

## Accepted Manuscript

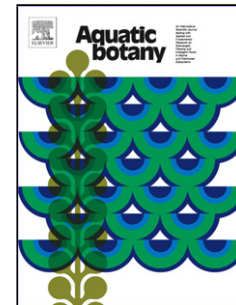
Title: Physiological and molecular evidence for Na<sup>+</sup> and Cl<sup>-</sup> exclusion in the roots of two *Suaeda salsa* populations

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**Physiological and molecular evidence for Na<sup>+</sup> and Cl<sup>-</sup> exclusion in the roots of two *Suaeda salsa* populations**

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**Highlight:**

- Roots of the intertidal population of *Suaeda salsa* accumulated more Na<sup>+</sup> and Cl<sup>-</sup> than the inland population under salinity stress.
- The relative expression of genes relevant to Na<sup>+</sup> and Cl<sup>-</sup> exclusion in the roots was higher in the intertidal population than the inland population under salinity stress.
- The roots of the intertidal population had higher capacity in Na<sup>+</sup> and Cl<sup>-</sup> exclusion than the inland population.

**ABSTRACT**

The molecular and physiological mechanisms of salt tolerance in two *Suaeda salsa* populations from different saline environments were evaluated. At 300 mM NaCl, the roots of the intertidal population accumulated more Na<sup>+</sup> and Cl<sup>-</sup> compared with the roots of the inland population, but an opposite trend was observed in the leaves and xylem sap. Non-invasive Micro-test Technology (NMT) analysis revealed that the intertidal population exhibited a

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