

Swapping the invader: trophic niche partitioning of Callinectes sapidus and Carcinus spp. in invaded and native areas

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Biological invasions constitute an increasing threat to marine ecosystems. This study analysed the trophic niche and role of reciprocal brachyurian invaders by comparing invaded and native areas. Samples were collected in Italy (Stagnone di Marsala) and USA (Chesapeake Bay and New Jersey). In the former the blue crab *Callinectes sapidus* is invader and the Mediterranean green crab *Carcinus aestuarii* is native, while in the other *C. sapidus* is native and the green crab *C. maenas* is invader. The aim was to evaluate whether the isotopic niche in invaded areas reflects niche conservatism or trophic adaptation.

Samples were collected in 2021-2022 using traps. Stable isotopes ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) were used to estimate isotopic niche and trophic position. In both study areas invasive species occupied a higher trophic position and trophic niche partitioning among native and invasive species occurred. Furthermore, *C. sapidus* showed a broader isotopic niche in the invaded than in the native area, suggesting its ability to become more generalist during invasion, while *C. maenas* and *C. aestuarii* showed narrower niches.

Overall, these findings highlight divergent strategies in the different areas which may influence invasion dynamics and interactions with native communities.