Spines growing outside areoles in a Gymnocalycium vatteri specimen

Author: Basiuk, Vladimir A.

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VLADIMIR A. BASIUK*

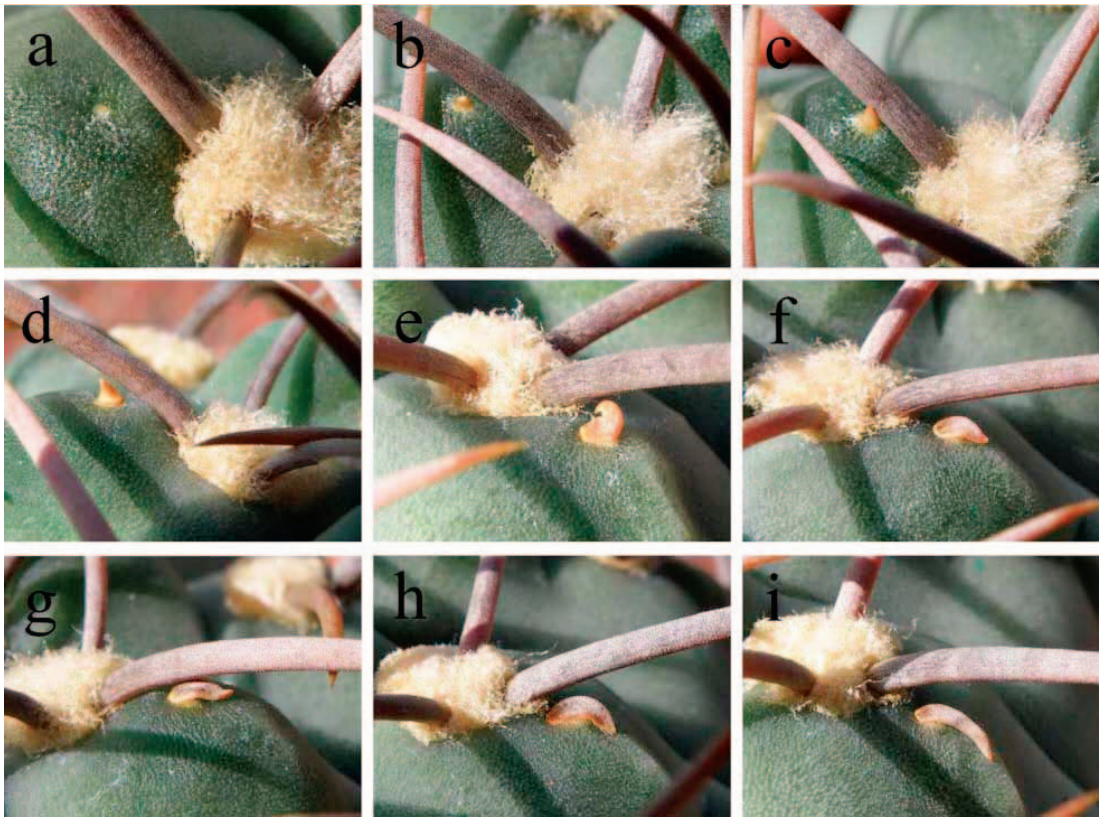
Spines growing outside areoles in a *Gymnocalycium vatteri* specimen

Anomalous sites of spine growth were noticed in one specimen of *Gymnocalycium vatteri*. The specimen was grown from seed, received from Kakteen-Haage (Germany) in August 1986, and germinated in December 1986 (Kiev, Ukraine, neon light indoor greenhouse). From May 1988 to August 2003, the plant was grown on a windowsill. In August 2003, it was brought to Mexico City, and until January 2006 was again grown on a windowsill. From January 2006 until the present, it is in an open-air greenhouse (state of Morelos, Mexico).

This year, an anomalous emergence of small secondary spines was noticed outside areoles. Figure 1 shows the specimen. Namely, these spines appear ca. 2-3 mm below one-year-old areoles,

* *Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México, Circuito Exterior C.U., 04510 México, D.F., Mexico*
Phone: (52) 55 56 22 47 39, ext. 2224 Fax: (52) 55 56 22 46 93 E-mail: basiuk@nucleares.unam.mx

1 General view of the specimen of *Gymnocalycium vatteri*: the secondary spines (marked with red circles) appear below one-year-old areoles, but are absent at younger ones. Photo: V. A. Basiuk.



2a–i Images illustrating different development stages of the secondary spines: *a* the spot where a spine will appear; *b, c* young spines, conical shaped and shorter than 1 mm; *d* a young spine of ca. 1 mm, starting to bend; *e* a spine bent to the direction opposite to normal one; *f, g* tilde-shaped spines, about 3 mm long; *h, i* the oldest secondary spines found, ca. 4 and 5 mm long, respectively. Photos: V. A. Basiuk.

without having any visible connection with the latter. Figure 2 shows different development stages of these secondary spines. First, the site where a spine will appear can be found as a small spot on epidermis (Figure 2a). The youngest spines detectable are conical, and shorter than 1 mm (Figure 2b, c). After reaching 1 mm in length, the young spine starts to bend (figure 2d). In most cases, the bending is outward from the plant apex (figures 2f-i). More rarely, the hook-shaped spines bend toward the apex (figure 2e). 'Normally' oriented, more mature spines can be tilde-shaped (figure 2f, g) or just curved (figure 2h, i). The longest/oldest secondary spines found reach 5 mm in length.

The origin of this phenomenon is, so far, unclear.

LITTLE BITS OF PEOPLE HISTORY **by Chuck Staples,** CSSA Historian

Nathaniel Lord Britton (1859–1934) was the US geologist and botanist on the Geological Survey of New Jersey 1978-84. He founded the Botanical Society of America in 1893 and its president 1898 & 1920. Britton was a founding member of the New York Botanical Garden 1896–29. He was appointed research associate of the gardens from 1912 while working as senior partner with Joseph Nelson Rose (1862–1928) on *The Cactaceae* book project. Britton was Honorary President of CSSA from when it was founded in 1929 and was its first Life Member. The NY Botanical Garden

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