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SHORT COMMUNICATION

First record of loggerhead turtle (*Caretta caretta*) nesting in the Algerian coast (southwestern Mediterranean)

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Abstract

A hatchling of loggerhead turtle, *Caretta caretta*, was accidentally discovered on the beach of Tamanart "Skikda" in the eastern zone of Algeria on August 11, 2017. Here we report the first confirmed occurrence of nesting activity in the Mediterranean coast of Algeria.

Keywords: Algerian coast, loggerhead turtle, nesting activities

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Two species of marine turtles nest in the Mediterranean Sea, the loggerhead turtle (*Caretta caretta*) and the green turtle (*Chelonia mydas*) (Margaritoulis *et al*. 2003). Generally speaking, the western Mediterranean Sea has been considered being the outside of the loggerhead turtle nesting range (Tomás *et al*. 2015). However, the loggerhead turtles have been consistently exhibiting low levels of nesting activities at various locations in the western Mediterranean, such as the eastern coast of Spain (Delta of the Ebro River) in 1991 (Llorente *et al*. 1993), the southwestern coast of Spain in 2001 (Tomás *et al*. 2002), the southeastern coast of Corsica in 2002 (Delaugerre and Cesarini 2004), the central Tyrrhenian coast of Italy in 2002 (Bentivegna *et al*. 2005), the Valencia province (East Spain) and Barcelona province (Northeast Spain) in 2006 (Tomás *et al*. 2008), the southwestern coast of Italy and south Sardinia in 2006 and 2008 (Bentivegna *et al*. 2010), the southern coast of France in 2006 (Sénégas *et al.* 2009) and northwestern coast of Tunisa, near the Algerian-Tunisian border in 2016 (Bradai and Karaa 2017).

The presence of sea turtles on the Algerian coast have been regularly reported since the end of the 18th century to date. Indeed, two species of sea turtles,

including approximatively 70% loggerhead turtles and 30% leatherback turtles (*Dermochelys coriacea*) have regularly stranded (alive or dead) or accidentally caught in the Algerian waters (Belmahi *et al.* in press). This situation has been explained by Aguilar *et al.* (1992), Laurent *et al*. (1993), Margaritoulis *et al*. (2003) and Revelles *et al.* (2008) due to the proximity of the feeding zone located in the Alboran Sea and Algerian basin. However, despite the effort to search for an evidence of nesting on the Algerian coasts, no nesting has been confirmed to date, except for some vague testimonies of the observation of turtle tracks on some beaches during the nesting season (Laurent *et al*. 1990). Casale and Margaritoulis (2010), however, indicated that occasional nesting opportunities are likely, especially in the past.

The Algerian coast covers 1622 km of the southwest Mediterranean coastline from the Moroccan to the Tunisian borders, of which approximately 180 km is facing the Alboran Sea. The Algerian littoral is characterized by a narrow shelf with an extended rocky bottom and the western part is under the Alboran Sea conditions directly influenced by the Atlantic currents (Millot 1999). This coastline presents a variety of habitats, from dominant rocky shores, sometimes with high cliffs, to sandy beaches and dunes in most of the bays. The beaches occupy a large part of the Algerian coast, of which the largest ones are located on the eastern part of the country.

During our surveys to detect nesting possibilities of sea turtles on the Algerian coast, we confirmed the presence of a single hatchling of *C. caretta* at Tamanart "Skikda" in eastern Algeria, but the nest was not found. Here we report the first confirmed occurrence of nesting activity in the Algerian coast.

Our researchers met to a group of campers who captured a turtle hatchling on August 11, 2017 at Tamanart Beach, 37.052488°N; 6.524658°E (Figure 1). The newborn turtle trying to cross from the beach to the sea. The turtle hatchling was captured at 4:00 AM and released in the morning after photographs and videos were taken (Figure 2).

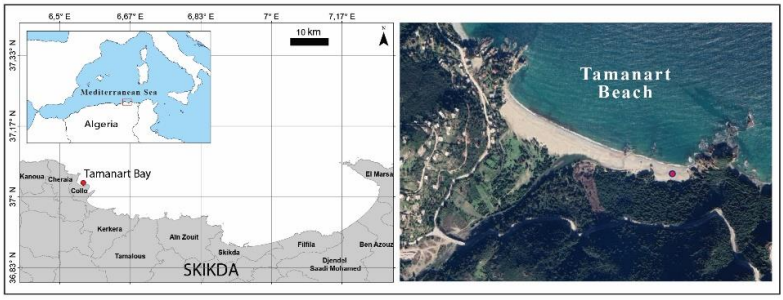

Figure 1. The location where a hatchling of the loggerhead turtle was captured in Tamanart Skikda, Algeria. The red dot shows the position of the captured hatchling.

As a result of the analysis of the photos and videos obtained (5 vertebral scutes, 5 pairs of costal scutes and the nuchal scute is in direct contact with the first pair of costal scutes) as well as the interview with the campers, it was concluded that the specimen was the hatching of loggerhead turtle, *Caretta caretta* (Wyneken 2001). Based on the incubation time of 47.3 to 62.3 days given for *C. caretta* (Margaritoulis *et al*. 2003), we estimated the date of nesting between 9 and 25 June 2017. This is consistent with the sea turtle nesting period in the Mediterranean, from beginning of June to early September (Margaritoulis *et al*. 2003).

Figure 2. A loggerhead turtle hatchling captured at Tamanart beach in Algeria on 11 August 2017 (Photo: Ali Djebrouni)

According to Carreras *et al*. (2018), the increase in nest numbers of *C. caretta* reported from the western Mediterranean between 1992 and 2017, are not remnants of a past population, but the result of an ongoing process of colonization from distant nesting beaches, resulting from the environmental conditions, including global warming.

The present report confirms the hypothesis of Carreras *et al.* (2018) that the western Mediterranean could potentially host a nesting population, including southern Spain, southern Italy and the African coast. This hypothesis is supported by a predictability model of the distribution of nesting sites around the Mediterranean basin for the loggerhead turtle (Pike 2013).

Moreover, the lack of data on the nesting of sea turtles on the Algerian coast during the last two decades does not necessarily mean the absence of nests. Indeed, during the first months of the launch of the national sea turtle monitoring program in Algeria, we recorded the presence of this first nest implanted two years earlier. In this context, the detection of sporadic nesting events through extensive monitoring of potential suitable habitats, coupled with protection and conservation of newly colonized sites, might facilitate the possible expansion and long-term survival of the species in the area (Carreras *et al*. 2018).

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