

TYPIFICATION OF *GYMNOCALYCIUM QUEHLIANUM* (CACTACEAE)

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ABSTRACT: Metzinger, D., Kiesling, R., Meregali, M. 1999. Typification of *Gymnocalycium quehlianum* (Cactaceae). *Hickenia* 3(3): 9-11.

To stabilize the current use of names in *Gymnocalycium*, a neotype is designated for *Echinocactus quehlianus* (= *Gymnocalycium quehlianum*), which is the type of infrageneric taxa in two different classification systems.

Keywords: *Gymnocalycium*, Cactaceae, Typification, Argentinian Flora.

Palabras clave: *Gymnocalycium*, Cactaceae, Tipificación, Flora Argentina.

The genus *Gymnocalycium* Pfeiff. ex Mittler is a genus of globular cacti with about 40–50 species distributed in Southern Brazil, Paraguay, Bolivia, Uruguay and Argentina (Barthlott & Hunt, 1993, Kiesling, in press). The genus was named in 1844 (Eggli & Metzinger, 1992), but only after the work by Britton & Rose (1922) it gained general acceptance. The infrageneric classifications are mainly based on seed characters (Kreuzinger, 1935; Schütz 1962, 1969; Buxbaum, 1968). As true for many other popular genera of Cactaceae (Hunt, 1991), a great number of specific and infraspecific names has been described, most of them poorly defined and/or not typified up to now (Metzinger et al., 1995). This led to confusion and in several cases the identity of taxa was discussed. This paper deals with one of these disputed names, whose typification is necessary to stabilize the current interpretation.

Gymnocalycium quehlianum (F. Haage ex Quehl) Vaupel ex Hosseus is based on *Echinocactus quehlianus*, which was published by

Quehl himself (1899), but attributed to F. Haage (Metzinger et al., 1995). No type was designated and no illustration was published in the original description. No original material is existing in any herbaria. Although no seed characters were mentioned in the original publication, this name since Kreuzinger (1935; the first publication about the taxonomical importance of seed morphology in *Gymnocalycium*) was attributed by all taxonomic treatments and popular publications (e.g. Cole, 1953; Backeberg, 1959; Buxbaum, 1968; Schütz, 1969; Frank, 1975; Putnam, 1978; Meregalli, 1985; Schütz, 1986; Pilbeam, 1995) to a species native to the Argentine province of Cordoba, belonging to a group of species with brown helmet-shaped seeds. This group was classified as subgen. *Trichomosemineum* Schütz in the system of Schütz (1969), or ser. *Quehliana* Buxbaum in the system of Buxbaum (1968). *Gymnocalycium quehlianum* is the type species of both infrageneric taxa.

However, Till (1993) suggested that the name *Gymnocalycium quehlianum* should be applied to another taxon, with different seeds

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and belonging to subgenus *Gymnocalycium*. In the subsequent discussion this interpretation was rejected by several authors (Meregalli, 1993; Lambert, 1993; Schmidt, 1993; Metzging et al., 1995). Up to now, no definitive solution to this problem was given.

The problem arises by the fact that in *Gymnocalycium*, as well as in other cactus genera, there exist sympatric populations of plants which, although not closely related, show a high phenetical similarity [e.g. *G. albiareolatum* Rausch (subgenus *Microsemineum* Schütz) and *G. kieslingii* O. Ferrari var. *albiareolatum* O. Ferrari (subgenus *Gymnocalycium*) cf. Lambert, 1987]. In these instances the identification of a single individual, without knowledge of seed or floral characters, may hardly be possible. In the case of *G. quehlianum* there are phenetical similar populations in Cordoba, belonging to subgen. *Gymnocalycium*, to whom the name *G. quehlianum* was applied by Till (1993).

The protologue of *G. quehlianum* does not mention the seeds and not even the floral characters. Therefore, it does not give any univocal indication to ascertain whether the name must be applied to the species in subgenus *Trichomosemineum* or to the species in subgenus *Gymnocalycium*. The form of the root [“Wurzel dick, rübenförmig, wie bei *Ariocarpus*” (Quehl, 1899)] was considered by Till as a character not typical for *G. quehlianum* sensu mult. auct., and only applicable to the species in subgenus *Gymnocalycium*. Although not typical, tap roots may indeed appear in *G. quehlianum* (Lambert, 1993), as is also true for the here designated neotype specimen.

A photographic illustration, published by Quehl (1900) one year after the description, was claimed to represent the type specimen. This illustration, according to the ICBN (Greuter et al. 1994), can not be considered as original material as it was not available for the author when published *Echinocactus quehlianum*. Moreover, the depicted plant shows features which do not match the original description (number of spines, lack of thick, *Ariocarpus*-like root), thus adding more confusion (Metzging et al. 1995).

To preserve the long time and current usage of the name, which is common in cultivation (cf. Putnam 1978; Swales & Hunt 1989; Encke et al. 1994), and to avoid unnecessary nomenclatural instability without clear evidences, we select a specimen belonging to subgenus *Trichomosemineum* matching both the protologue and the present usage of the name as neotype of *Gymnocalycium quehlianum*.

Gymnocalycium quehlianum (F. Haage ex Quehl) Vaupel ex Hosseus, *Revista Centro Estud. Farm. Córdoba* 2(6): 22. 1926.

Echinocactus quehlianus F. Haage ex Quehl, *Monatsschr. Kakteenk.* 9: 43-44. 1899. NEOTYPUS (here designated): Argentina, Córdoba, Departamento Ischilin, entre Deán Funez y Cruz del Eje, sobre camino secundario, XI-1995, R. Kiesling & O. Ferrari 8711 (SI).

This typification stabilizes the following infrageneric names: subgen. *Trichomosemineum* Schütz and ser. *Quehliana* Buxbaum; but have *G. quehlianum* as type species.

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