

“First record of invasive crab *Percnon gibbesi* (H. Milne Edwards, 1853) at Pianosa Island: the second goal reached by the innovative Marine Citizen Science Literacy Project “PERCORSI NEL BLU” (“BLUE PATHS”)

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MATERIALS AND METHODS – In October 2019, a Citizen Science coastal monitoring Campaign of the benthos on rocky bottom was carried out by the Team Project at Pianosa Island MPA (Fig. 1). During the collection of data in Cala dei Turchi (42°35’15’’N; 10°06’03’’E), along 8 linear and georeferenced transects (30m long) and by using sampling squares (Fig. 2), the cryptogenic crab *Percnon gibbesi* (H. Milne Edwards, 1853) was recorded for the first time. The Campaign was repeated in Winter 2019 and in Summer 2020 by “CRAB WATCH” BIOBlitz: a special Citizen Science Monitoring Program. No data were collected in Spring, because of COVID 19 - Lockdown.

INTRODUCTION – **PERCORSI NEL BLU / BLUE PATHS** is an innovative Project of well-integrated Marine Citizen Science Literacy, launched in 2011 by the School Institute ISA 2, in La Spezia – Italy. Since then the Project has set up a Network among schools, citizens, institutions and research centers in coastal monitoring activities. This study highlights how important can be the contribution of Citizen Scientists for collecting new data and information on alien species in Marine Protected Areas (MPAs), representing an opportunity of early-warning system.

RESULTS AND DISCUSSION – *In situ* observations allowed to record **several specimens of *P. gibbesi*** (150 in Autumn, 26 in Winter and 74 in Summer) exclusively in **C5, C6, C7 transects** and at the bathymetric level of - 0.5m and -1 m (Fig. 3-4), and to gather some useful information, in particular: **1) state of health:** evidence of autotomy induced by predators; **2) type of rocky bottom:** the absence of burrows, cracks and crevices is the main limitation to its distribution; **3) covering of algal species,** leafing and encrusting Rhodophyceae, could probably prevail in the diet (e.g.: *Amphiroa rigida*, *Jania* spp., *Laurencia* spp.); **4) gregarious behaviour;** **5) season.**



Fig. 1: Pianosa Island MPA



Fig. 2: Monitoring activity by snorkeling

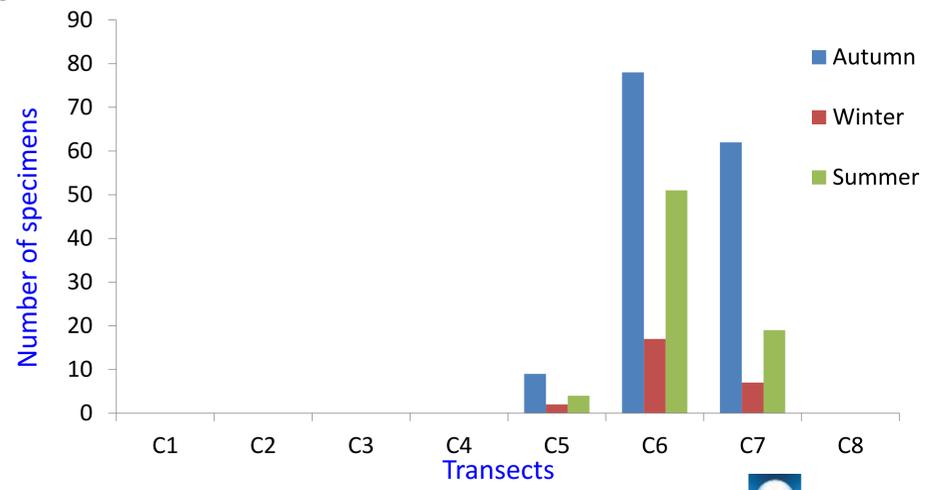


Fig. 3: «CRAB WATCH» BIOBlitz 2019-2020

The tropical Atlantic grapsid crab *P. gibbesi* is considered as the most invasive algivorous Decapod currently expanding its distribution in the Mediterranean Sea, since its first arrival at Linosa (1999) up to Elba (2016) and Liguria (2017). Its distribution is due to the ability to adapt to the climate and to find an empty and favorable ecological niche settling along the infra-littoral zone.



Fig. 4: *Percnon gibbesi* in situ (Photos by E. Mioni)

CONCLUSIONS - Further studies will give us the opportunity to assess the extent of *P. gibbesi* distribution and to monitor the possible relationships with native species and any changes to the marine ecosystem.

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