

# *Cintia knizei*: A taxonomic review

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A summary of the present taxonomic status of *Cintia knizei* by its original author, who argues for its continued independence from larger genera.

The subject of this article is a very curious, almost geophytic plant, first found before 1987 by Karel Kníže (1987: 37) on the altiplano of the Cordillera Central, in the province of Nor Cinti, Department Chuquisaca, Bolivia, around latitude 19-21°S, at a very high altitude of around 4000m. Kníže distributed them under the provisional names *Cintia napina* KK 1768 from Otavi and *Cintia subterranea* KK 1815 from Lecori, the two then known locations. *Cintia* is based on the name of the province, Nor Cinti, while *napina* draws attention to its stout, tuberous root, and *subterranea* reflects its geophytic habit of growth.



Figs 1 & 2 *Cintia knizei* (Nor Cinti, 3300m) in a typical habitat of pure, eroded, mineral slate substrate. From the same area as KK1815 (Photos: Vaclav Seda)





The new genus *Cintia* Kníže & Říha was validated in the journal *Kaktusy* (1995: 35-37), where Říha also published the Otavi form as the new species *C. knizei* Říha (Kníže & Říha 1995: 38-39), following extensive research and comparison with other cacti from the same or neighbouring regions. Its type is Karel KNÍŽE 1768, deposited in the Prague herbarium (PR 11441).

The genus *Cintia* was created because the plant is one of those awkward, extreme adaptations that do not appear to

**Fig. 3 (left) *Cintia knizei* (Nor Cintí, E. of Camargo, Jatan Huasi, 3740m). A very desiccated plant (Photo: Vaclav Seda)**



**Fig. 4 *Cintia knizei* growing with *Rebutia (Weingartia) fidana* ssp. *westii* 'Lecoriensis' in habitat (Photo: Rudolf Slaba)**





**Fig. 5 (above) *Cintia knizei* in habitat  
(Photo: Rudolf Slaba)**

have any near relatives, like *Neowerdermannia* and *Yavia*, which occur in similar habitats.

Josef Halda (1998: 134) transferred the species into *Copiapoa*, recognising morphological similarities with copiapoa of the *C. humilis* group. This relationship, however, seems very unlikely, given the very large geographical and altitudinal differences.

It is the similar morphology which then led Mats Hjertson to make a new combination in *Rebutia*. In this case, *Rebutia knizei* (Rausch) Sida already existed, so a new specific epithet was required, and it was published as *Rebutia cintia* Hjertson (2003: 10). Hjertson stated that it was probably closest related to *Rebutia (Weingartia) neumanniana*.



**Fig. 6 *Cintia knizei*. A plant raised from seed in the UK, which is unusual for its spine development. Such spines are only present in juvenile areoles and are lost as soon as flowering begins (Photo: Roy Mottram)**





Fig. 7 *Cintia knizei* KK1768 (Nor Cintí, near Otavi, 4000m). A plant that has been in cultivation for 17 years (Photo: Vaclav Seda)

*Cintia knizei* actually grows in intimate association with a weingartia of that group, *Rebutia (Weingartia) fidana* ssp. *westii* 'Lecoriensis', yet does not hybridise with it (Fig. 4).

Rudolf Slaba (2005) has also discussed the possible affinities and concluded that the resemblances to other genera are manifestations of convergence. He also added further to the known range of distribution, enlarged to include populations 100km apart and at lower altitudes, down to as low as 3150m.

Having reassessed all the evidence, the present writer remains convinced that *Cintia knizei* is unrelated to either *Rebutia* (Fig. 8) or *Copiapoa* (Fig. 9-10). The floral position, and nature of the fruit and seeds are sufficiently dissimilar to merit its continued independence. The flower form resembles that of a *Copiapoa* or



Fig. 8 *Rebutia (Weingartia) fidana* (Photo: Jiri Stembera)





Fig. 9 *Copiapoa hypogaea* (Photo: Jiri Stembera)

*Neowerdermannia*, rather than that of a *Rebutia*. Mats Hjertson in particular has not presented much of a reasoned argument in support of his transfer, although it has to be said that the serial publication in which it occurred commonly creates all sorts of new names with apparently little research or justification.

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Fig. 10 *Copiapoa laui* (Photo: Jiri Stembera)

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