

Occurrence of the Invasive Blue Crab *Callinectes sapidus* Rathbun, 1896 (Crustacea: Portunidae) in the Adriatic Sea in Croatia

Pero TUTMAN, Jakov DULČIĆ, Branko DRAGIČEVIĆ

Institute for Oceanography and Fisheries, Split; Laboratory for Ichthyology and Coastal Fisheries, Šetalište Ivana Meštrovića 63, 21000 Split, Croatia.

tutman@izor.hr

Aim of the study: The blue crab, *Callinectes sapidus* Rathbun, 1896 is euryhaline and eurythermal invasive species in Europe. It has widely invaded European Atlantic coasts and several areas of the Mediterranean, probably brought by ballast waters; yet, it shows an unstable and unpredictable scenario across the Croatian coast. To understand its current invasion status, this study investigated population trends along the Croatian coast over the past 15 years in order to estimate whether its occurrence is of established populations or just provisional.

Material and Methods: Data were obtained from the scientific literature, private communications and direct contacts with fishermen along the Croatian coast.

Results: After the first record (Neretva River delta, 2004), it has been periodically, but rarely recorded across different regions of Croatian coast. Based on personal communications with the fishermen, population in the Neretva River delta showed unstable trend intervals followed by rapid colonization and dispersal. There has increased since the first record (2004-2006), then decreased (2006-2008), raised again (2008-2010), and thereafter decreased (2011-2014). During abundant phase, local fishermen reports catches of 40-50 specimens in gillnet per night during July-September, with impact on both biodiversity and socioeconomics, as they decrease population of *Carcinus aestuarii* and tear fishermen nets and damage the caught fish. Periodical high abundance and catch frequency, the occurrence of ovigerous females and juveniles, indicate evidence of an established population. However, other records were in distant areas and only anecdotal, making way of spreading fairly unclear. The present state along the Croatian coast, however, do not allow reliable comments to be made regarding whether or not it has established population elsewhere out of the Neretva River delta. Further monitoring of this population and the potential dispersal would be of interest, in order to provide better information on its population structure and dynamics in Adriatic waters along the Croatian coast.

Acknowledgements: This work has been partially supported by Croatian Science Foundation under the project IP-2016-06-5251 (LEK-FishRes-CRO).

Keywords: invasive crab, Croatian Adriatic coast, ecological impact, established populations, dispersal.