

The effects of environmental factors on the distribution of crustaceans along the Tunisian coast

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Abstract

About twenty commercial crustacean species are caught in Tunisian fisheries: *Palinurus elephas* (red lobster), *Palinurus mauritanicus* (white lobster), *Nephrops norvegicus* (Norway lobster), *Homarus gammarus* (European lobster), *Scyllarides latus* (Mediterranean locust lobster), *Scyllarus arctus* (small European locust lobster), *Penaeus kerathurus* (camarote prawn), *Parapenaeus longirostris* (deep-water pink shrimp), *Aristaeomorpha foliacea* (giant red shrimp), *Aristeus antennatus* (blue and red shrimp), *Plesionika martia* (golden shrimp), *P. edwardsi* (striped soldier shrimp) and *P. heterocarpus* (arrow shrimp), *Metapenaeus monoceros* (speckled shrimp), *Trachypenaeus curvirostris*, (southern rough shrimp), *Alpheus glaber* (red snapping shrimp), *Pontocaris lacazei* (hardshell shrimp), *Maia squinado* (spinous spider crab) and *Carcinus maenas* (green crab).

The distribution of these species differs according to depth, temperature, nature of the sea bottom, sensitivity to pollution. Some species are concentrated on the northern side of the country, such as the red, European and Norway lobsters, and the deep-water shrimps (*Parapenaeus longirostris*, *Aristeus antennatus*, *Aristaeomorpha foliacea*, and *Plesionika* spp.). The shrimps *Penaeus kerathurus* and *Metapenaeus monoceros*, which have recently migrated from the Red Sea, are concentrated on the southern side of the country.

The bio-ecology of crustaceans has been little studied. Research was concentrated on *Parapenaeus longirostris* and *Penaeus kerathurus* because of the important landings of these species. Biological parameters of *Penaeus kerathurus* and the biometric relations of *Parapenaeus longirostris* and *Palinurus elephas* were determined. Stock assessments using production models to estimate the MSY for *Penaeus* and *Parapenaeus longirostris* stocks were carried out. It should also be pointed out that the biological sampling is very difficult for many species (*Palinurus elephas*, *Homarus gammarus*, *Nephrops norvegicus*, *Aristeus antennatus*, *Aristaeomorpha foliacea*, etc.).

Much more research is needed to acquire a better knowledge of the distribution and dynamics of the crustacean species exploited in Tunisia. But collaboration with professional fishermen in the fishing areas and with the fishery administration is essential.

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