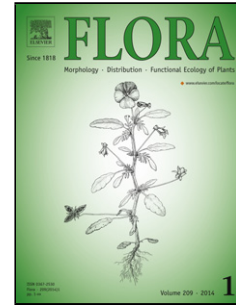


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Comparative morphological and anatomical study of self-repair in succulent cylindrical plant organs

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Highlights

- Plants react to damage by initial rapid self-sealing and subsequent long-term self-healing.
- Self-sealing is mainly based on physical reactions and leads to the functional repair of the fissures (superficial wound closure to avoid dehydration).
- Self-sealing can occur via the discharge of plant saps (mucilage or latex) that fill and seal the gap and/or via mechanically-driven deformation bringing together the wound edges.
- Self-healing is mainly based on chemical reactions and biological responses leading to a structural repair of the fissures (regaining mechanical properties, defense mechanism).
- Self-healing is related to the formation of a ligno-suberized boundary layer, the development of a wound periderm that induces cell division and in the case of latex-bearing plants also to coagulation of latex.

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