características de la escultura y la cabeza de sus semillas.

En mi último viaje a Tenerife en marzo de 2023 busqué y encontré, en casi todos los parajes costeros a los que se refiere el citado plan, muchas ***Portulacas*** que, por su morfología, creo que son en gran medida ***Portulaca granulato-stellata*** (hoja obovada-alargada). forma con borde marrón rojizo: ver foto en Las Eras) y, cerca del pequeño cementerio de Igueste, ***Portulaca stellata***.

Portulaca granulato-stellata Las Eras, Tenerife.

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Portulaca canariensis en Lanzarote.

Portulaca granulato-stellata.

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New Observations on Socotra Island

Joël Lodé (France)

During my last trip on Socotra Island in May 2024, I was able to confirm the presence of ***Portulaca kuriensis*** at various locations.

About ***Aloe perryi*** Baker, the original description corresponds to the plants situated East of Socotra, particularly those found on the Homhil Plateau. Thus, the plants called ***Aloe perryi***, and found West of the Island, which are distinct, even in their phenology, are probably an ecotype and should merit another name.

18. A. PERRYI, *Baker*. Habitus *A. heteracanthæ*. Caulis simplex 1 poll. diam. Folia rosulata lanceolata 7–8 poll. longa 2½ poll. lata infra medium ad apicem angustata pallide glauco-viridia immaculata obscure verticaliter lineata supra basin canaliculata medio 3–4 lin. crassa, dentibus marginalibus crebris deltoideis 1 lin. longis apice corneis brunneis infimis exceptis ascendentibus. Inflorescentia sesquipedalis, pedunculo communi ancipiti vix pedali, ramis tribus, racemis densis 3–4 poll. longis, pedicellis 3–4 lin. longis, bracteis lanceolatis pedicellis subæquilongis. Perianthium irridulum 9–10 lin. longum, segmentis oblongis tubo triplo brevioribus. Genitalia inclusa. *Insula Socotra*, Wykeham Perry! Collin! Dr. I. B. Balfour!

Original description of ***Aloe perryi***
in Journal of the Linnean Society Botany, London, 18: 161 (1880).

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Fig. 1-2 & 6: ***Aloe perryi***, Homhil Plateau, according to the original description.
Fig. 3-4 & 5: "*Aloe perryi*", Jabal Ma'ahli, all pictures taken in May 2024. © JL

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News from Mexico: *Acanthocereus baxaniensis*

Joël Lodé (France)

Following my 2016 article on ***Acanthocereus baxianensis*** and its repositioning as the type species of the genus (see Cact.-Av. 111-112: 64-65, 2016, article available on cactus-aventures.com), I wanted to verify in the field that the plant still existed.
So I went to Mexico between August and September 2024 for this research.
The plant is still found at Los Bajos, Veracruz, and up to 20 kilometers around. It was also an opportunity to verify that it was not ***Acanthocereus tetragonus***.
In fact, ***A. baxaniensis*** almost always has 3 ribs (exceptionally 4 on the photo 2 section, the other sections always gave 3), the flowers are straight, appear later, the seeds are different and 2 times smaller. I was able to bring some back for my study under the microscope.
Acanthocereus baxaniensis therefore remains the type for the genus ***Acanthocereus***.

Suite à mon article de 2016 sur ***Acanthocereus baxianensis*** et son repositionnement comme espèce-type du genre (voir Cact.-Av. 111-112: 64-65, 2016, article disponible su cactus-aventures.com), j'ai voulu vérifier sur le terrain que la plante existait toujours.
Je suis donc allé au Mexique entre août et septembre 2024 pour cette recherche.
La plante se trouve toujours à Los Bajos, Veracruz, et jusqu'à 20 kilomètres autour. C'était aussi l'occasion de vérifier qu'il ne s'agissait pas de ***Acanthocereus tetragonus***.
De fait, ***A. baxaniensis*** est presque toujours à 3 côtes (exceptionnellement 4 sur la coupe photo 2, les autres coupes ont toujours donné 3), les fleurs sont droites, apparaissent plus tard, les graines sont différentes et 2 fois plus petites. J'ai pu en rapporter pour mon étude au microscope.
Acanthocereus baxaniensis reste donc bien le type pour le genre ***Acanthocereus***.

Siguiendo mi artículo de 2016 sobre ***Acanthocereus baxianensis*** y su reposicionamiento como especie tipo del género (ver Cact.-Av. 111-112: 64-65, 2016, artículo disponible en cactus-aventures.com), quería verificar la que la planta todavía existía.
Entonces fui a México entre agosto y septiembre de 2024 para esta investigación.
La planta aún se encuentra en Los Bajos, Veracruz, y hasta 20 kilómetros a la redonda. También fue una oportunidad para comprobar que no se trataba de ***Acanthocereus tetragonus***.
De hecho, ***A. baxaniensis*** casi siempre tiene 3 costillas (excepcionalmente 4 en la sección de la foto 2, las otras secciones siempre dieron 3), las flores son rectas,

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aparecen más tarde, las semillas son diferentes y dos veces más pequeñas. Pude traer algunos para mi estudio con el microscopio.

Por tanto, ***Acanthocereus baxaniensis*** sigue siendo el tipo del género ***Acanthocereus***.

Acanthocereus baxaniensis, habit, fl., fr. Los Bajos, Veracruz, Mexico. © JL

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New Combinations, Changes and Clarifications in Cactaceae 2024

Joël Lodé (France)

As part of my forthcoming project "Taxonomy of Cactaceae, Description of the Species", Volumes 3 & 4*, after studying each taxon and its characteristics, it was necessary to modify the classification for a better approach of genera and taxa which compose them, according to my work. The study of the seed structure gave me another clue for completing my project, together with morphology and DNA works. Some changes are also proposed.
Following the recommendation by the IOS Working Party (1994) the session during which it was agreed that there should be one formal category only to use the rank of subspecies instead of that of variety (D. Hunt, New Cactus Lexicon: 4. 2006), some of the following taxa were combined as such:

Bolivicactus chrysacanthion (K.Schum.) Lodé.**COMB. NOV.**
Basionym: *Echinocactus chrysacanthion* K.Schum., Gesamtbeschr. Kakt. 396 (1898).
Type: Argentina, Jujuy, on road to Bolivia, Oct 1892, *Kuntze* (B†). Lectotype: Argentina, Jujuy, *Ritter* 45 loc. 1 (SGO 125383).
Comments: the synonymised *Bolivicactus saintpieanus* is only close in appearance to *Parodia chrysacanthion*, but is not a part of the same genus (Doweld 2003); in fact seeds are totally distinct from each other. Investigating about these taxa, I found that seeds of *Bolivicactus saintpieanus* are matching those of ***Parodia*** s.s., while those of *Parodia chrysacanthion* are exactly like those of ***Bolivicactus***. Thus, these two taxa must be switched in their new respective genera.

Bolivicactus doranae (Diers & Jucker) Lodé **COMB. NOV.**
Basionym: *Parodia dorana* Succulenta (Netherlands) 95(3): 117 (2016).
Type: Bolivia, Dept. Chuquisaca, Prov. Nor Cinti, Nov 2006, *H.Jucker* HJ 1209 (holo.: LPB; iso.: WU).
Not previously listed in Tax. of Cact. vol. 1 (2015) as described (as ***Parodia***) in 2016.

Bolivicactus juckeri (Diers) Lodé **COMB. NOV.**
Basionym: *Parodia juckeri* Diers, Succulenta (Netherlands) 93(3): 108 (2014).
Type: Bolivia, Dept. Chuquisaca, Prov. Azurduy, gorge of the Río Huancarani, Nov. 1994, *H.Jucker* HJ 442 (WU).
Comments: first described as *Parodia juckeri*, ***Bolivicactus juckeri*** seems to be close to ***Bolivicactus procerus***, although morphologically distinct in terms of size, number of ribs and spines, as well as flowers.
Not previously listed in Tax. of Cact. vol. 1 (2015) and apparently forgotten in Korotkova *et al*. (2021).

* see progress at the webpage **cactus-adventures.com**

Bolivicactus larapuntensis (Diers & Jucker) Lodé **COMB. NOV.**
Basionym: *Parodia larapuntensis* Diers & Jucker, Succulenta (Netherlands) 94(3): 116, illustr. (2015).
Type: Bolivia, Dept. Chuquisaca, Prov. Nor Cinti, Dec 2004, Cerro Lara Punta, in the region where the Río Chakha Mayu flows into the Río Pilcomayo, *H. Jucker* HJ 1130 (Holo.: LPB; iso.: WU).
Comments: the taxon is compared by the first authors with ***Bolivicactus juckeri*** (as ***Parodia***). Curiously, this one was apparently forgotten in the compilation of Korotkova *et al*. (2021), while ***Bolivicactus larapuntensis*** (as ***Parodia***) is retained as a "good" species.
Not previously listed in Tax. of Cact. vol. 1 (2015), this species was published in 2015.

Bolivicereus aureispinus (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Winteria aureispina* F.Ritter, Kakteen And. Sukk. 13. 4 1962.
Type: Bolivia, Santa Cruz, Florida, Yapacani gorge (road from Mataral to Mairana, Agua Clara, on overhanging rocks, Jul. 1958, *Ritter* 846 (U097816B, SGO, ZSS).
Synonyms: *Borzicactus aureispinus, Cleistocactus winteri, Hildewintera aureispina, Loxanthocereus aureispinus, Winteria aureispina.*
Comments: according to Kiesling & Metzing (2004), and although proposed as a subspecies of *Cleistocactus winteri* (= ***Bolivicereus aureispinus***) by Hunt (2005), *C. winteri* subsp. *colademononis* (= *Hildewintera colademononis*) is rather a different taxon and should be re-evaluated as it seems to be just a convergence of form. They are of the opinion that the genus *Hildewintera* with the two species *H. aureispina* (= *Cleistocactus winteri*) and *H. colademononis* should be independently recognised. In fact, seeds are more similar to those of ***Bolivicereus samaipatanus*** and in my opinion, should be included in this genus, which was done in 2023.
In the thesis of Lendel (2013), the phylogenetic trees obtained clearly show a clade including *Cleistocactus winteri* (= ***Bolivicereus aureispinus***) and *Cleistocactus samaipatanus* (= ***Bolivicereus samaipatanus***), thus, giving more strength to my classification; moreover, these taxa are far from the genus ***Cleistocactus*** sensu stricto, thus, cannot be included in it.

Bolivicereus aureispinus © JL

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Corynopuntia wrightiana (Baxter) Lodé **COMB. NOV.**
Basionym: *Grusonia wrightiana* Baxter, Calif. Cact. 58, illustr. (1935).
Type: USA, Arizona, Petrified forest near the Colorado River, four miles west of the Quartzite-Yuma road, 33 miles north of Yuma, 15 Apr 1934, *Allan B. Clayton* s.n. (Dudley Herbarium of Stanford University).
Comments: long mistakenly identified as ***Corynopuntia kunzei***, ***C. wrightiana*** is diploid (2n = 22).

DIAGUITA (P.C.Guerrero & Helmut Walter) Lodé **STAT. NOV. & GEN. NOV.**
(Cactoideae-Notocacteae)
Basionym: Eriosyce sect. Diaguita P.C.Guerrero & Helmut Walter, Taxon 68(3): 567 (2019).
Type: Diaguita fankhauseri (F.Ritter) Lodé [*Thelocephala fankhauseri* F.Ritter, Kakteen Südamerika 3: 1002 (1980)].
Etymology: a name honouring the indigenous people Diaguita, who lived in the Norte Chico de Chile, where the genus can be found.
Taxonomy: according to Guerrero (2011), the infrageneric and infraspecific classification of ***Eriosyce*** s l. by Katterman (1994) was questioned or even disputed by several authors (Nyffeler & Eggli 1997, 2010; Hunt 2003; Ferryman 2003; Hoffmann & Walter 2004; Hunt et al. 2006; Walter et Mächler 2006; Walter 2008).
The molecular works of Bárcenas et al. (2011) confirmed what we already suspected: the genus ***Eriosyce*** is not monophyletic and is therefore not satisfactory as it is currently designed.
Concretely, with the phylogenetic work of Guerrero *et al*. (2019), we have 7 clades which are separately, monophyletic and would possibly allow a better classification and comprehensive study and conservation of these genera. As Guerrero pointed out (pers. comm. 2020), "*we have encountered several phenomena of evolutionary convergence*"; this caused confusion and mistakes in the classification, for example *Eriosyce napina* var. *fankhauseri* not related to *E. napina*. On the other hand, "*those genera are full of inconsistencies, of non-compliance with monophyly and unclear delimitations*".
The genus ***Diaguita*** was created to accommodate the taxa found in the clade of Guerrero *et al*. under the section "Diaguita". It was necessary to modify the names of these taxa and this is presented here.
In the sense of the seven, monophyletic clades of Guerrero *et al*. (2019), ***Diaguita*** is a **correct** genus.

Diaguita fankhauseri (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Thelocephala fankhauseri* F.Ritter, Kakteen Südamerika 3: 1002 (1980).
Type: Chile, Atacama, mountains N.W. of Domeyko, 1969, *Ritter* 1451, but collected by *Fankhauser* (U).
Comments: about the seed, Ritter wrote: "*it was completely different from all Thelocephala seeds, and also so different from seeds of other cacti, that I very much doubt whether the seed can belong to this plant; I therefore make no description*".

Diaguita riparia (Mächler & Helmut Walter) Lodé **COMB. NOV.**
Basionym: *Eriosyce napina* subsp. *riparia* Mächler & Helmut Walter, CactusWorld 24(3): 142 (-143; illustr. 4-8) (2006).
Type: Chile, Coquimbo, Elquí, east of Trapiche, 3 Nov 2004, *Helmut Walter* 487 (SGO 152410).
Comments: according to the first authors, this taxon was confused and mistaken during quite a time for ***D. fankhauseri*** or ***D. tenebrica***.

Diaguita tenebrica (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Thelocephala tenebrica* F.Ritter, Kakteen Südamerika 3: 1001 (1980).
Type: Chile, Atacama (W. of Domeyko), 1961, *Ritter* 1092 (U).
Comments: as for the two other taxa, this one was long known under ***Thelocephala***, and more recently under ***Eriosyce***, as a subspecies of *E. napina*.

Eriosyce subsect. ***Islaya*** (Backeb.) Katt., Succ. Pl. Res. 1: 117 (1994) is elevated to the rank of subgenus.
Eriosyce subgenus ***Islaya*** (Backeb.) **STAT. NOV.** Matuszewski & Lodé **SUBGEN. NOV**.
Type:*Islaya* Backeb., Blätt. Kakteenf. 1934(10): [3] genus 63 (1934).

Taxonomy: as proposed by Kattermann (1994), the genus ***Eriosyce*** *sensu lato* is not monophyletic (Nyffeler 2002, Machado 2007, Nyffeler & Eggli 2010, Bárcenas *et al.* 2011, Hernández-Hernández *et al.* 2011, Guerrero *et al*. 2011).
However, if *Eriosyce laui* (= ***Rimacactus laui***) is removed from **Eriosyce**, this becomes monophyletic. The cladogram of Hernández-Hernández *et al.* (2011) shows a clade including ***Eriosyce aurata*** and ***Eriosyce islayensis*** (= *Islaya islayensis*) well separated from the other ***Eriosyce*** s.l., a result which we find also in the molecular analyses of Bárcenas *et al*. (2011) and finally in the most complete to date (Guerrero *et al.*, 2019): thus, *Islaya* should be included within *Eriosyce* sensu stricto.
Nevertheless, the specialist and explorer Grzegorz Matuszewski (pers. comm. 2021) does not agree with this combination and gives arguments: "*in my opinion, the genus* **Eriosyce** *has also been excessively developed. I consider that Islaya placement in the genus* ***Eriosyce*** *is unfounded. This is a much older genus than* ***Eriosyce****. Genetic research has only proven that they come from a common ancestor, but they followed a different line of development... Plants have a different appearance, different thorns, different flowers, different fruits and seeds*". The morphology of *Islaya* is certainly distinct from ***Eriosyce*** s.s., thus separating *Islaya* from ***Eriosyce*** makes sense, but it is a matter of choice.

Since, we have reconsidered *Islaya* as a subgenus of ***Eriosyce*** (Matuszewski & Lodé 2024).
The results of Bárcenas & al. (2011) based on the trnK-matK marker and including four species; Arakaki *et al*. (2011) based on the trnK-matK and PHYC markers and including four species, and Hernández-Hernández *et al*. (2011), based on the trnK-matK, matK, trnL-trnF, rpl16, and ppc markers and including five species, all suggested that ***Eriosyce*** s.l. is not monophyletic.
According to Guerrero *et al.* (2019), Kattermann's broad concept of ***Eriosyce*** as well as the reduced number of taxa are disputed (Zuloaga *et al*., 2007; Duarte *et al*., 2014; Hernández-Ledesma *et al.* 2015).
Concretely, today we have 7 clades which are separately, monophyletic (Guerrero *et al*. 2019) and would possibly allow a better classification and comprehensive study and conservation of these genera. These changes were done in the same logic as for ***Echinopsis*** sensu lato by Schlumpberger & Renner (2012), and like this:
Horridocactus, Neoporteria and ***Pyrrhocactus*** are conserved according to the clades proposed by Guerrero *et al*. We created ***Neomapuchea*** to accommodate the section "Campanulatae", and ***Guerreroa*** by Lodé & Matuszewski (2024) for the clade "VII"; the section "Diaguita" is accepted as a genus: ***Diaguita***.
We recognise here ***Eriosyce*** *sensu stricto* including now an imbricated *Islaya* (Guerrero, pers. comm.2020).

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Eriosyce islayensis subsp. ***flavida*** (Ritter) J.Lodé
Basionym: *Islaya flavida* F.Ritter, Kakteen Südamerika 4: 1298, illustr. (1981).
Type: Perú, Prov. Caravelí, Convento, 1953, *Ritter* 186 (holo.: U; iso.: ZSS).

Facheiroa eddie-estevesii (P.J.Braun) Lodé **COMB. NOV.**
Basionym: *Leocereus estevesii* P.J.Braun, Kakteen Sukk. 41(9): 204 (1990).
Type: Brazil, Piaui, *E. Esteves Pereira* E 207 (UFG 12.380, Isotypes: B, ZSS 58-TP-317).
Synonyms: *Leocereus estevesii*.
Comments: stems and flower are the most relevant characters for this insufficiently described taxon, previously known as *Leocereus estevesii*. Not to be confused with ***Facheiroa estevesii*** (see next); to avoid this, a new name was necessary, this is why I have chosen ***Facheiroa eddieestevesii***.
As I was waiting for the publication of precise DNA data and confirmation, the genus *Leocereus* remained in Taxonomy of the Cactaceae (2015), provisionally correct, and the genus was accepted in Korotkova *et al.* (2021).
Since, the phylogenetic work of Romeiro-Brito *et al*. (2023) showed that the genera ***Bragaia***, ***Brasilicereus***, *Leocereus* and ***Zehntnerella*** are included within their clade "Facheiroa".
Only *Leocereus* is here accepted within ***Facheiroa***, although with some doubts, in view of its placement on the clade. In my opinion however, only the genus *Leocereus* pertains to the "Facheiroa" clade, the other ones seem issued from reticular events and are conserved in this work. Thus, I transferred the two taxa retained in *Leocereus* within ***Facheiroa***.

GUERREROA Lodé & Matuszewski **GEN.NOV.** (Cactoideae-Notocacteae)
Type: *Chileorebutia aerocarpa* F.Ritter
Eponym: honouring Dr **Pablo César Guerrero Martin** (?-), Chilean botanist, and zoologist, expert in phylogenetics, specialist of Chilean Cacti, currently working at the University of Concepción, Santiago. He is concerned with Evolution, Ecology and Conservation of species.

Taxonomy: according to Guerrero (2011), the infrageneric and infraspecific classification of ***Eriosyce*** s l. by Katterman (1994) was questioned or even disputed by several authors (Nyffeler & Eggli 1997, 2010; Hunt 2003; Ferryman 2003; Hoffmann & Walter 2004; Hunt *et al.* 2006; Walter & Mächler 2006; Walter 2008).
The molecular work of Bárcenas *et a*l. (2011) confirmed what we already suspected: the genus ***Eriosyce*** is not monophyletic and is therefore not satisfactory as it is currently designed.
The genus ***Guerreroa*** was created to accommodate the taxa found in the clade of Guerrero *et al*. under the clade "VII". It was necessary to modify the names of these taxa and this is presented here. Many of them were once placed within *Chileorebutia* by Ritter, or *Thelocephala* Y.Itô.
Still in the analysis of Guerrero *et al*. (2019, p.10), we can notice that the placement of many infraspecific taxa was mostly erroneous and led to great confusion.
In my opinion, ***Guerreroa confinis, G. kunzei***, or more specifically ***G. sociabilis*** could be misplaced, but this needs to be verified.
In the sense of the seven, monophyletic clades of Guerrero *et al.* (2019), ***Guerreroa*** is a **correct** genus.

Guerreroa aerocarpa (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia aerocarpa* F.Ritter, Cactus (Paris) 15(66): 8 (1960).
Type: Chili, Atacama, Freirina, 1956, *Ritter* 498 loc. 1 (U 097904B, SGO, ZSS).

Guerreroa atroviridis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus atroviridis* F.Ritter, Succulenta (Netherlands) 1960: 89 (90, illustr.) (1960).
Type: Chile, Atacama, ca. 30 km N.W. of Vallenar, Ritter 475 loc. 1 (U 098008B, SGO, ZSS). Lectotype: Ritter, p. 90, the illustration cited.

Guerreroa calderana (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus calderanus* F.Ritter, Succulenta (Netherlands) 1961: 13 (1961).
Type: Chile, Atacama, Caldera, on the coast, *Ritter* 496 (U 098136B).

Guerreroa caligophila (R.Pinto) Lodé **COMB. NOV.**
Basionym: *Eriosyce caligophila* R.Pinto, Bradleya 23: 1 (-6; illustr. 1-9) (2005).
Type: Chile, Iquique, Comuna de Iquique, *Pinto & Kirberg* 157665 (CONC).

Guerreroa confinis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus confinis* F.Ritter, Succulenta (Netherlands) 1961: 4 (1961).
Type: Chile, near Copiapó, Monte Amargo, *Ritter* 494 (U 098080B, SGO, ZSS).

Guerreroa crispa (F.Ritter) Lodé **COMB. NOV.**
Guerreroa crispa subsp. *crispa*
Basionym: *P yrrhocactus crispus* F.Ritter, Succulenta (Netherlands) 1959: 137 (1959).
Type: Chile, Atacama, Freirina, *Ritter* 491 (ZSS, not found, SGO, U).

Guerreroa crispa subsp***. totoralensis*** (F.Ritter) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *P yrrhocactus totoralensis* F.Ritter, Succulenta (Netherlands) 1961: 131 (1961).
Type: Chile, Atacama, Totoral Bajo, 1956, *Ritter* 495 loc. 5 (U 117659B, SGO, ZSS).

Guerreroa esmeraldana (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia esmeraldana* F.Ritter, Taxon 12: 123 (1963).
Type: Chile, Antofagasta, Esmeralda, *Ritter* 518 loc. 1 (U 117795B, SGO, ZSS).

Guerreroa fulva (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia fulva* F.Ritter, Cactus (Paris) 66: 10 (1960), nom. inval. = *Thelocephala fulva* F.Ritter, Kakteen Südamerika 3: 1011 (1980).
Type: Chile, Copiapó, Totoral, 1956, *Ritter* 500 loc. 1 (U, SGO, ZSS).

Guerreroa glabrescens (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia glabrescens* Ritter, Cactus (Paris) 15(66): 9 (1960), incorrect name (Art. 11.3) = *Thelocephala glabrescens* (F.Ritter) F.Ritter, Kakteen Südamerika 3: 1003 (1980).
Type: Chile, Atacama, Copiapó, coastal region, 1956, *Ritter* 710 (U).

Guerreroa iquiquensis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus iquiquensis* F.Ritter, Taxon 12: 32 (1963).
Type: Chile, Tarapacá, near Iquique, above the city, 1954, *Ritter* 201 (ZSS).

Guerreroa krausii (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia krausii* F.Ritter, Cactus, Paris 14(64): Suppl., p. [5] (1959); *et in* Cactus, Paris 15(66): 7 (1960).

Type: Chile, Atacama, Copiapó, 1956, *Ritter* 502 (U).

Guerreroa kunzei (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Echinocactus kunzei* C.F.Först., Handb. Cacteenk. [Förster] 2: 293 (1846).
Type: Chile, at high altitudes, Pöppig, cult. hort. Senke, not pres. Neotype: Chile, Antofagasta, Copiapó, Paipote, 1955, *Ritter* 220 loc. 2 "Paipote" (SGO No. 121487).

Guerreroa malleolata (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia malleolata* F.Ritter, Taxon 12: 123 (1963).
Type: Chile, North of Chañaral, 1956, *Ritter* 517 (U 0007625).

Guerreroa occulta (Kattermann) Lodé **COMB. NOV.**
Basionym: *Eriosyce occulta* Katt., Succ. Pl. Res. 1: 119 (1994).
Type: (neotype) Chile, Antofagasta, Taltal, Breas, *Kattermann* 391 (DBG).

Guerreroa odieri (Lem. *ex* Salm-Dyck) Lodé **COMB. NOV.**
Basionym: *Echinocactus odieri* Lem. *ex* Salm-Dyck, Cact. Hort . Dyck. (1849). 174 (1850).
Type: not des. Neotype: Chile, Atacama, S. of Caldera, base of Morro Copiapó, *Kattermann* 802 (DBG).

Guerreroa paucicostata (F.Ritter) Lodé **COMB. NOV.**
Guerreroa paucicostata subsp. *paucicostata*
Basionym: *Horridocactus paucicostatus* F.Ritter, Succulenta (Netherlands) 1959: 113 (1959).
Type: Chile, Antofagasta, 20 km N. of Paposo, *Ritter* 521, loc. 1 (U097984B, SGO, ZSS).

Guerreroa paucicostata subsp. ***echinus*** (F.Ritter) Lodé
Basionym: *Pyrrhocactus echinus* F.Ritter in Taxon 12: 33 (1963).
Type: Chile, Antofagasta, S. of Antofagasta, Cerro Coloso, *Ritter* 537, loc. 1 (U 116948B, SGO, ZSS).

Guerreroa paucicostata subsp. ***floccosa*** (F.Ritter) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Pyrrhocactus floccosus* F.Ritter, Taxon 12: 32 (1963).
Type: Chile, Antofagasta, coastal hills, 1956, *Ritter* 545 loc. 1 (U 117835B, SGO, ZSS).

Guerreroa recondita (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus reconditus* F.Ritter, Succulenta (Netherlands) 1962: 27 (1962).
Type: Chile, Antofagasta, mountains N. of town, Apr 1954, *Ritter* 204 (loc. 1 (ZSS, SGO, U).

Guerreroa sociabilis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Neoporteria sociabilis* F.Ritter, Succulenta (Netherlands) 1963: 3 (1963).
Type: Chile, Atacama, Totoral Bajo, *Ritter* 655 (U 116972B).

Guerreroa spectabilis (Helmut Walter & J.C.Acosta) Lodé **COMB. NOV.**
Basionym: *Eriosyce spectabilis* Katt., Helmut Walter & J.C.Acosta, Cact. Succ. J. (Los Angeles) 83(5): 198 (-201; illustr. 1-11) (2011).
Type: Chile, Atacama, Huasco, highest mountains in the vicinity of Quebrada Carrizal. December 2009, *Juan Acosta* 704 (CONC).

Guerreroa taltalensis (Hutchison) Lodé **COMB. NOV.**
Guerreroa taltalensis subsp. *taltalensis*
Basionym: *Neoporteria taltalensis* Hutchison, Cact . Succ. J. (Los Angeles) 27(6): 181, illustr. 167 (1955).
Type: Chile, Antofagasta, Dept . Taltal, Sierra Esmeralda, ca. 3 miles north of Planta Esmeralda and ca. 1 mile inland from the coast on a road to the shoreline, on sides of shallow ravines, *P. C. Hutchison* #420, ex hort. University of California Botanical Garden #52.592-1 (UC).

Guerreroa taltalensis subsp***. pygmaea*** (F.Ritter) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Pyrrhocactus pygmaeus* F.Ritter in Taxon 12: 32 (1963).
Type: Chile, Atacama, 20 km N. of Chañaral, on the coast, *Ritter* 519, loc. 1 (U 117858B, SGO, ZSS).

GENUS ***HORRIDOCACTUS*** Backeberg (Cactoideae-Notocacteae)
Blätt. Kakteenf. 1938(6): [17; 7, 12, 23] (1938).
Type: *Horridocactus horridus* Backeberg (*Cactus horridus* Colla 1833, non Kunth 1823).

Taxonomy: the molecular works of Bárcenas *et al*. (2011) confirmed what we already suspected: the genus ***Eriosyce*** is not monophyletic and is therefore not satisfactory as it is currently designed. In the phylogenetic study of Guerrero *et al.* (2019), seven clades are recovered, including a clade "Horridocactus". In order to avoid an amplified ***Eriosyce***, it seems to me, better to reinstate the genus ***Horridocactus***, still widely used though the community and in accordance to the clade shown by these molecular results. The genus *Thelocephala*, whose type was *Thelocephala napina* therefore disappears within ***Horridocactus***.
A molecular study of the complex "curvispina" was done in 2024 by H.Walter *et al*. and updates our preliminar works: according to them, the findings of Villalobos-Barrantes *et al*. (2022) supported the monophyly of the ***Eriosyce*** section "*Horridocactus"*.

Horridocactus aspillagae (Söhrens) Lodé **COMB. NOV.**
Horridocactus aspillagae subsp. *aspillagae*
Basionym: *Echinocactus aspillagae* Söhrens, Monatsschr. Deutsch. Kakteen-Ges. 1: 125, 127, illustr. (1929).
Type: Chile, Libertador General Bernardo O'Higgins, Colchagua, Hacienda Tanumé, 34°S, not pres. Lectotype: Soehrens, I.e. 127, the illustr. cited.

Horridocactus aspillagae subsp***. maechleriorum*** (Helmut Walter) Lodé **COMB. NOV. & STAT. NOV.**
Sphalmate: as "*maechlerorum*", a correctable orthographical error under ICN Art. 60.1 and 60.8.
Basionym: *Eriosyce aspillagae* subsp. *maechlerorum* Helmut Walter, Kakteen And Suk. 53(10): 261 (258-262; illustr. 1-7) (2002).
Type: Chile, Maule, Carranza, Talca, *Helmut Walter* HW142 (CONC).

Horridocactus duripulpa (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Chileorebutia duripulpa* F.Ritter, Taxon 12: 123 (1963).
Type: Chile, Atacama, Huasco, *Ritter* 1056 loc. 1 (U 145271B, SGO, ZSS).

Horridocactus jussieui (Monv. ex SalmDyck) Lodé **COMB. NOV.**
Basionym: *Echinocactus jussieui* Monv. ex Salm-Dyck, Cact. Hort. Dyck. (1849). 34, 170

(1850).
Type: not extant. Neotype: Chile, 60 km S. of Coquimbo, Nov 1957, *Ritter* 708a (U).

Horridocactus limariensis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus limariensis* F.Ritter Kakteen Südamerika 3: 956 (1980).
Type: Chile, Coquimbo, prov. of Limari, halfway between Fray Jorge and the Via Panamericana, *Ritter* 222b (U?).

Horridocactus mutabilis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus horridus var. mutabilis* F.Ritter, Kakteen Südamerika 3: 946 (1980).
Type: Chile, Coquimbo Region, coastal spur N. of Los Vilos, Dec. 1955, *F.Ritter* 223b (U 0249320).

Horridocactus napinus (Phil.) Lodé **COMB. NOV.**
Horridocactus napinus subsp. *napinus*
Basionym: *Echinocactus napinus* Phil., Gartenflora 21: 129, t.721, illustr. 1 (1872).
Type: Chile, Atacama, 'Sandy Beaches of Huasco', *Philippi* s.n., not pres. Lectotype: the illustr. cited.

Horridocactus napinus subsp. ***lembckei*** (Katt.) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Eriosyce napina* subsp. *lembckei* Katt ., Eriosyce (Cactac.) gen. revis. & ampl. (Succ. Pl. Res., 1) 118 (1994).
Type: Chile, Atacama, W. Freirina, *Kattermann* 77 (DBG).

Horridocactus napinus subsp. ***llanensis*** (I.Schaub & Keim) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Eriosyce napina* subsp. *llanensis* I.Schaub & Keim, Cactus & Co. 15(1): 36 (-38; illustr.) (2011)..
Type: Chile, Atacama region, Parque Nacional Llanos del Challe, 18th Nov 2010, *Ingrid Schaub & Ricardo Keim* (SGO 160015).

Horridocactus napinus subsp. ***pajonalensis*** (I.Schaub & Keim) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Eriosyce napina* subsp. *pajonalensis* I.Schaub & Keim, Cactus & Co. 15(1): 47 (-50; illustr.) (2011).
Type: Chile, Atacama region, North of Caleta Pajonales, 10 Sep 2010, *Ingrid Schaub & Ricardo Keim* (SGO 159376).

Horridocactus orientalis (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus aconcaguensis* var. *orientalis* F. Ritter, Succulenta (Netherlands) 9: 109 (1960).
Type: Chile, Valparaíso Region, San Felipe, Las Coimas, Jun 1955, *F.Ritter* 542a (U 0249247).

Horridocactus robustus (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus robustus* F.Ritter, Succulenta (Netherlands) 1960: 65 (1960).
Type: Chile, Valparaíso Region, Quillota, Ocoa, *F.Ritter* 239a (U 0249318).

Leucostele chiloensis subsp. ***borealis*** (F.Ritter) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Trichocereus chiloensis* var. *borealis* F.Ritter, Kakteen Südamerika 3: 1109. 1980.
Type: Chile, IV Region of Coquimbo, Prov. Elqui, valley of Elqui, Huanta, *F.Ritter* FR 228d. (U).

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Mammillaria albicans subsp. ***slevinii*** (Boed.) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Mammillaria slevinii* Boed., Mammillarien-Vergleichs-Schluessel 44 (1933).
Type: México, Baja California Sur, Island San José, 31 Mar 1911, *Rose* 16550 (US).

Marshallocereus aragonii subsp. ***yunckeri*** (Standl.) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Cereus yunckeri* Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 9: 316, fig. 7 (1940).
Type: Honduras, Yoro, near Coyoles, 28 Jun 1938, *Yuncker, Koepper & Wagner* 8257 (F).

NEOMAPUCHEA Matuszewski & Lodé **GEN. NOV.**(actoideae-Notocacteae)
Type: *Pyrrhocactus marksianus* Ritter
Etymology: (Lat.) "**New**", because the genus ***Mapuchea*** had already been used to designate a Hemiptera; "**Mapuche**", designating and honouring **indigenous people Mapuche Arauca**, who lived in southern Argentina, as well as the centre and south of Chile, where the genus can be found.
Taxonomy: the genus ***Neomapuchea*** was created to accomodate the taxa found in the clade "Campanulatae" of the phylogenetic study of Guerrero *et al*. (2019). We have separated the seven clades of this work, each of them monophyletic, in order to reflect the taxonomy with the results, and rejecting ***Eriosyce*** *sensu lato*, but accepting ***Eriosyce*** *sensu stricto* including *Islaya*.
In this work, the genus ***Neomapuchea*** is considered **correct**.

Neomapuchea marksiana Matuszewski & Lodé **COMB. NOV.**
Basionym: *Pyrrhocactus marksianus* F.Ritter, Succulenta (Netherlands) 1960: 2 (1960).
Type: Chile, Maule, Villa Prat, S.W. of Curicó, 1954, *Ritter* 234 (ZSS, SGO).

Neomapuchea marksiana subsp. ***lissocarpa*** Matuszewski & Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Pyrrhocactus lissocarpus* F.Ritter, Succulenta (Netherlands) 1960(2): 17 (1960).
Type: Chile, Coquena, 34°15'S, 1955, *Ritter* 466 loc. 1 (U097936B, SGO, ZSS).

Neomapuchea marksiana subsp. ***gracilis*** (F.Ritter) Matuszewski & Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Pyrrhocactus lissocarpus var. gracilis* F.Ritter, Succulenta (Netherlands) 1960: 17 (1960).
Type: Chile, Maule, Cauquenes ("Cauguenes"), 34°15', W. San Francisco de Mostazal, *Ritter* 466a (ZSS).

GENUS ***NEOPORTERIA*** Britton & Rose (Cactoideae-Notocacteae)
Cactaceae (Britton & Rose) 3: 94, illustr. 103-108 (1922).
Type: *Neoporteria subgibbosa* Britton & Rose, Cactaceae (Britton & Rose) 3: 97, illustr. 8 (1922).

Neoporteria elquiensis (Katt.) Lodé **COMB. NOV.**
Basionym: *Eriosyce senilis* subsp. *elquiensis Katt.*, in Eriosyce (Cactac.) gen. revis. & ampl. (Succ. Pl. Res., 1) 119 (1994).
Type: Chile, Coquimbo, Elqui, El Tambo, *Kattermann* 462 (DBG).

Neoporteria subgibbosa subsp. ***litoralis*** (Ritter) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Neoporteria litoralis* F.Ritter, Succulenta (Netherlands) 28: 43 (1959).
Type: Chile, Coquimbo, beach rocks near Coquimbo, *F.Ritter* 219 (ZSS).

Neoporteria subgibbosa subsp**. *nigrihorrida*** (Backeb. ex A.W.Hill) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Neoporteria nigrihorrida* (Backeb. ex A.W.Hill) Backeb., Kakteenkunde 1939: 81 (1939).
Type: Chile, not des. Lectotype: Kakt. ABC, illustr. p.301 (1936), the illustration cited.

GENUS ***NOTOCACTUS***

Notocactus mammulosus subsp**. *paulus*** (H.Schloss. & Brederoo) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Notocactus paulus* H.Schloss. & Brederoo, Kakteen And. Sukk. 31: 116, illustr. (1980).
Type: Uruguay, near Ruta 5, about km 300 near Punta Bonilla (about 10 km before Tacuarembó), Feb 1972, *Peter Schlosser* H.Schl. 161 (MVM).

Notocactus muellermelchersii subsp**. *hofackerianus*** (A.S.Oliveira & R.Pontes) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Parodia hofackeriana* AS. Oliveira & R. Pontes, *in* Phytotaxa 598 (4): 284. 2023.
Type: Brazil, Rio Grande do Sul, Santana do Livramento, 265 m, 12 Oct 2015, *A.S.Oliveira & L.P.Deble* 84b (holo.: PACA).

GENUS ***OPUNTIA***

Opuntia erinacea subsp**. *hystricina*** (Engelm. & Bigelow) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Opuntia hystricina* Engelmann & J.M.Bigelow, *in* Proc. Amer. Acad. Arts 3: 299 (1856).
Type: USA, Arizona, San Francisco Mountains, Colorado Chiquito (Little Colorado River), 1853, *John M. Bigelow* s.n., not des. Lectotype: USA, Arizona, Little Colorado River, 8 Dec 1853, *J.M.Bigelow* s.n. (MO).
Comments: contrary to the type species, branches of the subsp. ***hystricina*** are openly spreading, lower, and articles are larger.
According to Stock *et al*. (2023), this taxon was considered a variety of ***O. polyacantha***, with a wide range from northern Arizona, the Colorado Plateau of Utah, and west across Utah to eastern Nevada. Examination of the type (photo) revealed that the spine arrangement is typical of ***O. erinacea*** and not ***O. polyacantha***. In fact, the plants in western Utah are the tetraploid ***O. erinacea***, while those on the Colorado Plateau of Utah are the hexaploid ***O. nicholii***. Stock *et al*. restrict the taxon *Opuntia erinacea var. hystricina* from the type locality region of the valley of the Little Colorado River, east of Flagstaff, Arizona, then south in Arizona to near Snowflake.
O. erinacea var. *hystricina* was replaced as a subspecies, according to the rule proposed by Hunt, who made the term “variety” inadequate in Cactaceae.
Opuntia erinacea subsp. ***hystricina*** is diploid (2n = 22).
Not previously listed in vol. 2.

Taxonomy: Since the volumes 1 and 2 of Taxonomy of the Cactaceae (2015), and according to the most complete phylogenetic study (Baker & Porter 2016) with 35 taxa of *Ancistrocactus*, *Echinomastus* and ***Sclerocactus***, *Ancistrocactus* is sister to *Echinomastus*; in order to get a monophyletic group, all these taxa should be included within ***Sclerocactus***, but excluding ***Glandulicactus***, which is clearly a different lineage. We follow now this proposal here.
As currently circumscribed in this work, the genus ***Sclerocactus*** is considered correct.

Sclerocactus hispidus (Donati & Zanov.) Lodé **COMB. NOV.**
Basionym: *Echinomastus hispidus* D.Donati & Zanov. *in* Piante Grasse 24(4): 138, illustr. pp.140-144 (2004).
Type: México, Coahuila, Cuatrocienegas, *Steven Brack* SB 452, plant. cult sem. C. Zanovello (Horto Botanico Patavino, depositum HG 54081)

Sclerocactus intertextus subsp***. dasyacanthus*** (Engelm.) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Echinocactus intertextus* var. *dasyacanthus* Engelm., *in* Proc. Amer. Acad. Arts 3: 277. 1856.
Type: USA, Texas, near El Paso.

Sclerocactus johnsonii subsp***. lutescens*** (Parish) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Echinocactus johnsonii* var. *lutescens* Parish, Bull. S. Calif. Acad. Sci. 25:83 (1926).
Type: USA, Nevada, Searchlight, on gravelly hills, 5 Jan 1925, *Marcus E. Jones* s.n. (Herb. Univ. Calif.).

Sclerocactus megarrhizus (Rose) Lodé **COMB. NOV.**
Sphalmate: as "*megarhizus*", a correctable spelling error under ICN Art. 60.1, 60.7 and Rec. 60A.1). Rose had nevertheless written it correctly.
Basionym: *Echinocactus megarrhizus*, Rose, Contr. U. S. Nat. Herb. 12: 290 (1909).
Type: México, near Ciudad Victoria, Tamaulipas, 1907, *Palmer* 107 (US 572337).

Sclerocactus pinkavanus (García-Mor., Gonz.-Bot. & Rodr. González) Lodé **COMB. NOV.**
Basionym: *Ancistrocactus pinkavanus* García-Mor., Gonz.-Bot. & Rodr. González, Acta Succulenta 2(1): 27-44. 2014.
Type: México: Coahuila State, North of Cuatrociénegas, gypsophilous grassland, 731 m, *Hinton et al*., n° 29472, 2014-01-25. Holotype GBH. Isotypes : MEXU, ITCV, TAMUX.

Sclerocactus tobuschii (W.T.Marshall) J.Lodé **COMB. NOV.**
Basionym: *Mammillaria tobuschii* W.T.Marshall in Saguaroland Bull. vi. 79 (1952).
Type: USA, Texas, Bandera County, 2 mi. N.E. of Vanderpool, south slope, limestone ledge, 1400 ft, 24 Jun 1952, *Marshall & Blakley* B1501 (DES: holotype, DES, TEX: isotype).

Sclerocactus unguispinus subsp***. durangensis*** (C.Runge ex Schumann) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Echinocactus durangensis* Runge, Hamburger Garten- Blumenzeitung 46: 231 (1890) nom. inval. *ex* K. Sch., Gesamtbeschreibung Kakt., p. 449 (illustr. p.352, 61A) (1898).
Type: type locality not cited; acc. to Schumann, México, Durango, Rio Nazas, West of Villa Lerdo. Lectotype: the illustration cited.

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Sclerocactus unguispinus subsp. ***laui*** (Gerhart Frank & Zecher) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Echinomastus laui* Gerhart Frank & Zecher, Cact. Succ. J. (Los Angeles) 50(4): 188 (-189), illustr. (1978).
Type: México, San Luis Potosí, road from San Luis Potosí to Zacatecas, near Salinas, *Ernst Zecher* 729-74/76 (ZSS).

GENUS ***SELENICEREUS***

Selenicereus microcladus (Backeberg) Lodé **COMB. NOV.**
Basionym: *Hylocereus microcladus* Backeberg, in Stachlige Wildnis 57 (1942); cf. Backeb. in Fedde, Repert. li. 61. 1942 (Blätt. Kakteenf. 1937, No. 11, Anhang II, p. 2, Nom. prov.).
Type: Colombia, wet woods between the Rio Magdalena and Sierra Nevada, *Backeberg* s.n., not found. Subsequently (*fide* Bkbg I.c. 1959) found by Rauh in northern Perú.

GENUS ***SOEHRENSIA***

Soehrensia narvaecensis (Cárdenas) Lodé **COMB. NOV.**
Basionym: *Trichocereus narvaecensis* Cárdenas, Fuaux Herb. Bull. 1(5): 25 (1953).
Type: Bolivia, Tarija, O'Connor, near Narváez, on the way from Tarija to Entre Ríos, 2700 m, *Cárdenas* 4828 (LIL, not found). Neotype: Bolivia, road to Narváez, 2567 m, 19 Dec 2009, *S. Albesiano, N. Muruaga, A. Alaria & R. Paz* 2082 (MERL).

Soehrensia purpureopilosa (Weing.) Lodé **COMB. NOV.**
Basionym: *Trichocereus purpureopilosus* Weing. in Backeb. & Kunth, Kaktus-ABC (Backeb. & Knuth) 204 (1934).
Type: Argentina, Córdoba, Sierra de Córdoba, *Schick* s.n., not pres. Neotype: Argentina, Prov. Córdoba, San Roque, Sierra de Córdoba, 12 Jan 1881, *G. Hieronymus* s.n. (CORD).

Soehrensia schickendantzii subsp. ***shaferi*** Britton & Rose) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Trichocereus shaferi* Britton & Rose, Cactaceae (Britton & Rose) 2: 144 (1920).
Type: Argentina, Salta, near San Lorenzo, 1800 m, wooded ravine, 11 Jan 1917, *Shafer* 44 (US?, K).

Soehrensia vatteri (R.Kiesling) Lodé **COMB. NOV.**
Basionym: *Trichocereus vatteri* R.Kiesling, Hickenia 1(6): 31(-32) (1976).
Type: Argentina, La Rioja, Dept. of General Lavalle, Tambillos, 25 Jan 1974, *Ángel Cabrera, E. Zardini, N. Deginani & F. O. Zuloaga* 24568 (LP).

GENUS ***SPHAEROPUNTIA*** Guiggi (Opuntioideae-Tephrocacteae)
Supplementum II to Cactology 3 (2012).
Type: *Sphaeropuntia sphaerica* (C.F. Förster) Guiggi.
Etymology: (Lat.) "**globose-Opuntia**", referring to the sphaerical shape of the segments of the genus.
Taxonomy: according to Guiggi (pers. comm., 2016), this new taxon differs in its morphology (non-tuberculate segments, which stand out easily, with apical branching; areoles prominent, numerous, large and with wool, distributed over the entire surface of the articles, yellow flower, seed without lateral awns, etc.) , ecology (below 3400 m altitude) and distribution (western side

of the Andes) with respect to ***Cumulopuntia*** sensu stricto. ***Sphaeropuntia*** is also confirmed in the phylogenetic analysis of Nyffeler & Eggli (2010) and Ritz *et al* (2012).
About ***Sphaeropuntia***, Walter & Guerrero (2022) commented that Nyffeler & Eggli (2010) remarked that the exclusively West-Andean species *Cumulopuntia sphaerica* (C.F.Först.) F. Anderson "is unambiguously shown as a separate lineage", as it appears in a trichotomy with ***Austrocylindropuntia*** Backeb. and ***Cumulopuntia*** F. Ritter (Wallace & Dickie, 2002). Also, in Griffith & Porter (2009) the two accessions of *C. sphaerica* were not placed within the *C. boliviana* clade, but in a strongly supported trichotomy with ***Austrocylindropuntia***. Finally, Ritz *et al*. (2012) showed that the well-supported *C. sphaerica* clade is sister to the *C. boliviana* clade. Genus accepted by Walter & Guerrero (2022).
Korotkova *et al.* (2021) consider that the circumscription of ***Sphaeropuntia*** is not yet fully resolved, but admit that ***Cumulopuntia*** is not monophyletic and falls in two clades.
Sphaeropuntia is accepted here as a **correct** genus.

Sphaeropuntia crassicylindrica (Rauh & Backeb.) Lodé **COMB. NOV.**
Basionym: *Tephrocactus crassicylindricus* Rauh & Backeb. *in* Descr. Cact. Nov. 8. 1957.
Type: Perú, Arequipa, Castilla, Aplao, Hacienda Ongoro, in Río Majes valley, 1000 m, 5 Oct 1956, *Rauh* K 152 (HEID 205178.).

Sphaeropuntia dimorpha (C. F. Först.) Lodé **COMB. NOV.**
Basionym: *Opuntia dimorpha* C. F. Först. Hamb. Gartenz. 17: 167. 1861.
Type: Perú, Dept. Arequipa, Arequipa, Socabaya, Batolito de la Caldera, al frente del anexo llamado El Pasto, 2290 m., 71°32'44.4"W, 16°28'47.95"S, 21 May 2014, *A .Pauca* 384 (HSP 003058).

Sphaeropuntia leucophaea (Phil.) Lodé **COMB. NOV.**
Basionym: *Opuntia leucophaea* Philippi, Anales Mus. Nac. Santiago de Chile, 27 (1891).
Type: Chile, Prov. Tarapacá, near Usmagana, Mar 1885, *Rahmer* s.n. (SGO 052672) .

Sphaeropuntia mollispina (Hoxey, A.Pauca, Quip. & Gdaniec) Lodé **COMB. NOV.**
Basionym: *Cumulopuntia mollispina* Hoxey, A.Pauca, Quip. & Gdaniec, Bradleya 41: 139-147, illustr. (2023).
Type: Perú, Dept Ayacucho, upstream from San Martín de Porres de Huillcallama, Río Lampalla, 1700 m, 30 Mar 2022, *Hoxey, Pauca & Quipuscoa* 50 (HSP).

Sphaeropuntia multiareolata (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Tephrocactus multiareolatus* F. Ritter. Taxon 13(4): 144-145 (1964).
Type: Perú, Arequipa, Caravelí, Convento, 1953, *Ritter* 275.

Sphaeropuntia sphaerica subsp***. kuehnrichiana*** (Werdermann & Backeberg) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Opuntia kuehnrichiana* Werderm. & Backeb., Backeb. Neue Kakteen 64 (1931); et in Fedde, Repert. XXX. 59 (1932).
Type: Perú, Lima, road from Lima to Oroya, near Chosica, 700-900 m, 1931, *Backeberg*, not pres. Lectotype: Backeberg (1931), Die Cact. 1:300, illustr. 267: the illustration cited.

Sphaeropuntia tumida (F.Ritter) Lodé **COMB. NOV.**
Basionym: *Cumulopuntia tumida* F.Ritter, Kakteen Südamerika 4: 1254-1255, illustr. 1105

(1981).
Type: Perú, Chala Vieja, near coast, Arequipa, 1964, *Ritter* 1324 loc. 1 (U, ZSS).

Sphaeropuntia unguispina (Backeberg) Lodé **COMB. NOV.**
Basionym: *Opuntia unguispina* Backeberg, Blätt. Kakteenf. 1937(7): genus 10, sp. 7 (illustr.).
Type: Perú, Arequipa, desert of La Joya, *anon.* (not des.), Herb. ref *in Ostolaza* (2014, p.180, illustr. p.181): HUSA. Neotype: Perú. Arequipa, Arequipa, Uchumayo, hills to the left of the toll booth, next to the train tracks, 2036 m, 16°25'41,23''S, 71°40'35,95'' W, 14 Jun 2015, *A. Pauca T.* 547 (HSP007839).

Sphaeropuntia zehnderi (Rauh & Backeb.) Lodé **COMB. NOV.**
Basionym: *Tephrocactus zehnderi*, Rauh & Backeberg, Descr. Cact. Nov. 9 (1957).
Type: Perú, Arequipa, Chala valley, near Incuio, at foot of Sara Sara volcano, 3500 m, 1956, *Rauh* K 121 (ZSS).

GENUS ***TEPHROCACTUS***

Tephrocactus weberi subsp. ***deminutus*** (Rausch) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Tephrocactus weberi* var. *deminutus* Rausch, Succulenta (Netherlands) 65(12): 251 (1986).
Type: Argentina, Salta province, south of Amblayo at an altitude of 2400 m, *Rausch* R 241 (ZSS).

GENUS ***TRICHOCEREUS***

Trichocereus macrogonus subsp. ***pachanoi*** (Britton & Rose) J.Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Trichocereus pachanoi* Britton & Rose, Cactaceae (Britton & Rose) 2: 134 (-135; illustr. 196) (1920).
Type: Ecuador, Cuenca, 17-24 Sep 1918, *Joseph Nelson Rose Abelardo Pachano & George Rose* 22806 (US).

Trichocereus macrogonus subsp. ***peruvianus*** (Britton & Rose) J.Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Trichocereus peruvianus* Britton & Rose, The Cactaceae 2: 136 (1920).
Type: Neotype: Perú, Dept. Lima, near Matucana, 9 Jul 1914, *J. N. Rose & Mrs. J. M. Rose* 18658 (US 761324).

GENUS ***WEINGARTIA***

Weingartia gemmae subsp. ***elizabethae*** (de Vries) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Sulcorebutia elizabethae* J.de Vries, Succulenta (Netherlands) 83(1): 34 (-37; illustr.) (2004).
Type: Bolivia, Dept Chuquisaca, Cerro Colata (between Mojocoya and the Rio Grande), 2800 m, 23 Oct 1998, *J. de Vries & E. van Zomeren* VZ 204 (LPB, WU).

Weingartia steinbachii subsp. ***krahnii*** (Rausch) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Sulcorebutia krahnii* Rausch, Kakteen And. Sukk. 21(6): 104,illustr. (1970).
Type: Bolivia, Dept. Santa. Cruz, Prov. Caballero, N. of Comarapa, Cerro Tukiphalla, *Rausch* R269 (WU).

Weingartia tarabucoensis subsp. ***hertusii*** (Halda & Horacek) Lodé **COMB. NOV. & STAT. NOV.**
Basionym: *Sulcorebutia crispata* subsp. *hertusii* Halda & Horáček, Acta Mus. Richnov., Sect. Nat. 7(2): 74 (2000).
Type: Bolivia, Dept. Chuquisaca, Sucre, vicinity of Zudáñez, 2800 m, *J.J.Halda* & *L.Horácek* 9911316 (PR).

GENUS ***XIQUEXIQUE***

Xiquexique zehntneri (Britton & Rose) Lodé **COMB. NOV.**
Basionym: *Cephalocereus zehntneri* Britton & Rose, Cactaceae (Britton & Rose) 2: 35 (1920).
Type: Brazil, Bahia, district of Chique-Chique (Xique-Xique), Serra de Tiririca, Nov 1917, *Zehntner* s.n. (US, K).
Comments: Zappi (1994) synonymised *Pilosocereus braunii* with *P. gounellei* subsp. *zehntneri*, but they are not related (Köhler 2024) and even show a possible confusion (Köhler 2024).
Zappi (1994) also designated *P. superfloccosus* in synonym of *P. gounellei* subsp. *zehntneri* (including *P. braunii*), but current studies of Köhler with collaborators have indicated that it is a distinct taxon not related to ***X. braunii*** or ***X. gounellei*** subsp. ***zehntneri***, and should not be regarded as a synonym of them.
According to the DNA works of Lavor (2017), Lavor *et al*. (2020) *Pilosocereus gounellei* subsp. *zehntneri* is since considered part of the new genus ***Xiquexique***.
Anceschi & Magli (2021) recognise ***Xiquexique gounellei*** and ***X. zehntneri*** (both as ***Pilosocereus***) as distinct species, which, for the different seeds observed, make me think that they are, in fact, species on their own.
Previously listed in Tax. of Cact. Vol. 2 (2015) as *Pilosocereus gounellei* subsp. *zehntneri*.

Xiquexique zehntneri in culture, Canary Islands ©JL

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Which genus is that?

Stenocereus stellatus with a pathology
Picture taken in habitat, Mexico. JL

A new species of *Samaipaticereus* (Cactaceae) from Cusco, Peru.

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Summary: A new species of *Samaipaticereus*, (*S. herrerae*) from the tropical dry forest (Cusco, Peru) is described and illustrated. It is similar to *S. corroanus* but differs from this species by a combination of morphological characters: thinner trunk and branches, orbicular areoles, more spines, flowers with thicker scales, smaller perianth diameter and bigger seeds. Its distribution area in Peru is provided and its taxonomic relationships are briefly commented.

Keywords: Peru, Cusco, Cactaceae, Trichocereinae, *Samaipaticereus*.

Introduction

Samaipaticereus has until now been considered a monotypic genus endemic to Bolivia. The type species, *S. corroanus*, was described by Cárdenas (1952:141) in honour of Aníbal Corro who discovered this plant near the city of Samaipata, Bolivia. This species is a branched columnar cactus, with few spines, nocturnal white flowers and globose fruits with a lateral dehiscence. Another related species is *Yungasocereus inquisivensis* (Cárdenas) F.Ritter ex Eggli, that was originally described as *Samaipaticereus inquisivensis* Cárdenas (1957:246), and then transferred as the type species of his own genus *Yungasocereus* F.Ritter. However, this combination is invalid because Ritter did not include the original protologue page Ritter (1980:669). Eggli (2005) corrected this problem by making a full reference to the basionym. This species is columnar or shrubby, with blunt and slightly tuberculated ribs, white flowers and fruits with lateral dehiscence. The genus *Yungasocereus* is accepted nowadays (Lodé 2015). Recent phylogenetic analysis (Schlumpberger & Renner 2012, Franck et al. 2013 and Romeiro-Brito et al. 2023) have shown that *Samaipaticereus* is closely related to *Cleistocactus*, *Vatricania*, *Weberbauerocereus* and *Yungasocereus*.

This new species was allegedly discovered by Fortunato Herrera in 1922, but he does not mention it in his article “Las Cactáceas del departamento del Cuzco” (1922) nor in “Cactaceae Cuzcoense” (1929, 1936). Later collections made by James West in 1936 and René Chávez in 1968 in Peru were determined as *S. corroanus* by Paul Hutchison. The first to mention this as a new species was Harry Johnson in his catalog “Succulent Parade” (1955:14), calling it *Samaipataicereus peruvianus*, but without making a description of the species. This *nomen nudum* is also mentioned by Backeberg (1959:1092, 1966:401) and Ritter (1980:670). The first published photograph of this new species was published by Buxbaum (1957), as *Samaipaticereus sp.* a specimen from Peru flowering in the Botanical Garden of the University of California. The same photograph was published in Buxbaum (1966:45).

Recently, Galiano et al. (2014) included *S. corroanus* in their list of Cactaceae from the Vilcanota-Urubamba basin and as an addition to the Peruvian flora, but they posted photographs of the Bolivian species. Ostolaza (2019), published the second edition of “Todos los Cactus del Perú”, including *S. corroanus* in its list of Cactaceae species from Peru. The book includes two photographs of plants in cultivation along with another photograph claiming that it was taken in habitat in La Convención, Cuzco. Unfortunately, this is a photograph taken by Edward F. Anderson in his book “The Cactus Family” (2001). Anderson mentions that *Samaipaticereus* is distributed only in Bolivia, therefore, the photograph cannot be considered the species in Peru.

In August 2023, an expedition to the dry forest of the Vilcanota-Urubamba valley in Cusco, Peru was carried out to further study the population and collect data on the morphology of the plant (Figure 1). Additional research and herbarium collections confirmed the original suspicion that the cactus is a distinctive new species.

Material and methods

The present work is based on field studies, analysis of relevant literature and examination of specimens preserved in the herbaria CUZ, HNT, NY, UC and US (acronyms according to Thiers 2024+). The seeds were observed with the Oppo Reno 7 microscope camera and measured with the ImageJ image-processing program. Measurements of the stem, spines, areoles and floral structures were made using a ruler and metal tape measure. The geographical distribution map was made using ArcGis V.10.8.2 software (Esri, New York, USA).

Results and discussion

Samaipaticereus herrerae L.E.Alomía, *sp. nov.*

Type: PERU. Department Cusco: Prov. La Convención, Valley of Santa Ana, Hacienda Echarati, 13 December 1922, *F.L. Herrera 19* (holotype US-00180842, photo!; isotype NY-03904454, photo!).

Diagnosis: *Samaipaticereus herrerae* is similar to *S. corroanus* from which it differs by the following characters: thinner trunk (5–7 cm *vs.* 10–15 cm), thinner branches (2–4 cm *vs.* 4–8 cm), higher number of spines (up to 17 *vs.* 5) and size (up to 1.7 cm *vs.* up to 1.0 cm), smaller areoles (2–3 mm *vs.* 5 mm) with different shape (orbicular *vs.* triangular), smaller perianth diameter (2.5 cm *vs.* 3 cm) and larger seeds (1.6–2.0 × 1.0–1.25 mm *vs.* 1.2–1.4 × 0.75–0.95 mm).

Description: Stem simple, erect, columnar, later with long arching branches, 3–4 meters high, woody trunk 5–7 cm in diameter, branches erect when young, later arched, long and thin, arcuate, unsegmented, pale green, 2–4 cm in diameter. **Ribs** (4–)5(–7), 1–2 cm high, wider at the base. **Areoles** 2–3 mm in diameter, orbicular, brownish to grey felted, about 1.5 cm apart. **Spines** 5–15(–17), 4–10 mm, subulate, orange to brownish when young, becoming grey when old, poorly differentiated, unequal in length and sometimes a longer central spine can be distinguished and pointed straight or downward, 12–17 mm long. **Flowers** only at subapical areoles, infundibuliform, nocturnal, 5 cm long, 2.5 cm in diameter (at anthesis); 10–12 external perianth segments, cream to greenish with purplish tips, 15–20 internal perianth segments, white with purplish tips; hypanthium 4 × 1–2 cm, green, covered with thick scales and whitish hairs, darker near the tip of the flower; style 25–30 × 1.2–1.5 mm, white; stigma-lobes 7, 4–5 mm long, yellowish, straight during anthesis; filaments 2.5 cm long, white; anthers 20 mm long, yellowish; pistil protrudes about 0.8–1 cm from the top of the perianth during anthesis; floral tube 13–15 mm in diameter; nectar chamber in the lower part of tube, 10 mm × 7 mm; ovary ovoid, 8 mm × 5 mm. **Fruits** ovoid, 3 cm, indistinctly ribbed, bearing rather few, acuminate scales, sparsely hairy, perianth parts persistent, pulp hardly juicy, yellow. **Seeds** 1.6–2.0 × 1.0–1.25 mm, dark brown or blackish, glossy, broad hilum, pitted.

Etymology: The specific epithet is in honour of Fortunato Luciano Herrera y Garmendia, Peruvian scientist, professor and naturalist, for being the

discoverer of this species and for his legacy in the study of plants from the department of Cusco.

Phenology: Flowering time November−January, fruiting time January−March.

Distribution and Habitat: *Samaipaticereus herrerae* occurs only in Peru (Cusco department) in the dry forest of the Vilcanota–Urubamba River valley from 900–1300 m a.s.l., sharing the habitat with other cacti such as *Brasiliopuntia brasiliensis* (Willd.) A.Berger, *Cereus vargasianus* Cárdenas and *Rhipsalis baccifera* (Sol.) Stearn.

Specimens examined: PERU. Dept. Cusco: Prov. La Convención, Dist. Sta. Ana, Quillabamba; open, deciduous, savannah-brush forest, 1000–1300 m, 23 September 1936, *James West 7200* (UC1189469); Rosario Mayo, Bosque seco caducifolio, 1000 m, 16 October 1968, *René Chávez 310* (CUZ-11369, UC1332458); below Cusco, 1500 m, July 1922, *F.L. Herrera s.n.* [cult.] at Huntington Bot. Gard. HBG #4980 (HNT-10395); locality unknown, *J.N. Rose 20093* [cult.] at Huntington Bot. Gard. HBG #4980 (NY-00948380, NY-00948386); locality unknown, *J.N. Rose s.n.* [cult.] at Huntington Bot. Gard. HBG #1-284 (UC1199790); locality unknown, drawing by M. Blos of UCBG 54. 184-1, 1959, *H. Johnson s.n.* (HNT-2030).

Discussion

The genus *Samaipaticereus* has been considered monotypic and endemic to Bolivia according to Anderson (2001, 2005), Hunt (2006) and Lodé (2015). The type species is restricted to the department of Santa Cruz in southeastern Bolivia, where it is quite common. The description of *Samaipaticereus herrerae* extends the distribution limit of the genus to the northwest by more than 1000 km (Figure 2).

Yungasocereus inquisivensis occurs between these two species, but the closest locality to *Samaipaticereus herrerae* is located 675 km to the southeast in Bolivia (Cochabamba and La Paz departments). Morphologically *Yungasocereus* is distinct from the two species of *Samaipaticereus*.

Samaipaticereus herrerae is morphologically similar to *S. corroanus*. The two species are columnar up to 4 meters high (branches are arched in *S. herrerae*), with a similar number of ribs and distance between areoles. The stems of young specimens of *S. herrerae* are bright green and adult specimens are pale green (Figure 3 and 4), while those of *S. corroanus* are darker green (Figure 12).

Additionally, length of the flowers in both species is quite similar, although the flowers of *S. herrerae* have thicker scales and a narrower perianth (Figure 5 and 6). It has been demonstrated that *S. corroanus* is a self-fertile species as stated by Joël Lodé (2015) and Graham Charles (pers. comm.), which *S. herrerae* is not. This is probably the reason why the pistil protrudes from the perianth, because it may play a key role in cross-pollination (Figure 7).

Another obvious difference is the size of the seeds between the two *Samaipaticereus* species (Figure 8). Seeds of *S. herrerae* are darker, almost black (Figure 9) and easily reach 2 mm in length (Figure 10). Seeds of *S. corroanus* from Bolivia are clearly smaller than seeds of *S. herrerae* from cultivation in the United States (*Rose 20093*). Seeds of both species are illustrated in figure 11.

Furthermore, the two species are easily distinguished by the size and number of spines, size and shape of areoles, thinner trunk and thinner branches, besides the considerable geographic separation between them.

According to the latest phylogenetic studies conducted by Romeiro-Brito et al. (2023), *Samaipaticereus* was found nested within a non-monophyletic "Cleistocactus clade" together with the type species of the genera *Cephalocleistocactus*, *Cleistocactus*, *Vatricania*, *Yungasocereus* and some accepted *Cleistocactus* species (*C. winteri* and *C. hyalacanthus*), due to this it was proposed to combine all these accepted genera within *Cleistocactus*. Despite a future attempt to merge it into the genus *Cleistocactus*, this new Peruvian species is described as part of the genus *Samaipaticereus* because of the clear morphological differences with the rest of genera currently accepted and *Cleistocactus* species within the "Cleistocactus clade".

Acknowledgements

Thanks are due to Ingrid P. Lin, Digitization and Data Management of the National Museum of Natural History of the United States for her valuable help in sending images of the holotype. To Sean C. Lahmeyer, Curator of The Huntington Botanical Gardens Herbarium for sending scans of the *S. herrerae* collections deposited in HNT. To Guillermo Pino and Paul Hoxey for reviewing the article and for comments on the manuscript. To Graham Charles for his comments of *S. corroanus* and the use of his pictures of S. corroanus in habitat. To Martin Lowry for his comments and the use of his pictures of *S. corroanus* flowers. To Joël Lodé for the use of his pictures of *S. corroanus* and *S. herrerae* seeds from the United States. To Luis Alomía Díaz, Edith Collazos Balarezo, and Dannyel Alomía Collazos for assistance with fieldwork and logistics.

TABLE 1. Morphological comparison of *Samaipaticereus corroanus* and *Samaipaticereus herrerae*. *S. corroanus* data taken from Cárdenas (1952), Anderson (2001, 2005), Hunt (2006) and Lodé (2015).

	Samaipaticereus corroanus	***Samaipaticereus herrerae***
Growth	Tree-like plants, columnar, 2–4 m tall	Tree-like plants, at first columnar, later with long arched branches, 3–4 m tall
Stems	Trunk 10–15 cm in diameter, branches long, erect, unsegmented, numerous, ascending, dark green, 4–8 cm in diameter	Trunk 5–7 cm in diameter, branches long and thin, arcuate, unsegmented, pale green, 2–4 cm in diameter
Ribs	Ribs 4–6 very acute, 1.5–2 cm high, broad at the base	Ribs (4–)5(–7), 1–2 cm high, wider at the base
Areoles	Areoles 1.5 cm apart, triangular, 5 mm in diameter, grey felted	Areoles 1.5 cm apart, orbicular, 2–3 mm in diameter, brownish to grey felted
Spines	About 5, 2–3 mm long, very short, subulate, brownish while young, later greyish–white. One of the spines is longer and pointed downward, 5–10 mm long	5–15(–17), 4–10 mm, subulate, orange to brownish while young, later grey, poorly differentiated. Sometimes one of the spines is longer and pointed straight or downward, 12–17 mm long
Flowers	Flowers numerous, 4.5–5 cm long, white, strictly nocturnal, narrowly funnelform, ovary globose, about 1 cm in diameter, nectar chamber 10 mm long	Flowers 5 cm long, nocturnal, perianth 2.5 cm in diameter, floral tube 13–15 mm in diameter, ovary 8 mm × 5 mm, nectar chamber 10 mm × 7 mm
Fruits	Fruit globose, 2–3 cm in diameter, truncate, tuberculate, perianth parts persistent, red–salmon, red–orange pulp, soluble in water and splitting lengthwise	Fruit ovoid, 3 cm, indistinctly ribbed, bearing rather few, acuminate scales, sparsely hairy, perianth parts persistent, pulp hardly juicy, yellow
Seeds	Seeds 1.2–1.4 × 0.75–0.95 mm, dark brown or blackish, glossy, with a broad hilum, minutely pitted	Seeds 1.6–2.0 × 1.0–1.25 mm, dark brown or blackish, glossy, broad hilum, pitted

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Figure 1. Habitat of *Samaipaticereus herrerae*. August 2023.

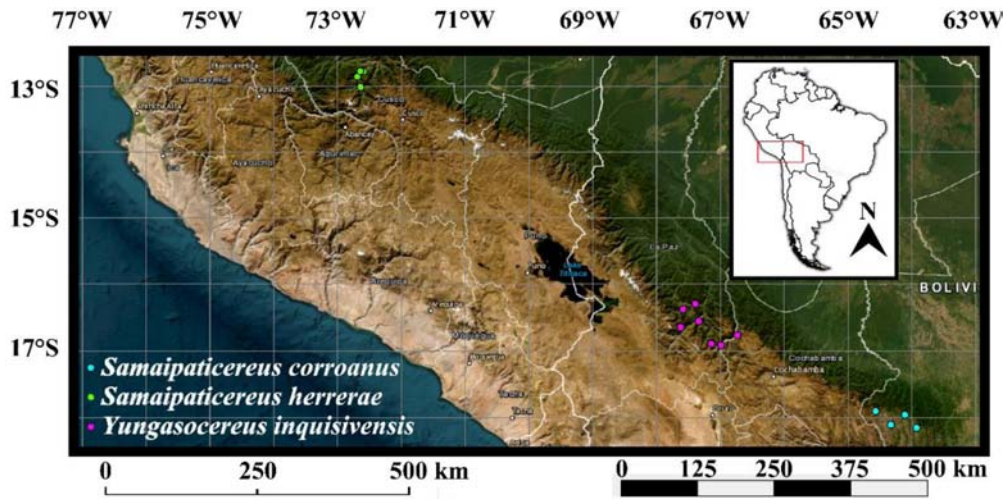

Figure 2. Geographic distribution of *Samaipaticereus* and *Yungasocereus*.

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Figure 4. Young specimen of *S. herrerae*. August 2023.

Figure 12. *Samaipaticereus corroanus*, Bolivia, courtesy of Graham Charles.

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Figure 3. Adult plants of *S. herrerae*. August 2023.

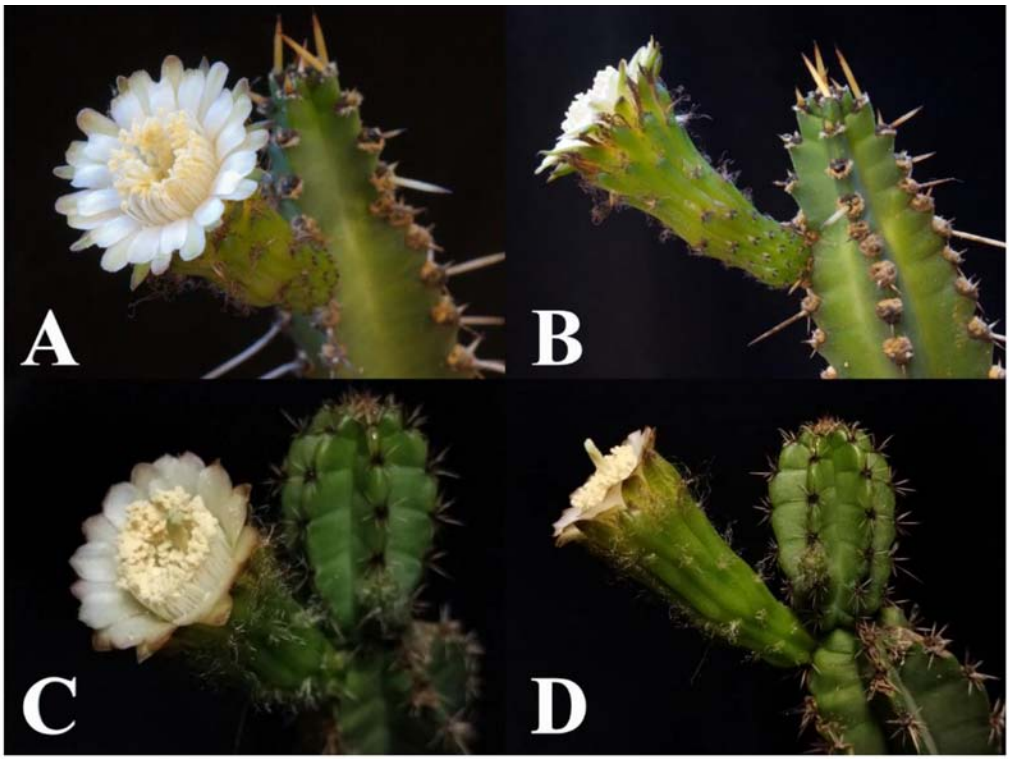

Figure 5. A-Semilateral view of *S. corroanus*. B-Side view of *S. corroanus* flower. C-Semilateral view of *S. herrerae*. D-Side view of *S. herrerae* flower.

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Figure 6 Flowers cut lengthwise, both measuring approximately 5 cm long. A-Flower of *S. corroanus*. B-Flower of *S. herrerae*.

Figure 7. Close view of the *S. herrerae* flower, the protruding pistil can be seen.

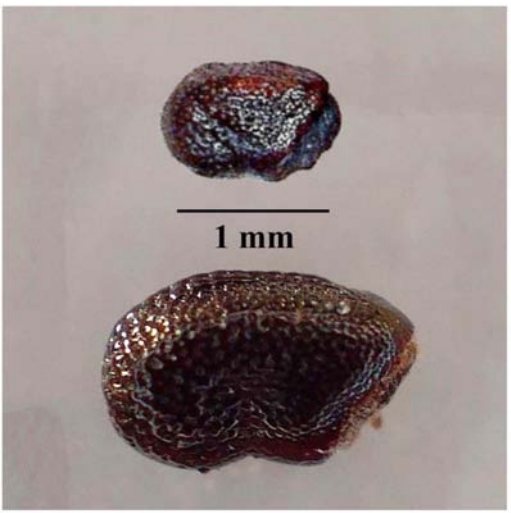

Figure 8. Microscopical view of *Samaipaticereus* seeds. Above *S. corroanus* and below *S. herrerae*.

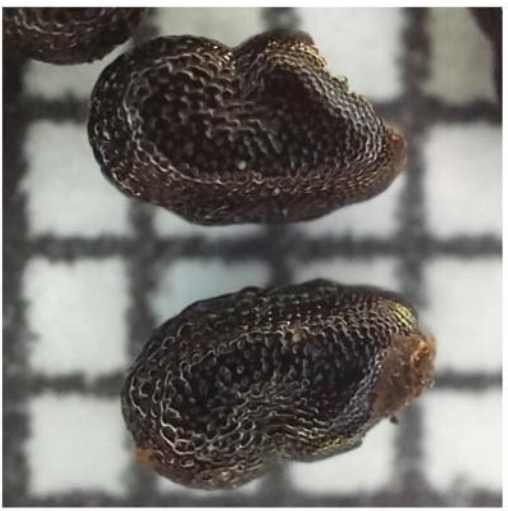

Figure 9. Microscopical view of *Samaipaticereus herrerae* seeds: Square = 1 mm^2.

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Figure 10. *Samaipaticereus herrerae* seeds: Square = 1 mm^2.

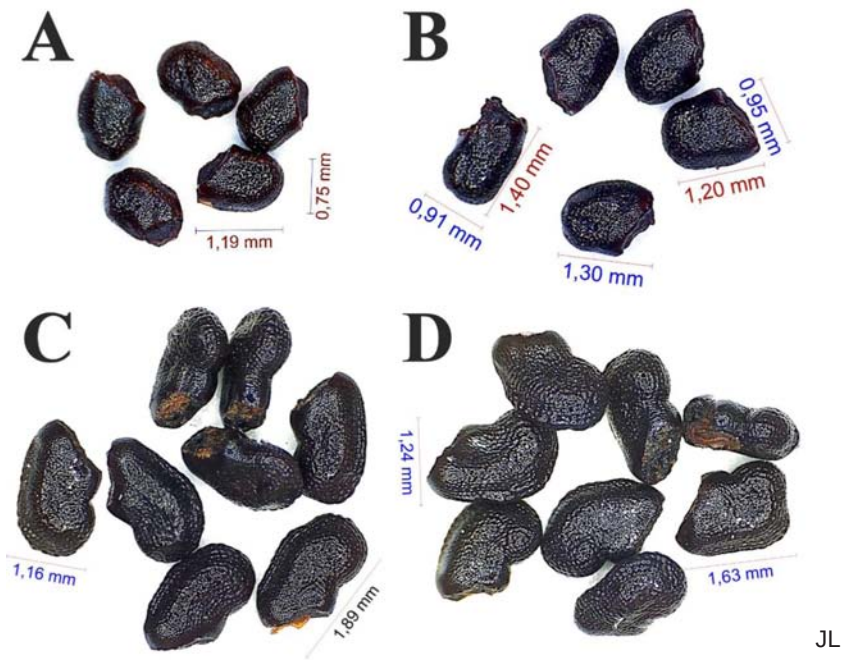

Figure 11. Comparison of *Samaipaticereus* seeds. A and B are seeds of *S. corroanus*. C and D are *Rose 20093* seeds from cultivation in the United States (*S. herrerae*).

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Note sur l'autorité du nom de famille *Aizoaceae*

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Résumé : cette notule apporte quelques éléments de compréhension et de connaissance sur l'autorité du nom « *Aizoaceae* ».
Mots-clés : *Aizoaceae* ; Augier ; Martinov ; autorité ; nomenclature ; citation d'auteur.

Abstract: this small note brings some elements of understanding and knowledge on the authority of the name "*Aizoaceae* ".
Keywords: *Aizoaceae;* Augier; Martinov; authority; nomenclature; author citation.

I) Introduction

Aizoaceae est un nom de taxon de rang taxinomique familial (*Familia*) qui est déclaré *nomen conservandum* (*nom. cons.*) par le Code international de nomenclature pour les algues, la fonge et les plantes (Turland & *al.* 2018) [ci-ensuite abrégé par « Code »], dans ses dernières annexes publiées au format papier (Wiersema & *al.* 2015, p. 13) en ces termes :

> « ***Aizoaceae*** Martinov, Tekhno-Bot. Slovar: 15. 3 Aug 1820.
> Typus: *Aizoon* L.
> Note: If this family is united with *Mesembryanthemaceae*, the name *Aizoaceae* must be used. »

Cela signifie que la mesure de conservation s'applique à la circonscription, donc au concept botanique et systématique que l'on accorde aux deux noms de famille que sont *Aizoaceae* et *Mesembryanthemaceae* lorsqu'ils sont en lice. L'autorité, c'est-à-dire le nom du ou des auteurs d'un nom de plante, fournie par le Code qu'est « Martinov », n'est pas concernée par cette mesure de conservation.

II) Développement

Le Code ne cite que « Martinov » comme seul auteur (Wiersema & *al.* 2015, 2024), mais en vérité il faudrait écrire : *Aizoaceae* **A. Augier ex** I. I. Martinov (1820), *nom. cons.* ; ou au plus concis, *Aizoaceae* **Augier ex** Martinov.

En effet, le taxon d'Ivan Martinov n'est qu'une reprise littérale rigoureusement identique de l'« *Azoonides* », *orth. originalis,* d'Augustin Augier, qui n'est codistiquement validé que par une référence bibliographique au travail de monsieur Augier paru en 1801, qui lui, possède la diagnose de ce taxon (AUGIER 1801, p. 129, 137–138). Ce travail d'Augier fut publié de manière effective au sens du Code, mais le nom de famille « *Azoonides* » qu'il créa est invalide à cause d'une orthographe considérée uniquement en français, ce que le Code interdisait et interdit toujours. Pour information, Ivan Martinov se contenta de recopier le texte (pour ne pas dire plagier) d'Augier dix-neuf ans plus tard, dans un simple glossaire de botanique, en cyrillique, mais où le même mot « *Azoonides* » est cependant en latin ! (MARTINOV 1820, p. 15). En 1820, un acte nomenclatural publié dans une langue autre que le latin pourvu que le nom du taxon, lui, soit en latin ou latinisé, suffisait pour qu'il soit valide. Par ailleurs, toujours page quinze, notons l'erreur de citation de l'auteur source qui fut épelé « G. Augier » (au lieu d'A. Augier) dans le texte en cyrillique d'Ivan Martinov (*ibid.* 1820).

En conséquence, Ivan Martinov n'est qu'un chanceux validateur nomenclatural, mais n'a jamais été le concepteur botanique ou scientifique de cette famille de plantes qui nous est chère.

Seulement, le Code de nomenclature crée des exceptions à l'usage du « ex » dans les citations d'autorité pour les rangs taxinomiques supérieurs au genre ; il ne fait pas non plus usage des parenthèses en… les interdisant complètement, sans explications à cela, via l'article 49.2 (TURLAND & *al.* 2018). Une requête auprès du Comité général de nomenclature pour les plantes vasculaires m'a confirmée que dans les faits, le Code n'emploie pas le « ex » dans les autorités du rang taxinomique de la famille, mais que ceci n'est cependant pas interdit (MALÉCOT, *comm. pers.* 2023).

III) LE TEXTE ORIGINAL ET SA TRADUCTION

Voici le texte original en cyrillique d'Ivan Martinov, en page quinze de son glossaire de botanique, lequel appartient au domaine public, ce qui autorise sa reproduction ici :

> « Aizoonides происiходитъ отъ родоваго названiя растѣнiя
> Aizoon, которое Г. Двигубскiй переводитъ *Ядрорѣзъ*,

> Тринадпіатое сѣмейсгаво XII класса, или *Quinarifides* Г. Ожъера, состоящее изъ родовъ *Aizoon*, *Tounatea*, *Samyda*, *Calligonum*, *Sloanea*, *Sesuvium*, имѣющихъ цвѣпіы неполные, коробочки съ вѣнчиками многочисленными. » (MARTINOV 1820).

Une transcription et traduction possibles de celui-ci donnent, en français : *Aizoonides* vient du nom générique de la plante *Aizoon*, que G. Dvigubsky traduisit par "*Yadrorez*", la treizième famille de la classe XII, ou *Quinarifides* de G. [sic] Augier, composée des genres *Aizoon*, *Tounatea*, *Samyda*, *Calligonum*, *Sloanea*, *Sesuvium*, qui ont des fleurs incomplètes, des boîtes[1], à nombreux pétales (corolle).

IV) CONCLUSION

Par égard au concepteur original de la famille *Aizoaceae*, il est préférable d'écrire, du moins dans les articles officiels, ceux traitant de nomenclature formelle, ou de portée scientifique : ***Aizoaceae* Augier ex Martinov** (1820).

Enfin, il est remarquable de penser qu'un auteur ait vu juste dès le tout début du XIX^{e} siècle, dans la systématique actuellement admise, phylogéniquement et génétiquement soutenue, de cette belle famille de plantes à fleurs.

V) RÉFÉRENCES

AUGIER Augustin (1801) [An IX] : Essai d'une nouvelle classification des végétaux, conforme à l'ordre que la Nature paroît avoir suivi dans le règne végétal ; d'où résulte une Méthode qui conduit à la connoissance des Plantes & de leurs rapports naturels. Lyon : Bruysset Ainé et Compagnie. VIII + 1 tab. + 240 p.

MARTINOV Ivan Ivanovič [Martynov, Ĭvan Ĭvanovīch] (1820) : Tekhno-Botanīcheskiĭ Slovar', ia Latinskom i Rossīĭskom ĩazykakh. [Lexique techno-botanique, en langues latine et russe.]. Sanktpeterburgh [Saint-Pétersbourg] : Печашано въ шипографіи Императорской Россійской Академіи [Imprimerie impériale de l'Académie russe des sciences]. VI + 682 p.

TURLAND Nicholas J., WIERSEMA J. H., BARRIE F. R., GREUTER W., HAWKSWORTH D. L., HERENDEEN P. S., KNAPP S., KUSBER W.-H., LI D.-Z., MARHOLD K., MAY T. W., M^{c} NEILL J.,

1) Traduction littérale seulement. Il semble plus à propos de comprendre : « loges, locules » ou encore « capsules ».

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MONRO A. M., PRADO J., PRICE M. J. & SMITH G. F. (2018) : International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code). Regnum Vegetabile, vol. 159. Glashütten : Koeltz Botanical Books. XXXVIII + 254 p.

WIERSEMA John H., M^{C} NEILL J., TURLAND N. J., BARRIE F. R., BUCK W. R., DEMOULIN V., GREUTER W., HAWKSWORTH D. L., HERENDEEN P. S., KNAPP S., MARHOLD K., PRADO J., PRUD'HOMME VAN REINE W. F. & SMITH G. F. (2015) : International Code of Nomenclature for algae, fungi, and plants (Melbourne Code) ; Appendices II-VIII. Regnum Vegetabile, vol. 157. Königstein : Koeltz Scientific Books. 492 p.

WIERSEMA John H. & *al*. (2024) [mise à jour continue] : International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) ; Appendices I-VII. [Édition en ligne]. (Consulté en juillet 2024).
https://naturalhistory2.si.edu/botany/codes-proposals/

Note on the authority of the family name *Aizoaceae*

by Brice P. R. CHÉRON
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Summary: this small note brings some elements of understanding and knowledge on the authority of the name "*Aizoaceae* ".
Keywords: *Aizoaceae;* Augier; Martinov; authority; nomenclature; author citation.

Résumé : cette notule apporte quelques éléments de compréhension et de connaissance sur l'autorité du nom « *Aizoaceae* ».
Mots-clés : *Aizoaceae* ; Augier ; Martinov ; autorité ; nomenclature ; citation d'auteur.

I) Introduction

Aizoaceae is a taxon name of the taxonomic rank of family (*Familia*) that is declared *nomen conservandum* (*nom. cons.*) by the International Code of Nomenclature for algae, fungi and plants (Turland & *al.* 2018) [hereinafter abbreviated as "Code"], in its latest Appendices published in paper format (Wiersema & *al.* 2015, p. 13), in this wording:

> « ***Aizoaceae*** Martinov, Tekhno-Bot. Slovar: 15. 3 Aug 1820.
> Typus: *Aizoon* L.
> Note: If this family is united with *Mesembryanthemaceae*, the name *Aizoaceae* must be used. »

This means that this conservation measure applies to the circumscription, i.e. to the botanical and systematic concepts that is given to the two family names *Mesembryanthemaceae* and *Aizoaceae* when they are in competition. The authority, i.e. the name of the author or authors of a plant name, provided by the Code, which reads strictly as "Martinov", is not affected by this measure of conservation (of a name).

II) Development

The Code cites only "Martinov" as the sole author (Wiersema & *al.* 2015, 2024), but in truth it should be written: *Aizoaceae* **A. Augier ex** I. I. Martinov (1820), *nom. cons.* ; or in its concise formulation, *Aizoaceae* **Augier ex** Martinov.

Indeed, Ivan Martinov's taxon is solely a strictly identical literal resumption of the "*Azoonides*", *orth. originalis*, by Augustin Augier, which is codistically validated only by a bibliographical reference to the work of Mr. Augier published in 1801, which itself has the diagnosis of this taxon (AUGIER 1801, p. 129, 137–138). This work by Augier was effectively published in the sense of the Code, but the family name "*Azoonides*" that he created is invalid because of a spelling considered only in French, which the Code prohibited and still prohibits. For information, Ivan Martinov simply copied the text (not to say plagiarized) by Augier nineteen years later, in a simple glossary of botany, in Cyrillic, but where the same word "*Azoonides*" is however in Latin! (MARTINOV 1820, p. 15). In 1820, a nomenclatural act published in a language other than Latin, provided that the name of the taxon itself was in Latin or Latinized, was sufficient for it to be valid. Furthermore, still on page fifteen, we note the error in the citation of the source author who was spelled "G. Augier" (instead of A. Augier) in the Cyrillic text of Ivan Martinov (*ibid.* 1820).

As a result, Ivan Martinov is only a lucky nomenclatural validator, but was never the botanical nor scientific "designer" or creator of this family of plants that is dear to us.

However, the Code of Nomenclature creates exceptions to the use of the "ex" preposition in authority citations for taxonomic ranks higher than the one of genus (*Genus*); it also does not allow the use of parentheses by… prohibiting them altogether, without explanation, via article 49.2 (TURLAND & *al.* 2018). A query to the General Committee of Nomenclature for Vascular Plants confirmed to me that, in fact, the Code actually does not use "ex" in authorities of the taxonomic rank of family (*Familia*), but that using it is nevertheless not prohibited (MALÉCOT, *pers. comm.* 2023).

III) THE ORIGINAL TEXT AND ITS TRANSLATION

Here is the original Cyrillic text by Ivan Martinov, on page fifteen of his glossary of botany, which is in the public domain, allowing its reproduction here:

> « Aizoonides происіходитъ отъ родоваго названія растѣнія Aizoon, которое Г. Двигубскій переводитъ *Ядрорѣзъ*,

> Тринадпіатое сѣмейсгаво XII класса, или *Quinarifides* Г. Ожъера, состоящее изъ родовъ *Aizoon*, *Tounatea*, *Samyda*, *Calligonum*, *Sloanea*, *Sesuvium*, имѣющихъ цвѣпіы неполные, коробочки съ вѣнчиками многочисленными. » (MARTINOV 1820).

Possible transcription and translation of this, give, in English:
Aizoonides comes from the generic name of the plant *Aizoon*, which G. Dvigubsky translated as "*Yadrorez*", the thirteenth family of class XII, that is to say the *Quinarifides* of G. [sic] Augier, composed by the genera *Aizoon*, *Tounatea*, *Samyda*, *Calligonum*, *Sloanea*, *Sesuvium*, which have incomplete flowers, boxes[1], with numerous petals (corolla).

IV) CONCLUSION

Out of respect for the original designer of the *Aizoaceae* family, it is preferable to write, at least in official articles, those dealing with formal nomenclature, or of scientific scope:***Aizoaceae* Augier ex Martinov** (1820).

Finally, it is remarkable to think that an author was right at the very beginning of the XIXth Century, in the currently accepted, phylogenetically and genetically supported systematics of this beautiful family of flowering plants.

V) REFERENCES

AUGIER Augustin (1801) [An IX] : Essai d'une nouvelle classification des végétaux, conforme à l'ordre que la Nature paroît avoir suivi dans le règne végétal ; d'où résulte une Méthode qui conduit à la connoissance des Plantes & de leurs rapports naturels. Lyon : Bruysset Ainé et Compagnie. VIII + 1 tab. + 240 p.

MARTINOV Ivan Ivanovič [Martȳnov, Ĭvan Ĭvanovīch] (1820) : Tekhno-Botanīcheskiĭ Slovar', ia Latinskom i Rossīĭskom ĩazykakh. [Lexique techno-botanique, en langues latine et russe.]. Sanktpeterburgh [Saint-Pétersbourg] : Печашано въ шипографіи Императорской Россійской Академіи [Imprimerie impériale de l'Académie russe des sciences]. VI + 682 p.

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1) This is the literal translation only. It seems better to understand: "lodges", "locules/loculi" or "capsules"..

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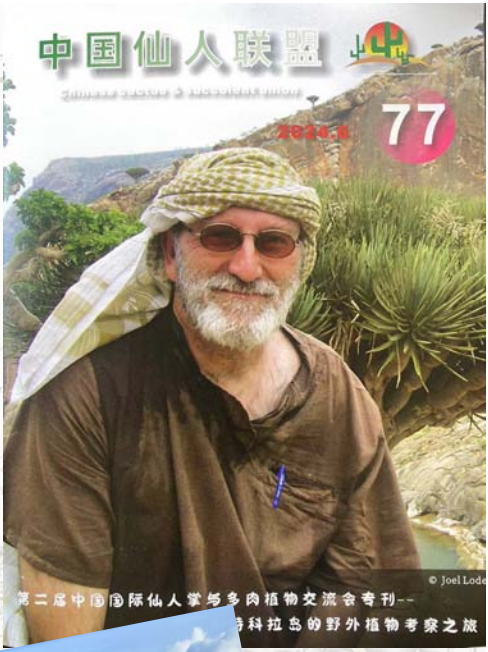
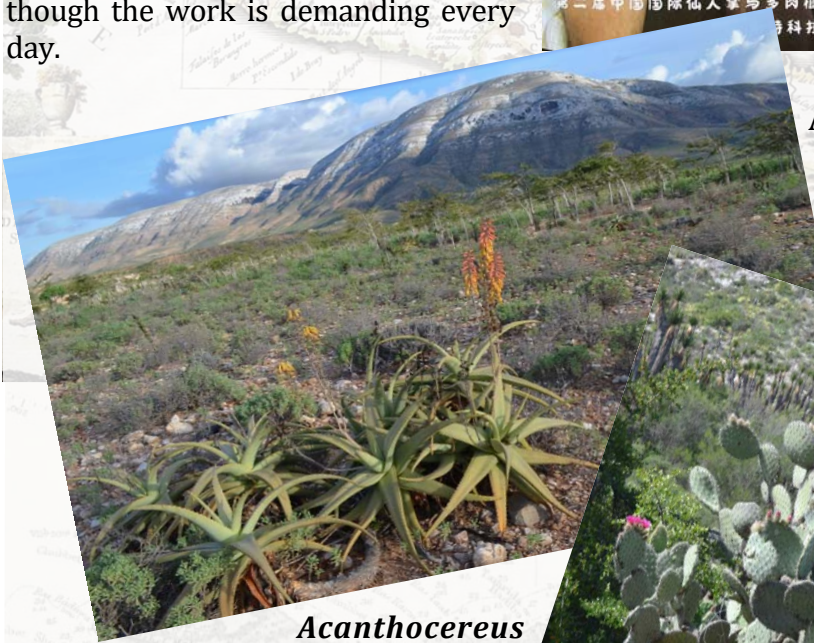
Postcards from 2024

Lectures in China in April, a botanical expedition to Socotra in May, and a research trip to Mexico in August-September were my secondary activities. My primary focus, however, is completing my work on taxonomy and preparing the English version for release in 2026.



The English text is currently in the expert hands of a British cactus specialist for revision, and the portrait gallery is ready to be included in the book. The plant gallery is still in progress, but I am on schedule, even though the work is demanding every day.



As you may have read in this journal, I photographed the elusive ***Acanthocereus baxaniensis*** in Veracruz, Mexico, found ***Portulaca kuriensis*** on Socotra, and much more. I feel fortunate to have so many friends helping me make this book as complete and up-to-date as possible. Every day, I receive articles, plant photos, seeds, and portraits of eponyms in my mail. So, you can be sure that next year will be decisive in making this project the best it can be. JL

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Congrès Botanique International Madrid 2024

En juillet, s'est tenu le 20ème Congrès International de Botanique à Madrid, et j'ai eu l'occasion d'y assiter en visio-conférence et en tant qu'auditeur libre.

Les nombreux changements, amendements ou suppressions ont eu lieu au cours de votes à main levée, concernant le prochain Code de l'ICN (International Code of Nomenclature), qui porte donc, après celui de Shenzen en 2017, le nom de Code Madrid 2024.

Wokisme en botanique ?
Ma surprise a été grande lorsque certains noms ou épithète de plantes ont été jugés "offensants" pour certaines catégories de la population, et ont été désignés pour être changés. Ainsi, le taxon ***Talinum caffrum*** devrait-il être modifié.
"Proposals to amend Articles 51 and 56 and Division III, to allow the rejection of culturally offensive and inappropriate names".
S'ensuit une longue discussion sur les termes caffra, caffrum, niger, nigra, nigrum, qui seraient des dénominations offensives, voire racistes (ils n'ont pas employé le mot), et qu'il faudrait changer. C'est le seul vote qui ne s'est pas fait à main levée, parce qu'il y avait des photographes (sous-entendu, des scientifiques auraient pu être repérés et ensuite traités de racistes dans la presse selon leur vote !). Le monde en devient ridicule.

Un autre exemple est donné avec le genre ***Hibbertia***, qui devrait disparaître, George Hibbert étant, à son époque (1800), un traficant d'esclaves britannique notoire. La botanique ne devrait pas s'occuper de politique, ni même de déboulonner des statues; au lieu de modifier une taxonomie déjà bien confuse, il serait souhaitable, au contraire, d'expliquer, dans l'étymologie, le contexte, et qui étaient réellement ces personnages peu en accord avec nos visions actuelles, qui ont évidemment évolué depuis.

Les noms de plantes ne reflètent aucunement le racisme ou autre dépréciation de quelqu'un ou quelque chose, ils reflètent leur époque, et ils ont même un sens historique, qu'il soit négatif ou pas. Si l'on commence à gommer tout ce qui ne nous plaît pas dans la taxonomie, à changer ***Talinum caffrum*** ou ***Cereus aethiops*** parce qu'ils seraient offensifs est totalement stupide et non avenu : les variétés de plantes *nigrum*, etc doivent-elles disparaître ? Changeons alors les noms de pays comme le Niger, le Nigeria, l'Éthiopie...

Personnellement, dans mon futur ouvrage “Taxonomy of the Cactaceae : Description of the Species”, il y a des noms qui vont dans ce sens : ***Oreocereus doelzianus*** a été dédié (je ne peux dire "honore") à un Nazi notoire, coupable d'exactions sourcées. J'ai seulement indiqué tout cela dans son éponyme et l'ait affublé d'un drapeau Nazi. Pas de confusion : ce nom est rédhibitoire, mais je l'ai conservé pour l'Histoire et la stabilité taxonomique. Je ne suis pas dupe, et je l'écris. C'est beaucoup plus simple que de vouloir effacer ce qui ne nous plaît pas. La botanique doit rester la botanique, sans passer ni par la politique ni le wokisme.

Il n'y a aucune nécessité de changer quoi que ce soit, mais d'être "woke" dans le bon sens, c'est à dire conscient de ce que nous sommes en 2024, et que le passé ne peut être gommé par décision de quelques effarouchés par ce passé. Nous pouvons en avoir honte, même si nous n'y sommes pour rien, mais l'effacer pour l'ignorer n'est certes pas la bonne solution.

JL

International Botanical Congress Madrid 2024

In July, the 20th International Botanical Congress was held in Madrid, and I had the opportunity to attend via video conference as an independent observer.

Numerous changes, amendments, or rejectons were decided through show-of-hands votes regarding the next edition of the ICN (International Code of Nomenclature), which, following the Shenzen Code of 2017, will now be known as the Madrid Code 2024.

Wokeism in botany?
I was greatly surprised when certain plant names or epithets were deemed "offensive" to some segments of the population and were identified for rejection. For instance, the taxon ***Talinum caffrum*** is set to be modified.
"Proposals to amend Articles 51 and 56 and Division III, to allow the rejection of culturally offensive and inappropriate names".
This led to a long discussion on terms like *caffra*, *caffrum*, *niger*, *nigra*, *nigrum*, which were considered offensive, or even racist names (although the word was not used), and therefore should be changed. This was the only vote not conducted by a show of hands because there were photographers present (suggesting that scientists could have been spotted and then called racists in the press depending on their vote!). The world is becoming absurd.

Another example was provided with the genus *Hibbertia*, which should disappear because George Hibbert, in his time (around 1800), was a notorious British slave trader. Botany should not concern itself with politics, nor with dismantling statues; instead of further complicating an already confusing taxonomy, it would be preferable to explain, through etymology, the context and who these individuals really were, individuals whose actions were clearly not in line with our present-day views, which, of course, have evolved.

Cereus aethiops ©JL

Talinum caffrum ©Norbert Duthion

Plant names do not reflect racism or any other depreciation of anyone or anything; they reflect their time and even hold historical significance, whether positive or negative. If we start erasing everything we don't like from taxonomy, changing ***Talinum caffrum*** or ***Cereus aethiops*** because they are deemed offensive is utterly stupid and irrelevant. Should plant varieties such as *nigrum* disappear? Should we then change the names of countries like Niger, Nigeria, Ethiopia...?

In my own forthcoming work “Taxonomy of the Cactaceae: Description of the Species”, there are names that go in this direction: ***Oreocereus doelzianus*** was dedicated (I can’t say "honours") to a notorious Nazi, guilty of well-documented atrocities. I have simply noted all of this in the epithet and marked it with a Nazi flag. There is no confusion: this name is inappropriate nowadays, but I have kept it for historical and taxonomic stability. I am not naïve, and I write it as such. It’s much simpler than trying to erase what we don’t like. Botany should remain botany, without involving politics or wokeism.

There is no need to change anything, but to be "woke" in the right sense, meaning to be aware of who we are in 2024, and that the past cannot be erased by the decision of a few people shocked by that past. We may feel ashamed of it, even though we had nothing to do with it, but erasing it to ignore it is certainly not the right solution.

JL

Desalegn Chala, Dag Endresen, Sebsebe Demissew & Nils Chr. Stenseth. July 2024. *Address Social Injustices in Taxonomy: Implement Extended Revisions of Names with Ethical Issues and Persistent Identifiers for Tracing Name Changes.*
DOI: 10.20944/preprints202407.1673.v1

Bradleya no 42/2024

Presented by Prof. George Thomson, the 2024 edition of issue 42 of Bradleya, the annual journal of the British Cactus & Succulent Society is always an event. This time, the articles on Brazil are numerous, with proposals for new taxa in the Cactaceae, and interesting information on the ecosystems of this country as well as on the conservation of species.

Of course, many papers are devoted to other Succulents, Aloe, Bulbine, Crassula etc.

Prof. George Thomson concludes this issue with old, superb drawings and paintings devoted to Melocacti, plus an anthology of plagiarisms in the beginnings of the botany.The list of articles is to follow, and will give you the full content of this new 2024 edition. I wish everyone an excellent reading!

Présenté par le Pr. George Thomson, l'édition 2024 du numéro 42 de Bradleya, le journal annuel de la British Cactus & Succulent Society est toujours un évènement. Cette fois, les articles sur le Brésil sont nombreux, avec des propositions de nouveaux taxons dans les Cactaceae, et d'intéressantes informations sur les écosystèmes de ce pays ainsi que sur la conservation des espèces.

Bien sûr, de nombreux papiers sont consacrés aux autres Succulentes, Aloe, Bulbine, Crassula etc. Le Pr George Thomson conclut ce numéro avec d'anciens, superbes dessins et peintures consacrés aux Melocactus, plus un florilège de plagiats dans les débuts de la botanique.

La liste des articles est à suivre, et vous donnera le contenu complet cette nouvelle édition 2024.

Je souhaite à toutes et à tous, une excellente lecture !

more info at: https://bcss.org.uk/

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Xiquexique gounellei (F.A.C.Weber) Lavor & Calvente subsp. *braunii* (Esteves) N.P.Taylor

7th of October: we will never forget.
Slava Ukrayini - Слава Україні

Women say NO to hijab, Iran, 1979.

What's wrong in 2024's world? Cacti are not for blinded people.

I.S.S.N **2697-2514**