

Outlineoffungi.org - Note 800 *Aculeastrum*

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Aculeastrum M. Scholler, U. Braun & Bubner

Based on analysis of ITS sequence data, Scholler et al. (2022), introduced *Aculeastrum* to accommodate *A. americanum* (Farl.) M. Scholler & U. Braun (\equiv *Pucciniastrum arcticum* var. *americanum* Farl.) as a type species and *A. arcticum* (Tranzschel) M. Scholler & U. Braun (\equiv *P. arcticum* Tranzschel). *Aculeastrum americanum* was originally described as a rust pathogen on leaves of *Rubus occidentalis* from the USA (Farlow 1908), while *A. arcticum* was described on leaves of *Rubus* spp. from North America, Lapland, and Russia (Tranzschel 1895). *Aculeastrum* with *A. americanum* as the type was re-collected from leaves of *Rubus occidentalis* in the USA (Scholler et al. 2022). *Aculeastrum* produces uredinia and telia on *Rubus* spp. and its aecia on needles of the alternate host, *Picea*. The genus is characterized by uredinia with four to six conspicuously spiny ostiolar cells, urediniospores with 4–6(–7) strictly bipolar germ pores, and mostly 2–4-celled teliospores without any visible germ pores. *Aculeastrum* resembles *Quasipucciniastrum* and *Thekopsora* and members of all three genera have telial hosts within the *Rosaceae* and have previously been included in the genus *Pucciniastrum* (family *Pucciniaceae*). The three genera differ in morphology, life cycle, symptomology, and host range. Phylogenetic evidence obtained from the analysis of ITS sequence data shows that all three are in a distinct lineage within the family *Coleosporiaceae* (Scholler et al. 2022). Based on phylogenetic inferences from analysis of 28S, 18S and CO3 datasets, *Pucciniastrum arcticum* var. *americanum* had been transferred to *Thekopsora americana* (Farl.) Aime & McTaggart, in *Pucciniastraceae* by Aime & McTaggart (2020). The evidence of Scholler et al. (2022), clearly places *Aculeastrum* in *Coleosporiaceae* (*Melampsorineae*, *Pucciniales*, *Pucciniomycetes*).

References

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