



A new subspecies of *Mammillaria eriacantha* (Cactaceae) of Guatemala

José L. Linares (Honduras)



Saxicolous vegetation characteristic of the intermountain dry forests of Northern Central America.
Photo : M. Flores.

Summary

Mammillaria eriacantha subsp. *velizii* (Cactaceae) is here described, illustrating a new caespitose subspecies of *Mammillaria*, native of Guatemala and differences between the subspecies and the type are discussed as well as its geographic distribution.

Keywords: *Mammillaria*, Guatemala.



Rock of old lava where *Mammillaria eriakantha* subsp. *velizii* grows. Photo : M. Flores.



M. eriakantha subsp. *velizii* growing with *Mammillaria voburnensis* at the type-locality. Photo : M. Flores.

During botanical investigations made by the author in the dry forests of the northern part of Central America, plants were discovered which apparently had never been collected before in this zone, and which were relatively rare or were rediscoveries of species since considered to have disappeared. Amongst the interesting plants found here has to be noted a *Mammillaria* which had never been collected in the zone and which represents a new subspecies. The floristic composition of this vegetation type is very particular and is characterized by elements with clear affinities to the central and southeast region of Mexico, particularly Oaxaca and Chiapas and now with Veracruz. Some characteristic species elements of the places where the new subspecies of *Mammillaria* lives are: *Mammillaria voburnensis*, *Hylocereus escuintlensis*, *Acanthocereus tetragonus*, *Pilosocereus leucocephalus*, *Stenocereus pruinosus*, *Opuntia lutea*, *Crataeva palmerii*, *Capparis incana* and some succulents like *Jatropha costaricensis*, *Philodendron radiatum*, *Plumeria rubra*, *Hechtia guatemalensis*, *Bursera schlechtendalii*. However, as I mentioned above, among all these plants, is a exceedingly beautiful *Mammillaria* which we present in this work as a new subspecies for science.

Mammillaria eriacantha subsp. *velizii* J. Linares, subsp. nov. Type: GUATEMALA. JUTIAPA: San Miguel Chaparrón municipality, Km 167, rd Jutiapa-Ipala, near the crossing towards Santa Catarina Mita. N 14 ° 40.3" 89 ° 04.5" W alt. 874m. December 22nd, 2005, J.L. Linares, Julio E. Morales, Mervin Pérez and Edson Cardona 11199 (Holotype: USCG; Isotypes: BIGU, EAP).

M. eriacanthae Link and Otto ex-Pfeiff. Similis, be differt floribus minoribus, segmentis exterioribus perianthii laceratis, habitu caespitoso and distributione geographica disjuncta.

Mainly caespitose stems, branching out at base, stem cylindrical elongated, up to 30 (35) cm high and 4-6 (7) cm in diameter; rounded apex. Tubercles very close to each other, arranged in 8-13 spiral series, green-emerald, conic, with rhomboid base in old specimens to quadrangular for young plants and (or) young stems, from 6 to 8 mm long and from 4 to 6 mm in width at the base, with aqueous sap which becomes orangey in contact with the air. Areoles widely elliptic to rounded, the new ones with white to yellowish brown areoles, those of the previous year almost without wool. Axils of the floral zone with a white wool much shorter than tubercles. Radial spines 20 - 25, arranged in 1-2 series, 4-7 mm long, the superior a little shorter, acicular, very fine, slightly curved towards the base of tubercles, pubescent, yellowish or golden-brown, horizontal, interlaced with those of the nearby areoles. Central spines 2, acicular, 8-15 mm long, shorter, thick, straight, stiff, pubescent, at first yellowish brown then clearer, thrown upward and downward forming an angle of 80-90°. Flowers funnel-shaped, short, lateral, appearing towards the superior half of the stem, 6-8 mm long and 4-5 mm in diameter; external segments of the perianth lanceolate, wide, thin, yellow, torn up; internal segments linear-lanceolate triangular, pointed to acuminate, golden yellow; anthers yellow; stigmas in 4 lobes, lobes cylindrical. Fruit obovoid to turbinate, greenish or green yellowish, never purple or red, ca. 10 mm long. Seeds brown, 1 mm long or less.



Mature fruits of *Mammillaria eriacantha* subsp. *velizii* showing the characteristic yellowish tint of the subspecies fruit. Plants grown at the Escuela Agrícola Panamericana, Zamorano, Honduras.. Photo : M. Flores.

Common name: unknown.

Distribution, habitat and phenology.

Mammillaria eriacantha subsp. *velizii* grows in a saxicolous (rocky) vegetation on soils of old volcanic lava, together with typical plants of intermountain dry forest of northern Central America, associated to some Cactaceae and other succulent plants. Among the associated Cactaceae is *Mammillaria voburnensis* who unlike the other places is much rarer at the type-locality; reaching a much lower density than *M. eriacantha* subsp. *velizii*. *Acanthocereus tetragonus* also grows at the type-locality and in other localities the presence of other cactus species was indicated.

Flowering in December and fruiting from April till May.

Examined additional material: **GUATEMALA**. CHIQUIMULA. Mpio. Chiquimula. Cumbre del Ingeniero, Alt. 500 m, March 8th, 2003, *Mario E. Véliz & Ana José Cobar* MV13126 [BIGU21876] (**BIGU, MEXU**). JUTIAPA: San Miguel Chaparron municipality, Km 167, rd Jutiapa-Ipala, near the crossing of Santa Catarina Mita. N 14°40.3' 89°04.5' W alt. 874 m, January 2nd, 2004, *J.L. Linares & Carlos A. Martínez* 7240 (**EAP, MEXU**). Idem, December 12th, 2005, *José L. Linares, Julio E. Morality, Cecilia Sigal and Daniel Tenez* 11198 (**USCG, BIGU**).



Flowers of *Mammillaria eriacantha* subsp. *velizii*; note the stigma with 4 lobes and the torn up external segments. Photo : M. Flores.

ETYMOLOGY: this taxon is dedicated to Mario E. Véliz Pérez (1964-), Guatemalan botanist, recognized specialist of the Guatemalan flora and indefatigable plant collector of this country, who was the first person seeing the taxon in habitat and drawing attention to it.

DISCUSSION

Bravo (1991) puts, with some reservations, the type inside the section *Polyacanthae*. In the same way, other authors like Pilbeam (1999) places it in this section, but emphasize the huge geographical separation with the other species of this section. This new subspecies is some more separated from the other species of the section *Polyacanthae* and represent an important geographic disjunction as well as an important extension in the distribution, because it was first known only in the centre of Veracruz. In Veracruz it apparently grows only in soils of old lavas (Hunt, 1984), like in Guatemala where it grows in basalt volcanic rocks, resulting from old lava flows.

Morphologically, the new subspecies is rather similar to the type, by distinguishing itself basically by the caespitose habit, unlike the solitary stems (or almost always solitary) in the *eriacantha* subspecies.

Flowers are slightly smaller in the new subspecies and the outside segments are torn up or



Distribution map of *Mammillaria eriacantha* subsp. *velizii* J. Linares.

lacinate. Fruits are always and only green or green yellowish in the ssp. *velizii* while in the ssp. *eriacantha* they are yellowish to more commonly red or purple (Anderson, 2001; Backeberg, 1977). In the ssp. *velizii*, fruits are apparently cleistogamous, because of plants grown in greenhouse with absence of insects, all the flowers produced fruits after one year of cultivation. This characteristic is ignored in the type-locality.

ACKNOWLEDGEMENTS

To Dr. Ferdinand Chiang for the Latin diagnosis, to Joël Lodé for his help with the bibliography and also for the precious comments added to the manuscript, to Miguel Flores for photos and help in habitat, to Mervin Pérez, Julio Morales, Mario E. Véliz and Edson Cardona for their important assistance in the collection of the type-material and their kindness during my stay in Guatemala.

Text: J. Linares, photos: J. Linares, M. Flores

E-mail: linaresj_98@yahoo.com

BIBLIOGRAPHICAL REFERENCES

- Anderson 2001. In "*The Cactus Family*", Anderson, Timber Press, 2001, p. 416.
 Backeberg, 1977. In "*Cactus Lexicon*", Curt Backeberg Blandford Press 1977, p. 266.
 Bravo, H. & Sanchez-Mejorada H. In "*Las Cactaceas de México*", UNAM, 1991, T.III: pp.170,171,172.
 Pilbeam, J. In "*Mammillaria*", Cirio Publishing Services, 1999, p. 96.
 Hunt, D. 1984. A new review of *Mammillaria* names: D-K (Pages 65-96). Royal Botanic Gardens, Kew, Richmond, Surrey. In *Bradleya* 2/1984 p.73.