

Project "Percorsi nel Blu": Ocean Literacy & Citizen Science as a valid tool to monitor Marine Heterobranchia. The case study of the first records of the alien species Favorinus ghanensis and the Mediterranean Okenia cf. longiductis,



as updating records for the Italian coasts.

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INTRODUCTION- "PERCORSI NEL BLU" is an innovative Project of well-integrated Ocean Literacy and Marine Citizen Science, launched in La Spezia (Italy) by a Science Teacher of the ISA2 School Institute in 2011. Since November 2019 the project has been promoting "Animali Fantastici e dove trovarli", an educative and operative program of Citizen Science activities for schools and citizens related to the coastal monitoring of the fouling community along artificial floating pontoons at Marinas of La Spezia. This study highlights how important the contribution of students - citizen scientists can be for collecting data on native and alien species, a great opportunity of early-warning system.

MATERIALS & METHODS - Marinas of Fezzano, Portovenere, Santa Teresa and Lerici were chosen as monitoring stations for the Citizen Science activities. Monitoring surveys were realized along linear transects, by visual census, involving the partecipants lying and leaning out of the edge of pontoon, whereas sampling was realized through snorkelling. In accordance with a check list of species and illustrated guides, some data such as abundance and habitat information were collected, together with in situ and/or microscopic pictures. Activities were carried out before and after the lockdown, in compliance with Covid-19 regulation.



Figure 1. Students and citizens involved in the monitoring program (Pictures by Erika Mioni).

RESULTS & DISCUSSION - With respect to the fouling community at

marinas, speciments of native and alien species of Marine

Heterobranchia (Mollusca; Gastropoda) were found as First records

on the national, regional and local level, as shown in Table 1 and

Figure 2. Further studies and molecular analysis will allow us to gather

more information about DNA sequence, morphology and coastal

distribution within the Gulf of La Spezia.

Check List of Marine Heterobranchia (Mollusca; Gastropoda) Type of record Sighting site Alien Species Favorinus ghanensis Edmunds, First record for the Italian coasts. Fezzano (SP) 1968 Origin from Ghana -West Africa. Polycera hedgpethi Marcus, Er, New record for the Gulf of La Spezia. Fezzano (SP). Santa Teresa -Lerici (SP) Origin from California. Native Species Type of record Sighting site Berthella cf. aurantiaca First record for the Gulf of La Spezia. Santa Teresa Lerici (SP) (Risso, 1818) Caloria quatrefagesi First record for the Gulf of La Spezia. Fezzano (SP) Vayssière, 1888) Doto cerviceniara Ortea & First record for the Ligurian Sea. Lerici (SP) Bouchet, 1989 Eubranchus exiguus (Alder & First record for the Gulf of La Spezia. Fezzano(SP) Hancock, 1848) Okenia cf. longiductis (*) First record for the Ligurian Sea. Fezzano (SP) Pola.Paz-Sedano, Macali. Minchin, Marchini, Vitale, (*) since frequently misidentified as icchelli & Crocetta, 2019 O. zoobotrvon, molecular analysis is currently underway Polycera quadrilineata First record for the Gulf of La Spezia. Fezzano (SP), Santa Teresa -(O. F. Müller, 1776) Lerici (SP) Runcina brenkoae First record for the Ligurian Sea. Fezzano (SP) Γ. E. Thompson, 1980 First record for the Gulf of La Spezia.

Table 1. The recorded species from marinas of La Spezia (Italy).





FERRARIO, J.; CARONNI, S.; OCCHIPINTI-AMBROGI, A. & MARCHINI, A. (2017). Role of commercial harbours and recreational marinas

a: Favorinus ghanensis; b: Polycera hedgpethi; c: Berthella cf. aurantiaca; d: Caloria quatrefagesi; e: Doto cervicenigra; f: Eubranchus exiguus; g: Okenia cf. longiductis;

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