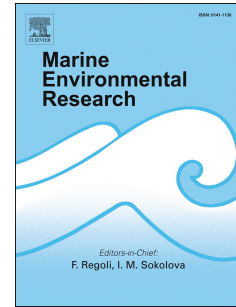


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Species-specific response to sulfide intrusion in indigenous and non-indigenous Mediterranean seagrasses under stress

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1 **Species-specific response to sulfide intrusion in indigenous and non-indigenous**
2 **Mediterranean seagrasses under stress**

3

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15

16 **Abstract**

17 We explored the sulfur dynamics and the relationships between sediment sulfur and
18 nutrient pools, seagrass structural and physiological variables and sulfide intrusion in
19 indigenous (*Posidonia oceanica*, *Cymodocea nodosa*) and non-indigenous (*Halophila*
20 *stipulacea*) Mediterranean seagrasses at six sites affected by cumulative
21 anthropogenic pressures to understand the factors controlling sulfide intrusion in
22 seagrass. Sensitive indicators of seagrass stress (leaf TN, $\delta^{15}\text{N}$, TS, F_{sulfide}) were
23 increased at several sites, implying that seagrasses are under pressure. Sulfide
24 intrusion was not related to sediment TOC but it was negatively related to shoot size
25 and below-ground biomass. Sulfide intrusion in seagrass tissue was high in *P.*

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