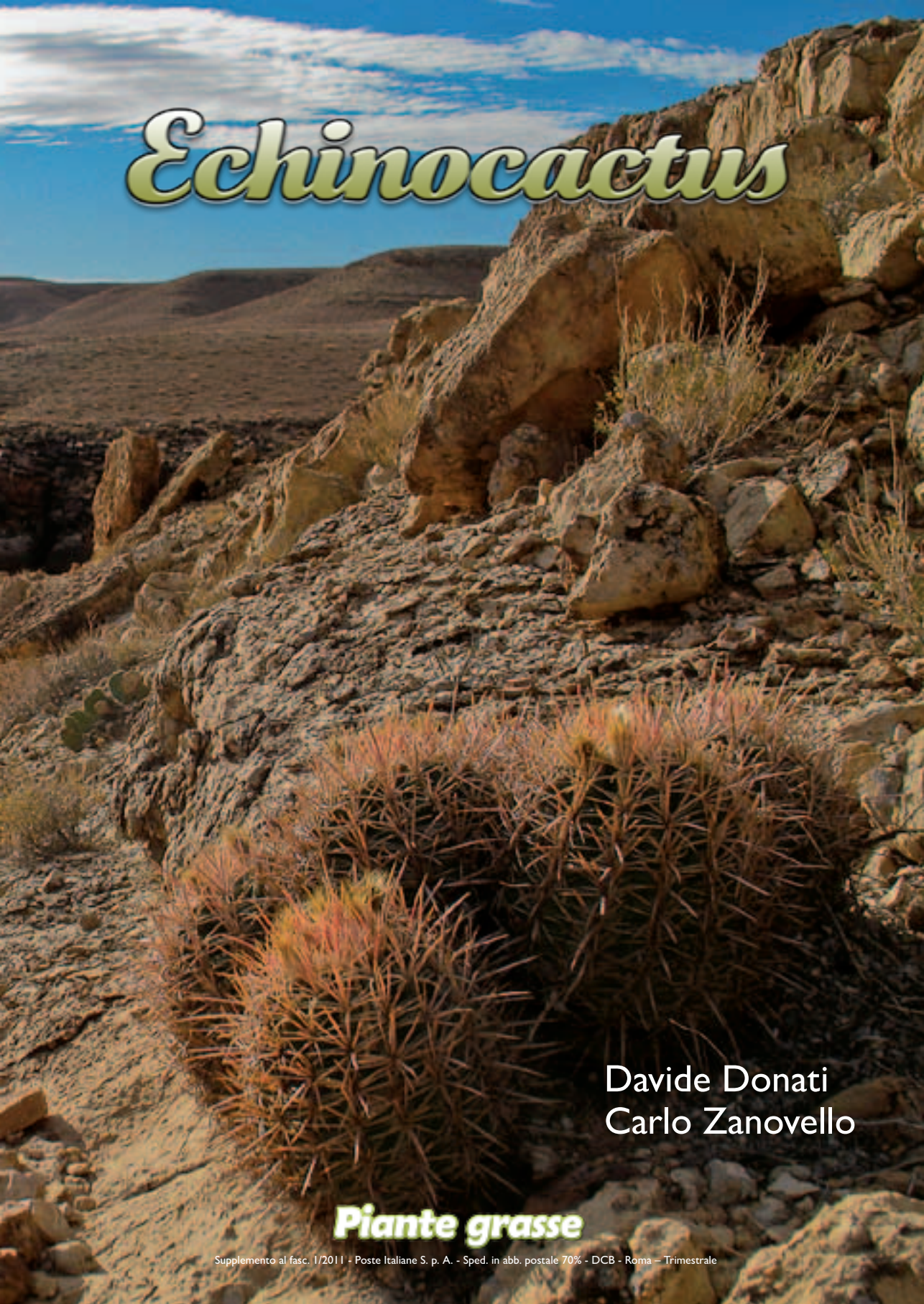


Echinocactus

Davide Donati
Carlo Zanovello

Piante grasse

Supplemento al fasc. 1/2011 - Poste Italiane S. p. A. - Sped. in abb. postale 70% - DCB - Roma – Trimestrale

***Echinocactus horizonthalonius* - El Peyote, SLP, MEX (Davide Donati)**

Introduction

The history of the *Echinocactus* genus, as often happens within the *Cactaceae* family, is complex and tormented.

The genus was erected in 1827 by Link and Otto, grouping some species (fourteen) that previously belonged to the encyclopedic genus Melocactus. The *Echinocactus* epithet, meaning 'hedgehog cactus', was certainly descriptive of the general appearance of the plants, but scarcely selective in a family whose members are almost invariably very spiny, often globular and ribbed, hedgehog cacti, that is. In less than seventy years, the number of specific epithets referred to *Echinocactus* ballooned to more than one thousand, so that in the 1898 monograph by Karl Schumann 138 species were recognized. At the beginning of the past century, Britton and Rose put some order in all this mess, removing from *Echinocactus* many taxa, and placing them into new genera, sometimes created just for this purpose, with the result that the recognized *Echinocactus* were down to nine. Since the indication of the type species made by Link and Otto was rather unclear, (their illustrations still had legends bearing the old Melocactus name), Britton and Rose designated *Echinocactus platyacanthus* Link & Otto as the type species. The species included in *Echinocactus* by Britton and Rose were: *E. grusonii, E. ingens, E. visnaga, E. grandis, E. platyacanthus, E. palmeri, E. xeranthemoides, E. polycephalus and E. horizonthalonius.* Out of the list remained *texensis*, for which they erected a new genus, *Homalocephala*, due to its fleshy fruit and its clearly different seeds, and *Echinocactus parryi*, treated by them as a synonym of *E. horizonthalonius*, presumably due to an insufficient knowledge of this taxon. Following that, Curt Backeberg recognized ten species in the genus, adding *Echinocactus parryi* to the previous list, while Helia Bravo Hollis and Hernando Sanchez Mejorada accepted in the two subgenera *Echinocactus* and *Homalocephala*, four species in *Echinocactus* (*grusonii, platyacanthus, polycephalus* and *parryi*) and two in *Homalocephala* (*horizonthalonius* and *texensis*) respectively, while *xeranthemoides* was accepted just as a subspecies of

***Echinocactus polycephalus* subsp. *polycephalus* - N Las Vegas, NV, USA (Davide Donati)**

Close-up of a spine of *Echinocactus texensis*,which shows a sort of velvety pubescence, caused by the protrusions of the spine's epidermal cells

(R. Siniscalchi)

ECHINOCACTUS LINK & OTTO

Plants discoid to globular, to columnar, that can attain very large sizes, in some cases up to 2-3 meters in height and almost 1 meter in diameter. Ribbed stems, single, branched only in case of apical damage, except Echinocactus polycephalus and its varieties. Marked ribs, from few to many, with large areoles, woolly when young, sometimes fused in adult specimen and bearing central and radial spines, generally long and thick. Apex from very to little woolly, from which the flowers emerge, with yellow to pink to purple colour, 3 to 8 cm in diameter, forming a ring on the apex on large specimens. External tepals narrow and rigid, often prickly like the ovary' scales, which are also more or less woolly and have axillary bristles. Fruit from dry to more or less fleshy, with walls from thin to thick, apically dehiscent or by a longitudinal slit or indehiscent, from yellow to red colour, a little woolly. Seeds slightly elongated, with a more or less reniform shape, sub-basal hilum, large and with external micropyle, blackish to reddish testa, smooth or rugose.

The above description, reported here with the intent of including all the plants that have been added to the *Homalocephala*, *Meyerocactus* and *Emorycactus* genera over time, is inevitably not very selective and even insufficiently descriptive and interpretable. It is clear that, if the intent is that of putting the emphasis on the botanical-morphological affinities, the differences are necessarily penalized, and the description becomes vague and ambiguous.

The *Echinocactus* genus, as defined above, can be divided in two subgenera, as per H. Bravo-Hollis and H. Sanchez Mejorada and several other botanists, that is, *Echinocactus* and *Homalocephala*.

The *Echinocactus* subgenus is characterized by plants of medium or large size; dry fruits when ripe, yellowish, more or less woolly, scaly, flower yellow or yellow with a red throat; scaly ovary with woolly axils.

The *Homalocephala* subgenus is generally characterized by small sized plants; fleshy or initially fleshy fruits, reddish or reddish-white, almost naked; flowers from pink to purple with scaly and little woolly ovary.

We think that even those that don't like the proliferation of genera and subgenera, and thus do not accept Doweld's point of view, should at least accept the subdivision of *Echinocactus* into the abovementioned subgenera that form two apparently more homogenous groups, both for the plants' size and the characteristics of their flowers and fruits:

Echinocactus Link & Otto

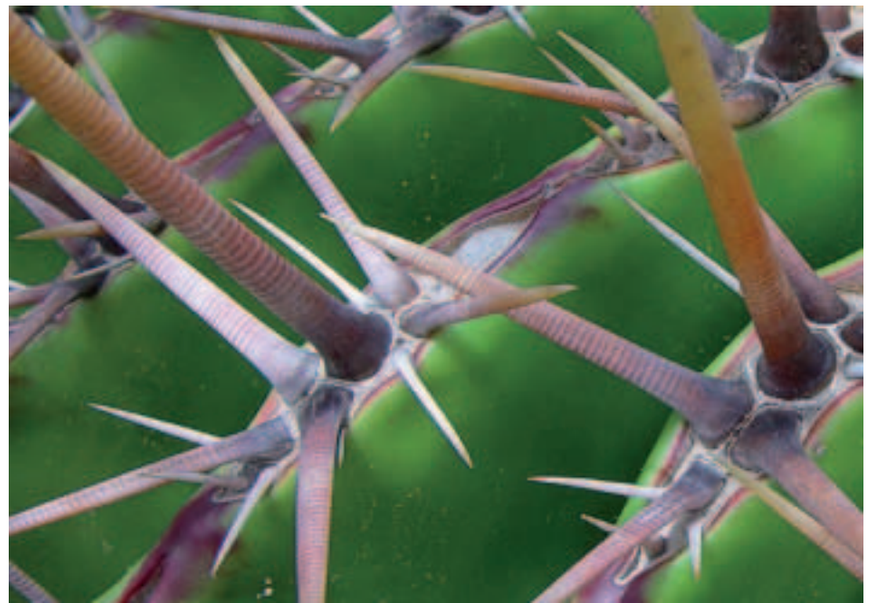
Syn: *Homalocephala* Britt.&Rose; *Emorycactus* Doweld; *Meyerocactus* Doweld.

subgen. *Echinocactus*

Echinocactus grusonii Hildmann
Echinocactus platyacanthus Link & Otto
Echinocactus parryi Engelmann
Echinocactus polycephalus Engelmann & Bigelow
subsp. *polycephalus*
subsp. *xeranthemoides* (Coulter) Taylor

subgen. *Homalocephala* Bravo & Mejorada

Echinocactus horizonthalonius Lemaire
Echinocactus texensis Hopferr



Above:
Tiny granules of pollen adhering to the stigma lobes of *E. horizonthalonius*.
(Roberto Siniscalchi)

Below:
The velvety appearance contrasts with the robustness of the *E. platyacanthus* spines
(George S. Hinton)

A White Knight

What I'm going to tell could seem like a product of imagination, especially after my story about the encounter at S. Juanito. However, my imagination still can't grasp what happened to me and Gaetano, during the very same trip, once we arrived west of Saltilllo.

A narration by C. Zanovello

Usually the reaction (not to say the sneering...) of my audience after my story about the disappearance of Juan's photo is sufficient to dampen my story-telling passion and refrain from telling what follows, but with a piece of paper this doesn't happen, so I can continue.

That day we were looking for unusual photographic subjects, I was looking for flowering plants, Gaetano for unusual scenery and animals. At every locality I was particularly interested in finding *Echinocactus texensis* specimen, in order to catch the remarkable morphologic variability of this beautiful species. And there, in the vast plain between Entronque Hipolito and Hipolito, we were wandering in an apparently monotonous environment, but in reality very rich in different species. We had parked the car, and crossed a fence on the western side of the road, apparently stretching all the way to the village. The fence was made by two simple lines of barbed wire, distant half a meter from each other and very lax, all we had to do to cross was to open them wide...

E. texensis
Manuel Benavides, Chih, MEX
(Davide Donati)

Echinocactus horizonthalonius Lemaire

If there's a plant currently coveted by collectors, this is definitely *Echinocactus horizonthalonius*. The rounded stem, divided in a few, fat, rounded ribs, reminds of a melon for its shape, but the glaucous colour of its epidermis, that the plant attains since the early stages of its life, is exceptionally attractive. Its spines, whether short or long, which depends from the locality it comes from, are always strong, dark, very rigid, but not very prickling, while its flower is a real surprise: huge, silky, with a magenta colour so deep that leaves speechless.

Once considered rare, today we can say it a very common plant, with a very large distribution range and local populations formed by large numbers of specimens.

Despite this, its very slow growth, but also to the fact that it's a much liked plant and demand is high, push its price excessively high.

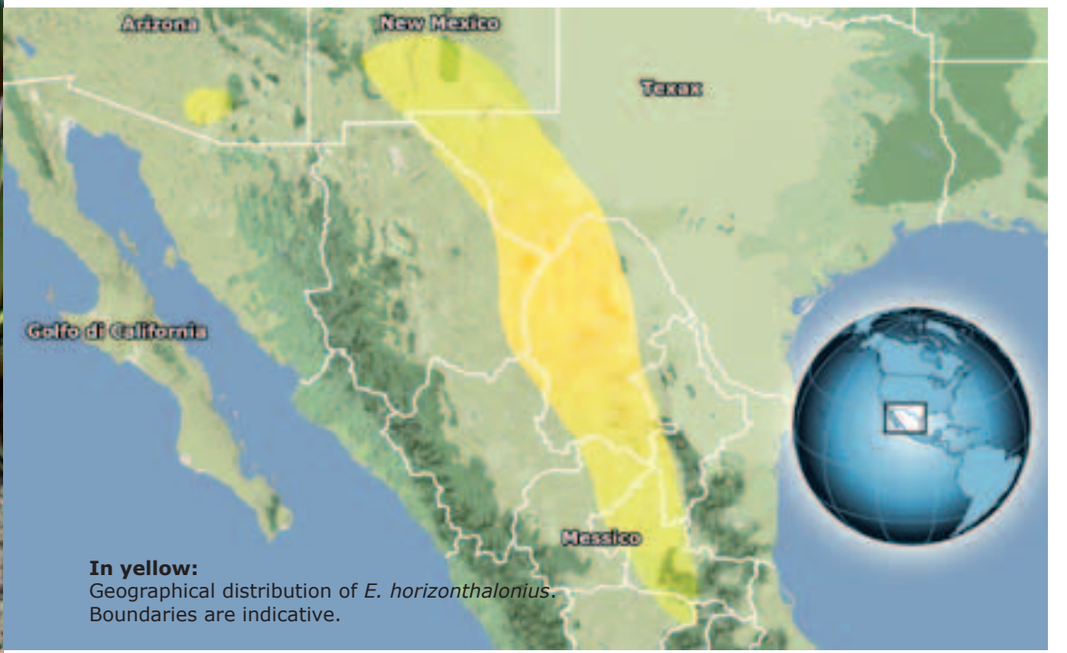
During the sixties, Lyman Benson described a variety of *Echinocactus horizonthalonius*, var. *nicholii* from Arizona, characterized by a slightly elongated growth, rather than globular-depressed.

While visiting the plains and mountains of central-southern Coahuila, particularly those south of Cuatrocienegas, it becomes evident that this distinction doesn't make much sense, since the *horizonthalonius* of these areas could almost be defined as columnar, because specimens with 25 cm in diameter and more than 50 cm tall are not rare at all. Only the young plants are globular, but they soon tend to elongate, so that in some places, the plain is dotted with these "tall" *horizonthalonius*.

George S. Hinton

Description

Stem	single, from globular-depressed to markedly elongated, up to 50 cm or more tall and more than 25 cm in diameter; glaucous-grey epidermis.
Root	bundled
Ribs	from 7 to more than 13 in adult plants, very rounded.
Areole	very woolly, more than 1 cm in diameter
Spines	robust, strong, dark, pointed, elliptic in section, transversely crossed by tiny, paler coloured crests, from brown to black colour; central spines 1-5, up 7 cm or more long, sometimes straight, sometimes recurved; radial spines 5-7, 2-4 cm long, with the same colour of the centrals.
Flower	purple with silky reflections, corolla up to 8 cm or more wide, ovary long, allowing the flower to open above the long spines, very woolly, with small, thin scales, dry and prickly.
Fruits	clavate, up to 2.5 cm long, 1 cm in diameter on average, fleshy until ripe, pinkish, then dry, covered by cottony, not very dense hair, with small pointed and prickly scales, persistent perianth.
Seed	black, 3-4 mm long; thick, corrugated integument; wide, rounded, semi-lateral hilum; external micropyle.



In yellow:
Geographical distribution of *E. horizonthalonius*.
Boundaries are indicative.

Cultivation

Can taxonomy be linked in some way to cultivation methods? In some cases, it can.

Like the *Echinocactus* genus itself could be taxonomically divided in two subgenera, the cultivation of its species can also be done in two different ways. However, these two different ways don't match the subgenera, but rather remind of Dowell's taxonomic vision, that we described earlier. In fact, in our experience, *Echinocactus polycephalus*, with its subspecies *polycephalus* and *xeranthemoides* requires, especially with young plants, a much different treatment compared to that of the other species of this genus, at least for what concerns watering and fungicide treatments.

The goal of any grower should be that of a vigorous, but balanced growth, with a proportionate growth of all the parts of the plant, particularly its spines, the cactophile's main objective. For this reason, soil, light, water and fertilization are essential. What follows should be considered as an integration of the cultivation notes specified for each species at the individual card, particularly for what concerns some important details.