Mammillaria scheinvariana submerged

Bill Weightman recounts a visit to see *Mammillaria scheinvariana* in habitat, before the entire site disappeared under the water of a man-made dam. Photography by the author.

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The Series Stylothele of the genus *Mammillaria* contains a number of species that could hardly be called the most spectacular of cacti but they are of considerable interest to the *Mammillaria* specialist. Several extra names have been created over the years for species in this Series which have only minor differences from their fellows and the taxonomic confusion so caused raises many problems for the non-specialist. "Fitz" and Betty Fitz Maurice of San Luis Potosi, Mexico have studied this group of plants over many years and their work has resolved many of these problems. Any serious student is strongly advised to consult their writings which have been published mainly in the US Society's journal but also in Arbeitskreises für Mammillarienfreunde (AfM), the German Mammillaria Society's journal, and the journal of The Mammillaria Society (GB).

But some of these species have calls to fame other than their physical appearance and *Mammillaria scheinvariana* is one of them. The construction of the Zimapan dam in eastern Queretaro involved building the dam wall across a narrow but very deep gorge and flooding the valley system for miles upstream. Some parts of these valleys had sheer precipitous sides, the scaling of which would have daunted any but a skilled rock climber, so what grew on them was quite unknown. Over the ensuing years, as the water slowly rose, these cliffs could be explored by using a boat. So it was that *M. scheinvariana* was discovered by Rafael Ortega and described and published by Ortega and Glass in 1997. Therefore this plant becomes, as far as I am aware, the only cactus discovered by boat! Ortega named it for Dra. Leia Scheinvar who had co-operated with him in identifying plants found during the operation.

Figure 2 The wall of the dam, the "presa de Zimapan"

I was fortunate in being able to take part in one of these boating explorations in 1995. At this time the level of the water was well on the way to reaching its maximum height, having about a further twenty metres to rise. The complicated arrangements to make the trip had been undertaken by Sr. Manuel Rivas, a gentleman living in the nearby town of Tequisquiapan. These arrangements seemed to have involved dealing with just about every official in the state! Our party consisted of Manuel Rivas, "Fitz" Fitz Maurice, Charles Glass, Derek Bowdery, an official "guide", the boatman and myself. The authorities insisted that their official guide came along with us and he spent the day apparently quite bemused by our activities. We were rather a large party for a rather small boat and I tried to forget the hundred metres or so of water beneath us as we chugged slowly along the margins of the lake.

M. scheinvariana had already been discovered at this time but had not yet been

Figure 1 (on previous page)
Cliffs bordering the lake, with columnar cacti waiting to be drowned as the water level rises

Figure 3 ***Mammillaria*** **(*crinita* subsp.)** ***scheinvariana*** **in the collection at CANTE in San Miguel Allende**

described. This was due to some uncertainty as to the identity of the plant. Some of the populations included plants with hooked central spines while others did not. It was eventually concluded that the plants with the hooked spines were naturally occurring hybrids with *M. crinita* which grows in the same area. "Fitz" Fitz Maurice accepts the individuality of the new plant but considers it a subspecies of *M. crinita.* It is a small plant, about 5cm diameter and 2–3.5cm high and forming small irregular clumps. The numerous radial spines are hairlike giving the plant a shaggy appearance. Central spines are not usually present but, if so, are 9–16 mm long and straight, never hooked. (See references below for a fuller description.) At first glance the plant has quite a strong resemblance to *M. bocasana* but a closer inspection revealing the absence of hooked centrals is conclusive.

Now that the level of the water in the lake has reached its maximum height, all the known sites for the plant are submerged and, unless further populations are discovered, it must be considered extinct in the wild. Since this state of affairs was anticipated well in advance, plants were collected and taken to the CANTE Botanical Garden and propagated. In the following year or so I saw many young plants in their propagating facility. However, as is well known, it was not possible to export these plants. With the demise of the CANTE organisation the present whereabouts or

Figure 4 A clump of ***Mammillaria*** **(*crinita* subsp.)** ***scheinvariana*** **growing on the rocks, just above the rising water-level**

Figure 5 Numerous cacti drowning in the rising water-level of the man-made lake

even existence of these plants is unknown. A few specimens are to be found in a couple of research collections in Mexico and I have heard that plants have recently been offered commercially in Europe. Its continued existence in habitat depends on replanting conserved plants in a suitable environment in another canyon or, in the unlikely event of the present dam ceasing to function, restoring it to its original site. With such slender possibilities the future is bleak indeed.

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Alsterworthia International — Mr H Mays Tel/fax: 01995 679295
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Aloe, *Haworthia*, *Gasteria*, *Bulbine* related genera and cultivars.

The Chileans — Mr H Middleditch Tel: 0191 526 3324
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A study group for all South American cacti.

The Haworthia Society — Mr S Baker Tel: 020 8550 8846
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Aloaceae, including *Haworthia*, *Gasteria*, *Astroloba*, *Aloe* and *Bulbine*.

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