

## Species delimitation in *Asterochloris*, a close relative to the genus *Trebouxia*

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The genus *Asterochloris* represents one of the most common, widespread, and diverse taxa of lichen photobionts. Genetic investigations revealed the existence of numerous, morphologically cryptic lineages, with only a few of them being traditionally described as distinct taxa. According to our long-term investigations and metadata analyses, we are now able to clearly delimit each of these species-level lineages based on genetic, morphological, and ecological data, as well as with respect to their mycobiont partners. We hope that the similar approach can be applied to precisely delimit particular species within the genus *Trebouxia*.