

First report of *Sargassum muticum* in *Caretta caretta*, Sicily, Italy.

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Sargassum muticum is native to the North Western Pacific coasts. In the Mediterranean Sea, is a noninvasive species, growing in the upper sublittoral zone, lagoons, and offshore harbors. Introduced to Europe in the late 1960s, was first recorded in the Mediterranean in the 1980s in France. Most introductions are due to anthropogenic activities, introduced through oyster farming, in Spain and Italy [1]. Here we report the first finding in Sicily of *S. muticum*, in the gut of a dead *Caretta caretta* recovered from Porto Empedocle (AG). The sea turtle, a male sub-adult, was admitted at Regional Sea Turtle Rescue Centre in May 2024. At necropsy the subject showed presence of the alien *S. muticum*. The successful spread of *S. muticum* is also due to their ability to tolerate pollutants, temperature changes (-1°C to 30°C) and salinity. In America, *S. muticum* has become dominant, posing a threat to biodiversity and interfering with the incubation process of sea turtle eggs, altering sand temperature and negatively affecting the sex of embryos. Its presence in the gut of *C. caretta* turtles found on the Porto Empedocle coast is the first reported in Sicily, although it is common to find it dead in Florida [2]. Still unknown are the impacts that *S. muticum* has on the Mediterranean Sea, considered, to date, a noninvasive alien species. To control the spread of exotic species, it would be necessary to monitor them. *Caretta caretta* sea turtle is a long-lived marine species widely distributed along the temperate and tropical zones of all oceans, as well as in the entire Mediterranean Sea [3] and the only known species nesting along the Italian coast [4]. The *C. caretta*, as a bioindicator and sentinel species, plays a crucial role in assessing the health of the Mediterranean Sea ecosystem.

Reference

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