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SHORT COMMUNICATION

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# Discovery of the first feeding area for adult and juvenile green turtles and loggerhead turtles in Greece

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Two species of sea turtle breed in the Mediterranean Sea, green turtles (*Chelonia mydas*) and loggerhead turtles (*Caretta caretta*). The green turtle is mostly restricted to the eastern Mediterranean, breeding in Cyprus, Turkey and Syria (Casale et al., 2018) but they can also be found at low densities in the Adriatic Sea (Lazar et al., 2004), and the coastal waters of Greece (Panagopoulos et al., 2001), Italy (Bentivegna et al., 2011) and north Africa (Stokes et al., 2015). The loggerhead turtle is found across the entire Mediterranean and breeds mainly in Greece, Turkey, Cyprus and Libya (Casale et al., 2018). Green turtles are Endangered in the Mediterranean due to their relatively low numbers and the genetic isolation from the Atlantic population (Encalada et al., 1996; Kasparek et al., 2001; Seminoff, 2004). The only published regular foraging location for green turtles in Greece is for juveniles in Lakonikos Bay, south Peloponnese (Margaritoulis & Teneketzis, 2001). All other observations are from strandings or captures that are not concentrated in one specific area (Panagopoulos et al., 2001). However, Corsini-Foka et al. (2013) found proportionally more green turtles in waters around Rhodes (in relation to all other Greek sites) which included three adults, but there were only 42 green turtle records from 27 years of data collection. Rhodes is the nearest island to my study site on the Greek island of Kastellorizo.

During a zoological survey of Kastellorizo island in August 2017, a number of green turtles (Fig. 1) and loggerhead turtles were recorded in the nearshore waters. Kastellorizo is a small Greek island situated 128 km east of Rhodes island and only 2 km from the south coast of Turkey. The turtles were present at the two small bays, green turtles in the shallow small-boat harbour (Fig. 2, A, 36° 8’55.17” N 29° 35’48.01” E) and loggerheads mostly in the deeper main harbour (Fig. 2, B, 36° 9’1.24” N 29° 35’27.38” E). The green turtles present in the area were mostly adult animals, but there were also some small juveniles. To count turtles, I stood on the best vantage point of the small boat harbour (Fig. 2, A) each afternoon from 9 August 2017 to 15 August 2017 and surveyed the water using binoculars. I estimated that there were 8-10 mostly adult green turtles swimming in the bay. It was difficult to count the animals because most of the time they were submerged and feeding, and only came to the surface to breathe for a few seconds. Surveys at the deeper harbour (Fig. 2, B) on three of the five same afternoons revealed that up to 5 individuals were present there. Just outside the small shallow bay there is a small archipelago of 8 islands with shallow sea between them (Fig. 2, C), each with the same grassy bottomed habitat. On a third visit in July 2019, I snorkelled in this area and the shallow harbour, and estimated that in total, over 20 green turtles where present (mostly adult females and juveniles but I also observed two adult males). The turtles that I observed while snorkelling were feeding on the sea grasses *Cymodocea nodosa* and *Posidonia oceanica*. Some turtles would come to feed in very shallow water, no more than 60 cm deep (Fig. 1).

The only loggerhead feeding that I was able to witness was of two individuals that aggressively interacted in the main, deep harbour, while competing for food items given from the tavernas.

**Figure 1.** Green turtle in very shallow water feeding on *Cymodocea nodosa* sea grass

On a another visit from 26 to 29 April 2019, to check if the turtles were present all year round, no turtles of any species were recorded. Local fishermen say that the turtles gather in the bays from May onwards.

The nearest nesting beach for green turtles is Patara beach in western Turkey, some 30 km west of Kastellorizo, which at the same time is believed to be the westernmost site of green turtle nesting in the Mediterranean (Kasparek et al., 2001). The beach is mainly a nesting site for loggerhead turtles but most years 1 to 2 nests of green turtles can be found (Olgun et al., 2016). The number of green turtles present at Kastellorizo is much higher than those nesting in the wider area, which may indicate that post-breeding and


**Figure 2.** The harbour area of the island of Kastellorizo, **A**. Small boat harbour, **B.** Main harbour, and **C.** Shallow grassy bay (image courtesy of Google Earth)

non-breeding adults spend time in these waters feeding. This is the first reported feeding ground for adult and juvenile green turtles and loggerheads in Greece, which is very important given the endangered status of the species globally. Inside the two harbours, boat traffic is dense, with possible deadly consequences for turtles; a speed limit for boats would be a welcome conservation measure.

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