



Remarkable diversity of the lichen family *Graphidaceae* in the Amazon rain forest of Rondônia, Brazil

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Abstract

In a continuation of our investigation of lichenized fungi in Rondônia and adjacent areas, we present a preliminary treatment of the graphidoid and thelotremoid core Graphidaceae (subfamilies Fissurinoideae and Graphidoideae). A total of 122 identified species are reported here, almost all of which are new reports to Rondônia, and 37 of which are new to science. This includes three new, monospecific genera, viz. *Aggregatorygma triseptatum* M. Cáceres, Aptroot & Lücking, a new, phylogenetically distinct genus and species similar to *Diorygma* but with corticate thallus, aggregated and branched lirellae, very small, 3-septate ascospores and unknown secondary substances; *Byssotrema mirabile* M. Cáceres, Aptroot & Lücking, a new genus and species similar to *Glaucotrema* but with partially carbonized excipulum with pilose inner margin and cinchonarum unknown chemistry; and *Corticorygma stellatum* M. Cáceres, Feuerstein, Aptroot & Lücking, a new, phylogenetically distinct genus and species similar to *Diorygma* but with non-amyloid ascospores and corticate thallus. The following further species are described as new to science: *Cruentotrema amazonum* M. Cáceres, Aptroot & Lücking, differing from *Cruentotrema kurandense* in the 3-septate ascospores; *Fissurina amazonica* M. Cáceres, Aptroot & Lücking, differing from *F. dumastii* in the small, closed, much branched and dense lirellae and the apically smooth paraphyses; *F. amyloidea* M. Cáceres, Aptroot & Lücking, differing from *F. subnitidula* in the weakly carbonized lirellae and thick-walled, strongly amyloid ascospores; *F. chrysocarpa* M. Cáceres, Aptroot & Lücking, differing from *F. chrysocarpoides* in the short lirellae with distinct labia; *F. duplicans* M. Cáceres, Aptroot & Lücking, differing from *F. pseudostromatica* in the endoperidermal thallus and double margin of the lirellae; *F. macrospora* M. Cáceres, Aptroot & Lücking, differing from *F. undulata* in the much larger ascospores; *F. subfurfuracea* M. Cáceres, Aptroot & Lücking, differing from *F. furfuracea* in the thin margin of the lirellae (distinctly fissurinoid rather than hemithecioid); *Glaucotrema stegoboloides* M. Cáceres, Aptroot & Lücking, differing from *G. glaucophaenum* in the papillose thallus and complex columella; *Graphis amazonica* M. Cáceres, Aptroot & Lücking, differing from *G. pitmanii* in the interspersed hymenium and larger ascospores; *G. pustulosa* M. Cáceres, Aptroot & Lücking, differing from *G. hyphosa* in the pustulate thallus and larger ascospores; *G. rondoniana* M. Cáceres, Aptroot & Lücking, differing from *G. pinicola* in the pruinose labia and smaller ascospores; *Gyrotrema flavum* M. Cáceres, Aptroot & Lücking, differing from *G. sinuosum* in the yellow apothecial disc; *Myriotrema foliaceum* M. Cáceres, Aptroot & Lücking, differing from *M. rugiferum* in the gall-forming thallus; *M. inspersum* M. Cáceres, Aptroot & Lücking, differing from *M. foliicola* in the hyaline, smaller ascospores; *M. subclandestinum* M. Cáceres, Aptroot & Lücking, differing from *Myriotrema clandestinum* in the larger ascospores with more numerous septa; *Ocellularia brasiliensis* M. Cáceres, Aptroot & Lücking, differing from *O. africana* in the carbonized excipulum and columella and cinchonarum unknown chemistry; *O. diminuta* M. Cáceres, Aptroot & Lücking, differing from *O. papillata* in the smaller ascospores lacking a columella; *O. flavostroma* M. Cáceres, Aptroot & Lücking, differing from *O. fecunda* in the eolumellate ascospores; *O. halei* M. Cáceres, Aptroot & Lücking, differing from *O. protoinspersa* in the grey thallus, narrow columella, and shorter ascospores; *O. immersocarpa* M. Cáceres, Aptroot & Lücking, differing from *O. terebrata* in the immersed ascospores lacking carbonization; *O. lacerata* M. Cáceres, Aptroot & Lücking, differing from *O. margaritacea* in the irregularly chroodiscoid, weakly carbonized ascospores and the white medulla; *O. myriotrema* M. Cáceres, Aptroot & Lücking, differing from *M. inspersum* in the papillose



FIGURE 15. One of the sampled trees (*Ceiba samaumae*) in the Parque Municipal of Porto Velho.

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