Habitat degradation of an eelgrass bed variably affects epifaunal biodiversity

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Seagrass habitat complexity can determine species diversity and abundance, through, for instance, changes in the availability of microhabitats, refuge from predators or changes in the intensity and frequency of abiotic stressors. Human-related perturbations cause seagrass habitat degradation and, therefore, reduce its complexity, thereby affecting biodiversity. We have followed the epifaunal assemblages of a Zostera marina meadow and deliberately modified seagrass shoot density three times during a year to measure how epifaunal assemblages responded to habitat degradation and whether patterns of response were consistent through time. We have also measured in the laboratory how epifauna controlled epiphyte biomass, which could feedback on seagrass photosynthetic activity, growth and productivity, thereby changing its resilience to disturbances. Results have shown complex patterns, variable in time.