MedPan North Project

Warning of Invasive Alien Species (IAS) inside Ligurian Marine Parks Portofino – Cinque Terre – Bergeggi

Alien species — sometimes also called exotic, introduced or non-native species — "are plants and animals that have been intentionally or unintentionally introduced, have established populations and have spread into the new host environment" (IUCN, 2002). The identification and control of these species presence becomes important regarding the methodology adopted to mitigate the consequence of biodiversity loss.
The poster is addressed to any scuba diver of the Ligurian MPAs in order to help the Managing Authorities to early detect the presence of the these species in their waters.

Stephanolepis diaspros

Fish with a deep and compressed brown to olive green body of 7-15 cm length. It lives in small groups on coastal rocky substrate usually with vegetation. It is a species originated from Red Sea and Arabian Gulf, was recorded in Palestine in 1927 and then spread till to Sicily.

Acrothamnion preissii.

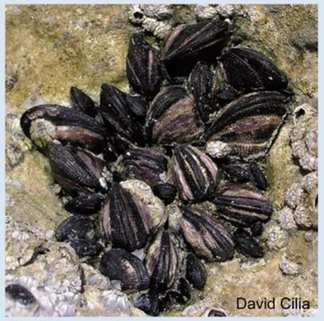
Species from waters off Australia and Japan, is reported for the first time off the northern coast of Mallorca (Balearic Islands) and is now mainly distributed in the north-western Mediterranean, indicating its progressive spread in the area. It has been recorded in Portofino since 2003.
This algae can be found as an epiphyte on sea grasses or other algae, forming dense cotton-wool-like tufts.

Aplysia dactylomela

It occurs on both rocky and sandy shores with dense algal cover, especially in very shallow waters like rock pools, to a maximum depth of 40 m. During the day it hides under large rocks or in crevices. The first Mediterranean record was off Lampedusa Island in 2002. There have been no studies quantifying the ecosystem impact of this species. However, the species is a grazer and its presence may influence the composition and diversity of local algal communities.

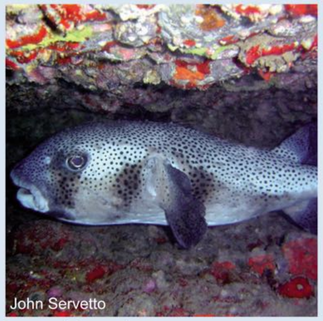
Asparagopsis armata

Native to Western Australia, this red sea weed was probably introduced into European waters through oyster aquaculture; nowadays it is distributed both the Atlantic and the Mediterranean basin, and it is highly invasive. It is pale purplish-red, quickly degenerating when removed from the water and becoming distinctly orange. It usually develops on infralittoral rocky bottoms from surface to a depth of 40 m. It has been recorded in Portofino since 2003.



Brachidontes pharaonis

It is a classic example of migrant species from the Red Sea and Indian Ocean that has been introduced in the Mediterranean with the opening of the Suez Canal. It is found in shallow and sheltered marine areas and in hypersaline waters. These bivalves may easily spread by boat fouling and have already reached the oriental coast of Sicily.



Lagocephalus sceleratus

It is a species of blowfish with a medium length between 20 and 60 cm (max 85 cm), a white belly and a gray backside with black spots. It is a benthic species living on sandy bottom but also near reefs. It has no commercial value but is dangerous for human health because of its toxicity.

Bursatella leachii

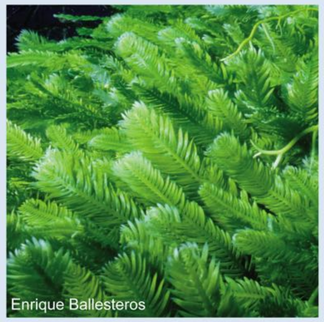
This large sea slug can reach more than 10 cm in length. The body has numerous long, branching, white papillae (finger-like outgrowths) that give the animal its ragged appearance. Very common from the eastern Levantine Sea to the Italian coasts; in the western Basin, only known from an area between Sicily, Naples and Sardinia. Probably it has been introduced by ships from the tropical Atlantic or via the Suez Canal.

Who thinks to have seen one of the species represented below, is invited to take a picture and send it to the concerned MPA with the following information:
date, author (name and surname), sighting point, range of depths where it was observed, name of the species (if it is known).

Ligurian Marine parks of Portofino, Isola di Bergeggi, Cinque Terre, have the goal to increase their management through the identification of two of the main important biodiversity threats: global climate change and alien species impact. The information collected with these activities can be used to initiate management action by the three MPAs.

Caulerpa racemosa

It is a green alga originated from the Red Sea, and it can be found from the intertidal zone to depths of more than 60 m. In Mediterranean Sea, together with Caulerpa taxifolia, pose an important threat to the diversity of coastal ecosystems. It has been documented within Portofino MPA since 2007.

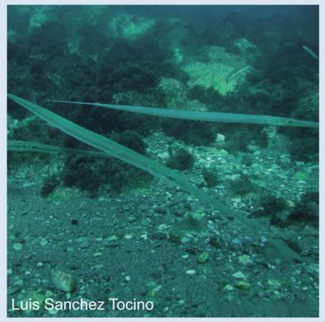


Caulerpa taxifolia

It is a light to dark green alga native from tropical waters that was accidentally introduced into the Mediterranean from a public aquarium. It invades a large number of habitats such as seagrass beds, rocky, sandy and muddy bottoms to a depth of 80m. Its rapid growth has the capacity to reach up to one per day, It has been recorded in different zones of the Ligurian Sea.

Codium fragile

It is a branched-like algae with branches of small clubs in circular order, often thick fluffy. It has a light and dark green colour . It branches in an irregular way and it feels like a sponge to the touch. It can be confused with *Codium vermilara* which is bigger and more branched.



Fistularia commersonii

This fish is a voracious predator and is aggressive when it forms schools. It occurs on sandy bottoms, above seagrass meadows and close to rocky reef areas.
It is a widely distributed Indo-Pacific species, that after its first record, it has spread rapidly in many Mediterranean areas

Halophila stipulacea

It is a marine eurialine seagrass which can be dintinguished by the pairs of thin leaves that appears from the roots at regular levels. It forms leaves of 3-8 mm. lenght and may be found in depth 30/45 m. Recently introduced in Mediterranean Sea (first record in Greece) through the Suez Channel may cause a problem due to its competition with other Mediterranean segrasses, like *Posidonia oceanica* or *Cymodocea nodosa*.

Pinctada radiata

This oyster is found at depths of 5–25 m attached under stones, in crevices of rocks or in algae. It was introduced from the Suez Canal and also has spread with the commercialization of molluscs for mariculture and shipping activities, in order to collect its pearls.

Lutjanus jocu

The dog snapper is principally known in the tropical western Atlantic Ocean where it occurs from Massachusetts (but rarely in north of Florida) to northern Brazil. One capture of the fish has been reported. in the Ligurian Sea (Varazze). Adults are commonly found rocky or coral reefs.

Crepidula fornicata

This oyster is found at depths of 5–25 m attached to hard substrata (under stones, in crevices of rocks, algae). It was introduced from the Suez Canal and also spread with the commercialization of molluscs for mariculture and shipping activities in order to collect its pearls.

Percnon gibbesi

It is a small crab with a subtropical distribution; its first Mediterranean record was from Linosa Island in 1999. This is a biological characteristic which has made it the most invasive species in Mediterranean Sea. It is found on rocky shorelines, in the crevices of rocks or on man-made structures such as ports and marinas at depths of 0.5–4 m.

Saurida undosquamis

A fish typically of 15 – 35 cm long (max. 40 cm). The body is brown-beige on the back with a silvery white belly, and a series of 7-10 dark spots on the first dorsal fin and upper edge of the tail fin. It has a wide distribution in Indo-Pacific from the Red Sea and eastern Africa to Australia and southern Japan; this species is currently very common throughout the eastern Mediterranean and it has also appeared recently in Italian waters (Cape Peloro, Strait of Messina).

Siganus luridus

It grows up to a length of 27 cm, commonly 5–25 cm. It usually occurs in small schools in shallow water close to the bottom. It is a species usually found in western Indian Ocean and Red Sea and it was first recorded in Mediterranean in 1956 along the Israeli coast; it can have a strong interaction in competing with other native herbivorous fish species and it can cause a drastic decrease of the local algal communities.

Siganus rivulatus

This fish grows up to a length of 27 cm, commonly 5–25 cm. Adults live in small groups of 50 to several hundred individuals, feeding mainly on green and red algae. Its venomous spines can cause painful injuries to bathers and fishermen but are non-lethal.

Womersleyella setacea

It was first observed in Mediterranean coastal waters in the eighties in France and Italy, and rapidly increased its distribution throughout Mediterranean waters. The plants form dense mats usually at depths greater than 15 m. The origin and way of introduction of this species still remain unknown, but a possible cause may be through ship hull fouling. It has been recorded in Portofino since 2003.

Rapana venosa

The rapa whelk lives at depths of 2–40 m on sandy and rocky bottoms in marine and estuarine sites. It often lies buried in the sand and it is a voracious predator of bivalve molluscs. Larvae are likely to have arrived from ships' ballast water, while young whelks could also have hidden amongst commercial bivalve seeds and were transferred to new aquaculture farms. Its proliferation may cause a serious limitation to natural and cultivated populations of oysters and mussels.

Realized by V. Cappanera e G. Massa. Thanks to the authors for the pictures. Thanks for the kind contribution to: Mar Otero (IUCN), M.Vacchi (ISPRA), M.Montefalcone (DISTAV), R.Cattaneo-Vietti (UNIPM).