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Unrecognized species richness in the largest family of crustose lichen-forming fungi, Graphidaceae – a special issue of *Phytotaxa*

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The current issue of *Phytotaxa* is dedicated to a lichen-forming fungal family that forms an important component of tropical ecosystems. It is one of the most diverse families of lichenized fungi, with approximately 2,500 known species, and has its center of distribution in the wet tropics. The current issue sheds light on how poorly the species diversity of lichenized fungi is still known, with the description of 175 species new to science – all within a single family. We assembled 21 scientific papers, including three general publications and 18 papers focusing on description of new species.

Lücking *et al.* (2014) employed a novel, quantitative method to predict global species richness in the family, using a GIS-based grid map approach. The authors predict 4,330 species of Graphidaceae, which means that even after describing 175 new species simultaneously, more than 1,800 species are still predicted to be discovered. Two publications focus on molecular phylogeny: one (Lumbsch *et al.* 2014) addressed the phylogenetic relationships of major clades in the family and the second one focused on the tribe Ocellulariae (Kraichak *et al.* 2014). The former aimed at elucidating the phylogenetic placement of some enigmatic, in part new taxa and also resulted in the description of four further tribes in the subfamily Graphidoideae, whereas the latter used an extended taxon sampling in Ocellularieae to further resolve relationships among clades and genera and provide phylogenetic support for 23 species described in other contributions.

The bulk of this issue, however, is devoted to articles describing new species primarily from tropical habitats. These include tropical Africa (Lücking 2014; van den Broeck *et al.* 2014), the South Pacific (Aptroot 2014; Papong *et al.* 2014a), Australia (Mangold *et al.* 2014), south-East Asia (Kalb & Jia 2014; Papong *et al.* 2014b; Poengsungnoen *et al.* 2014a, b; Rivas Plata *et al.* 2014; Sipman 2014; Sutjaritturakan *et al*; 2014, Weerakoon *et al.* 2014), North America (Lendemer & Harris 2014), the Caribbean (Mercado-Diaz *et al.* 2014), and tropical South America (Cáceres *et al.* 2014; Ferraro *et al.* 2014; Peláez *et al.* 2014; Sipman 2014). With these contributions, we increase the number of known species in the core group of the family (excluding subfamily Gomphilloideae) by almost 10% in a single issue.

Such an endeavor has been possible by a worldwide collaboration of 30 researchers from 14 countries. This collaboration did not only help to streamline the taxonomic effort, making the work more effective, but also ensured a consistent taxonomic concept in the recognition of new species, based on evidence obtained from a broad phylogenetic foundation. A number of funding agencies did support individual researchers and those are being acknowledged in the individual contributions, but here we would like to acknowledge particularly receipt of the NSF grant "*ATM-Assembling a taxonomic monograph: The lichen family Graphidaceae*" (DEB-1025861 to The Field Museum; PI T. Lumbsch, CoPI R. Lücking), which allowed us to organize this collaborative issue on species diversity of Graphidaceae in the spirit of this global, collaborative project. We also want to take the opportunity to thank all the reviewers of articles for their work.

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