PST11 - Spatio-temporal population dynamics of Branchinectella media (Crustacea, Branchiopoda) from three saline ponds of the Iberian Peninsula

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Understanding the factors associated with the life cycle of organisms living in temporary wetlands as well as the mechanisms driving their spatio-temporal distribution are great challenges in population ecology. The anostracan *Branchinectella media* has a wide geographic distribution, however, little is known about its population dynamics. The aim of this work was to study the spatio-temporal dynamic of this species in three inland ponds of "La Mancha Húmeda" Biosphere Reserve and to identify the most relevant ecological factors explaining the observed patterns. Three saline ponds were sampled between October 2015 and May 2016. From each pond, individuals of *B. media* were obtained and biophysical variables measured. In order to detect the degree of temporal coupling between the three populations we calculated Pearson correlations between population densities. In addition, Pearson correlation was also used to evaluate the association between population densities and biophysical variables in each pond. The degree of spatial synchrony of *B. media* populations among the three lagoons was significant. In all ponds, abundance peaks occurred after a rainy period preceded by a drought period. However, hydroperiod length differed among ponds as a result of their differences in form, depth, surface area and intensity of water exploitation for agriculture. Only in one pond, salinity and pH were negatively associated with abundance of *B. media*. Unlike the other two, this pond presented a single continuous hydroperiod. Our results indicated that the flooding pulse is the most important mechanism in the population dynamics of *B. media* and can partly explain their spatial synchrony in inland saline ponds of the Iberian Peninsula.