Huitzilopochtlia March 2018

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The left-handed postman has been nagging me lately and reminding me that it's a year since he last had anything from me to deliver. Well, there hasn't been any feedback for me to answer and haven't been back to Mexico since 2013. But on the positive side John Pilbeam has recently published a sumptuous gallery of photographs (many of them familiar from his excellent Handbook of 1999) that has both a 'retrospective' flavour and ("now and again") references to my treatment of individual species in my New Cactus Lexicon (2006) and recent 3rd edition of the CITES Cactaceae Checklist. They provide the sort of topics for clarification and discussion that make this Newsletter worth compiling.

Mammillarias proposed since the New Cactus Lexicon

In his recent new book, after his initial autobiographical introduction and acknowledgments etc, John Pilbeam (hereinafter JP) usefully lists 27 names of *Mammillaria* species or subspecies published since the New Cactus Lexicon (2006). Of these no less than 14 were proposed in the Bulletin of the German Mammillaria Society (MAfM for short), 3 in its British equivalent (JMS), 4 in that of the German C &S Society (KuaS), 4 in Lode's Cactus Aventures (CAv), 1 in Cactus World (BCSJ), 1 in Acta Botánica Mexicana (ABM). None of these, however, except the last-named, is a botanical journal (or so far as I know, one in which scientific articles are 'peer reviewed; prior to publication) and I regret that that has a bearing on how many of the proposed taxa meet what I regard as the conventional criteria for recognition as 'good' species or subspecies that I set out in Mammillaria Postscripts 2: 5 (1990).

As compiler of the 3rd edition of the *CITES Cactaceae Checklist* (2016) I could only positively accept the remarkable *M. bertholdii* as a distinct new species and referred most of the others to the species with which I think they are closely related to await further evaluation based on fieldwork etc. I did not include any of the proposed subspecies in the Checklist as they are automatically covered by CITES under the species in which they are included, or any of the names that merely represent changes of rank and/or classification, which are similarly covered.

JP lists the places of publication of all the names in his list and briefly indicates their fate at my hands in the Checklist. My own comments on some of them follow here but first I need to emphasize that the way the words 'synonym', 'synonymy' etc are applied in taxonomy are rarely intended to mean 'the same as' or 'equal to' but more usually something like 'closely allied' or 'akin to' or 'of the same group as' – expressing an opinion rather than a fact, often with the aim of making a classification easier to understand. In the *New Cactus Lexicon*, I used an arrow symbol, rather than '=' to indicate the preferred name and identity of taxa treated as 'synonyms' and in the new edition of the CITES Cactaceae Checklist I used the keyboard

symbol '>', implying, like the arrow 'towards' or 'close to', or 'subsumed under' in preference to 'sunk' which sounds rather too dogmatic!

First what I call the the 'Standleyi group'. Six of the 'new species' are from scattered localities in NW Mexico. I commend (and envy!) those who have visited accessible parts of that vast mountainous area and provided descriptions and photographic evidence of the plants, but can only regard these 'species' as pieces or place-markers in what is the very complex but incomplete and poorly understood jigsaw puzzle of the genus up there. Since they appear to be closely allied to others previously named, and I have no hands-on knowledge of them, I can only treat them all as referable to *M. standleyi* in the widest sense, not meaning that I think they are all the same, but that there is insufficient information as yet to decide which do or don't deserve recognition alongside the pre-existing taxa. JP has helpfully collated a good selection of images of them his book on pp. 213–215, leaving lumpers and splitters to make up their own minds and at present I think that is the most sensible option.

M. cielensis

Before it was published I was asked to review the ms of *M. cielensis,* its type locality close to that of *M. zublerae,* and I recall that it seemed to be based on a mixture of that species and *M. prolifera,* but my comments were not accepted and its publication went ahead. If anyone reading this has come across it, please contact me and express an opinion! *M. huntiana* (pp. 115–117), also proposed by Mexican authors, is a more extraordinary concatenation of two well-known species.

M. columbiana ssp. jamaicensis

The author of *M. jamaicensis* also contacted me before publishing its name but rejected my advice (see Cact. Succ. Init. 18: 8–10. 2004). I had received photos of the plant many years before, and identified it as a disjunct record of *M. columbiana* but my advice was ignored. JP has slightly muddled the waters by captioning my photo (his book, page 42) 'Jamaica' – it was taken in Venezuela – and quoting a later CSI reference.

M. dioica ssp. swinglei.

Walter ten Hoeve (J. Mamm. Soc. 53(1): 14–17 (2013) made quite a strong case for believing *M. swinglei* is a form of *M. dioica* (otherwise confined to Baja California) rather than *M. grahamii*. If he's right that would be an interesting range extension but, as JP puts it, 'the jury is still out on this one.'

M. eriacantha ssp. velizii

Without doubt another interesting range extension but apart from that I can't see how the Guatemalan plant differs from its Mexican cousin.

M. eumorpha

This was based on a Reppenhagen collection from San Luis Potosí, Villa de Reyes (a town c. 40 km S of the city), and his ms, unpublished at the time of his death in

November 1996. At first, we are told, Reppenhagen thought it was related to *M. formosa* (ser. Leucocephalae) and wanted to name it *M. pseudoformosa* but later decided there were too many differences from the 'Sempervivi Group' so he chose to rename it *M. eumorpha*. The eventual authors decided it was a member of ser. Mammillaria, apparently because "The areoles show a great affinity to plants called *M. saint-pieana*, belonging to the relationship of *M. gigantea*. Even *M. lloydii* from the Ahualulco area shows a certain similarity." Indeed it does (see pp. 119–120).

M. hermosana

JP tells us that Thomas Linzen's *M. hermosana* was in cultivation for some years as '*M. schrotti[i]' nom. nud.* looking like a pink-flowered *M. lasiacantha*, which it certainly does. Like *M. hyalina* (*M. wohlschlageri*) and *M. roemeri*, it is a native of Zacatecas, which suggests to me a reappraisal of the various subspecies and forms allied to *M. lasiacantha* would be desirable. Perhaps someone who has specimens of the plants, including *M. egregia*, *M. magallanii and M.stella-de-tacubaya* if possible, could undertake a critical comparison of them all?

M. huntiana (illustrated overleaf)

Not everyone wants to have a species named after them, especially if they did not discover it and/or it relates to species already known and may be effectively stillborn. Regrettably, this is the case of *M. huntiana*, of which I knew nothing until I saw it newly described in an article in the Journal of the Mammillaria Society (vol. 54(2): 42–55. 2014). I think any serious Mammillaria enthusiast who looked at the article would have realised, as I did, that the proposed 'new species' is actually a mixture of local forms of the two clearly different but sympatric species with which it was compared, *M. winterae* ssp. *aramberri* and *M. roseoalba*. Curiously, also, it does not even seem to have occurred to the authors that there might be some *hybrids* in the population in which the holotype of their "new species" was found. But their lengthy article was accepted by the Editor, evidently without subjecting it to 'peer review'.

In view of its problematic origin, I did not list *M. huntiana* in the CITES Checklist and JP merely says 'Perhaps referable to *M. roseoalba* according to David Hunt (personal correspondence).' I don't *think* I actually said that unless I added 'and *M. winterae*'. According to the International Code of Nomenclature (ICN Art. 9.9) it has to be treated as a synonym of *M. winterae* ssp. *aramberri* – because that is the actual identity of the holotype, *L. García Morales* 755 (ITCV*), not *M. roseoalba*.

M. rischeri

That only leaves *M. rischeri*, dismissed by JP as "A description of a differing spine form of *M. picta.*" *My word!* JP turned lumper at last!

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Forms of *M. winterae* ssp. *aramberri* (above) and *M. roseoalba* (below) confused and combined by the Mexican authors as a new species, *M. huntiana* (photos reproduced by courtesy of Chris Davies from J. Mamm. Soc. 54(2): 42–55 (2014) See page 115.



M. huntiana García-Morales et al. Illustration by L. Rodriguez based on the type specimen, *García-Morales* 0755 ITCV (*prior to preservation*). A, plant habit. B. A detail of the tubercle and spine. C, D, E, F. Details of the external and internal perianth segments and the color of the fruit G. Fruits. (photo reproduced by courtesy of Chris Davies from J. Mamm. Soc. 54(2): 43, 2014). See page 115.

TLD (this looks different)

"There has been much amalgamation of names in the last tweny [*sic*] years and David Hunt led the onslaught on this genus...During the meetings I attended prior to the publication of... *The New Cactus Lexicon* I gave birth to the abbreviation 'TLD' when the lumping got too much for me to bear..." JP.

Mammillaria albicans

From the start of his A–Z gallery of photographs JP puts his stamp of authority on the TLD approach: [*M. fraileana* ssp. *albicans*] " is herein regarded as a separate species". It is indeed separated from *M. fraileana* (described a few years earlier) by some kilometres of (shark-infested?) Golfo de California on its small island of San Dieguito though its co-synonym *M. slevinii* is confined to the mainland so at least it could be said to deserve its treatment by me as a geogaphical subspecies (but see *M. fraileana* below). But a few words on how it actually differs would help those who've not had the chance to go there.

M. albiflora

JP (supported by Charlie Glass) regards 'provisionally accepted' as too little respect for this '*Doppelganger*' of *M. herrerae*. It was certainly one of Charlie's favourites, and in 2002 he kindly took me to see it at its only? known locality in Guanajuato; *M. herrerae* hails from Querétaro. So perhaps the two would be better treated as geographical subspecies?!



Mammillaria albiflora S of Pozos, Guanajuato with Charles Glass, 2002. Note the flowerbud on the left-hand specimen. *(photos: DH)*

M. amajacensis

JP is also unhappy with my referral of this taxon, known from one locality in Hidalgo only, to the very variable *M. orcuttii* in San Luis Potosí, as he "maintained" in an article in the US journal (vol. 84(6): 294–297. 2014). Good, I thought, he'll tell us how it differs. No such luck. Most of the article was about *Echeveria halbingeri* which his group travelled to see in the same area. Only a couple of lines to say *M. ama*-



Illustrations of *M. orcuttii* at the Valle de los Fantasmas, Sierra de Alvarez, San Luis Potosí, and *M. amajacensis* near Puente de Dios, Hidalgo. Are they different species?



Two illustrations of variants of *M. orcuttii* at the Valle de los Fantasmas, Sierra de Alvarez, San Luis Potosí, from my article in BCSJ 17(4): 188–190 (1990).

jacensis had been 'arbitrarily' referred to *M. orcuttii* in NCL, "but I do not buy this at all, having grown both and seen both in habitat, over 200 km from each other". OK, again there is a substantial disjunction between the localities but that doesn't make them different. What does? [TLD does not = QED in this business].

The history of *M. amajacensis* is what might be called a cautionary tale. It seems my 'Species Nova?' note in Mammillaria Postscripts 5: 7 (1996), mentioning that the name had not been formally published, led Christian Brachet and Michel Lacoste "to proceed" to the "rediscovery" of the plant and subsequent validation of the name in the US journal.

Curiously, as it may transpire, the plant was first thought to be *M. lloydii* (by Sánchez-Mejorada) in 1955 and later by him as M. sempervivi. Glass & Foster also initially thought it was M. lloydii and later M. sempervivi var. tetracantha. Brachet & Lacoste thought it was "much more closely related to the *M. hahniana* complex and in particular to those species which have few or no radials, such as M. mendeliana". What seems clear to me from their illustrations and my own observations is that all the milky-sapped (laticiferous) species on the western flank of the Sierra Madre Oriental have an inbuilt capacity for developmental- and habitat-related variability in their spination (and axillary wool production) unparalleled in the rest of the genus. Though I did not see the 'Rio Amajac' species on an abortive trip to Puente de Dios with Hernando Sánchez-Mejorada in the early 1970s, I do remember being thoroughly confused by the variation I saw in M. orcuttii on my visit to the Valle de las Fantasmas with Fitz Maurice in April 1992 and the way it seemed to morph into something more densely woolly on the descent towards Santa Catarina. Since then I have had a similar experience on my 2013 visit when plain-looking, literally nondescript plants se of Santa Maria del Rio (Huitz pp. 91–93), that looked something like M. woodsii (and are still unnamed) morphed after El Realito into more elegant and desirable (albeit white-haired) allies of *M. hahniana*.

M. aureilanata

A minor skirmish here concerns the supposed omission of Glass's form of this species from NCL and the CITES Checklist (neither of which lists varieties or forms!).

M. bombycina

Basing his opinion on their differing growth habit JP finds "the amalgamation of this with *M. perezdelarosae* [as subspecies] hard to accept..." [TLD]

M. brandegeei

Not now accepted by me, *M. lewisiana* is maintained by JP as a subspecies "for its distinctly different spination and small size" [TLD]. Distinctly? How?

M. bullardiana

As JP says, this has long been sunk under *M. hutchisoniana*, and indeed unceremoniously so by Craig, whom I have hitherto followed – as it now seems, uncritically, though I have not forgotten the illustration of a plant in the Maddams' collection in their commentary on the 1973 CSSGB seedlist and their comment that it could justifiably be described as a gem. It was accepted as a variety of *M. hutchisoniana* by Reppenhagen, and as a species by JP, who illustrates two very different-looking seedlings seed-raised from the type locality, one with the largish pinkish flowers described by Gates that certainly distinguish it from those of *M. hutchisoniana*. One of the images on the internet *Mammillaria Forum* also has largish pink flowers but all others are disqualified by smaller white or whitish flowers.

With *M. capensis* and *M. schumannii* down there too, and others not far off around the corner towards La Paz, I cannot help wondering if there might not have been some exchange of genes going on in the past to confuse us. But I can agree with JP that *M. bullardiana* needs consideration if not recognition at some level.

M. columbiana

We are on safer ground with letters 'C', 'D' and 'E' though I have had to remind JP that my photo on page 42 was taken in Venezuela, not Jamaica,

M. fittkaui

Letter 'F' presents one or two problems, the first concerning *M. fittkaui* and of my own making, since on turning to my entry in NCL I realised that it was referred from the key (page 147) to my Series [10] (Stylothelae) which was a typo for **[9]** (Lasia-canthae, formerly Bombycinae)*. Here, the inclusion of *M. limonensis* as a subspecies JP finds 'a little surprising' (the combination was made by Jonas Lüthy in 1995) and 'even more so' *M. manana*, described by the Fitz Maurices (BCSJ 24(1): 7–11. 2006). Unfortunately, JP's illustration of alleged *M. manana* shows no sign of central and hooked spines and is difficult to reconcile with those accompanying the description. The fruit (white below, pink above) is similar to those of *M. jaliscana* etc.

*As I mentioned in the previous issue of this newsletter (page 105), this involves a broader change in my ideas on classification which would include reinstating the Bombycina group (which, for me, includes *M. fittkaui*, *M. jaliscana*, *M. limonensis* etc).– DH

M. fraileana

In support of his defence of *M. albicans* as a separate species and in addition to its "very different aspect" [TLD], JP says *M. albicans* is found only on limestone, whereas *M. fraileana* grows in "non-limestone", whatever that might be. His argument could be persuasive given more conventional geological information.

M. glochidiata

JP's pink-flowered images of the nebulous *M. glochidiata* are disqualified N.A.S (not as Schedule; the original was white-flowered) and the third could be a form of *M. crinita*.

M. goodridgei

No one knows (fortunately, because the name would displace a better known one) what that was (or how to spell the gentleman's name), but JP's main image (*M. blossfeldiana*, surely?) of a plant with red stigmas, or the other one with dark green stigmas, do help fill what might otherwise have to be a blank page!

M. lloydii

I don't think I need comment just now on anything in letters 'H'-'K' but that brings us to 'L' and JP's fascination with what he thinks is *M. lloydii*. I had long thought the odds were stacked against him as the original *M. lloydii* was reportedly collected in Zacatecas, though without more precise locality, and the original description and illustration, calling for 'axils of young tubercles only slightly woolly, and central spines none' bore his plant little resemblance (see next page). However, it transpires that JP's locality for it (Ahualulco) is close to the SE corner of Zacatecas close to the boundary with in San Luis Potosí, north of the city, so the collector might not have known which state he was in. Also, it seems it was from at or very close to this locality that *M. lloydii* was reported half a century ago by Glass & Foster (CSJA 43 (4): 178.1 970) who saw it during their Mexico trip in 1968 growing 'quite rare' among thousands of *M. uncinata* "with up to three hooked centrals!" and various other cacti.

That really only leaves the appearance of JP's plant, with its conspicuous central spines and densely woolly tubercular axils, in sharp disagreement with Britton & Rose's original description and illustration. Those features suggested a species of series Mammillaria akin to *M. uncinata* but with no central spines, whereas JP's plant looks like a member of the Leucocephalae, of which the variable *M. formosa* and *M. orcuttii* are closest, and now *M. eumorpha*, at least geographically.

Yes, enter *M. eumorpha*, originally named *M. pseudoformosa* by its collector, the late Werner Reppenhagen, who had found it near Reyes, a town some 40 km south of San Luis Potosí. He soon discovered that seedlings and young plants looked quite different from those of *M. formosa* and decided to call it *M. eumorpha* instead but did not get round to publishing it. The story is told very fully in the introduction to the comprehenisve published diagnosis and description by Mario Tamegger and Rudolph Knees, the latter Reppenhagen's helper in his final years and eventual successor (MAfM 32(3): 122–133. 2008). It is really no wonder that Reppenhagen was puzzled by the plant, which seems, like *M. lloydii*, to start life as a 'green' Mammil-



Left, Mammillaria lloydii. The type plant, *Lloyd* 55, flowering in cultivation at Washington prior to preservation. (illustration from Britton & Rose, The Cactaceae 4: 89. fig. 82). *Right, M. lloydii sensu* Pilbeam in cultivation from San Luis Potosí. *Photo: John Pilbeam*

laria (series Mammillaria) but morphs [*sic*] into a beautiful woolly plant mimicking the Leucocephalae except perhaps in its flowers. As the authors admit, it shows 'a certain similarity' to *M. lloydii*, so much so I must cast away my doubts that JP's plant was correctly identified and wait with bated breath to see if he thinks *M. eumorpha* rates as TLD, or a *Doppelganger* perhaps, or merely 'a form of' and I am left wondering how it was overlooked till 1989 and whether, possibly, it (and *M. lloydii*) could be of ancient hybrid origin.

M. multihamata

Among the 'M' species, my theory that *M. multihamata* is the original name for *M. marcosii* needs brief revisiting since JP would not have seen my report and images in the previous issue of this newsletter (page 105). Having seen both *M. marcosii* and its uniquely impressive roadside locality, I am the more convinced that it is the long-lost *M. multihamata* so Boedeker's 1915 name should be reinstated.

M. pottsii

With no serious complaints arising in 'N' or 'O' my next comment concerns *M. pottsii*, which as JP says, sits uncomfortably in series Leptocladodae and seems to have no close relatives (unless perhaps *M. sphacelata*?). Neither its seed-morphology nor its cpDNA resolution tell us anything useful.

M. prolifera

Another 'P' puzzle is the yellow-spined form of *M. prolifera* which JP thinks needs a name. With more habitat data it might be analogous with its close relative *M. viereckii* (the paler-spined and more freely clustering form of the brown-spined *M. picta*), but I think *forma* status should be sufficient recognition for such spine-colour forms.

M. roseoalba

Under 'R' I have only to correct JP's misapprehension, mentioned earlier, that the chimaeric *M. huntiana* is referable to *M. roseoalba*. Under the rules of nomenclature it is referable *M. winterae* ssp. *aramberri*, that being the identity of the holotype specimen.

The letters 'S'–'Z' seem remarkably free of controversy, though I am not in favour of reinstating the nebulous *M. voburnensis* which is not recognized even in Mario Véliz's' *La Cactáceas de Guatemala* (2008). Of course there are still many taxonomic topics open to discussion and many areas where weeks or months of dedicated fieldwork are needed but no longer practicable for ageing enthusiasts like JP and myself.

From my Mexican notebooks

I have had the good fortune to visit Mexico more than a dozen times (14) though, as I explained (back on page 5), most of my visits were not primarily focussed on Mammillaria. I have written about those in 1969 and 1971 fairly fully, about parts of the 1974 and 1986 visits more briefly, and about my week in 2013 with Ulíses Guzmán in the two previous issues. That trip was at the beginning of July, directly after I spent a week In southern Mexico with Salvador Arias, and that was partly a sequel to my visit with him in December 2011 when we had visited the Tehuacán area at my request to study and discuss the relationships of the columnar cacti (see Cact. Syst. Init 27: 24–32. 2013).

21-29 June 2013

We left Mexico City at around midday, stopped for a coffee close to Tehuacán and turned on to the Mex 125, stopping above San Andrés Texcala for some general botanizing in that cactus-rich area, dominated by *Pachycereus* (now *Cephalocereus*) *fulviceps*, though the only *Mammillaria* encountered in a brief search was our old friend *M. carnea*.

We returned to Tehuacan for the night and continued next morning to Cuicatlán via the Mex 135, south of which I wanted to search for a species of *Callisia* (Commelinaceae) known to me only from herbarium specimens, but I was out of luck. There weren't many cacti in that well-watered and forested area either but higher up, towards Telixtlahuaca, I spotted the white-spined *Mammillaria* (next page, top right) which, judging by its spination, had perhaps endured some years of alternating rain and drought, or is there another explanation? Higher still Salvador took us to a locality where he had previously seen *Aporocactus martianus* and was delighted to find it again with ripe fruit. From Telixtlahuaca we returned to Tehuacán on the then recently built Tehuacan–Oaxaca federal highway Mex 150D.

Next day we took the Mex 125 again for Salvador to show me the impressive stands of *Neobuxbaumia macrocephala* beyond Zapotitlán – and to convince me the few I had previously seen were not hybrids! – then on to see stands of *N. mez-calaensis* before the town of Santiago Chazumba. But the highlight of the day was

(continued on page 128)j



[A] *M. carnea* [DH 136149] Puebla, above San Andrés Tlaxcala, *2*1 Jun 2013; [B] Strange form of *M. albilanata*? [DH 136173] Oaxaca, between Cuicatlán and Tepelmeme, c. 1060 m 22 Jun 2013; [C–E] *M. pectinifera* ssp. *solisioides* [136290, 136287, 136278] Oaxaca, near Huajuapan de León, 23 Jun 2013.



[[F] *M. albilanata* [DH 136347] Oaxaca, Ν of Juxtlahuaca,1650 m, 24 Jun 2013; [G] *M. supertexta* [DH]1136407] Oaxaca, near Totolapa, 1150 m, 25 Jun 2013; [H] *M. karwinskiana* ssp. *collinsii* [DH136415] Oaxaca, Cerro Guiengola, c. 200 m, 26 Jun 2013; [J] *M.beneckei* seedling [DH 136452], see [K] next page.





[K] Seedlings of *M. beneckei* (*M.guiengolensis*) in an apparently natural seed-bed. [DH 136450] Oaxaca, Cerro Guiengola, c. 300 m, 26 Jun 2013. [L] *M. karwinskiana* [DH 136526] Oaxaca, Cerro Guiengola, c. 300 m, 26 Jun 2013.



[M] M. karwinskiana [DH 136528] Oaxaca, Cerro La Mata, 16°37′N / 94°:58′w, 90 m, 27 Jun 2013.

to come, near Huajuapan de León, where Salvador knew a locality for *M. pectinifera* ssp. *solisioides,* probably a site that has been exploited because there were only a few small plants to be seen and the site itself is threatened by urban expansion.

From Huajuapan the following morning we took the road Juxtlahuaca where Alfred Lau had collected a new species of Commelinaceae and sent me material which I described as *Phyodina laui*, later included in *Callisia*. I hoped to find material for DNA sequencing in Mexico but was unsuccessful, only finding a few plants of *Mammillaria albilanata* by way of compensation.

We stayed that night in Tlaxiaco and drove all the way via Oaxaca to Tehuantepec the following day, with a stop near San Pedro de Totolapa to see and discuss *Cephalocereus totolapensis*, a taller growing form of *C. apicicephalium* that Salvador prefers to treat as a separate species. Our visits to Guiengola and other localities at low elevation nearby the following hot and humid days were full of botanical interest though we could not reach Nizanda as I had on an earlier visit as at one point the road was flooded too deeply to risk fording it.

We returned to Oaxaca [city] on 27 June and made a detour to Iguala on the 28th as Paul Hoxey had found a little-known *Thyrsanthemum* (Commelinaceae) not far from there I had named many years earlier after Dudley Gold, *T. goldianum*. With Paul's GPS data we found it quite easily, and in flower, the following morning, before returning swiftly to Mexico City, where Salvador had an engagement later in the day.

