The CIESM Atlas of Exotic Species is the first attempt to provide a comprehensive, group by group, survey of recent marine “immigrants” in the Mediterranean Sea, which is witnessing drastic and rapid changes in its biota. The present volume, which follows the publication of the first three Atlases (Fish, Crustaceans decapods/stomatopods and Molluscs), covers the marine macrophytes. As far as Macrophytes are concerned, the Mediterranean is the sea harbouring the greatest number of exotic species worldwide. In this volume, we draw a list as broad as possible of the exotic macroflora on the basis of recent checklists and unpublished data [1-6], considering as “exotic” a species being a relative newcomer to the Mediterranean Sea (e.g.: not having appeared before 1869, date of the opening of the Suez Canal, for species originating from the Red Sea). Several species reported before this date and assumed to be native by some authors [2] (e.g.: Asparagopsis taxiformis) have nevertheless been included because recent and fast changes in their Mediterranean distribution give evidence to a recent introduction of either a cryptic species similar to the Mediterranean one or an exotic genotype from remote population. A total of 110 species (22 Chromobionta, 71 Rhodobionta, 16 Chlorobionta and 1 Magnoliophyta) constitute the main core of this CIESM Atlas. Considering the high risk of secondary introduction into the Mediterranean Sea of exotic species present on the NE Atlantic coast, 12 other exotic species have certainly arrived on their exotic host (e.g.: Acrochaetium spp.). Once introduced, an exotic species can spread by one or several of the previous vectors but also via other human activities as fishery and ship traffic, entangled with the anchorages and fishing engines (e.g.: Caulerpa spp.). Transportation of fixed organisms on ship hulls is certainly the most ancient vector of species introduction in the marine realm. The relative importance of this vector has actually decreased with time and, nowadays, one might suppose that most of the macrophytes that were potential candidates for introduction via fouling have been already introduced. Ballast waters seem to play a minor role as a vector for introduction of macrophytes but not as a secondary dispersal vector (e.g.: Caulerpa spp.). The main vector of introduction is shellfish aquaculture, followed by ship traffic and the Suez Canal. Multiple introductions via different vectors (e.g.: fouling, ballast waters and aquaculture) are probable for several species (e.g.: Codium fragile).

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Keywords : Algae, Species Introduction, Suez Canal, Aquaculture.

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