

A NEW COMBINATION IN *PHYSALIS* (SOLANACEAE)

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ABSTRACT

Margaranthus solanaceus is transferred to the genus *Physalis* and hence the monotypic genus *Margaranthus* becomes a synonym of *Physalis*.

KEY WORDS: *Physalis*, *Margaranthus*, Solanaceae, systematics

Margaranthus Schldl. (Solanaceae) is a monotypic genus from México and the southwestern United States. It was described by Schlechtendal 1838. It has always been regarded as very closely related to the genus *Physalis* L., differing in form and colour of the corolla and insertion of filaments. The annual *M. solanaceus* Schlechtendal has an urceolate, violet/greenish corolla with adnate filaments while in *Physalis* the corollas are campanulate to nearly rotate, yellow or whitish and the filaments are free.

In his monograph, Rydberg (1896) considered *Margaranthus* as very closely related to *Physalis* but kept it as a separate genus. In a karyological report, Menzel (1950) noted the great similarities between *Margaranthus* and *Physalis* and, based on S/T ratio data placed *Margaranthus* between the annual sections *Angulatae* and *Pubescentes* of *Physalis*. She did not, however, make any formal transference. Waterfall (1958) in his survey of *Physalis* in North America commented on the similarity of *Margaranthus* to *Physalis* and noted that if not in flower, *Margaranthus* could not be distinguished from small-fruited species of *Physalis*. He stated that possibly *Margaranthus* should be included in *Physalis*, but that further studies including critical species of *Chamaesaracha* (*C. grandiflora* (Hook.) Fern., *C. nana* (A. Gray) A. Gray, both now in *Leucophysalis*) were needed before formal transference. He thus kept *Margaranthus* as it was originally described, as a genus of its own. On the other hand he included *Quincula lobata*, another related, monotypic genus in *Physalis*, even though *Quincula* differs from *Physalis* in several characters besides colour of corolla. This was probably due to *Quincula* originally being described as a *Physalis*.

My recent cladistic analyses of the physaloid group, including among others *Margaranthus*, *Quincula*, *Chamaesaracha*, and *Leucophysalis* (Axelius 1995) has

shown that *Margaranthus* is well nested within the *Physalis* clade (including *P. pubescens* L., *P. angulata* L., and *P. peruviana* L.), close to *P. pubescens* (Axelius 1995, fig. 1). The species of *Chamaesaracha*, *Quincula*, and *Leucophysalis* are more distantly related and found clearly outside the *Physalis* clade. The species of *Chamaesaracha* group together and form a very strongly supported sister-relation with *Quincula*. There is thus a rather strong support for the hypothesis that *Margaranthus* has originated from an ancestor within the core *Physalis*. This view is also in accordance with analysis based on molecular data (Martínez 1993). Hence *Margaranthus* cannot be kept separated from *Physalis* without splitting the core of this genus into smaller monophyletic entities. *Physalis* is a large genus which lacks a modern revision and its circumscription might be questioned in many ways but to keep *Margaranthus* separated under these circumstances, can not longer be justified.

PHYSALIS SOLANACEOUS (Schlechtendal) Axelius, *comb. nov.*
BASIONYM: *Margaranthus solanaceus* Schlechtendal, Index Sem. Hort. Hal. 1838 Coll. 8. 1838. TYPE: Cult. in Horto Botanico Halensis 1838, "e seminis in Mexico locis calidioribus coll. C. Ehrenberg". D.F.L. Schlechtendal s.n. (HOLOTYPE: HAL).

LITERATURE CITED

- Axelius, B. 1995. The phylogenetic relationships of the physaloid genera (Solanaceae) based on morphology. Amer. J. Bot. In press.
Martínez, M. 1993. Systematics of *Physalis* (Solanaceae) section *Epeteiorhiza*. Ph.D. Dissertation, University of Texas at Austin. Austin, Texas.
Menzel, M. 1950. Cytotaxonomic observations on some genera of the Solaneae: *Margaranthus*, *Saracha* and *Quincula*. Amer. J. Bot. 37:25-30.
Rydberg, P.A. 1896. The North American species of *Physalis* and related genera. Mem. Torrey Bot. Club 4:297-374.
Schlechtendal, D.F.L. 1838. *Index Seminum in Horto Academico Halensi 1838 Collectorum*. Halle, Germany.
Waterfall, U.T. 1958. A taxonomic study of the genus *Physalis* in North America north of Mexico. Rhodora 60:107-114; 128-142; 152-173.



Axelius, Barbro. 1995. "A new combination in *Physalis* (Solanaceae)." *Phytologia* 79, 10–11.

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