

New Phytologist Supporting Information Legends and References

Article title: Evolutionary origins of abnormally large shoot sodium accumulation in nonsaline environments within the Caryophyllales

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The following Supporting Information is available for this article:

Table S1 Shoot sodium concentrations ($[Na_{shoot}]$) in 334 species from 35 angiosperm orders grown hydroponically for 18-73 d in a nonsaline solution containing 0.1 mM Na^+ in at least one of six glasshouse experiments. The arithmetic mean from all experiments in which a species was grown is also indicated. Data within each experiment are expressed as mean \pm SD of n replicates. Summary data are expressed as mean \pm SE of n experiments. The names, synonyms and taxonomic authorities of plant species were consistent with The Plant List (<http://www.theplantlist.org/>) in August 2016. Plant families and orders were ascribed according to The Angiosperm Phylogeny Group IV (2016). Summary data for families and orders are expressed as mean \pm SE of n species. (See separate Excel file)

Table S2 Occurrence of sodium (Na)-hyperaccumulator species within the Caryophyllales order. The trait of Na-hyperaccumulation was defined as a shoot Na concentration ($[Na_{shoot}]$) greater than 4 mg g⁻¹ DM in plants grown in nonsaline environments (electrical conductivity <2 dS m⁻¹ in a saturated paste extract or NaCl concentration <20 mM in the rhizosphere solution). Information on whether the species is listed in the eHALOPH database (Flowers *et al.*, 2016), the class of halophyte to which it belongs, the presence of salt glands or epidermal bladder cells, its photosynthetic pathway and life form are reported where these are known to the authors.

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