

## Short Note

### Mediterranean Monk Seal (*Monachus monachus*) Resighted Along the Israeli Coastline After More than Half a Century

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Historically, the Mediterranean monk seal (*Monachus monachus*, Hermann, 1779) was abundant and distributed continuously from the Black and Mediterranean Seas to the temperate and subtropical waters of the eastern North Atlantic (Johnson & Lavigne, 1999). Today, the Mediterranean monk seal is one of the world's most critically endangered mammals (Aguilar & Lowry, 2008, as cited in IUCN, 2010). In the 16th century, the French naturalist Pierre Belon (1553) reported on the existence of numerous Mediterranean monk seal colonies between Egypt and Israel. The species was regularly sighted on the north coast of Israel up until 1941, and the last evidence of reproduction dates back to the late 1920s, to the south of Haifa (Bertram, 1943). The last authenticated reports of monk seals along the Israeli coastline were in 1953 of a single animal in an underwater cave near the Lebanese border; and in 1958 of another single animal in the Dor/Tantura lagoon, located in the central part of the coast (Dolev & Perevolotsky, 2004). Until recently, there have been no further reported observations of the species in the country.

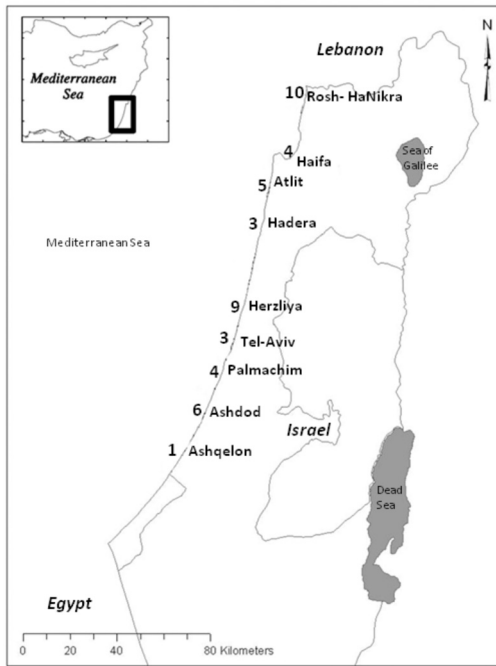
However, since November 2009, there have been reliable reports of monk seal sightings from the southern Israeli coastline, made by experienced seamen and fishermen. The photographed encounter that permitted the first positive identification of *M. monachus* in Israel for over 50 years occurred on 7 January 2010. The monk seal was seen swimming inside the Herzliya Marina (32° 09.9' N, 034° 47.6' E) and was photographed later that night, sleeping in a small alcove at the sea-side of its breakwater (Figure 1). Based on the photographic documentation obtained, the monk seal is a female (A. C. Gücü & M.Om, pers. comm.), morphological class C/D (Samaranch & Gonzalez, 2000).

Between November 2009 and September 2010, the Israel Marine Mammal Research & Assistance



**Figure 1.** A young female Mediterranean monk seal, photographed on 7 January 2010 in an alcove in the breakwater of the Herzliya Marina, Israel (©S. Landau/IMMRAC)

Center (IMMRAC) team received 45 reports (including video and/or photographs) of monk seal sightings along the entire Israeli coastline. These sightings occurred from Ashqelon near the southern border of the Gaza Strip to Rosh-HaNikra at the northern border with Lebanon (Figure 2). The documentation obtained was not sufficient to verify the presence of more than one individual. However, the locations and the timings of some of the sightings suggested the presence of at least two animals. For instance, on 7 January, 2.5 h prior to the sighting at the Herzliya Marina, a monk seal was sighted inside Haifa Port, about 80 km to the north (Figure 2). To make that journey, the monk seal would have had to travel at a mean speed of 32 km/h, an order of magnitude higher than the measured swimming speeds of several seal species (Watanabe et al., 2011). On the morning of 15 February 2010, the IMMRAC team was informed of three consecutive sightings, 10 min apart, documenting a northward movement of what most likely was the same individual. These



**Figure 2.** Summary of monk seal sightings along the Israeli coastline between November 2009 and September 2010; the numbers represent the sightings per location.

translated into a more realistic swimming speed of  $3.25 \text{ kmh}^{-1}$ , or  $0.9 \text{ ms}^{-1}$ , which is in line with the Watanabe et al. study.

The Mediterranean monk seal is currently considered to be locally extinct from Israel (Dolev & Perevolotsky, 2004). If what has just been recorded along the Israeli coastline is not an isolated vagrancy, and Mediterranean monk seals are indeed attempting to recolonize this part of the eastern Mediterranean coastline, it would indicate a significant expansion of the current distribution range of the species as the closest known colonies of the species are located about 350 km to the north in Cyprus and in Turkey (Dendrinis & Demetropoulos, 2000; Gücü et al., 2004, 2009).

The entire Israeli coastline is heavily occupied, with only approximately 16 km currently protected by law as the coastal reserve. There are no isolated beaches or caves free of human disturbance, and the only available caves at Rosh-HaNikra, although potentially suitable for the hauling-out of adult animals, are not suitable as pupping sites due to flooding during winter storms, a dominant factor in pup mortality elsewhere (Androukaki et al., 1999). Along with marine pollution and the progressive depletion of fish stocks due to over-fishing (Pisanty & Grofit, 1991), the long-term likelihood of establishing a viable population of monk seals along the Israeli coastline without investing substantial conservation effort appears low.

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