Axial variation of xylem conduits in giant cacti

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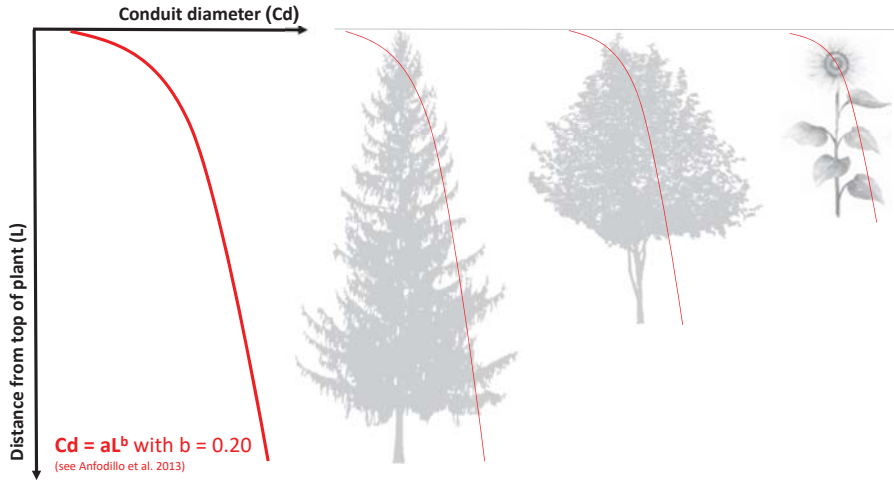
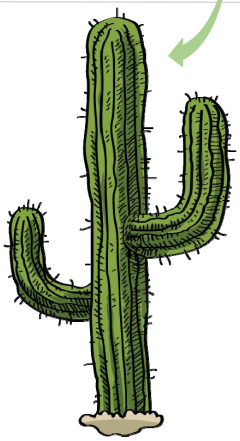
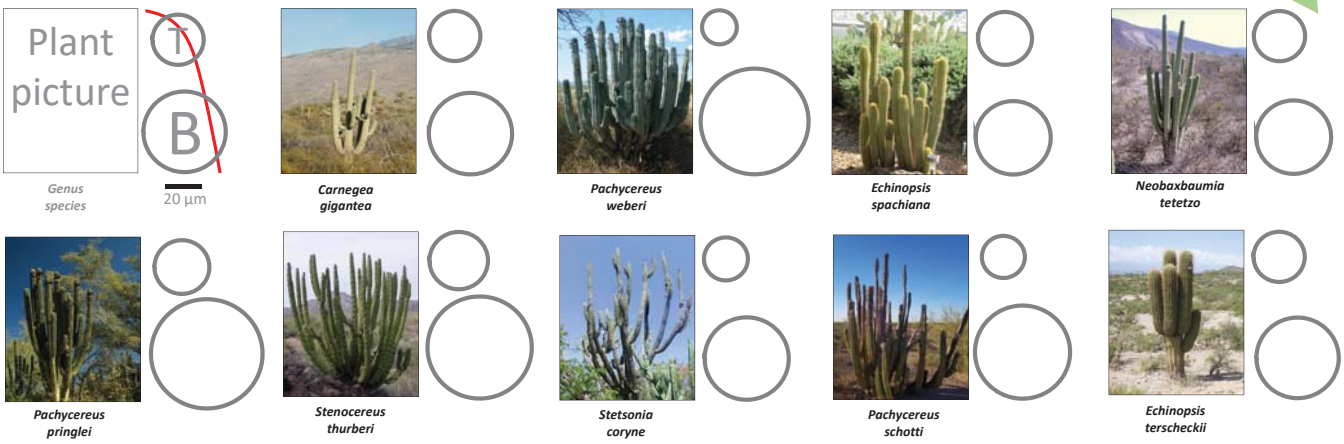
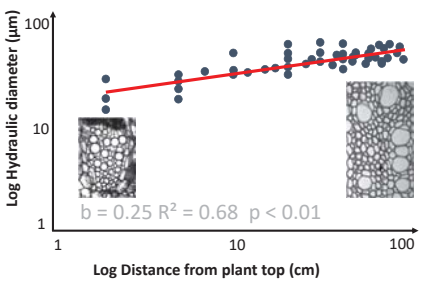


Vessels widening in cacti?

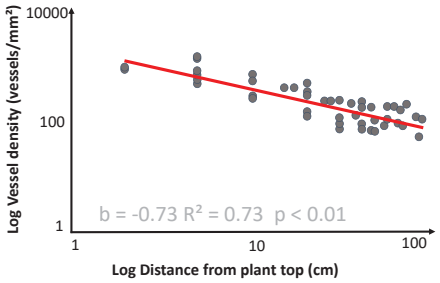




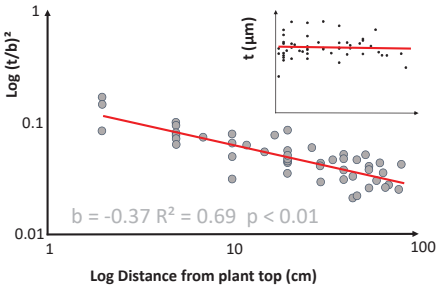
T = Vessel diameter at plant top **B** = Vessel diameter at plant base



Hydraulic diameter increases basipetally maintaining water flow hydraulic resistance constant



Vessel density decreases basipetally to compensate for smaller vessels at the top



Thickness of the conduits double wall (t) and its span (b) interplay decreasing risk of cell collapse

References: Terrazas & Mauseth 2002, Univ. Cal. Press - Anfodillo *et al.* 2013, IAWA Journal - Olson *et al.* 2015, Ecology letters - Olson *et al. 2018* PNAS

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