Invasion of an invader: a case study from the Suez Channel

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After the year 1869, a major change in the Mediterranean marine ecosystem occurred. A pathway called Suez Canal was created allowing the passage of alien invasive species from the Red Sea to the Mediterranean, which is currently harboring over 900 introduced marine species. About 54% of these established non-native species reached through the Suez Canal. Whilst most of the studies dealing with marine invasive species focused on the Mediterranean, very few were done in the Suez Canal itself. The goal of this study is to review the distribution and current status of two invasive marine plants in the Suez Canal, specifically the Bitter Lakes area. This area was selected because of its special environmental conditions and its importance as a major fishing ground in the entire canal. Visual observations of the marine vegetation in the study sites were carried out starting year 2001. *Halophila stipulacea*, a tropical seagrass distributed along the coasts of the western Indian Ocean and the Red Sea, has migrated and is widely found around the Mediterranean. It was recorded in the Suez Canal by the Cambridge Expedition in 1924 and is known to occur in the shallow sandy-muddy bottom areas along its western coast. Since 2000, different studies along the Bitter Lakes have shown total disappearance of seagrass meadows caused by another invader that have replaced the seagrass plants and reached a percentage cover of nearly 100% in some of the studied sites. A new intruder was the green seaweed *Caulerpa prolifera*, a Mediterranean algal species that was recorded in the Gulf of Suez in 1984, among few species migrated from the Mediterranean to the Red Sea. It has rapidly colonized different locations in the Suez Canal replacing *H. stipulacea* meadows. However, in 2004, a dramatic change took place in the study area where *C. prolifera* began diminishing allowing the previously found *H. stipulacea* to inhabit the seafloor. While salinity reduction from hypersaline conditions – due to growing of coastal communities along the Bitter Lakes with more fresh water discharge – may cause the expansion of *C. prolifera* in the study area, the reasons why it declined and disappeared are still unclear.