

AFRICAN SEA TURTLE NEVVSLETTER



Loggerhead nesting activity on João Barrosa Beach, Boa Vista Island, Cabo Verde, during an extraordinary 2020 nesting season.

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Successful Hatching of a Loggerhead, *Caretta caretta*, Nest in an Unexpected Location on Santiago Island, Cabo Verde

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The beaches of the Cabo Verde archipelago are one of the main nesting destinations of the loggerhead sea turtle (*Caretta caretta*) in the North East Atlantic Ocean (Marco *et al.* 2012; Rocha *et al.* 2014; Laloë *et al.* 2020). The species is globally classified as Vulnerable (Casale and Tucker 2017). However, the loggerhead North East Atlantic Regional Management Unit, which includes the Cabo Verde archipelago as the main rookery, is classified as Endangered (Monzón-Arguëllo *et al.* 2010; Wallace *et al.* 2010; Casale and Marco 2015). Marco *et al.* (2012) stated that in the late 2000s approximately 12,000 to 20,000 nests were laid per year on the beaches of Boa Vista Island by about 8,900 adult females; they also estimated that about 18,500 nests were laid per year across the archipelago in that same period. During the 2017 and 2018 nesting seasons, an estimated 21,000 to 28,000 adult females nested on the beaches of Boa Vista Island (Marco *et al.* 2018). This means, with regard to the number of adult females, an increase of more than 2.5 times over a decade. This increase has been attributed to a greater survival of females and an increase in hatchling productivity due to protection campaigns (Marco *et al.* 2018).

Loggerhead nesting in Santiago Island, Cabo Verde

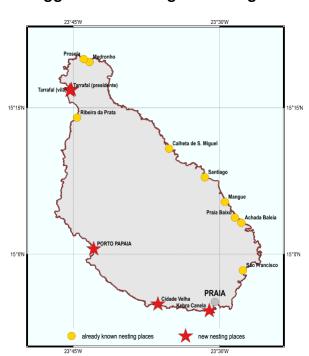


Figure 1. Loggerhead nesting areas on Santiago Island, Cabo Verde (Photo: N.S. Loureiro).

Santiago, the largest island of the entire archipelago. hosts a supposedly small number of loggerhead nests annually. Unfortunately, despite the varied efforts that were carried out by small groups of wellintentioned volunteers on several beaches (namely São Francisco, Santa Cruz, Tarrafal, and Ribeira da Prata; Fig. 1) throughout the decade of the 2010s. there was never a systematic record of the numbers of breeding females, clutches, and emergences, nor of adult females and eggs destroyed by human intervention or, for example, by stray dogs. Additionally, tens or even hundreds of years of intense capture of breeding females and collection of eggs on the beaches, as well as the reduction in the available nesting habitat due to the extraction of sand for civil construction, are among the main causes for low nesting on this island. In 2008, a map was published that summarized an exhaustive survey of all the beaches on Santiago Island where loggerheads were nesting (Loureiro 2008).

On 27 September 2020, around 3 pm local time, the team from the NGO Associação Lantuna in Baía do Inferno landed in Porto Papaia, which has a seafront of approximately 250 meters at the bottom of cliffs

with some fine, dark-colored sand at one end of a dry river mouth (Fig. 2). It was here that six relatively active hatchlings were found upside down on their carapaces; they were photographed and immediately placed at the waterline (Fig. 3). There were numerous tracks of other emerged hatchlings, indicating that the hatching of the nest had been abundant and successful. The Lantuna team excavated the nest and counted 64 eggshells and three

unhatched eggs (Fig. 4). Nest contents were buried in the same location (15.01115°N; 23.71465°W).

This record, as well as several other reliable nesting records reported by the media, documented on social networks, or communicated to us, for example, by fishermen, between 2012 and 2020, from the beaches of Cidade Velha, Tarrafal (the beach belonging to the town and the 'Praia do Presidente') and Kebra Canela (in the city of Praia) justify a first effort for revisiting the map published in 2008 (Fig. 1). These potentially new nesting sites are found on the southwest side of the island of Santiago, while the known nesting beaches lie on the northeast coast of the island.



Figure 2. Porto Papaia (Photo: N.S. Loureiro).

Future challenges

The biological importance of nesting in Porto Papaia and the other areas mentioned above is still unknown. They may be mere sporadic events or the first results of the colonization of new places. Porto Papaia, other small beaches in Baía do Inferno, and the beaches of Cidade Velha, Tarrafal (town and Presidente), and Kebra Canela were visited at least twice in 2007. During these surveys that substantiated the Loureiro (2008) map, no evidence of loggerhead nesting was found, and people from the nearest localities who were occasionally interviewed did not report any nesting. The only exception was Tarrafal, where breeding females sporadically appeared on the beaches and were invariably harvested. After that date, as far as we know, no other systematic surveys were carried out, but the multiple reports of nesting since then do not allow us to reject the hypothesis that sea turtles are returning to the island of Santiago and laying eggs on the existing sandy beaches.



Papaia (Photo: N.S. Loureiro).



Figure 3.Loggerhead hatchling found on Porto Figure 4. Nest contents from the loggerhead nest excavated on Porto Papaia (Photo: N.S. Loureiro).

NGOs active on Santiago Island and interested in wildlife conservation, city councils as well as government authorities should look at the new data published here as evidence that sea turtles are increasing on Santiago island, which justifies an increased commitment to their protection. With regard to Porto Papaia, Associação Lantuna, which is very committed to the conservation of biodiversity throughout Baía do Inferno, will start monitoring the small sandy beaches in partnership with the artisanal fishermen who fish daily in nearby waters.

Acknowledgements

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Tusk Conservation Awards Honour a São Tomean Turtle Hero: Hipólito Lima

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The awards ceremony of the Tusk Conservation Awards for 2020 was organized online on 3 December 2020. It is an annual award that recognizes and celebrates the efforts and dedication of conservation leaders and wildlife rangers in Africa. Programa Tatô, represented by Hipólito Lima, who is known in his country as the father of sea turtles of São Tomé and Príncipe, was one of the nominees and finalists for this prize and received the Prince William Award for Conservation in Africa.

More than 20 years ago, little was known about sea turtles in this country, and no one had ever heard about "wildlife conservation" in São Tomé and Principe. Hipólito Lima, the third son of one of the main sea turtle hunters in the north of São Tomé Island, was raised on and fed sea turtle meat and eggs daily, especially during the sea turtle nesting season, and grew up watching sea turtles being killed by his father. However, he always thought that this consumption was wrong and that there was something special about these animals that struggled to crawl up the beach to lay their eggs and suffered so much to die.



In 1996, Hipólito was involved in the United States Peace Corps pioneer initiative to carry out the first survey to identify the species of sea turtles occurring in the archipelago and their main nesting beaches and to assess the impacts of intentional capture by local communities. The very first time Hipólito observed a sea turtle nesting, he was so impressed by its effort to nest and struck by the vulnerability of these animals, that he decided he would do everything he could to protect these threatened species.

Through a collaboration between the European Union (EU) funded regional program ECOFAC and the United States Peace Corps, this first survey resulted in the baseline information used to implement a monitoring program on the main nesting beaches. This project funded by the EU gave rise to Programa Tatô in 2003, which was spearheaded by the national NGO MARAPA and included the monitoring of the main nesting beaches, training of local community

members as beach rangers, and the construction of hatcheries. Hipólito was called right away by MARAPA to form the local team and be responsible for the beaches adjacent to the communities of Morro Peixe and Micoló, in the north of São Tomé Island.

This program survived under the jurisdiction of the Central Africa Network for Protected Areas (RAPAC) in partnership with the regional network PROTOMAC until 2008 when it suddenly collapsed. But even without any salary, Hipólito all on his own, despite a lot of difficulties, challenges, and death threats from his neighbours and local community members, never stopped working, never stopped taking care of "his" nests, sea turtles, or hatchlings.

In 2012, MARAPA joined forces with the Portuguese NGO ATM (Association for the Protection, Research and Conservation of Sea Turtles in Lusophone Countries) and their partnership reinitiated the sea turtle protection and monitoring efforts. Since 2012, the Programa Tatô team has been growing and the coordination team has taken shape. In 2018 everything changed and Programa Tatô was no longer just a project. The coordination team, with the support and encouragement of its technical and financial partners, decided to give more autonomy and sustainability to this program and created an international NGO, the Association Programa Tatô, preserving the name already known to all the local communities, national authorities, civil societies, as well as international partners. Today, Hipólito is an honorary founding member and supervisor of rangers of the Association Programa Tatô.

He has dedicated 26 years of his life to sea turtle conservation as a beach ranger, protecting nesting females and their nests, monitoring the nesting beaches, training local rangers, lobbying the national government, and empowering local communities to become sea turtle guardians and community-based conservation leaders. His leadership and communication skills have been crucial for raising awareness in local communities, from children to fishermen, neighbours, and even the national government.

Hipólito is an inspiration for all Programa Tatô team members, and it is thanks to people like him that the strategy adopted by Programa Tatô has been having such a great success in the country: engaging former sea turtle hunters and traders in conservation and legal activities; transforming members of local communities into local conservation leaders; developing alternative livelihoods; investing in lobbying and advocacy in close collaboration with the national authorities and tourism, fisheries, and the oil and gas private sector; building the capacity of members of local communities, trainees, and technicians; promoting sustainable community-based ecotourism; educating, raising awareness, and communicating with all of the São Tomean society; monitoring, doing research, protecting, and sustainably managing sea turtles and the marine and coastal ecosystems.

This award not only recognizes Hipólito internationally as the ambassador of conservation efforts of Programa Tatô in São Tomé Island, but also acknowledges the work and dedication of all Programa Tatô team members who have been contributing to the conservation of sea turtles and the sustainable management of marine and coastal areas in São Tomé and Príncipe during the past two decades.

We are really proud and happy, and we stand together, strong, and motivated in our mission: promoting a long-term behavioral change towards improving the conservation status of sea turtles and creating a resilient national monitoring and conservation network for the sustainable management of marine and coastal ecosystems in São Tomé and Príncipe.

Find out more about Hipólito at these links: https://www.tuskawards.com/hipolito-lima-2020/ or

https://www.programatato.org/post/prince-william-award-tusk



The Story of Mama Mayai – 35 Nests Laid Over the Past 17 Years

Justin Beswick

Local Ocean Conservation, Kenya (email: justin@localocean.co)

Can you remember where you were 17 years ago? what the world was like in 2003? Local Ocean Conservation (LOC) was only six years old and Watamu in Kenya looked very different from what we see today. 2003 was the year of Mama Mayai's (which means 'Mother Eggs' in Kiswahili) first recorded nest in Watamu. Since then, she has been recorded nesting an additional 35 times, which means she has the longest recorded re-nesting history of any turtle at Watamu. She is a green turtle (*Chelonia mydas*), which is listed as Endangered on the IUCN Red List and is the most common nesting species in Kenya.

Our beach and nest monitoring programme operates in collaboration with Kenya Wildlife Service and local Watamu residents and beach operators. It is this collective effort as well as much needed support from our donors that have sustained the important conservation work at Watamu, a great feat considering the immense and ever-increasing pressures faced by our marine environment. The direct impact of these conservation efforts is exemplified by Mama Mayai's nesting record over six nesting seasons, resulting in the successful emergence of 2,824 hatchlings! If we consider that 1 in 1,000 turtle hatchlings is thought to survive to adulthood, she will have produced 2-3 adult sea turtles from these nests.



Figure 1. Newton Shungu showing the location of Mama Mayai's 1st nest of 2020, LOC's 16th nest in Watamu in 2020 (Photo: LOC).

This story is very special for LOC. It reiterates the importance of our conservation efforts and reminds us to plan for the long-term when protecting marine resources. In addition to this, the initial insight into the history of Mama Mayai came from Newton Shungu, our coordinator of Watamu nest monitors. He was alerted to her history through our nest monitoring app. Whilst registering Mama Mayai's first nest of 2020, the app highlighted all her past nests too, drawing his attention to the longevity of this nesting female and revealing her inspiring story (Figs.1&2).

Candice Pelser, our Volunteer Project Manager, shared her views on the move

to digitization at LOC: "In many field-data collection contexts, the feedback loop from data collection to insight may take several weeks or may simply never circle back to the field worker. But today, there are affordable, low code technologies that can help organizations build apps to get data from the field and equally importantly, provide information back, near-real-time. LOC's digitization strategy is all about empowerment. Not only improving the quality and speed of data collection, but also upskilling the entire team and empowering the team on the ground (Fig. 3). A digitization plan requires the organization to undertake a broad-scale computer literacy programme and adopt an attitude of creative thinking and continuous learning. When staff members are given tools to gather insights into their work, they are further enabled to use these to think deeply about the impact their work is having. The pattern we see in Mama Mayai's nesting history is a clear example of this. LOC's nest monitors now know to expect her back about every three years, they understand the importance of longer-term conservation planning and sustained efforts, and that their nightly patrols have a tangible impact. Furthermore, their data collection efforts are critical for understanding green turtle nesting behaviour in the region".



Figure 2. Data visualization of Mama Mayai's nesting activity in Watamu.



Figure 3. Newton Shungu, LOC nest monitor, using LOC's nesting app to capture data during a nest excavation (Photo: LOC).

We also asked our field team for their thoughts on the discovery of Mama Mayai's nesting history. Newton had this to say: "It was amazing to record a new nest being laid and then finding out that the mother had such a long history with us and her nesting beach. We managed to link her nesting seasons and nests based on her tag, which is also interesting as she's had the same tag for 17 years without losing it along her journeys in the open ocean!"

When sharing the story with Lewa Karisa, our Turtle Rehabilitation Centre Co-ordinator, he responded with amazement: "You know, in 2003 I was still in school and back then I had no idea that sea turtles even existed. A lot has changed since then. Here I am working in a turtle rehab centre! I urge everyone to please take care of sea turtles; there is so much to learn from them. We are living through this story today, and not just reading about it in a book of how things used to be when nature was thriving. We need to

protect our marine environment so a similar amazing story can be told in another 17 years!"

These words from LOC staff and the story of Mama Mayai really make us appreciate the sea turtles that visit our precious shores and how important it is for us to protect them.



Women Taking the Lead in Sea Turtle Conservation

Zephania Arnold

Sea Sense, Tanzania (email: zephaniaarnold@yahoo.com)

It can often be challenging for women to participate in marine conservation activities in Tanzania, partly due to the strong norms and traditions that underpin life in coastal communities. To encourage greater participation, Sea Sense designs and implements conservation activities that prioritize the inclusion of women. Earlier this year, Sea Sense hosted a community event to celebrate World Oceans Day. The global theme was 'Gender and the Oceans' so it was a perfect opportunity to reach out to women and get them involved in the event. Sea Sense is also working closely with the Tanzania Women Fish-workers Association by building their capacity to work collectively to manage marine resources.

More recently, Sea Sense conducted a Marine Wildlife Roadshow in Pangani District, which supports one of the largest nesting green turtle *(Chelonia mydas)* populations in Tanzania. During the roadshow, the Sea Sense team shared lots of information about sea turtle biology and behaviour, as well as threats to their survival, and the information was well received by the communities. The roadshow passed through Sange village, which is the home of Hariri Hussein, Sea Sense's only female Conservation Officer. Hariri patrols turtle nesting beaches daily and raises awareness about the threats to sea turtles from illegal fishing practices and the consumption of sea turtle meat, both of which are common in her community. "Through the education and awareness activities implemented by Sea Sense, our community has now learned the value of marine wildlife to our lives. We have also gained a new understanding of our responsibility as a community to ensure that marine wildlife is protected in Tanzania, on behalf of every citizen", explained Hariri.

Hariri has worked hard to mobilize women in her community, and the roadshow has sparked a genuine interest amongst women to get involved in sea turtle conservation. "Before the roadshow activity I had experienced a lack of support from my fellow women in looking after sea turtles and their nests, but not long after the roadshow, a female turtle was stranded on the beach at low tide after nesting. Eight members of my community, two of whom were women, helped me to rescue the turtle. My fellow women showed their courage in handling the turtle and carried her back to the ocean, with the help of the men".



Stranded green turtle in Sange village (Photo: Bakari Waziri).

Hariri leading the rescue efforts (Photo: Bakari Waziri).

Being a female Conservation Officer in Sange village, Hariri, who is also a mother of three, works hard to overcome the challenges arising from gender discrimination. "We used to believe all activities related to the ocean were exclusively for men. We've lived with these traditions for a long time. We used to cook sea turtle meat as instructed by our husbands but never knew that consumption of sea turtle meat can be deadly. Now we know we need to protect sea turtles".

Through her work, Hariri has become a role model for women and girls in her community. Many women have requested her help to establish finance groups and savings schemes as well as groups for seaweed farming. They have also been convincing their children and husbands to join with Hariri to conserve sea turtles and critical marine habitats such as mangroves, coral reefs, and seagrasses, which are so important for community livelihoods. Through the efforts of role models like Hariri, women are becoming increasingly recognised as important leaders and mobilizers in their community.

Hariri added, "I always try to strengthen communication and cooperation with citizens of all ages and genders in my community, which helps to build trust between us. I'm happy to see the support I now get from my fellow women in conserving marine resources, as well as my village government. I truly believe women have the ability to do anything they decide to do".

The Marine Wildlife Roadshow was implemented in Pangani District with the support of the PROTECT Project, funded by USAID and reached more than 2,000 coastal citizens.



Thanks to community efforts, the turtle returned to the sea successfully (Photo: Bakari Waziri).



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The African Sea Turtle Newsletter (ASTN) is a free, bi-annual international electronic publication about the biology and conservation of sea turtles in Africa, and the stories of people who work with sea turtles on this vast and diverse continent and its offshore islands. This publication hopes to increase communication and collaborations among all those working with sea turtles in Africa –scientists, conservationists, policy-makers, project managers, community members, students, professors, everyone!—as well as share news with the international sea turtle community.

Contributions can range from original scientific papers and natural history observations to opinions, anecdotes, local myths, taboos, pharmacopeia, and legends, as well as field experiences, workshops, education and awareness activities, and announcements. We will accept and publish contributions in English, French, Spanish, and Portuguese so that everyone can express themselves in the language they most feel comfortable.

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