

Abstract

Freshwater amphipods are ecologically important crustacean group. They act mainly as shredders of detritus in fast-running and cold waters, contributing to the nutrient cycles. Ecological interactions within this group are interesting especially in connection with a considerable degree of cryptic diversity, as well as due to contacts of invasive and native species. This thesis deals with so far studied interactions between syntopic species or lineages, especially those that may affect coexistence or competitive exclusion, such as: different levels of selective predation, ecologically significant differences in morphology or behavior, varying degrees of aggressiveness or intraguild predation, and differences in habitat preferences or resource use ability. Due to the large number of newly discovered cryptic lineages, only little effort has been invested to studies of their ecological interactions. For the time being, research has been limited to sexual interactions (potential reproductive interference or hybridization), differences in habitat preferences, or infestation rates by parasites. It is worth mentioning that only a few lineages have been explored in this way, and the lessons learned from these few works cannot yet be generalized. In my work, I focus on cryptic species complexes in which at least some ecological interactions or habitat preferences were investigated. These are predominantly *Hyaella azteca*, *Gammarus fossarum* and *Gammarus pulex* complexes. However, a major part of my work builds upon ecological interactions between invasive and indigenous species that could at least partially indicate in which direction research on ecology in the cryptic amphipod lineages could develop in the future. A better understanding of these interactions can help us explaining the current distribution patterns and processes that led to them.

Key words: *Gammarus*, *Hyaella*, cryptic diversity, invasion biology, competition, functional morphology