

NOTE:

**RHOPILEMA NOMADICA: A LESSEPSIAN SCYPHOMEDUSAN NEW TO THE MEDITERRANEAN COAST OF TURKEY**

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A large, foreign jellyfish first appeared off the Mediterranean coast of Israel in the mid-1970s and became increasingly common during the past decade. Galil et al. (1990) identified the jellyfish as *Rhopilema nomadica*, an Indian Ocean species that entered the Mediterranean through the Suez Canal. In addition to the sightings off the Israeli coast, it has been reported from Egypt, Lebanon, and Syria (Avian et al., 1995; Galil, pers. comm.). In the summer of 1995, *R. nomadica* was detected in Mersin Bay, Turkey. Scyphozoans recorded previously from Mersin Bay include *Chrysaora hysoscella*, *Rhizostoma pulmo* (Bingel et al., 1991), *Aurelia aurita*, and *Pelagia noctiluca* (Gücü, unpublished data).

The first specimens of *R. nomadica* were sighted inside the harbor of the Institute of Marine Science, Middle East Technical University (METU), 5 km west of Erdemli, Mersin Bay (Fig. 1), on 2 August 1995. During the month of August, a total of 62 specimens were found stranded on a 200-m-long beach west of the Institute during daily inspections. In the same period, 58 specimens were observed inside the Institute's harbor. In the latter half of August, some jellyfish were either moribund or dead, and most had a hole or two (1–2 cm in diameter) in the umbrella. By the end of August, *R. nomadica* disappeared. Three short coastal surveys were conducted between 3 August and 9 August, and a total of 185 specimens were sighted, the largest numbers observed on 9 August, east of Erdemli River, approximately 50–100 m offshore. *R. nomadica* was not observed between Tasucu and Aydıncık (Fig. 1). The largest specimen collected

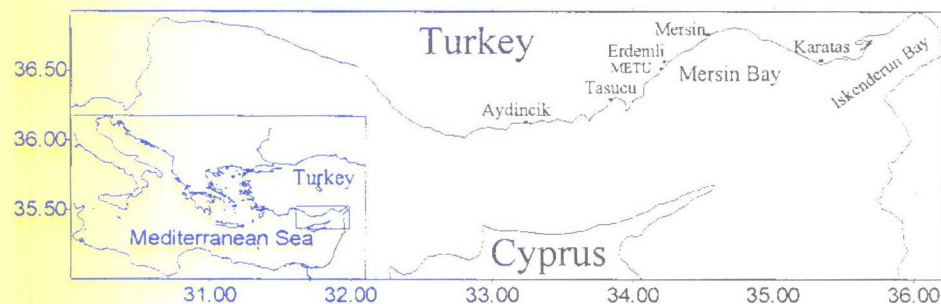


Fig. 1. Study area.

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weighed 9.7 kg and measured 58 cm across its umbrella. Although this is the first record of *R. nomadica* from the Turkish coast, it might have actually arrived before. There were reports of severe stings from similar-looking jellyfish in the summer of 1992. However, it is clear that the population of *R. nomadica* in previous years was small.

It is interesting to note that, like other Lessepsian migrants, *R. nomadica* was recorded first off the eastern coast of Turkey (Holthuis, 1961). Observations off the easternmost Turkish coast indicate that the concentration of *R. nomadica* is higher there than in Mersin Bay (D. Avsar, pers. comm.), whereas none was found from Tasucu westward. This distributional pattern may be due to the prevailing cyclonic current of the Mediterranean Sea (Ovchinnikov, 1966), although there are deviations from this general current scheme (Ozsoy et al., 1993). The absence of *R. nomadica* from Tasucu westward might be due to the prevailing eastward current in summer along the coast, resulting from the anticyclonic eddy between northeastern Cyprus and Mersin Bay, which contrasts with the general circulation system in the Mediterranean. It is also possible that this or other potential anticyclonic eddies act as a trap for the jellyfish, preventing their dispersion. *R. nomadica* has not been observed from northern Cyprus (H. Orek, pers. comm.). The Mersin and Iskenderun coast is densely populated and heavily industrialized. The presence of *R. nomadica* there, while absent off Tasucu-Aydincik, might be attributed to the high productivity and pollution resulting from industrial and domestic effluents. The primary productivity of Iskenderun Bay is 2–4 times higher (average  $115 \text{ mg C m}^{-2} \text{ d}^{-1}$ ) than offshore productivity (Yilmaz et al., 1992). Indeed, only a substantial amount of plankton and other organic matter can sustain the high biomass of jellyfish.

Juveniles of an Indo-Pacific carangid fish, *Alepes djedaba*, were reported to be commonly found in association with *R. nomadica*, sheltering under its umbrella and among the filamentous moutharms (Galil et al., 1990). This association was observed in Mersin as well: a total of 30 specimens of *A. djedaba* were collected, ranging in length from 1.7 to 5.3 cm. In addition, five specimens of a crab of Atlanto-Mediterranean origin, *Liocarcinus depurator*, were found in jellyfish caught inside the harbor, their carapace width ranging between 1.2 and 2.4 cm. Further studies are needed to examine whether this is indeed a true association or a case of opportunistic predation on moribund jellyfish.

The proliferation of *R. nomadica* off the eastern Mediterranean coast of Turkey has potentially negative consequences on human health, tourism, and fisheries. During the month of August 1995, many swimmers were stung and sought medical treatment. Local fishermen claim that the catch from gillnet fisheries decreased and that the jellyfish entangled in their nets are a major nuisance.

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