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Field Note

Predation on green sea turtle, *Chelonia mydas*, hatchlings by invasive rats

Markus Gronwald [A,C], *Quentin Genet* [B] *and Margaux Touron* [B]

Fig. 1. Predation on a green sea turtle hatchling by a ship rat.

Sea turtle populations worldwide are in decline. Important reasons are habitat loss, commercial fishing by-catch, unsustainable harvesting of eggs and adults, pollution and predation by invasive species. Natural predation rates on adults of the endangered green sea turtles are low and so are the number of potential predator species. Green sea turtle hatchlings, however, are exposed to predation, both in the water and on land. Potential predators include mammals, birds, fish and invertebrates. Hatching at night is a strategy to avoid high temperatures and reduce the risk of predation by sea birds but exposes the hatchlings to nocturnal enemies, e.g. ghost crabs, *Ocypode* spp. (Hendrickson 1958). However, Caut *et al.* (2008) have suggested that sea turtle hatchlings may also be a familiar food source for *Rattus rattus* on Surprise Island, New Caledonia. Various studies provided indirect evidence of predation on sea turtle eggs and hatchlings by invasive rats on tropical islands (Harper and Bunbury 2015).

Tetiaroa is an atoll 50 km north of Tahiti, French Polynesia. On Tiaraunu, the largest motu, invasive rats, *R. rattus* and *R. exulans*, are established. It is the main nesting site for *C. mydas* in Tetiaroa, with 354 nests documented during the breeding season between July 2017 and April 2018. Activity of *R. rattus* around monitored turtle nests is high.

We monitored a nest of *C. mydas* with a motion-triggered camera for four days (see Video S1 available as Supplementary Material). The footage shows rats, adults as well as juveniles, visiting the nest several times. They indicate strong interest by sniffing and digging where hatchlings emerge an hour later. First rat activity at the nest was recorded two days before the hatchlings emerge from the ground, by which time hatching

[A]School of Biological Sciences, University of Auckland, Private Bag 92019, Auckland, New Zealand.
[B]Te mana o te moana, BP 1374 Papetoai, 98729 Moorea, French Polynesia.
[C]Corresponding author. Email: markus.gronwald@auckland.ac.nz

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from the egg had been completed for at least 2–3 days (Hendrickson 1958). It is not known whether the rats had visited the nest before the observation period. When the hatchlings appear close to the surface the rat bites into the head and pulls the hatchling out of the nest (Fig. 1). The footage strongly supports that invasive rats deliberately exploit sea turtle nests as a food source.

Our video footage adds further direct evidence to the existing reports. This underlines the importance of the control of invasive rats in the management of turtle nesting sites.

Conflicts of interest

The authors declare no conflicts of interest.

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