

Mexican Field-Notes (4)

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When a pie is too large to be eaten in a single gulp, then one should perhaps contemplate nibbling at it, rather than taking the risk of dying of hunger! It is with this philosophy in mind that we would like to try to tackle the numerous problems attached to *M. elegans*.

Yes. We acknowledge that we use the name of *M. elegans*. Now, naturally, the first task that needs completing when approaching a group of populations such as the one constituting the *M. elegans* complex, is to try to decide which taxa are acceptable at the rank of distinct species, and which should be regrouped with others. Selecting appropriate names is only a second step, for which we do not claim to be qualified. However, we do need to point out that D. Hunt's approach (Bradleya 2:73 and 87, 1984, 5: 46, 1987, A new review of Mammillaria names) in shooting down *M. elegans* creates major problems (including for himself, as for instance when, if we understand him correctly, *M. haageana* var. *haageana* becomes a different taxon than *M. haageana*!). This decision lumps together the numerous forms of white spined plants from Morelos, Puebla and Oaxaca and the darker spined plants from Puebla known as *M. conspicua*, and from Vera Cruz and adjacent parts of Puebla formerly known as *M. haageana*; as W. Reppenhagen recently pointed out (JMS 29:59-60,1989), this latter taxon is very distinctive because "of [its] cylindrical juvenile form with fine and close-fitting pectinate spines", with no central spines until a size of 3-4cm has been reached. Having grown from seed many members of the *M. elegans* complex, we find this interest for juvenile forms quite relevant, as the differences between one-year old seedlings can often be just as striking as those between adult plants. We can here mention as an example the great differences between seedlings of *M. noureddineana* (quite similar in appearance to those of *M. albilanata*) on one part and on the other of *M. ignota* and *M. elegans* in its various forms. D. Hunt's position, by the way, creates a colossal mess in all literature, seed or plant catalogues etc., as there is no longer any way in knowing what hides between a reference to *M. haageana*. But he is not the only one to do so: W. Reppenhagen also has his little successes in this field, as, for instance, when he rejects the name *M. collina* (as a synonym of *M. haageana*) for the well-known plant from above Canada Morelos, Puebla, and prefers the earlier name *M. donatii*. Therefore, we shall stick with *M. elegans* (Sorry, David!)

We shall limit ourselves here to various field-observations of *M. meissneri*, i.e. *M. elegans* var. *schmollii* and to the comments we feel appropriate, not addressing this time the matter of the numerous species in which W. Reppenhagen (Die Gattung Mammillaria nach dem heutigen Stand meines Wissens, 1987.1987) has split the *M. elegans* complex.

The original description of *M. meissneri* by Ehrenberg in 1844 reads as follows: "Stamm cylindrisch, aussprossend, oben etwas eingedrückt oder nicht. Achseln und zwischen den Warzchen mit langer Wolle. Stacheln zweierlei; aussere 16-22, ganz fein, borstenartig, etwas abstehend, weisslich; mittlere 2, etwas starker, gerade, fast gleich lang, einer nach oben, einer nach unten, hellbraun, nach der Spitze zu dunkler. Stamm his 6 Zoll hoch, 1-3 Zoll dick" (*Allg. Gartenz* 12: 402. 1844, *vide* E. Shurly). Craig (*The Mammillaria Handbook* 280-83. 1946) mentions *M. meissneri* in the synonymy of *M. elegans*, and describes in brief words *M. elegans* var. *schmollii*, citing San Andreas, Puebla, as type locality. We have not been able to trace a San Andreas in Puebla. Backeberg (*Die Cactaceae*, 5: 3236. 1962) concludes that Craig and Ehrenberg's plants are identical. Who knows? But the various populations which can be grouped under either name warrant in our opinion a ranking at the species level

rather than at the sub-species level for the reasons we shall explain below. As we have since 1931 *M. schmollii* (Bravo) Werdermann, which predates what could have perhaps been called *M. schmollii* (Craig) Xyz, we are pretty much stuck with *M. meissneri*. Please also note that we started with *M. elegans* var. *schmollii* Craig, then had *M. haageana* var. *schmollii* (Craig) D. R. Hunt - but why not *M. conspicua* var. *schmollii* (Craig) Uvw? Certainly, in its dark-spined form encountered near Zapotitlan Salinas, it looks more like a cespitose *M. conspicua* than anything else.

Published field numbers concerning this species are numerous: in Puebla, Zapotitlan Salinas (WM 4620, SB 681, Rep.114), Acatepec (WM 2060), Axuxco (FO 1 67, 235 and 239), San Gabriel Chilac (Rep. 867), in Oaxaca, San Antonio Nanahuatipan (Lau 679 and 1093, FO 172), The range of *M. meissneri* overlaps in part with that of *M. conspicua*, also with numerous published field numbers around Zapotitlan Salinas and along the highway ME(125 from Tehuacan to Huajuapán, but *M. conspicua* apparently extends more to the north and to the west, but less to the south.

Our own observations cover most of the known range of the species and extend it to the south down to San Juan de Los Cues, in Oaxaca. It is interesting to note that all observations, by us or others, fall within the basin of the Rio Salado and of its affluent the Rio Zapotitlan, over a north to south range of about 60km. They are as follows:

- in the Zapotitlan Salinas area, near km 36 of MEX 125, ML 206 (large clumps of more than one hundred small heads, two brown central spines with darker tips, about 6-8mm long, and about 18 white radial spines with the point dark brown), and just around the village of Zapotitlan Salinas itself, ML 220 (illustrated, very similar, but forming clumps with fewer heads). About 5 km to the south on the road to Huajuapán de León, we found a numerous population of *M. conspicua* (ML 53), constituted of large, thick individuals. In their midst, we fell on just three individuals of *M. albidula*. This area is quite near the one cited by W. Reppenhagen (*l.c.*). We plan to return to this locality to try to collect some seed, to see if *M. albidula* breeds true to type, but, for the time being, we have no other statement to make than to say that we have seen "it", without having any relevant comment to make on its status as a phase of *M. conspicua*, or a valid species in itself.
- near San Antonio Nanahuatipan in the direction of the Rio Calapa, ML 192 (large clumps, very woolly areoles, variable in length and colour of its central spines, from minute to 6-8mm, and from white, dark tipped, to brown, 22-24 entirely white radials, usually more cylindrical than the above). The range of variation within this population is such that at one extreme we found plants similar to ML 206, and at the other, plants similar to ML 41. It should be noted that A. Lau (CSJGB 41:61 -66.1979) mentions having observed around here not only *M. meissneri*, but also a very thin cylindrical woolly plant which he attributes to *M. lanata* (equated by D. Hunt with *M. supertexta* . . .). We have not been able to trace the type locality given for *M. lanata*, Rio de Santa Luisa, which D. Hunt states to be near the border between the states of Puebla and Oaxaca, but San Antonio is near that border.
- on the Rio Salado, near San Juan de Los Cues, ML 41, a most beautiful population (illustrated, large clumps, with two central spines so minute as to require a X 10 magnifying glass to be observed; in some plants, the 22-24 radials are white, in some others, they are yellowish to brownish, giving the plant a great degree of likeness to a *M. crucigera* which would offset instead of dividing dichotomously). This plant, as FO

223, has been erroneously distributed as *M. tlalocii*

At a time, we were wondering if ML 41 might not be a new species, but we have decided against this possibility principally on the basis of three facts:

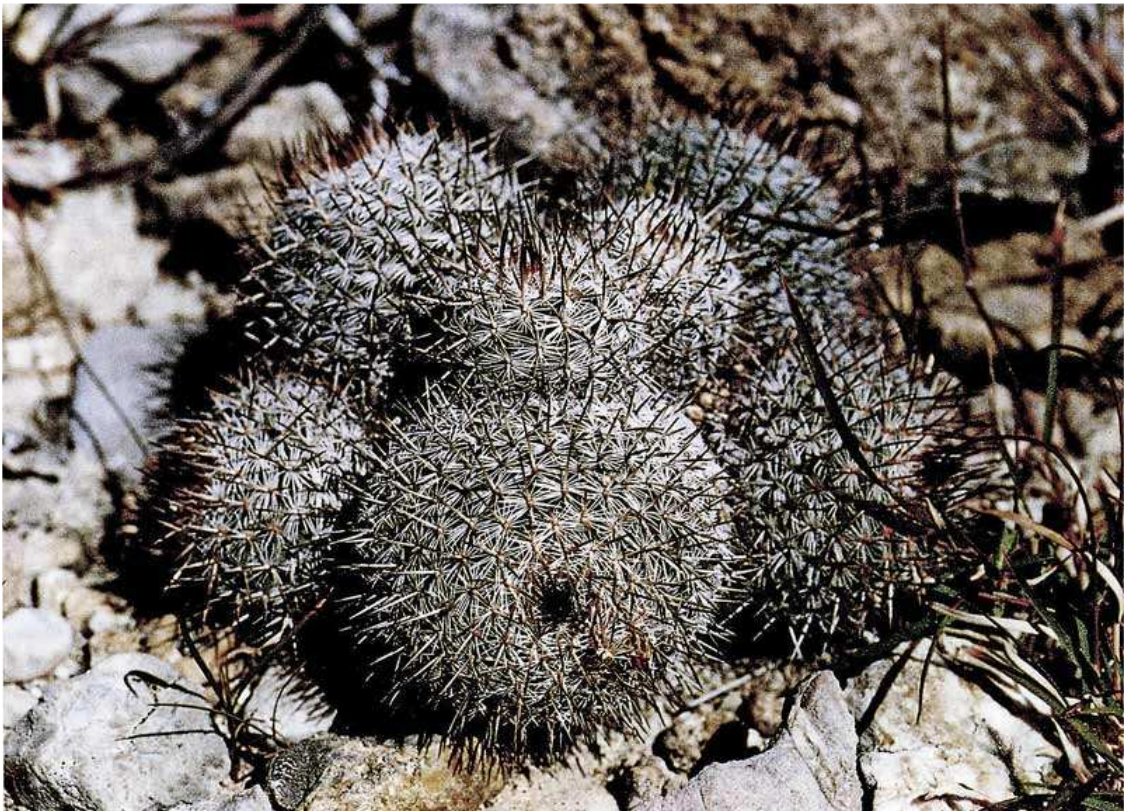
- the variable population of San Antonio Nanahuatipan (ML 192) offers individual plants which range from ML 206-220 to ML 41;
- the general growth habit of the plants on all three sites is quite similar: exposed rocky ground, flat to medium steep, growing at the feet of hills rather than at the summits;
- the three populations were in full fruit at the same time, in March 1990, this period being quite untypical of members of the series *Elegantes*, which are usually in fruit during the months of July and August or later;
- the seedlings of all three forms are slow growing, with the same 'square' shape, easy to distinguish at first sight in the seed tray from other "*M elegans*"

The variability observed in the various populations of *M. meissneri* mentioned here is hardly greater than the one existing within *M. elegans* itself or any other of a number of species such as *M. rhodantha*, *M. mystax* or *M. parkinsonii*, and splitting this taxon in different species really would seem absurd. But, for the same reasons, we also feel that these populations together have a strong enough identity to warrant being placed at a specific rank, and not at a varietal rank.

Although the ranges of *M. conspicua* and *M. meissneri* overlap to a great extent, we have never observed the two species growing together. The only other member of the series *Elegantes* which we have observed growing with *M. meissneri* is *M. dixanthocentron* in a very white-spined form at the site of ML 41.



Mammillaria meissneri, at Rio Salado, San Juan de los Cues, Tomellin Canon, Oaxaca. Filed number ML41.



Mammillaria meissneri, near Zapotitlan, Puebla. Field Number ML220.