

Mexican Field Notes

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The state of Hidalgo has long been known as the home of many Mammillarias. H. Sanchez-Mejorada, *Las Cactaceas dot Estado de Hidalgo*, *CySM* 13:13-18 (1968) mentions no less than 51 names, but his list boils down to approximately 30 'good' species. W. Reppenhagen gives field numbers for 35 taxons, to which one should add *M. leucocentra*, for which he has published no field number. Although shorter, our annotated check-list covers substantially the same species, and reads as follows:

M. amajacensis n.n.

We shall start with this 'mystery' plant, on which we are at a loss to place a name. It was first discovered a number of years ago at Puente de Dios (Hidalgo) by Felipe Otero, and distributed at the time by Abbey Garden. We have been fortunate to rediscover it (ML46). It probably belongs to the *Leucocephalae*. The body is single, reaching in old specimens about 90mm in diameter and the same in height. The conic tubercles are arranged in 13:21 series, and are dark bluish green. The plant has two or four centrals, pinkish-grey with blackish tip, the lowest being the longest, and can reach 15mm, but is sometimes shorter. Axils and areoles develop abundant wool near the apex. The flower is pink, with a dark-pink midstripe. It is quite a mystery that a plant in such an accessible site would not have been noted by prior visitors, but we have not found anything in the literature. We wonder if this plant is not related to *M. mendeliana* (*M. hahniana*)? Suggestions from members would be appreciated.

M. longimamma

Widespread on some sites forming large clumps. Flowers in April. Numerous observations in the general area of the Barranca of Metztitlan (ML2), and between Metztitlan and Ixmiquipán. One observation of this species was made just north of Bernal (Querétaro), where one expects *M. uberiformis*.

M. uberiformis

Apart from its tighter and shorter tubercles, this plant may perhaps be distinguished from *M. longimamma* as having no centrals, and about 6-7 radials, against 1(-3) central and about 9 radials. But Ehrenberg's field notes on *M. hexacentra* clearly show the existence of plants intermediate in their spination: "Sie erscheint in mehreren Varietäten ... mit 6 oder weniger Stacheln, mit und ohne Mitteldornen." We have only seen *M. uberiformis* near the Barranca of Tasquillo (Hidalgo) and at the foot of Cerro Prieto (Querétaro), and although reported from a large geographical area in Hidalgo and Querétaro, west of a line Zimapan—Tasquillo, it does not seem to ever grow in populations as dense as those of *M. longimamma*.

M. wildii

We have only once encountered plants we can attribute to this species near Cosapa, in the area of San Cristobal. Although a well known plant in cultivation, there have only been a fairly small number of observations of this plant in the wild, all in the area of the Barranca of Metztitlan. The plant we have observed is as follows: pale cream flowers, outer segments with brownish midstripe, 5 stigma-lobes pale yellowish green, 11-13 white radials, 3-4 pale yellow centrals, the lowest hooked, axillary bristles. We have not yet met plants with the 9 radials which *M. wildii* is supposed to have, nor with the 22 radials said to be characteristic of *M. calleana* (there is only one recent observation in the field of this plant, R1103!). Please note

that the description of *M. calleana*, as well as the descriptions of *M. marnierana*, *M. solisioides*, *M. pseudoscripsiana*, *M. scripsiana* var *rooksbyana*, *M. neomystax* and *M. martinezii* were published by C. Backeberg in an insert titled *Note et observations sur le Jardin Botanique 'Les Cedres', Nc 1, supplement a 'Cactus' no 30* in *Cactus(Paris)* dated December 15, 1951 and numbered 30:129-136, but only included in *Cactus(Paris)* 31 (March 15, 1952) and indeed with Vol. 31, and not with Vol. 30. The correct application of Art. 30.2 of the *International Code of Botanical Nomenclature* (1988) probably means that the date of effective publication for these various species is March 1952, not December 1951 or 1951 as often stated—see the variety of effective dates and sources of publication given by D. Hunt for these species, all published in the same paper!

M. glochidiata* var. *xiloensis

The original description of *M. glochidiata* calls for 12-15 radials, and 3-4 centrals. W. Reppenhagen, *Die Gattung Mammillaria nach dem heutigen Stand meines Wissens, 198741* (1987), has made the unhappy move of attributing 9-12 radials and 1-2 centrals to *M. glochidiata*, and 15-22 radials and 2-4 centrals to *M. glochidiata* var. *xiloensis*. In the area of Gilo, amongst large volcanic boulders, we have found a plant with 13-17 white radials, 4-5 brown or dark yellow centrals, the lower 1-2 hooked, a few axillary bristles, white flowers. In W. Reppenhagen's meaning, it is probably *M. glochidiata* var. *xiloensis*, if, and this is a big if, one recognizes the validity of the three species *M. calleana*, *M. glochidiata* and *M. wildii*.

M. gracilis

We observed this plant at a number of different locations, including Puente de Dios, the type-locality, where it is quite numerous (ML47). We did not find any of the aberrant forms with spines of various colours and lengths discovered by Felipe Otero during the course of previous field trips, and can only note the variability created in the appearance of the plant by different growing conditions.

M. schiedeana* and *M. dumetorum

Although never present in very large quantities, we have found *M. schiedeana* in a variety of sites, from Puente de Dios to Gilo, which are about 40Km away. Some plants are much whiter than others, which are more yellow, but this seems to be more the result of growing conditions than anything else. *M. dumetorum*, as found in northern Queretaro and in San Luis Potosi, seems to us a very distinct plant in all regards.

M. elongata

This species can be found in a number of sites in Hidalgo. Around Zimapan, it is possible to find a very wide variety of plants of different sizes, colours and spine formation growing a few yards from one another. Quite clearly, in the field the differentiation between plants with or without central spines makes absolutely no sense.

M. rhodantha

On some days, we wonder if there are not as many forms of *M. rhodantha* as barrancas in the state of Hidalgo! The starting point of any study of the complex formed around *M. rhodantha* is the paper by D. Hunt, *Observaciones sobre M. rhodantha y especies aliadas* (CySM 20:89-94 (1975), 21:3-7 & 31-35 (1976)). Our own observations refer to the following plants:

- 'typical' *M. rhodantha* at an altitude of about 2750m, just below Mineral del Monte, spherical single plants, with 6 centrals and 20-26 pale yellow radials (ML146)

- about 7Km to the north of Mineral del Monte, in the minute basaltic Barranca del Carmen, at an altitude of 2400m, a smallish single cylindric plant with only 4 reddish-brown centrals and 15 whitish radials (ML1 47).
- near Km 19 of the road from Pachuca to Actopan, in a volcanic barranca, at an altitude of 2300m, growing with *M. polythele* and intermediates, a large cylindric dichotomously dividing plant, with 4-6 golden yellow centrals and 15 white radials (ML58). The field numbers Hunt 8526 to 8532 may refer to this population.
- between Cardonal and Santuario Mapethe, th~ 'classical' *M. mollendorffiana* (ML22), a medium sized single cylindric woolly plant, with 4 centrals and 22 radials. The placing by W. Reppenhagen of thin species at the end of the Polythele group does seem quite difficult to understand. At best, it can be interpreted as an intermediate between the *Rhodantha* group and the *Polythele* group.
- near Magdalena, 10Km to the west of Actopan, E large spherical plant, at an altitude of 2600m, with 4-6 orangy-brown centrals and 15-20 yellow radials, th~ plant having therefore an overall very golden appearance (ML157).
- above San Sebastian, in the Barranca Alcholoya, *M. pringlei*, as a large caespitose plant with 4 yellow centrals, the lowest the longer, reaching 30mm, and about 20 radials.

Three possibilities are offered to the innocent amateur he can make his choice amongst 'old' names, and place on his labels whatever pleases him, he can describe new names, or he can use field numbers. This latter proposition clearly has our preference. Certainly, cutting the *M. rhodantha* complex into many species of varieties on the basis of the number or of the colour of the spines has, for the time being, little justification.

M. erectacantha

About 6Km west of San Alejo, at an altitude of 2250m we found a very flat growing plant with a napiform root 2-4 brown centrals, and 22 radials (ML169). This spine formation fits naturally neither *M. erectacantha* (1-2 centrals, 9-15 radials), nor *M. apamensis* (1-2 centrals 13-16 radials) or *M. apamensis* var. *pratensis* (2 centrals, 14-20 radials), the site being apparently not far away from the site of the latter. The largest plants had a diameter of about 80-90mm, but were not more than 40mm high, and were in bud (20-3-90). We are tempted to consider that 'our' plant and the two forms of *M. apamensis* all fall within the general concept of *M. erectacantha*, and that it would be unwise to disseminate too many different names just because one population has more, or fewer, centrals or radials. After all, we have just noted this sort of variation within the general concept of *M. rhodantha*! However, we do have to recognise that we do not have any strong case to make as to the correct identification of this plant.



Mammillaria erectacantha, at San Alejo, 12km. NE of Tulancingo on MEX130. Field number ML169.



Mammillaria amajacensis n.n., at Puente de Dios, Hidalgo. Filed number ML46.