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Editorial

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Studies of Non-indigenous species

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The interconnectivity of the marine realm inevitably leads to changes in species distribution and occurrence, changes that have been documented from the earliest issues of the *Journal of the Marine Biological Association* (JMBA). An early example was the 'plague' of Octopus on the south coast of England affecting the crab and lobster fishery, described by Garstang (1900). Of particular interest in the context of environmental change are introductions and spread of non-indigenous species and JMBA articles on this topic cover a wide variety of organismal types from plankton (Edwards *et al.*, 2001), macroalgae (Casas *et al.,* 2008), molluscs (Mistri, 2003), crustacea (Gouillieux *et al.,* 2016), annelids (David *et al.,* 2021) to fish (Andrade-Tubino, 2021).

Of increasing concern is the interaction of invasive non-indigenous species with ecosystem functioning in new habitats where they may have profound impacts and consequential socio-economic effects. In the marine context management is especially difficult because of the interconnectivity and broad spatial scales involved (Giakoumi *et al.,* 2019). Early detection and rapid action has been identified as key to effectiveness of managing new introductions. As an example Holmes and Calloway (2020) looked at survey methodologies in active ports to evaluate their effectiveness in monitoring the introduction of non-native species. The understanding of species dispersal in this context is also important for underpinning determination of potential problems, with reporting on annelids (Ahyong *et al.,* 2017), barnacles (Kim *et al.,* 2020) and macroalgae (Mineur *et al.* 2001) as examples of such studies reported in the JMBA.

For conservation and determination of potential management strategies it is also key to have a thorough understanding of the ecology and behaviour of invasive species (for example, see the study published in the JMBA on the ecology of *Sargassum muticum* (Norton, 1977)). The interaction of invasive species with local food webs has been a particular focus in the JMBA with recent examples including Kurr and Davies (2018) investigating the effect of time since introduction on mesoherbivory of *Sargassum muticum* and Van Volkom *et al.* (2021) working in the Gulf of Maine, examining the effect of non-indigenous ascidian species in the diet of *Henricia sanguinolenta*. This issue includes a paper reporting the prey preferences of crabs examining differences between invasive *Hemigrapsus* species compared to the native *Carcinus maenas* (Bleilie & Thieltges, 2021).

There have been a number of studies showing a significant increase globally throughout the 20th and 21st centuries in spread of non-indigenous species. The JMBA has been highlighting this issue since its early days with the understanding and documenting of species distributions, studies of organismal physiology and behaviour and the ecology of communities being more important today than ever.

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