Coryphantha missouriensis with pectinate spines

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Unusual spination in *Coryphantha missouriensis*. Photos by the author.

Two years ago, I purchased a pair of small plants of *Coryphantha missouriensis* from the same vendor at the same time. I did not think much of them when they first arrived, simply being a pair of small typical looking *Coryphantha* plants, both of which looked just like one another. I even planted them next to one another. Both plants have been growing fairly vigorously, and have grown much larger over their two growing seasons in Canada. They seem to survive harsh Ontario winters quite well, with tubercles becoming somewhat wrinkled in autumn and winter, as well as taking on a nice pink colour as betalins accumulate in their epidermis during these seasons.

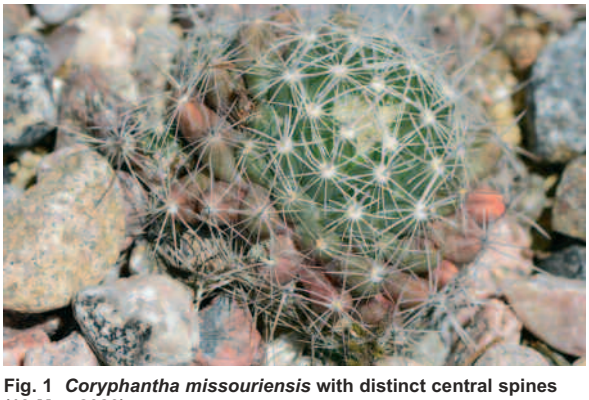

Fig. 1 ***Coryphantha missouriensis*** **with distinct central spines (13 May 2020)**

Fig. 2 ***Coryphantha missouriensis*** **showing pectinate spines (13 May 2020)**

While these two plants initially looked identical, they have diverged morphologically. One specimen has grown one central spine per areole; the other has not. The plant with central spines is starting to offset; the other plant is not. The plant with central spines is becoming hemispherical; the other plant is growing much wider but less tall, ie is becoming a flattened disk. But most curiously, the plant without central spines is now consistently growing pectinate (comb-shaped) radial spines and the other plant is not. A quick survey of the literature shows absolutely no mention of pectinate spines in *C. missouriensis*, although at least one book shows a photo of this species with pectinate spines (Barnett & Barnett, *The Cactus of Colorado*, 2016).

Pectinate spines are an unusual enough character in cacti, that their possible occurrence in *C. missouriensis* should be mentioned in any descriptions of this species. Because these are such charming plants that did so well in such a harsh climate, last year I acquired four other specimens, all of which did well through the past winter. But, so far, only one of the six specimens has pectinate spines. Given the huge geographic range of this species, from just south of the Canadian border in Montana and North Dakota, all the way southeast to East Texas, and into far western Arizona – see the online distribution map in *Flora of North America* (2003) – variation should be expected, albeit not necessarily from a pair of plants that were probably propagated from a single fruit.

Editor's note: The *New Cactus Lexicon* and others include this species as *Escobaria missouriensis*. When Hunt made the combination in 1978, he stated that *Escobaria* (with *Neobesseya*) represented an evolutionary lineage independent of *Coryphantha*, as well as highlighting differences in seed structure and other morphological features. However, this view was not accepted by all (mainly a North American and European split) and the author chooses to retain *Coryphantha* as a species in this instance.

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