

Desiccation tolerance in the Brazilian flora

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The Brazilian vegetation is relatively rich in vascular plant species showing signs of desiccation tolerance. Most species come from rock outcrop plant communities, sometimes occupying most of the plant cover in this habitat. Some species do occur in sand deposits, savanna grasslands and the bark cover of trees growing on rainforests. Almost all types of rock outcrop plant communities include at least one desiccation tolerant vascular species. Most of the desiccation tolerant phanerogams in Brazil belong to the family Velloziaceae with a small number of species belonging to Cyperaceae and Poaceae. Among the cryptogams, the commonest desiccation tolerant vascular species come from the families Pteridaceae, Polypodiaceae and Selaginellaceae. Although desiccation tolerance vascular plants can be considered rare, plants with this feature dominate the plant cover on rock outcrops in Brazil, especially in the less disturbed places. Rock outcrop types where desiccation tolerant plants are most common are lateritic crusts, granite, gneiss, quartzite, many sandstone types, and maybe any kind of substrate lacking deep soil and easily drained. In the epiphytic habitat all desiccation tolerant vascular plants are cryptogams. Some of the desiccation tolerant epiphytes are the most widely occurring epiphytes reaching most of the relatively open vegetation types, where trees occur. Poikilochlorophylly occur in addition to desiccation tolerance in all Velloziaceae species and Cyperaceae from the genus *Trilepis* being absent from desiccation tolerant Poaceae and cryptogams. Our work consists of a survey of desiccation tolerant plants from different habitats and to examine the extent of the desiccation tolerance including seedlings and exploring the ecological implications of this strategy. As desiccation tolerant plants sometimes share the same substrate of non-tolerant ones, comparisons with other water use strategies can reveal some of the advantages of this behavior and allow us to consider its relevancy to plant biotechnology.