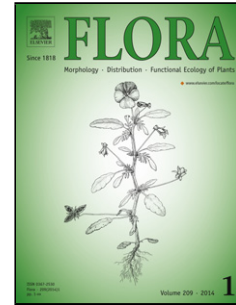


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# **Different trait arrangements can blur the significance of ecological drivers of community assembly of mosses from rocky outcrops**

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## **Highlights**

- The moss organizational traits can blur the detection of ecological processes on communities.
- The same attribute can be functional for different environmental filters in harsh environments.
- Different environmental filters affect different rocky outcrops.

**Abstract.** Rocky outcrops are distinctive formations in arid and semiarid zones, characterized by the presence of plant species with functional traits related to water deficit and high temperature tolerance. These areas are also characterized by high habitat heterogeneity. We tested three hypotheses related to organization of moss communities in rocky outcrops: 1) trait convergence related to habitat filtering; 2) trait divergence related to habitat heterogeneity; and 3) random pattern of traits related to dispersal limitation. We developed null models to test trait convergence and divergence and related these patterns to habitat filtering and heterogeneity, respectively. Additionally, we also tested for different plant strategies to cope with harsh environments and we related the size of moss' spore to the number of rocky outcrops the

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