

Are the saltwater oysters *Pinctada radiata* and *P. fucata* synonyms or different species? The case of some Mediterranean populations

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The earliest reported alien species that entered the Mediterranean after only nine years from the opening of the Suez Canal was ‘*Meleagrina*’ sp. This was subsequently identified as the Gulf pearl-oyster, *Pinctada radiata* (Leach, 1814). Thereafter, an increasing series of records of this species followed. Nowadays it can be considered a well-established species throughout the Mediterranean basin.

Since the Red Sea isthmus was considered to be the only natural way of migration, the name that was assigned to the species, *P. radiata*, was never questioned since this was the only *Pinctada* recorded from the area. Increasing vessel traffic and records of vast amounts of *Pinctada* specimens with slightly morphologically different shells led to the hypothesis that a distinct *Pinctada* population from a different geographical provenance is also present.

The taxonomy of *Pinctada* is complicated since these bivalves lack reliable morphological characteristics to distinguish different species. Thus, the origin of specimens, since generally, different species live in separate geographical areas must be also taken into account. As a consequence of this, simultaneous molecular phylogenetic approaches were used by some researchers but the results obtained were discordant.

This taxonomic conundrum was re-examined, this time applying morphological taxonomy. Specimens were grouped according to the site of collection in the Mediterranean basin. Results from these morphological studies confirmed the hypothesis that *P. radiata* is not the only species present. The other species was identified as *P. fucata* (Gould, 1850). The observed distributional pattern of *P. fucata* individuals in the Mediterranean is typical of early introduced alien species.

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Morphological comments and interpretations on the taxonomical status of both species, together with ecological notes and a review of the molecular phylogenetic studies conducted will be presented in this communication.