MEXICAN FIELD-NOTES (6)

by Christian Brachet, Michel Lacoste & Felipe Otero

These short notes are here to introduce photos taken in the field of the two "youngest" members of Series *Longiflorae*, *M. hernandezii* Glass & Foster and *M. tepexicensis* Meyran.

C.Glass and R.Foster described *M. hernandezii* from wild-collected plants sent to them by Felipe Otero (CSJA 55:22, 36, 1983). These plants had already been in cultivation for some time, and the description given deviates somewhat from the appearance of the plants in the field. The plant practically does not emerge from the ground, no more than about 15 areoles being visible, and stem and root form a carrotlike cylinder of a diameter of 10 to 15mm and a length of 40 to 50mm. The description of the body given by C.Glass and R.Foster or by W.Reppenhagen (*Die Gattung Mammillaria* :78-79, 1991) applies to cultivated plants. A more significant difference between the original description and our own observations is the fact that we have not found any wool in the axils. On the other hand, we would describe the wool in the areoles as fairly abundant, and point out that it does not disappear with time. We concur with all other points of the two descriptions cited above, and claim not to understand D.Hunt's statement (Bradleya 2:89, 1984) that "*The authors offer no cogent means of distinguishing this novelty, Interesting as it is, from M. napina, of which it seems to be perhaps a dwarf or neotenous form*": if one is not satisfied with the obvious quantitative differences between both plants, we would offer close comparison of the spines, which are glassy-yellow, fairly thin and flexuous in the case of *M. napina*, but chalky-grey, stout and straight save for the tip in the case of *M. hernandezii*. If anything, it would seem more appropriate to compare it with *M. pectinifera* (its site is more or less just in the middle between those of *M. pectinifera* and its cousin *M. solisioides*!), but please, take this as no more than a joke, as fruit and seed characteristics do not corroborate such an hypothesis (by the way, has anybody done REM photographs of seeds of *M. hernandezii*?).

C.Glass and R.Foster published the type locality as being [San Francisco] Telixtlahuaca, Oaxaca, but, as those who have looked for M. hernandezii have learnt, it does not grow there! Now that thanks to micropropagation this plant has become reasonably available, we may state that this was done strictly for conservation reasons. In fact, it hails from the heart of the Sierra Mixteca, some fifty miles to the north of San Francisco Telixtlahuaca. We have decided against giving any further information for the time being, and apologize to our readers for this with the hope that they shall understand.

We should point out that agricultural development and the building of new roads seem to us a much more significant danger for this species than the occasional Mammillaria-enthusiast, but it does seem to be presently the fashion to select the latter as a scapegoat for all the ills of populations of rare plants. Maybe the novelty of this species warrants this attitude... In any case, in view of the availability of cultivated plants one can hope that it will be reasonable to publish the exact site a few years hence.

We have observed the plant in the wild at two different sites in the Sierra Mixteca, Oaxaca, at flowering time, which is really the only period of the year when the plant can be found

except by sheer luck, but would not be astonished if the plant was in fact much more widespread than it appears due to its inconspicuousness. The original site is a patch of flat very short grass of about 2 or 3 acres (ML 183). The second site is only a few miles away, and is more extensive but similar (ML 250). At both sites, the plants are very numerous, with often 5 or 10 plants simultaneously in bloom on a single square meter. Its natural pollinating agent is apparently a small black beetle.

To end with the subject of *M. hernandezii*, we should add that we have also observed *M. napina* south of Esperanza, Puebla, on the top of a chalky stony hill (ML 273) at a site where the population was most abundant. Here again, we have to refrain to be more specific as to the exact site, as it stands no more than three minutes from a highway!

The new species *M. tepexicensis* J.Meyran (ML 186) has only just received its name, but already has been the subject of a variety of interesting comments under its original field-number FO 177. It even claims the rare honour of having been accepted as a "species novas by D. Hunt before even having been described (Mammillaria Postscripts 2:22, 1990). It is under Jorge Meyran's pen that it has just recently been described and named in CySM 36(3):62-64 (1991) With ill.]. An earlier detailed description by H. Rudzinski appeared in MAfM 13:240-246 (1988), with REM-photographs of the seed.

Like *M. hernandezii*, it is one of the extraordinary discoveries of Felipe Otero and Eulalio Hernandez in the high Sierra Mixteca, found by chance when one of these plants caught the second of these gentlemen by the arm with one of its minute hooks. It is known from one site only, a high-altitude cliff of porous volcanic rock just over a river bed, a home it shares with a variety of other diminutive succulents, and it is for its rock-growing habit that it has been named *M. tepexicensis* (tepexic being an Indian nahuátlan word meaning "coming from the mountain peak").

Do not search for this plant near one of the several existing villages with the name of Tepexic, you shall not find it! One word of explanation about the English resume annexed to the original description: it had first been planned to name this new species in honour of Hernando Sanchez-Mejorada, but then the rumour spread that another quite different Mammillaria species from northern Mexico was on the verge of being published in his memory, and Felipe Otero and Jorge Meyran decided to use another name and this change did not flow through to the resume (at the time of this writing, we have not yet seen this "*M. sanchez-mejoradae*" anywhere in print...)

The stem is single, spherical, 25 to 30mm in diameter in the largest plants. The tubercles are arranged in 5:8 series. The axils are naked, the areoles woolly, with 25-30 glassy-white minutely pubescent interlacing radials and 4 porrect hooked centrals, yellowish-white at the base turning to mid-brown at the tip. The flower segments are pale pink with a darker midstripe. The ripe fruit is spherical, small, an envelope of dry grayish skin enclosing 20-30 tightly set seeds with no flesh. The fruit lays low down in the axil, but only its very base could be considered as embedded within the body. The seed is black.

The classification of this new species is subject to diverging views. H. Rudzinski, on the basis in particular of the flower and fruit, relates *M. tepexicensis* with the *Longiflorae*, but D. Hunt

followed by J.Meyran compares it with *M. oteroi*, which would put it in the *Stylothelae* according to his classification, or in the *Prolifera-Gruppe* according to W. Reppenhagen. We encourage the reader to pick up his collections of old journals, and compare H. Rudzinski's REMphotographs of *M. tepexicensis's* seeds with those of the seeds of *M. oteroi* (CSJA 47(2):94-96, 1975) and of *M. stampferi* (KuaS 30(8):185-187, 1979). It is quite dear that a close similarity on this ground can be found between *M. tepexicensis* and *M. stampferi*.

The only other hook-spined Mammillaria of the Sierra Mixteca is *M. zephyranthoides*, and not too far one can also find *M. heidiae*, *M. tonalensis* or the members of the *M. rekoi* complex: none of these presents the slightest resemblance with *M. tepexicensis*. The comparison with *M. oteroi* is naturally quite tempting, as it is a close neighbour of *M. tepexicensis*. But we however strongly feel that it should be rejected in favour of an association with the *Longiflorae*. In favour of this, we would cite the general appearance of the plant, and the characteristics of the fruit and seed - in fact, except for a much smaller size, *M. tepexicensis* falls perfectly well within the description of *M. starnpferi*! Should one look at it as a dwarf or neotenous form of the latter? Against this theory, we do have to note that the Sierra Mixteca, Oaxaca, is 900km to the south-east of El Salto, Durango, birthplace of the other hooked-spined *Longiflorae*.

As to the comparison with *M. oteroi*, we must say that we are tempted to reject, in view of the different characteristics of both fruit and flower. But we shall let each of our readers decide for himself!

ML 250. *Mammillaria hernandezii*. Sierra Mixteca, Oaxaca.

ML 186 = FO 177. *Mammillaria texipecensis*. San Pedro Nopala, Sierra Mixteca, Oaxaca.