

**CARETTA CARETTA (Loggerhead Sea Turtle). REPRODUCTIVE LONGEVITY.** Loggerhead Sea Turtles generally have a long lifespan, and it has been estimated that loggerheads in the Atlantic may live up to 47–62 years with a maximum reproductive life span of 32 years (Frazer 1983. *Herpetologica* 39:436–447). A more recent study indicated a mean life span of 57 years and a maximum reproductive longevity of 46 years (Avens et al. 2015. *Mar. Biol.* 162:1749–1767). In practice, determination of reproductive longevity can be assessed on the nesting beaches through long-term mark-recapture methods. Nesting turtles are usually marked with external flipper tags and/or internal Passive Integrated Transponder (PIT) tags. Observing subsequent nestings

TABLE 1. Observed nesting dates and respective tag codes of Loggerhead Sea Turtle (*Caretta caretta*) T2617 with a 37-year reproductive lifespan in Zakynthos, Greece. Newly applied tags are shown in bold. # = illegible character.

Date	Tags present
8 July 1986	<b>T2617, K569</b>
5 July 1989	T2617, K569
5 August 1989	T2617, K569
12 July 1993	K569, <b>E009</b>
1 August 1993	E009
22 June 1996	K###, E009
5 July 2002	E009 (removed), <b>ZA526, ZA527</b>
18 July 2002	ZA526, ZA527
24 June 2006	ZA527, <b>ZB089</b>
23 July 2006	ZA527, ZB089
13 June 2009	ZA527, ZB089, PIT ( <b>0006C9E020</b> )
14 June 2012	ZA527, ZB089, PIT (0006C9E020)
29 June 2012	ZA527, ZB089, PIT (0006C9E020)
16 July 2012	ZA527, ZB089, PIT (not checked)
6 July 2015	ZA527, ZB089, PIT (not checked)
18 July 2018	ZA52#, PIT (0006C9E020)
6 July 2023	PIT (0006C9E020), <b>L4058, L4059</b>

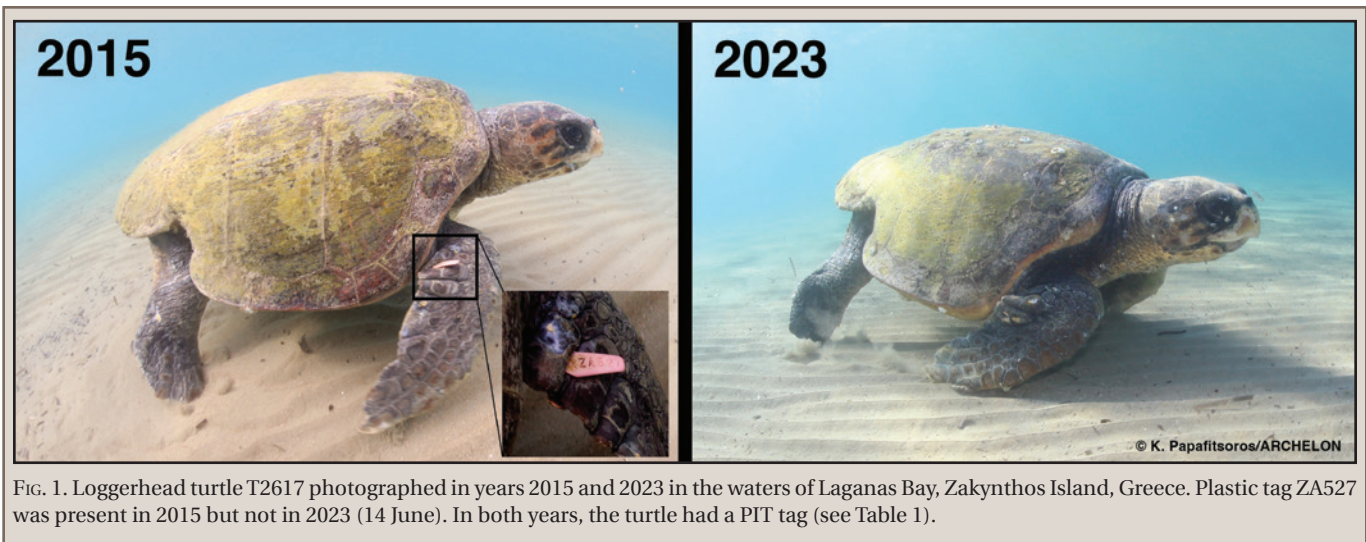


FIG. 1. Loggerhead turtle T2617 photographed in years 2015 and 2023 in the waters of Laganas Bay, Zakynthos Island, Greece. Plastic tag ZA527 was present in 2015 but not in 2023 (14 June). In both years, the turtle had a PIT tag (see Table 1).

of the individually marked turtles may allow determination of their reproductive lifespan, provided that the mark-recapture program has an adequate duration. In practice, high tag loss and turtle mortalities at sea can decrease the probability of encountering a tagged turtle nesting after multiple years (Ehrhart et al. 2014. *Chelon. Conserv. Biol.* 13:173–181). Published data from tagging programs around the world show that Loggerheads may reproduce for up to 18 years in the southwestern Indian Ocean (Nel et al. 2013. *PLoS ONE* 8:e63525), 23 years (Ehrhart et al. 2014, *op. cit.*) and 31 years in Florida (Ondich and Andrews 2013. *Mar. Turt. Newsl.* 138:11–15), 32 years in Brazil (Baretto et al. 2019. *Mar. Turt. Newsl.* 157:10–12), and 36 years in the Mediterranean (Greece) (Margaritoulis et al. 2023. *Herpetol. Rev.* 54:133). Moreover, a combination of tagging data and genetic identification of nesting turtles provided evidence of a Loggerhead Turtle with a 36-year reproductive lifespan in Georgia, USA (Shamblin et al. 2021. *Herpetol. Rev.* 52:124–125).

Here, we report that in summer 2023, in the course of ARCHELON's long-term tagging program in Zakynthos Island, Greece, a nesting Loggerhead Turtle was observed to have had a reproductive lifespan of 37 years. This tagging program started in 1982 by using plastic and metal tags and, since 2010, PIT tags (Margaritoulis et al. 2020. *Chelon. Conserv. Biol.* 19:133–136). Care was taken that each encountered turtle returned to sea bearing two external tags plus one PIT tag. All tagged turtles receive a unique ID, usually the code of the first-applied tag, and all subsequent tags are linked to this ID.

An independent Photo-ID program is also carried out in the waters of Laganas Bay (Schofield et al. 2020. *Ecology* 101:e03027). On 14 June 2023, KP photographed a female turtle in the bay bearing a characteristic injury on the hind-right side of carapace with no external tags (Fig. 1). KP identified the turtle, through the Photo-ID database, as the one observed in 2015 that bore red plastic tag ZA527 on her front-right flipper (Fig. 1). A search in the tagging database showed that the turtle observed in the bay was the one with ID tag code T2617 applied in 1986 and she should have a PIT tag, implanted in 2009 (Table 1). On 6 July 2023 this turtle (identified by PIT tag 0006C9E020, and the characteristic injury) nested on Sekania beach, and received two new flipper tags. According to her history (Table 1), this turtle completed a minimum reproductive longevity of 37 years. To our knowledge, 37 years is the longest published reproductive lifespan for loggerheads worldwide. We expect that the use of PIT tags will

compensate the loss of external tags and, in the near future, the empirical duration of reproductive longevity will further increase.

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