

TAYF

THE FRIENDS OF SOQOTRA NEWSLETTER



A juvenile Great Grey Shrike (*Lanius excubitor uncinatus*) swallows a gecko. Photo by Lars Petersson Wadi Ayhaft, Socotra, - March 19 2022.

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EDITORIAL

Dear All,

welcome to the newest issue of Tayf. The annual newsletter of our charity is entirely inspired by the marvellous Socotra Archipelago (Yemen). In these pages, you are invited to explore various topics about Socotra's outstanding yet vulnerable nature and culture. The articles have been written by people with a strong passion for these islands, also known as Yemen's only Natural UNESCO World Heritage Site. Since 2001, FoS aims, through its passionate volunteers, to promote awareness about the uniqueness of the Socotra Archipelago and its amazing people. Our newsletter is available online and it is printed in Arabic and English, distributed each year for free in Socotra for anyone to read.

This newsletter is one of the main tools of the charity to spread awareness about Socotra's rich heritage. We aim to deliver this important message also through the annual conference of FoS, which was hosted in September 2024 by the Natural History Museum of Vienna, in Austria. You can find an impression of this meeting in this issue. Updates on scientific projects are well represented, and information on fascinating species that live on the islands, including endemic birds, reptiles, plants, and invertebrates, and how people help their conservation. On the culture side, a new archaeological expedition recently took place in Socotra, which is mentioned in this year's issue.

In the meantime, we are conscious of the fact that the special assets which make the island so unique worldwide, are facing many challenges. While the situation on the mainland is terrible, in contrast Socotra's white beaches and the dragon's blood tree forest, attract an increasing number of tourists.

Undoubtedly, the tourism industry provides extra income for many islanders as well as for foreign investors during the tourism season. However, we cannot ignore that the increase of tourism puts additional pressures on the local culture and nature. Some days, the road going through Firmihin's dragon's blood tree forest is full of cars with tourists, one after the other. Tourists camp all over this national protected area now, more than ever before.

Rubbish and human waste are accumulating in the area, firewood collection increases with tourist camp fires, and damage from more dust caused by traffic (affecting trees next to the road) and fire are killing trees. If this trend continues, overtourism will be a major factor, next to other challenges like overgrazing, over-maturity of the tree stands, soil erosion and extreme weather events (like cyclones), that will threaten the survival of these unique trees, and all associated life and culture with them. Similar things are happening at the coast, where many tourists seem to be mainly coming for a beach holiday and an Instagram selfie showing themselves against a white sand backdrop, sometimes having a picture handling a living sea turtle (without thinking of the potential stress for the animal, or its survival chances), for a few minutes of having some more social media likes and online attention. Tourists are also increasingly demanding more and special seafood (squid, octopus, etc.), of which the decline affects local food webs of the very limited coral reef ecosystems of Socotra. And after the tourist leaves, in fact, the local nature and culture could be a little bit less resilient than it was before, through the accumulative effect of many small actions that negatively impact the marine and terrestrial ecosystems. In addition, many tourists complain about not having enough comfort in Socotra, so more and more investors are illegally buying land from the local people, seeking to destroy unique protected areas, to provide better services and to make more profit from the tourism industry. Is it worth it? To anyone reading this, whether you were born and raised in Socotra or you are a visitor: do we really know how vulnerable, how special nature and culture in this place are, and what can we do to help to take care of it? Are we part of the challenge or of the solution, and are our actions in line with how unique and fragile this place is?

I hope our latest issue of Tayf sparks your curiosity, wonder, a deeper appreciation and a sense of responsibility for one of the world's most remarkable places and the amazing people that live there.

Your FoS Chairperson,

Dr Kay Van Damme

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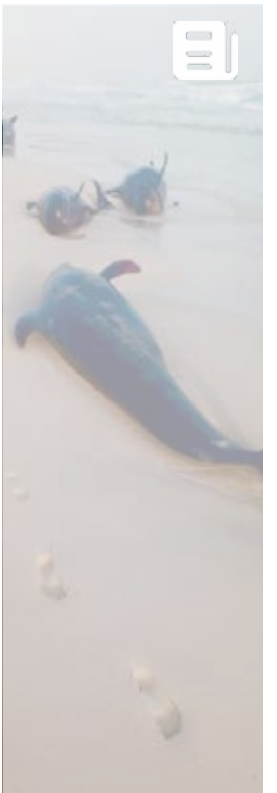
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THE 23RD SOCOTRA CONFERENCE AND AGM OF FOS IN VIENNA, AUSTRIA

By Kay Van Damme, photos by KVD and Hana Habrová

From Friday the 27th to Sunday the 29th of September, 2024, the **23rd Socotra Conference** and AGM of FoS took place at the **Vienna Natural History Museum** in Austria, kindly hosted by **Dr Andreas Hantschk** and **Dr Peter Sziemer**. It was a great honour for the charity that the conference was organised in Austria for the first time.

THE 2024 SOCOTRA CONFERENCE

The 23rd annual meeting was kindly organised by kind researchers of the famous “*Naturhistorisches Museum Wien*” (Vienna Natural History Museum), in collaboration with the Friends of Socotra and Mendel University in Brno (Czech Republic) and under the auspices of His Excellency Mr Haytham Shoja’adin, the **Ambassador** of the Republic of Yemen in Vienna, Austria. The meeting was attended in person by 25 people and it was accessed by over 30 more people remotely, through Zoom, making it one of the larger meetings of FoS in recent years.

People attending the meeting arrived on Friday the 27th of September in the afternoon and joined in a meeting room of the Museum for early registration (kindly received by PhD students of Mendel University). Dr Andreas Hantschk, head of environmental education at

the Museum, gave a nice **welcome speech** on behalf of the Museum, highlighting the historical research connections between Austria and Socotra. In 1898-1899, the **Vienna Academy of Sciences** organised expeditions to Socotra, including collections of geological and biological specimens, leading to publications which are an important part of the initial research in biodiversity on Socotra. In addition, the Austrian linguist **David**

Heinrich Müller visited Socotra in 1898 and studied the language and culture, providing the basis for the documentation of Socotra’s unique and currently endangered language.

On **Saturday** the 28th of September, 2024, the conference started with an opening speech by His Excellency Mr Haytham Shoja’adin, the Ambassador of the Republic of Yemen in Vienna, who honoured the conference by attending in person.



Vienna 2024 FoS Conference and AGM group photo in front of the Museum entrance



His Excellency Mr Haytham Shoja’adin, the Ambassador of the Republic of Yemen in Vienna, provided a key speech.



Dr Andreas Hantschk welcomed the attendees on behalf of the Museum.



Presentation by Socotri scientist Dr Salem Hamdiah



Several people attended from Ljubljana (Slovenia), where the 2025 meeting will be hosted

The **welcome speech** celebrated the importance of biodiversity and research in the islands, emphasizing the connections between the government and international collaborations, thanking the Friends of Socotra for promoting connections and spreading awareness about

the unique nature and culture of Socotra. The Ambassador received printed copies of the Friends of Socotra newsletter Tayf and fresh honey from Socotra. The speech was followed by a brief welcome by Dr Peter Sziemer on behalf of the Museum and the FoS Chairman on behalf of the charity.

Several people attending the meeting had returned from Socotra just over a week before, after a field visit in September 2024 as part of ongoing conservation activities in the Frankinia project and voluntary activities for FoS. Presentations therefore included fresh updates about activities on the ground. The first session on Saturday started with a presentation about general nature conservation in Socotra, with a focus on **freshwater** habitats, by Dr Kay Van Damme, followed by presentations about plants and conservation of vegetation or specific plant species. prof. Petr Madera provided an update on the Frankinia Project which focuses on the conservation of endemic **endangered trees** and shrubs in Socotra, Dr Dario La Montagna discussed the importance of dense (mostly spiny) shrubs as nurse plants protecting young seedlings on the ground in Socotra, and Dr Petr Vahalík and Darius Brümmer discussed a new population assessment of *Sterculia africana* var. *socotrana*. In addition, Dr Hana Habrová showed an overview of results of **25 years of planting trees** in Socotra (and some photos comparing then and now), and prof. Petr Maděra and Dr Kay Van Damme, as coordinators of the Frankinia project, discussed the SCENT (“Socotra Conservation of Endangered Trees”) initiative, supporting local



The conference was hosted for the first time in Austria, by the Vienna Natural History Museum

people through sustainable forestry products (such as essential oil and honey).

After a brief coffee-break in the room, the second session included talks about recent research and publications and insights related to frankincense trees or *Boswellia*, such as the impact of **overgrazing** on survival of natural





Dr Peter Sziemer (middle) provided a guided tour of the Museum.

seedlings in Socotra by Dr Salem Hamdiah, the identification of **volatile** compounds in the resin of these trees by Dr Jana Tulková, the effects of **hydrogel** on growth by Natalie Holesova, seed **germination** by Dr Lukas Karas, and rapid conservation assessment of *Boswellia sacra* in Oman by Prof. Frans Bongers. In the afternoon, the third session included a presentation about progress in knowledge about the **age** of Socotran Dragon's Blood Trees by Lucie Bauerová, and insights on the impacts of **tourism** and rubbish accumulation in Socotra by Roman Loimeier.

After the meeting, Andreas Hantschk and Peter Sziemer provided a very comprehensive and detailed **guided tour** of the amazing Natural History Museum. The museum is truly impressive. In the evening, the group went to eat traditional Yemeni food in a restaurant in Vienna city.

THE ANNUAL GENERAL MEETING

On the Sunday (29th of September, 2024), the FoS Committee and members gathered before noon, with several members online through Zoom, for the public overview of activities and financial reporting of the year (since the last AGM, in Poznan). A proposal by Janja Benedik was accepted to have the next conference in Ljubljana, Slovenia, in September 2025. Meeting minutes and financial reports of 2024 are available to the general

public at www.friendsofsocotra.org. We considered this year's meeting as again very successful. Our tradition of organising these annual meetings is continuing for over two decades now, leading to many good collaborations which we hope can contribute to the conservation of the unique nature and culture in Socotra.

ACKNOWLEDGEMENT

We are very **grateful** to our hosts of the Vienna Natural History Museum for their kind support in organising the 23d FoS AGM and Socotra Conference, and to the Ambassador for providing his support and attending in person. We wish to thank the Director Dr **Katrin Vohland** and Museum staff members Dr Andreas Hantschk, Dr Peter Sziemer and definitely, Miss **Ingrid**



Viehberger for amazing logistic and organisational support. We are also very lucky with all the support from staff at Mendel University without whom it would be very difficult to organise these annual conferences, in particular Dr **Jana Tulková**, **Natálie Holešová**, Dr **Lukáš Karas** and **Lucie Bauerová**. They supported the organisation of the meeting this year, like in Poznan, with great enthusiasm and with the kind supervision of Prof. Petr Maděra and Dr Hana Habrová, who also provided Tayf copies and T-shirts designed for the occasion by the same team. Finally, many thanks to all FoS members and other attendees who joined the meeting and who took part in the scientific discussions.

WHAT IS HIDDEN IN GOATS DROPPINGS?

By Lucie Štusková

I am sure you are wondering what is hiding in goat excrement, am I right? Apart from food scraps, there could be internal parasites if the goat is infected with them. In the study, we investigated internal goats' parasites on Socotra for the first time. It was not exactly an easy and clean job I have to say!

In the study, we collected 406 goat excrement samples from different altitudes (lowland and highland) and seasons (dry and rainy) - Figure 1. We found that 89% of the goats were infected with some sort of internal parasite. What did we find most often? *Eimeria* spp. (unicellular protozoan parasites that may cause coccidiosis) and gastrointestinal strongylids (a kind of small worms, Nematoda), are the most abundant parasites in goats. Other parasites are listed in the Figure 2.



Figure 1. Collection of goats' excrements was not an easy job.

dominance of the protozoan *Eimeria* spp. and nematods (strongylids, Fig. 3), likely due to environmental stress, limited water, and increased animal concentration at drinking water sources.

RECOMMENDATIONS

- How can goats be protected from parasites?
- 1) Be careful with deworming: you can buy dewormers in Hadibo.
 - 2) Improve hygiene at watering holes and places where animals congregate. During the dry season, goats concentrate around water sources, and there is a massive spread of parasites through droppings. Thorough cleaning can help reduce the risk of infection.
 - 3) Monitor the health of the animals regularly. The presence of many parasites manifests itself in the goat as diarrhea, weight loss, or loss of appetite. Early recognition of symptoms can be key to treatment.

When your goats are healthy, not only will they be happy, but you can also enjoy more milk and meat production.

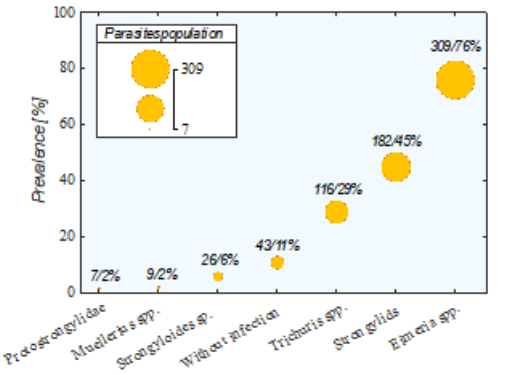


Figure 2. Frequency of occurrence of individual parasite species in goats on Socotra.



Figure 3. Microscopic image of gastrointestinal strongylid.



Figure 4. Happy goat :D

Further Reading
www.mdpi.com/2077-0472/15/5/475



SOCOTRA'S QUIET GUARDIANS - HOW THORNY SHRUBS HELP FORESTS RETURN

By Dario La Montagna

If you've ever tried planting a seedling under a blazing sun, you know water and shade can be the difference between life and death. In the wind-scoured and dry landscapes of Socotra Island in the western Indian Ocean, researchers found that some humble shrubs act like "nurses," quietly sheltering young plants and even future trees.

To put this idea to the test, ecologists surveyed vegetation beneath and nearby common shrub species on the island. The shrubs studied are *Buxus hildebrandtii* (mitihan), *Cebatha balfourii* (di hanijirihun), *Cissus hamaderoensis* and *Cissus subaphylla* (di'atirheh), *Lycium sokotranum* (su'hur), and *Pulicaria stephanocarpa* (diyrbeb). Then they compared who grows where, species by species and trait by trait. The team focused on shrubs that goats and sheep tend to avoid (spiny, bitter, or otherwise unpalatable), because on Socotra, grazing is everywhere and exclosures are rare. These prickly umbrellas might shield delicate seedlings from heat, wind, and hungry mouths.

WHAT THE SHRUBS CHANGED

The big picture is clear, plant communities under shrubs look different from those out in the open. Grasses and tussock forms dominate the open, grazed spaces. Under shrub canopies, woody plants (shrubs and trees) show up more often and, on average, reach greater maximum heights. That's exactly what you'd expect if shrubs are creating cooler, calmer, slightly moister micro-habitats where tree seedlings can hang on.

Not all shrubs are equal, though. One standout, *Cebatha balfourii*, hosted more species beneath its canopy than nearby open ground. Meanwhile *Buxus hildebrandtii*, with its dense, rounded cover, tended to support fewer species

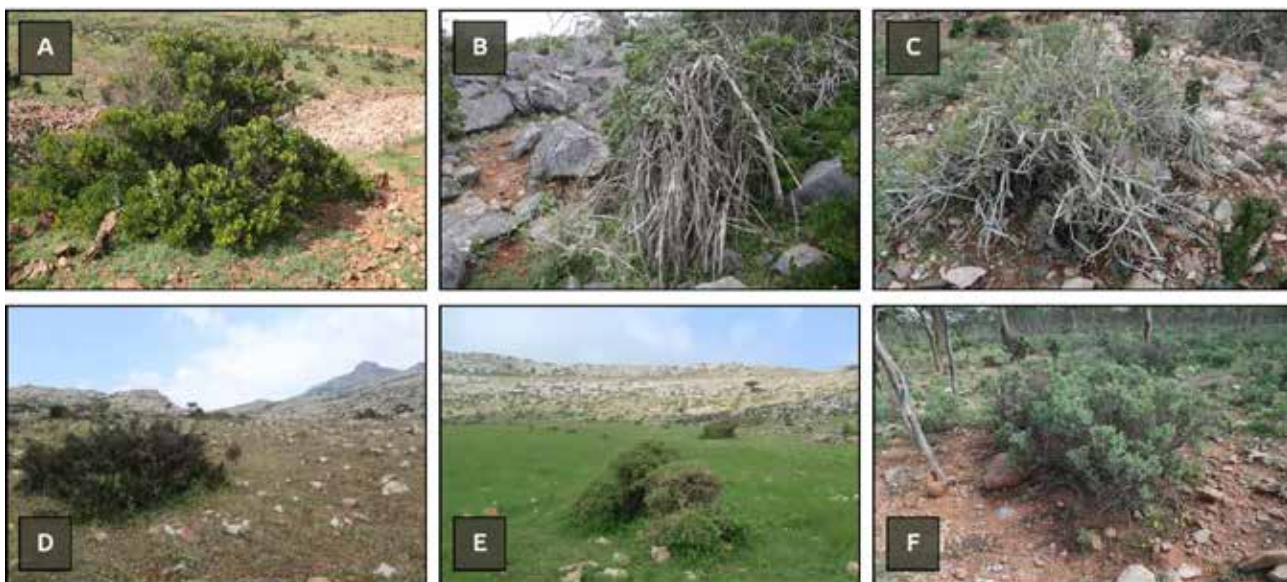


Fig. 1 – Shrub species selected for this study. A) *Buxus hildebrandtii* (mitihan); B) *Cissus hamaderoensis* (di'atirheh); C) *Cissus subaphylla* (di'atirheh); D) *Cebatha balfourii* (di hanijirihun); E) *Lycium sokotranum* (su'hur); F) *Pulicaria stephanocarpa* (diyrbeb).

than the surrounding area. In other words, some nurses are excellent bedside carers; others, not so much.

To quantify that "help or harm," the study used a simple index that runs from -1 (competitive effect) to +1 (facilitative effect). On this scale, C.



Fig. 2 – Seedling of *Commiphora socotrana* (lagaham) inside *Pulicaria stephanocarpa* shrub.

balfourii and *Cissus* species, scored positively for species richness (more kinds of plants under the shrubs), while *B. hildebrandtii* scored negatively (fewer). For abundance (how much plant cover), *Buxus* again showed a negative effect.

Across the board, one encouraging pattern pops up: the "tree" growth form is more prevalent under most shrubs (all except *Buxus*). That suggests these thorny and intricate canopies don't just harbor assorted herbs, they're also serving as safe nurseries for the very growth forms Socotra most needs to recover: the island's woody species.

WHAT HERDERS ALREADY KNOW

Local knowledge on Socotra mirrors and enriches the science. Because *Cissus* species are unpalatable to livestock, their clumps naturally provide shelter for young saplings of tastier plants. Herders recall that, in one very bad (dry) year, widespread burning of *Cissus* to create more pasture, also destroyed many hidden saplings inside; afterward,

the herders linked the poor regeneration of valued species, such as *Maerua angolensis*, *Capparis* spp., *Dendrosyccios socotranus*, *Croton* spp., and *Commiphora* spp., to that burning. On the positive side, people who want to establish *Euphorbia arbuscula* or *Commiphora ornifolia* often plant a young one right in the middle of a *Cissus* clump. The soil is better there, and the *Cissus* acts as a living thorny bodyguard because goats ignore it. In short, herders already practice "nurse-planting", and their cautions about burning underscore how easy it is to undo years of natural protection in a single season.

WHY THIS MATTERS

Socotra's iconic trees, frankincense (*Boswellia*), myrrh (*Commiphora*), and the dragon's blood tree, struggle to regenerate in overgrazed, drought-hit landscapes. Fencing every hillside isn't realistic. But working with nature is: planting within or near the right shrubs leverages what the ecosystem already offers, shade, windbreaks, and a living thorn fence against browsers. That's a cost-effective, nature-based solution restoration teams can scale up. In other terms, choosing the right local shrubs can jump-start natural tree recovery, exactly as herders have long done with *Cissus* species.



Fig. 3 – Study design of the shrub survey by the vegetation ecologists.

Further Reading

<https://doi.org/10.1111/jvs.70020>
Journal of Vegetation Science, 2025;
36:e70020



25 YEARS OF PLANTING NATIVE TREES ON SOQOTRA

Hana Habrová & MENDELU team

In 1999, the Mendel University team initiated the first tree planting project in Socotra, primarily focusing on local endemic species, and this support has continued to this day. From nursery establishment through the distribution of grown trees among local communities, to support of villagers, communities, schools, and others with materials, to numerous trainings and workshops, we can see the success of some of the individual trees.

Projects overview:

1/ 1999–2004: Creating an ecological network and agroforestry, educational and cultural doorway for sustainable development of Socotra Island

Within the first intervention, three equipped and functioning tree nurseries were established in Shilhinitin (N coast), Quareh (S coast), and Zemhom (central part) where local (autochthonous) multifunctional trees were cultivated. The trees were distributed among locals (free of charge) and home gardens therefore functioned as centres of biodiversity. About 60 families in 20 villages cooperated in plantings, and they were motivated by material provision (fences, pipes, tools ...). Preliminary results showed that tree growing is surprisingly quite fast, for example one-year-old irrigated *Commiphora ornifolia* reached approximately 1.6 metres, two-years-old *Ziziphus spina-christi* reached 3 metres (see Dioscorida 1/2003, page 7).

2/ 2006: Conserving Biodiversity of Socotra Island



Left: the gardener Noah Saeel with *Commiphora ornifolia* trees in 2004 (photo HH, Quareh); middle - the same trees in 2009 (Ø diameter at breast height is 5 cm, Ø height is 290 cm, biggest trees: 12 cm diameter 480 cm height, photo Petr Jelinek); Right - the trees with professor Petr Maděra and their gardener Noah Saeel in 2024 (Ø diameter is 15.7 cm, Ø height is 480 cm, biggest tree – 27 cm diameter, 600 cm height, photo HH)

via Improved Food Security through Plant Cultivation

3/ 2007: Improved Food Plant Cultivation and Restoration of Flagship Woodland on Socotra Island – MAB Biosphere Reserve

4/ 2009–1012: Management of natural resources in tropic and subtropic - study programmes innovation at FFWT MUAF in Brno

Within trilateral Czech-Canadian-Yemeni projects (2006, 2007), and EU project (2009-2012) we continued with home garden activities in other villages. We also started with vegetable species cultivation as a motivation for villagers to establish home gardens where they could cultivate not only trees. Our intention was to try outplantings outside of homegardens but this activity was not successful. In 2006, we had a great the opportunity to reforest 1 ha of land belonging to the Shibehon-Modre village. Thus, the biggest fenced forested area on the island was constructed, about 700 two-four-years-old seedlings of dragon trees and 50 seedlings of other species were planted. In the first years,



Left: *Ziziphus spina-christi* planted in 2002, state in 2004; right: the same trees in 2024. Photo by HH, Quareh 2004, 2024.

the seedlings were equipped with individual irrigation system from a new water reservoir. In 2009, 678 plants were alive and 37 dead; average height was 23 cm, and average number of leaves 21; in 2012, still more than 600 trees were alive (see Tayf 7, pages 24 & 26; Tayf 9, page 12).

5/ 2012–2014: Support of small-scale farmers and agricultural education on the Soqotra Island

6/ 2015–2016: Support of higher education institution quality in the province of Socotra

Within the project supported by the Czech Development Agency, new home gardens around the whole island were involved and/or established. As a new activity, school gardens served for children as well as villagers' education (see Tayf 10, page 3; Tayf 11, page 13). We also provided many trainings and workshops including cooking based on vegetables new to the island at that time (see Tayf 11, page 10). The project funded by CZDA on cooperation between universities focused on environmental education and related issues, and still we supported trees plantings and



Left: Ezmail Kaebani in 2006 with seedlings of 2-years-old *Dracaena cinnabari* prepared for planting. Right: the same guy with the same tree in 2024. Ezmail is a big patriot, supporting our activities since the beginning and now he is in Europe as he got the scholarship in Hungary at Obuda University, John von Neumann Faculty of Informatics. Photo by HH, Shibehon 2006, 2024.



inventory (see Tayf 12, pages 8 & 13; Tayf 13, pages 13-14).

7/ 2017–2018: Support to the Integrated Programme for the Conservation and Development of Socotra Archipelago

8/ 2020–now: Conservation of the endangered endemic *Boswellia* trees on Socotra Island (Yemen)

The last activities focus principally on the conservation of endangered trees, as MENDELU, in collaboration with several international partnering institutes and EPA, received support from the Swiss-based foundation Franklinia, which has been established principally to support threatened tree species. We started with trees from the Burseraceae family, but later, after project prolongation, we added more species. (see Tayf 17, page 32; Tayf 18, page 30; Tayf 19, page 14-18; Tayf 21, page 8-9).

We are grateful to all the donors, local communities, local authorities, and our internatioal partners, for all the support!





THE SOCOTRAN SKINK

By Nada Kraševac, Slovenia

Reptiles represent one of the most relevant groups of Vertebrates across the Socotra Archipelago, not only because they are well spread in all the islands but also because 94% of the species cannot be found nowhere else in the world. In fact the Socotra Archipelago hosts 28 endemic out of 31 native terrestrial reptile species.

The skinks, belonging to a family called Scincidae, are one of the most represented reptiles in Socotra archipelago, and they are present in all the four islands. The Socotra skink, or if we call it by its scientific name, *Trachylepis socotrana* (Peters, 1882), is a species occurring in Socotra, Darsa and Samha. *Hakaria simonyi* has been recorded from the same islands (Razzetti et al. 2011), while in Abd Al Kuri *Trachylepis cristinae* has been described relatively recently as a new species (Sindaco et al. 2012).

Knowledge of most of the archipelago's reptile groups is not yet complete, although there has recently been a great deal of interest in them from experts. Genetic diversity has been studied for some species (Vasconcelos et al., 2016), but some other reptiles remain to be studied. Legends of mysterious giant snakes strong enough to kill goats are still alive on the island, but one such legendary large snake is not among the known species.



Figure 1: Shiny brown individual of the Socotra skink (*Trachylepis socotrana*), seen along the way to Hoq Cave, Feb. 2015

The skink *T. socotrana* (or mabuya) is a small lizard usually uniformly brownish grey and shiny smooth (Figure 1).



Figure 2: Socotra skink with an orange-coloured head near Kirije village, Jan. 2014

Some specimens may have scattered dark spots on the throat; some adults may also have an orange-coloured head. Normally, the lizard's head is brightly coloured because of male sex hormones (Figure 2).

Some juvenile individuals have a stripe pattern of five black longitudinal stripes (one central vertebral, two dorsal and two lateral) alternating with light beige stripes. This kind of pattern was described by Sindaco et al. (2012) from Darsa Island, but here we report a similarly coloured specimen from Wadi Dirhur (Figure 3).

Skinks are predators of smaller invertebrates, they can be preyed by birds, such as the southern grey shrike (*Lanius meridionalis*) (Pujol-Buxó et al. 2014). They are probably acting as pollinators as well. These reptiles belong to a group of animal species that perhaps ruled the



Figure 3: Black and beige coloured juvenile Socotra skink in Wadi Dirhur, Feb. 2015

island of Socotra long before the arrival of humans. They are strongly adapted to the isolated environment of the island, which is why such endemic species are probably to be more sensitive to environmental disturbances. Introduced mammals such as brown rats (*Rattus norvegicus*), small Indian civets (*Viverricula indica*) and especially domestic cats (*Felis silvestris catus*) actively prey on reptiles and exert pressure on the reptile group. Domestic cats may cause population declines or even local extinctions of skinks, birds and other small animals, that have adapted to a life on the island in the absence of mainland predators.

To avoid predators, some lizards drop their tails, which are still twitching. This deceives the predator and buys the reptile some extra time to escape the danger. Although losing the tail has some disadvantages - the tail is useful for manoeuvring, impressing the mate and storing fat—it is still better than being eaten. Some lizards can regenerate a lost tail. By all healed wounds all over its body, we can see that the Socotra skink fought heroically and even lost its tail (Figure 4). Within a few months the tail regenerated, shorter and uniformly blackish.



Figure 4: Socotra skink with regenerated tail, observed along the way to Hoq Cave, March 2022

development of infrastructure, such as the construction of roads or the development of residences lead to the destruction of the reptile' habitats, and even death to the remaining individuals. In the picture we see a specimen of a reptile that did not survive an encounter with an off-road vehicle (Figure 5).

Habitat loss and overgrazing by goats, introduction of mainland exotic species and pests – including predators of reptiles – together with urban and road development, are all factors affecting the diversity of reptiles and species' distributions. Excessive collection of reptiles by locals seeking small tips from tourists is also an observed threat, although collecting animals is prohibited. Further research is needed to reassess these impacts and update the status of the population and the threats to these species.

It is crucial to implement measures to conserve the extraordinary fauna and flora of Socotra. However, the first essential step is to increase the knowledge and awareness of local people and tourists so that they appreciate and respect this priceless, rich resource. Efforts should then



Figure 5: A reptile was run over on the road in Wadi Ayhaft, March 2022

be made to keep the numbers and populations of invading mammalian species, such as rats, small Indian civets, and domestic cats, as low as possible. In particular, goats should be reared solely for consumption and should no longer serve as a status symbol of wellbeing.

FURTHER READING

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THE FRANKLINIA TEAM WARMLY THANKS EVERYONE WHO TAKES CARE OF TREES

By Petr Madera and Franklinia team

Since 2020, the Franklinia foundation has been supporting the conservation of endangered trees of Socotra, mainly frankincense trees, but not only. The project is implemented by a consortium of universities led by Mendel University in Brno (Czech Republic) and consists of Sapienza University in Rome (Italy), Ghent University (Belgium) and Wageningen University (Netherlands). During Phase I (2020-2022), six reforestation areas called Endangered Trees Sanctuaries have been established and during Phase II (2023-2025) we established another 11

reforestation areas (Tab. 1). Table 1 shows which species they were intended for and how many seedlings were observed in January 2025. In total, 3102 seedlings of 15 species are protected in all sanctuaries. This is a substantial amount when compared to the total population of some of these species. The number of seedlings in Table 1 are based on the latest counts, in autumn 2025. We focus on the project's 7 oldest sanctuaries to readers here (but all are listed in Table 1). The description of the other plots we will share in a next Tayf issue.

Locality	Species	Year of establishment	Number of seedlings	Name of manager
Diburak I	<i>Boswellia elongata</i>	2020	87	Ali Saeed
Diburak II	<i>Boswellia elongata</i> , <i>Commiphora parvifolia</i> , <i>C. ornifolia</i>	2020	12+0+0	Ali Saeed
Shata Qalansiya	<i>Boswellia socotrana</i> subsp. <i>aspleniifolia</i>	2020	337	Saad Abedhen
Shibhon	<i>Boswellia ameero</i> , <i>B. dioscoridis</i> , <i>Dracaena cinnabari</i>	2006 (2020)	0+20+650	Salem Keybani
Wadi Esgego	<i>Boswellia dioscoridis</i> , <i>Sterculia africana</i> var. <i>socotrana</i> , <i>Commiphora ornifolia</i> , <i>C. planifrons</i> , <i>Angkalanthus oligophylla</i>	2021	566+2+1+1+3	Daharan Ahmed
Wadi Ayhaft	<i>Boswellia socotrana</i> subsp. <i>socotrana</i> , <i>Sterculia africana</i> var. <i>socotrana</i>	2021	12+0	Abdullah Ahmad
Ma'alah	<i>Boswellia elongata</i> , <i>Commiphora planifrons</i>	2021	68+0	Ahmed Al Sidahi
Rosh - Halah	<i>Boswellia dioscoridis</i> , <i>B. elongata</i> , <i>B. socotrana</i> , <i>B. nana</i> , <i>Sterculia africana</i> var. <i>socotrana</i>	2023	1+18+10+0+0	Wagdi Omar
Rokeb di Bijahan	<i>Boswellia hesperia</i> , <i>Commiphora planifrons</i>	2023	154+0	Saad Dohof
Rokeb Karmhan	<i>Boswellia hesperia</i> , <i>Commiphora planifrons</i>	2024	37+0	Abdullah Maqouli
Wadi Truba	<i>Boswellia aspleniifolia</i> , <i>Commiphora socotrana</i>	2023	7+0	Abdullah Saad
Gisfo (Momi)	<i>Boswellia elongata</i> , <i>B. dioscoridis</i> , <i>Commiphora parvifolia</i> , <i>C. ornifolia</i>	2023	48+18+0+11	Abdul Aziz
Kelheio (Firmihin/ Skant)	<i>Dracaena cinnabari</i> , <i>Boswellia ameero</i> , <i>B. dioscoridis</i> , <i>Dirachma socotrana</i>	2024	24+5+20+0	Ahmed Mohammad
Neet	<i>Avicennia marina</i>	2024	13	Abdullah Debaah

Locality	Species	Year of establishment	Number of seedlings	Name of manager
Tarbak (Hoq Cave)	<i>Boswellia nana</i> , <i>B. socotrana</i> , <i>B. elongata</i>	2024	0+2+8	Mazen Mubarak
Homhil I	<i>Boswellia elongata</i> , <i>B. socotrana</i> , <i>Commiphora ornifolia</i> , <i>C. parvifolia</i> , <i>Sterculia africana</i> var. <i>socotrana</i> , <i>Dracaena cinnabari</i>	2012 + 2019 (2023)	566+0+0+0+0+29	Issa Sulaiman
Homhil II	<i>Boswellia elongata</i>	2024	225	Saleh Omar
Di Sebrho	<i>Commiphora ornifolia</i> , <i>Sterculia africana</i> var. <i>socotrana</i>	2024	100+0	Ahmed Salem
Taeda'ah di Keshere	<i>Boswellia bullata</i>	2022	47	Mohammad Shanayahan



Fig. 1. Reforestation area in Shibhon is the oldest one established by Mendel University in 2006 and within Franklinia project we continue the protection of 650 young dragon's blood trees (Socotri name is "Arieb"). Shibhon area is an example of artificial afforestation by seedlings originally planted in forest nursery from nearby collected seeds. The guardian of the area is the Keybani family, who did an admirable job, keeping trees safe from grazing for almost 20 years. Because of the slow growth of this species, 20 yr old seedlings of *Dracaena cinnabari* in the Shibhon reforestation area, are not safe from the browsing zone of goats yet, so they need continued protection.



Fig. 2. The reforestation area in Diburak has been established in Phase I. This is one of the best project areas, managed by Ali Saeed. It consists of two parts, first is a typical fenced area 50 by 50 m with a few mature trees of *Boswellia elongata* (Socotri name is "Amaero"). Due to strong droughts during the last years, the seedling do not grow well here. The opposite trend is visible in the second area, which is situated along a small, relatively wetter valley. Naturally occurred seedlings were protected by individual protection in the beginning, later by fence and also a water tank has been added. The last improvement was made through the construction of a locally used system of water collection, a rainwater reservoir or kareef. In the second part, 87 seedlings are growing very well.



Fig. 3. **Wadi Esgego** is the reforestation area with the highest number of only naturally occurring seedlings. Wadi Esgego is a rocky area with highest biodiversity among all reforestation areas. Many tree seedlings germinated in rocky crevices, 566 seedlings of *Boswellia dioscoridis* (Socotri name is "Samaano") appear here. Manager of the area is Daharan Ahmed. Within this fenced area, also the highest amount of native and endemic plant species are protected, including *Angkalanthus oligophylla*, *Sterculia africana* var. *socotrana*, *Commiphora ornifolia*, *C. planifrons* and many others.



Fig. 4. **Shata Qualansiya** reforestation area contains the second most numerous cohort of natural regeneration of *Boswellia aspleniifolia* (Socotri name is "Telje"), 337 seedlings appear, some of them already reached almost 1 m height (Fig. 4). Seedlings here germinated under the protection of low shrubs of *Pulicaria stephanocarpa*. Manager of the area is Saad Abedhen.



Fig. 5. **Ma'alah reforestation area** is one of the most western regeneration plots in the island, conserving trees of *Boswellia elongata* ("Amaero") which differs from typical species by red flowers. Also here, only naturally regenerating seedlings are protected, which are very strong, well prospering, but growing very slowly due to the last years being very dry. Manager of the area is Ahmed Al Sidahi.



Fig. 6. **Wadi Ayhaft** is the reforestation area for *Boswellia socotrana* (Socotri name "Telje"). In the beginning the area was very promising, many seedlings appeared. But probably due to dry years, only a few survived and their growth is very slow. Manager of the area is Abdullah Ahmad.



Fig. 7. **The reforestation area in Homhil** is actually a continuation of a much older fenced area, established by MENDELU in 2012 and managed by Issa Sulaiman. But in 2015, the area was damaged by cyclones and nice seedlings were cut by stones lifted by wind and flying near to the ground. Also, a large proportion of the local population of mature trees was damaged. Then, the area has been enlarged by UNEP project and beside naturally regenerated seedlings many seedlings were re-planted from Saleh' local forest nursery. Seedlings here suffer from strong summer winds but some of them are almost two meters high (photo on the right).

ACKNOWLEDGEMENT

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A RECENT ARCHAEOLOGICAL SURVEY ON SOCOTRA

By Vladimir Melnik

The Centre for Classical and Oriental Archaeology of the Institute for Oriental and Classical Studies (HSE University - Moscow, Russia) conducted its first archaeological survey on the island of Socotra (Republic of Yemen).

From 21 to 27 October 2025, researchers, led by Prof. Askold Ivantchik (the head of the Centre for Classical and Oriental Archaeology), conducted surveys of archaeological sites on



the western and eastern coasts of the island, as well as in the central part of the southern plateau. With the assistance of the General Organization of Antiquities and Museums of the Republic of Yemen, settlements and burial grounds from the ancient and medieval periods were examined.

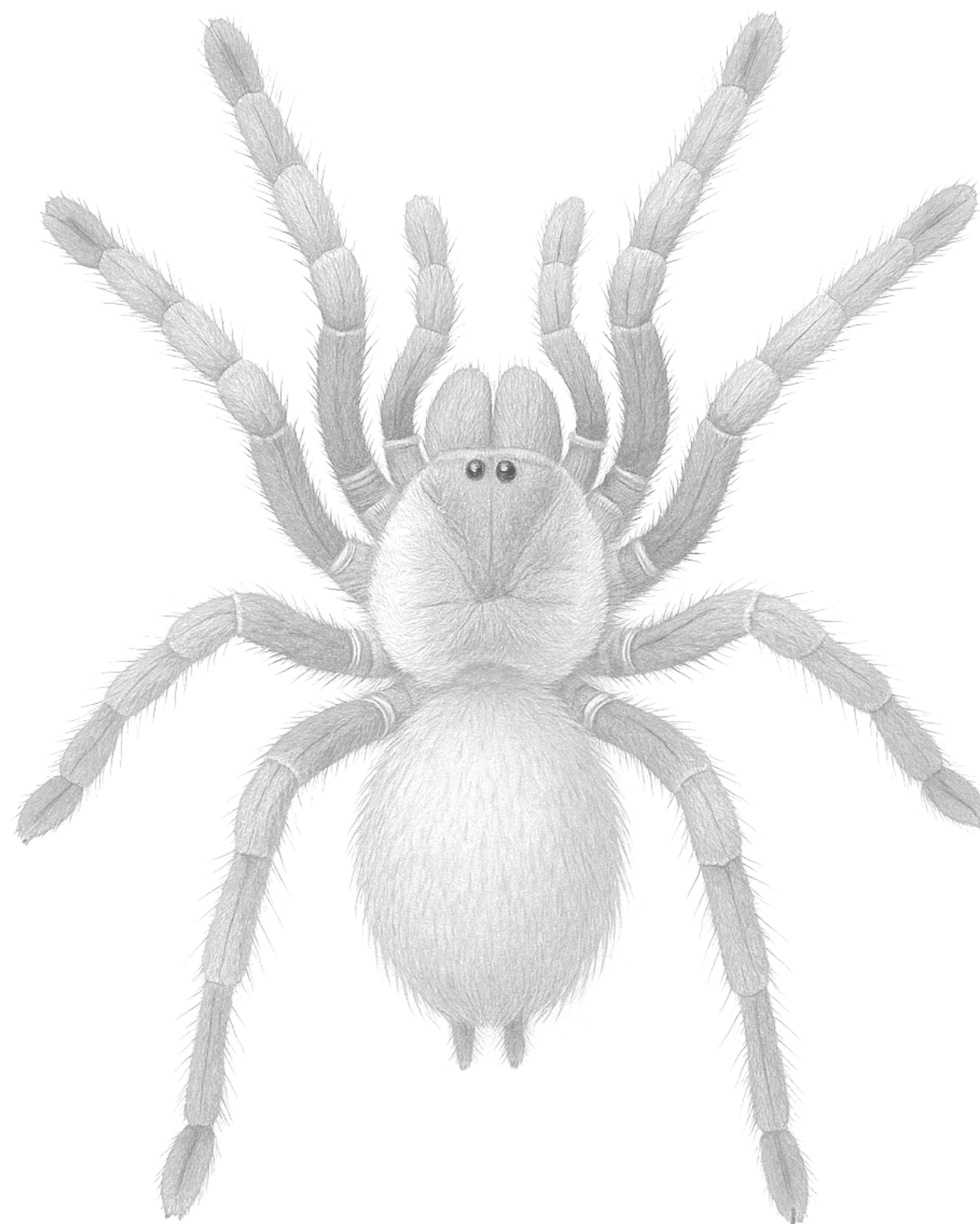
Next year, we plan to continue archaeological work contributing to the research and protection of the unique historical heritage of Socotra Island.

Archaeological sites in remote locations of Socotra (in Momi and on Qatariyah plateau)



CHILDREN'S SECTION

Fill in the colours in any way you like!







SALEM AHMED SAEED HAMDIAH, FIRST DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL SCIENCES FROM SOCOTRA ARCHIPELAGO

By Petr Madera

Dr Salem Hamdiah graduated at Mendel University as MSc in European Forestry in 2015. With this background he became a member of the team implementing the project on Frankincense trees conservation (supported by the Franklinia Foundation) as a scientific manager since 2020. To improve his knowledge he started to study his PhD in Environmental protection at **Ljubljana University** under the supervision of Prof. Petr Maděra and Assoc. Prof. K. Eler in 2020. His thesis was based on main activities of the above-mentioned project coordinated by Prof. Madera and Dr K. Van Damme, and the results have been gradually published in four peer-reviewed scientific articles. In the first article [1], where data from his thesis has been used also, the effect of cyclones in 2015 on the largest population of *Boswellia elongata* in Homhil Natural Reserve was recorded. Comparing the situation in 1956, 2011, 2015 and 2017, the highest mortality was found in 2015 after cyclones (308 trees) and until 2017 (next 230 trees).

From 1187 trees detected in 1956 only 264 trees were remaining in 2017. Such huge population decline activated the effort of the local community to protect the trees, supported by different projects (UNESCO, UNEP, Franklinia) and there are hundreds of seedlings protected by fence currently. The second article [2] revealed the germination capability of the seeds of all *Boswellia* species from Socotra. The main message of this paper is that all *Boswellia* species have still a good ability to propagate themselves from seeds, the main problem is the following growth of seedlings under stress of grazing. This topic was the subject of the third study [3] using exclosures for seedling growth evaluation comparing control unfenced plots. The results clearly proved the importance of fencing for tree regeneration. The last paper [4] focused on the distribution and conservation status assessment based on a unique, thorough field survey of all *Boswellia* species on Socotra Archipelago resulting in IUCN Red List status up-date.

Finally after four years of hard work, Dr Salem Hamdiah successfully defended his thesis consisting of these four highly scientifically valuable papers



in December 2024 and received a Doctor of Philosophy (PhD.) degree. He became a first Socotri citizen with PhD degree in environmental sciences. Congratulations!!!

FURTHER READING

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STRANDING OF 350 WHALES AT NEET BEACH

By Fouad Nassib Saeed & Ahmed Saeed Suleiman, Environmental Protection Authority (EPA), Hadiboh, Socotra Archipelago Governorate, Yemen. Contact: soc.nmbdpame@gmail.com, photos by Fouad Nassib

The Socotra Archipelago, situated in the Indian Ocean south of the Arabian Peninsula, is one of the most important sites for biodiversity in the world, including marine life. The rich coastal waters around Socotra Island are important foraging areas for marine mammals, which include dolphins and whales (Cetacea).

Dolphins and several whale species live in the waters surrounding Socotra throughout the year and form an essential part of the island's marine ecosystems. Marine mammals in Socotra have environmental and economic importance, as they contribute to biological balance through their role as predators. Dolphins also often attract tourists from different countries of the world. Among the dolphin species that have been spotted in Socotra's waters, the most common are the Spinner Dolphin (*Stenella longirostris*) and the Bottlenose Dolphin (*Tursiops truncatus*), which are often seen, but also many smaller

and larger whale species are present. However, these animals have been facing increasing threats in recent years. Among them are the activities of poaching, marine pollution and noise and disturbance from ships, which necessitates strengthening

efforts to protect them and ensure the sustainability of their natural environment.

On Wednesday June 4th, 2025, a report was received by the Environmental Protection Authority office in Hadiboh about a stranding of animals in the west of Socotra Island. The event was first witnessed by the Neet and Qatainan fishermen associations, who counted more than 350 individuals of different sizes along Neet beach, over a distance of about 2 km coastline. Immediately, local authorities were brought to the site, including EPA staff, under the directives of the local authority of the governorate (Governor's Office), and representatives of the Minister of Water and Environment as well as Ministries of Agriculture, Irrigation and Fisheries, in order to examine the reasons and prepare a detailed report, shared here.

At noon we met the fishermen in Shuab, who were in the area at the moment of the stranding, to find out the number of animals and potential causes of death. Local people from the area worked hard together to try and save at least 70 whales by digging water channels to the sea and gently moving them away from the beach. The people tried hard to save them and return them to the sea, but the animals kept returning to the shore again and again because they were missing guidance. In total, only 10 whales were returned alive to the sea after great efforts. By eleven o'clock, 50 whales had died, and in the afternoon, by 1.30pm, the rest had died, in total 350 whales.

The animals were identified as the Short-finned Pilot Whale (*Globicephala macrorhynchus*), which belong to the oceanic dolphin family (Delphinidae, Cetacea). The local name of this species is "veidiem". This species is among the migratory marine mammals, which appear annually in the waters around Socotra. A stranding of the same species occurred in Somalia in Spring 2025, and in Cape Verde in August 2025, as well as in other places around the world, but the Neet stranding was in comparison, much larger. In Socotra, this had also happened before: about 45 individuals of this species



stranded in Detwah Lagoon in 2017, and 65 stranded in Zahaq in 2020.

Close examination of the animals showed no traces of oil pollution, no wounds by collisions with ships or injuries by nets, and there were no swellings or cuts on the bodies. One whale was dissected to examine

potential causes of death, including examination of the contents of the intestines (although it was very hard to reach the stomach). After our close examination, we have one main hypothesis about the potential reason for the stranding: we think that it could be caused by strong algal blooms (sudden increase of marine algae which

can occur in some areas in some times of the year) in deeper waters, leading to a decrease of oxygen and suffocation of the whales, causing them to be disoriented and hysteric.

The dead whales in Neet became a food source for the local communities. We suggested the

local fishermen to get rid of the dead bodies fast, and use them for consumption, in order to avoid potential rotting on the beaches, which would be a huge health hazard for the local villages.



Recommendations – as strandings of marine mammals have occurred in Socotra in recent years, it is necessary to develop the local teams capacity further on how to deal with stranded animals. An immediate response protocol and useful information for local authorities (of Fisheries, Agriculture, and EPA) as well as for local fishermen associations, are important for future events of this kind.



FoS (Kay Van Damme and Petr Maděra) spoke in person in October 2025 with Mr Fouad Nassib about the event at the office in EPA Hadiboh. Fouad holds international degrees in Marine Biology, and we asked about his impressions of the whale stranding event. Fouad spoke mainly about the potential causes of the stranding, including the complex social interactions within such a group of marine mammals (called a "whale pod" in English), and about the huge efforts of local people, who were trying to save as many as possible on that day. Fouad Nassib: "Marine mammals such as these, live in groups, and they have a social structure and strong social bonds, including a hierarchy with leaders. If the leaders of a group are confused or disoriented for any reason, they may accidentally lead the others to dangerous shallow waters. I think that this happened here – potentially due to oxygen shortage in deeper waters caused by algal blooms. The leaders of the group may have become strongly disoriented and went in the wrong direction towards the shore at high speed, and the others followed, causing the massive stranding."

"This is why we focused on saving the largest individuals, which are often the leaders, during our attempts. Local people were digging channels and tried to move the animals to the sea without harming them, in a massive joint effort, but up to 3 times these animals went back to land, still disoriented and trying to stay with the rest of their group. Finally, ten of them could be moved to the sea, and we believe that this helped to save more animals from stranding. We witnessed how the leaders were now calling others to stay from the beach and follow them away. Two of the largest individuals that we saved and that went back, put their heads outside of the water and called so loud that we could hear it from the beach, a repeated loud and almost human-sounding distress cry "uuuiihh", "uuuiihh", "uuuiihh", while moving further out to sea. We believe that this was a strong call to warn others, and that it helped to avoid more animals dying on that day. These are extremely intelligent animals, and witnessing this event was very touching for all who witnessed it. The effort of local fishermen in trying to save them was truly impressive, and at the same time it was very frustrating to not be able to do more. We hope to be able to save more animals when this ever happens again, but for this we need more attention for the dolphins and whales in Socotra. More efforts and training are necessary for the local teams to handle such strandings and to improve their survival chances. They are not only intelligent, they are also a part of our lives and our history in Socotra, a vital part of our rich marine environment and our culture."

With this article in Tayf, FoS wishes to raise awareness about the importance of the marine mammals in the marine waters of Socotra, and we call for more support from the international community and donors, to help local authorities and local communities in their efforts of conserving these important, fascinating species.



SCIENTIFIC PAPERS

ABOUT SOCOTRA IN 2024

By Kay Van Damme

For each *Tayf*, we provide a brief **overview** of highlighted scientific articles and books related to Socotra that appeared during the previous year. The selection below covers the year 2024. Several papers include **Socotri authors** and it should be a common practice to involve and acknowledge local conservationists and researchers from the islands in a correct way if they contributed to scientific studies.

TREES, SHRUBS AND THEIR CONSERVATION

Several papers appeared that are a direct result of the intense efforts of the **Franklinia Project team**, working since several years on the conservation of **endangered trees** in Socotra. The team, consisting of researchers from Czech Republic, Italy, Belgium and Socotra, published a large paper on the distribution, ecology and threats assessment of 11 endemic **frankincense tree** taxa (*Boswellia*) from Socotra and Samha Islands (Madera et al., 2024). Their paper describes the detailed distribution and preferences of all the *Boswellia* species, and discusses the main **threats**, such as overgrazing and **climate** factors.

These Socotran *Boswellia* taxa have now been updated in the **IUCN Red List** by the same team, which has resulted in an endangered (EN) status for seven and critically endangered (CR) for four taxa (Fig. 1), mainly because of their limited distribution, degree of fragmentation and a projected decline of the populations in the future due to overgrazing and climate effects. The paper includes Socotri co-authors of the Franklinia project team, Dr **Salem Hamdiah**, **Mohammed Amer**, **Salem Al-Keybani** and **Mohammed Shenayeghen**, who continue their intensive conservation efforts to save these unique tree species.

Exploring the endemic frankincense trees even further, down to the molecular level, Dr Jana Tulkova et al. (2024) investigated a group of **chemical compounds** (Fig. 2) present inside the resin of *Boswellia elongata* from Socotra in two different seasons and found that the season affects the chemistry. Finally about *Boswellia*, Dr

Salem Hamdiah, together with the Franklinia project team, published a paper on the impacts of **overgrazing** on the natural regeneration by counting the survival of seedlings at regular times over several years, comparing areas inside and outside of restoration areas (Fig. 3), protected by fences (Hamdiah et al., 2024). The results show that there is a clear mortality effect from overgrazing in the unprotected areas, but also that it is not so easy for trees to survive even when they are fully protected by fences from goats. Other factors, like **drought**, likely also have an effect.

TERRESTRIAL INVERTEBRATES

A **new endemic genus** and species of terrestrial insects (bugs or Heteroptera) was described from **Shibehon Plateau** by an Italian and a Czech specialist (Carapezza & Kment, 2024). The insects (Fig. 4) were first collected in 2012 by Czech researchers from shrubs (*Buxus hildebrandtii*) near the village of the **Keybani** family, and recognised as new to science now. The amazing thing about this study, is that the scientists named the endemic genus after the area where it was first found (Shibehon): **Shibhonia**. The second name they gave it (every species has a genus name and a species name), is after the shrubs where it lives in, so the insect is now known as *Shibhonia buxanthi*.

MARINE ENVIRONMENT

A **new marine species of crab** has been described from Socotra by an Iranian researcher, based on specimens at the Senckenberg Museum in Germany, that had

been collected from the intertidal zone at Hawlaf in 1999 by Dr Michael Apel (Naderloo, 2024). The name of the new species is *Palapedia schubarti* (Fig. 5), in honour of the late German crab specialist Dr Christoph D. Schubart. This group of crabs contains mainly omnivorous scavengers, playing an important role as tiny cleaners in the marine environment. In addition to crabs, nowadays every group of marine fish in Socotra has its own publication, including an update on the number of species per family. The diversity of **goatfishes** (Family Mullidae) and **surgeonfishes** (Family Acanthuridae) around the Socotra Archipelago (Figs 6-7) was documented, and 12 species of goatfishes as well as 25 species of surgeonfishes were positively recorded (Zajonz et al., 2024a-b). Perhaps the most famous representative of the family of surgeonfishes in the world is the Blue Tang Fish, better known as *Dory* in the animated Pixar-Disney movie *Finding Nemo*. This latter species has not yet been positively recorded from Socotra, but some of its distant and equally beautiful relatives within the family have been found, such as the Lined Surgeonfish (*Acanthurus lineatus*) (Fig. 6). This group of marine fish (like Dory) is ecologically important because they help maintain healthy coral reef ecosystems by mainly eating algae, being part of nature's crucial clean-up crews. Finally, a new species of **moray eel** of up to **3 metres** in length was described from the northwestern Indian Ocean. The study included specimens from Socotra and other areas (Smith et al., 2024). In fact, this moray eel was previously known, but now it has been separated, as the Arabian populations have been given a new name (*Gymnothorax arabicus*). In 1968, a species of moray eel of the same genus was described from Socotra (*Gymnothorax sokotrensis* Kotthaus, 1968), but very little is known about it. Important to note: the two studies on the diversity of marine fishes in Socotra that appeared in 2024, include EPA staff's **Socotri marine expert** as co-author, Mr **Fouad Naseeb**, whom we congratulate for his intense efforts in helping to protect Socotra's marine environment over several decades.

HISTORY

Italian researchers have identified animal **bone fragments** which they had collected about twenty years ago when they dug inside two caves on Socotra Island, Taiti's Cave and **Hoq Cave**. They found that some of the retrieved fragments, besides locally common reptile and bird species, belong to the **Barn Owl** (*Tyto alba*) (Fig. 10) which they stated is no longer on the island at present (Ramello et al., 2024). The bone fragments were not dated, so it is not clear at all, when this owl species, which is really widespread and occurs in most continents around

the world, lived in Socotra. The remains could be very recent, because this species of owl was found to be present alive in Socotra in 2025 (see next article).

In English, there are many stories about this owl, often called "the ghost owl" or "**the white lady**" in European **folklore**, mainly because of their call (a screeching sound) and pale human-like "face" with large eyes (Fig. 10). In old British tales, the sound of the barn owl would mean that a storm was coming, while in France and parts of Arabia in medieval times, this bird was a sign of death or the **supernatural**. In parts of India they were either considered a sacred animal, symbolising wealth, while in other areas they were a sign of bad luck and they were sacrificed. Perhaps this beautiful white owl is one of the true **djinn**s of Hoq cave in Socotra.

One study by mainly American and British researchers (Sirak et al., 2024) on human skull fragments from Socotra investigated the **genetic relationships** of people who lived on the island in medieval times (between ca. 650 and 1750 CE). The results show a strong genetic connection with people found now in the **Hadramaut** (86% of their ancestry) (Fig. 8), some Persian (14%) and even minor Indian influence, which the authors associated with the immigrations and trade connections of that time. This research also included several **Socotri** co-authors engaged in archaeological studies, such as **Ahmed Saeed Ahmed Al-Arqbi** (GOAM) and **Ismael Mohamed Ahmed Salem**. It was time that their many contributions to Socotran historical knowledge and fieldwork during so many years, have been finally recognised in the form of authorships on a scientific paper. There can be no doubt that Socotri contributions should be properly recognised by international researchers in scientific publications in the future as well.

CLIMATE

A study by Al-Sakkaf et al. (2024) assessed **climate data** of 1988-2021 for Yemen mainland and Socotra, and they made some predictions about future trends, using different climate models. They concluded that in general, Yemen mainland will become more dry and warm, with less rains (precipitation declining), however they say that Socotra could be seen as an exception because here, stronger sudden rains and heightened **flood risks** could be a major threat for the future. We observed such phenomena during the cyclone events of 2015, in 2018 and again in 2023 (Fig. 9), causing a lot of damage to people and environment. In general it is also observed by local people that Socotra

seems to be getting much drier in some areas, and some receive no rain at all. More climate research is needed on Socotra to have a more detailed understanding of these patterns, because the weather in Noged, Hadiboh and Diksam can be very different even on the same day.

MEDICINAL PROPERTIES OF TREES

Researchers from Yemen mainland continue to explore the medicinal properties of some Socotran endemic plants, but of course Socotri have known these properties for centuries, through their rich traditional knowledge. Al-Ghorafi & Alburyhi (2024) used *Dracaena cinnabari* resin in anti-aging face creams to test the effects, and concluded that the dragon's blood additives indeed makes the skin look more healthy and young, due to the high amount of antioxidants. Al-Ansi et al. (2024) from Sana'a University checked the effects of *Euphorbia arbuscula* and found that the latex of this species, although it is quite poisonous, has a strong antioxidant and antibacterial activity.

REVENGE OF THE SOCOTRA BLUE BABOON SPIDER

Related to other poisonous biota on Socotra, a group of researchers from China have investigated the effects of the venom of the Socotra Tarantula on a human. This species is called the Socotra Blue Baboon Spider (Fig. 11) and its scientific name is *Monocentropus balfouri*.

In the last 15 years, this large spider has been exported (illegally!) by collectors from the island because of its beauty and because it is not very aggressive. It is now bred outside and sold in pet shops all over the world. One of these spiders made it all the way to East Asia, and the owner of an exotic pet shop in China was bitten by an illegally exported live Socotran tarantula (in his own shop) and he was rushed to the hospital. The doctors at the clinic were very interested in documenting the effects of the venom on his body, and published the results of their treatment (Wu et al., 2024). One bite of this spider in the man's hand had immediately severe effects, causing instant numbness around the mouth, intensive muscle cramps and rapid breakdown of bone muscle tissue (rhabdomyolysis), resulting in general weakness in the entire body. These are very similar to general symptoms after a bite from venomous tarantulas, but it was the first time that this effect was investigated in detail for the Socotran species. By giving the patient a certain type of tranquilizers (benzodiazepines), the symptoms were relieved and the patient was cured. This bizarre story underlines two things. Firstly, that Socotra's endemic spiders should stay in Socotra, they should not be exported at all for exotic pet trade and no one should promote any kind of illegal export business (perhaps the spider was taking revenge because it was unhappy being so far away from its home in Socotra!), and secondly, clinics in Socotra can take the results of the treatment into account, as it was claimed by the researchers that they cured the patient successfully.



Figure 1. Like all frankincense tree taxa from Socotra, the endemic *Boswellia nana* has been re-assessed for the IUCN Red List in detail. This species is now listed as Critically Endangered (CR), mainly due to its small population size and highly restricted distribution. Image by Petr Maděra, from the IUCN Red List website (www.iucnredlist.org)

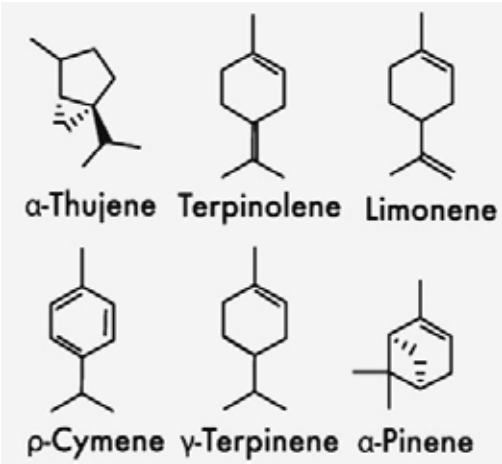


Figure 2. Chemical structures of some common volatile compounds found in the resin of *Boswellia elongata*. Several of these natural compounds contribute to the nice smell of the resin. Image after Tulková et al. (2024).



Figure 3. Inside a fenced habitat restoration area in Shata Qalansiyah, young *Boswellia aspleniifolia* are protected from grazing by goats. A new study compared the survival of the seedlings inside and outside such areas over several years. Image by Kay Van Damme, Shata Qalansiya reforestation area supported by the Franklinia project, September 2024.



Figure 4. Specimens of this harmless bug species were collected by Czech researchers from shrubs in Shibehon Plateau in 2012 (and described 22 years later). The new genus, Shibhonia, was named in honour of the area. Image after Carapezza & Kment (2024).



Figure 5. Carapace of a new species of small marine crabs that was described from Hawlaf area, Socotra Island. Image after Naderloo (2024).



Figure 6. The beautiful Lined Surgeonfish (*Acanthurus lineatus*) is one of the 25 species that were listed in a recent revision of the marine family of the Surgeonfishes from the Socotra Archipelago. Image by Roberto Pillon, Seychelles (Source: FishBase, www.fishbase.se, license CC BY-NC 4.0).



Figure 7. School of Yellowfin Goatfish (*Mulloidichthys vanicolensis*) in Di Hamri coral reef area, Socotra Island. Photo by Martin Rejžek.



Figure 8. A genetic study of skeleton remains of Socotri people living in medieval times, revealed close shared ancestry (86%) with people from the Hadramaut area. Royalty-free image by Mohammad Hadi, Shibam City and UNESCO World Heritage Site, Hadramaut, Yemen (www.pexels.com).



Figure 9. Based on climate models, scientists predict more floods in the future in Socotra. Image by Kay Van Damme showing the Hadiboh floods in November 2023.



Figure 10. Bone fragments of the Barn Owl (*Tyto alba*), also known as the “White Lady” in western folklore, were identified from two caves on Socotra Island by Italian researchers. The researchers stated this species is currently not found on the island, but Barn Owl is present; there is a clear record in 2025 (see next article). Royalty-free image by Bob Brewer (www.unsplash.com)



Figure 11. The venom of Socotra’s largest endemic spider (*Monocentropus balfouri*) causes severe symptoms instantly. This species has been exported illegally from Socotra. A pet owner was bitten in China and the effects of the tarantula’s bite and the cure were investigated in a recent study. Image generated by ChatGPT (disclaimer: for illustration purposes only, images produced by ChatGPT are not completely accurate).

THE ENDEMIC BIRDS OF SOCOTRA AND NEW OBSERVATIONS

By Ahmed Saeed Suleiman (EPA Socotra Branch, EPA Building Hadiboh, Socotra Archipelago Governorate, Yemen)

The birds of Socotra have fascinated ornithologists for many years. Observations of these amazing animals continue every season by Socotri ornithologists as well as by visiting bird enthusiasts. Often there are new records or special surprises. The most recent checklist (on AviBase) lists 234 species of birds belonging to 58 families which have been recorded from the Socotra Archipelago up to the year 2025, and about 50 species are resident breeders. Of the residents, ten endemic species are known from the Archipelago (see table below). But did you know that, in addition, there are also several endemic subspecies of birds in Socotra?

The question “how many endemic birds are known from Socotra?” is, in fact, not an easy one to answer. There are names for Socotran subspecies of birds that were described long ago, but that are no longer accepted by current researchers, and there are other names that might require further investigation. In fact, there are quite a few of such cases (Kirwan, 2007) and it requires very detailed work to find a good and well-supported solution. Mentioning just some examples, there are old scientific names for the Socotran populations of the widespread Laughing Dove (*Streptopelia senegalensis* ssp. *sokotrae* Grant, 1914), for the Nubian Nightjar (*Caprimulgus nubicus* ssp. *jonesi* Ogilvie-Grant & Forbes, 1899) and the rare White-browed Coucal (*Centropus superciliosus sokotrae*

Grant, 1915), which are not accepted as valid at this moment. Another is *Onychognathus blythii* ssp. *creaghi* (Ogilvie-Grant & Forbes, 1903), which is a name for the Somali Starling population from Abd al Kuri, which might need some closer investigation (Kirwan, 2007).



Figure 1. Socotra Pipit (*Anthus similis* ssp. *sokotrae*) or “di qasiqas” in display mode, an endemic subspecies of the Long-billed Pipit. Image by Lars Petersson, Diksam Plateau, Socotra Island, March 15, 2022.

FURTHER READING

*scientific articles with indigenous Socotri (co-)authors

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Figure 2. Socotra Grey Shrike (*Lanius excubitor* ssp. *uncinatus*) or “hifiyi” (also “di zallangiyh”), an endemic subspecies of the Great Grey Shrike sitting on an *Allophylus rubifolius* bush. Image by Lars Petersson, Wadi Ayhaft, Socotra Island, March 19, 2022.

This shows how complex the separation of species and subspecies is and how scientific progress can help to provide more information to make decisions on their taxonomic status. Below are two examples of generally accepted endemic subspecies from Socotra.

THE SOCOTRA PIPIT AND SOCOTRA GREY SHRIKE

The Socotra Pipit (*Anthus similis* ssp. *sokotrae*) (Fig. 1) and the Socotra Grey Shrike (*Lanius excubitor* ssp. *uncinatus*) (Fig. 2) are two

endemic subspecies that are sometimes forgotten. During the early expeditions to Socotra towards the end of the 19th century, scientists from the United Kingdom, such as the botanist I.B. Balfour and the zoologists W.R. Ogilvie Grant and H.O. Forbes, collected a wide range of bird specimens. Based on these specimens, many of the endemic birds of the Socotra Archipelago have been studied and described.



Figure 3. Abd al Kuri Sparrow (*Passer hemileucus*) or “izfiroh” adult male on a spiny bush. This species is listed as Vulnerable in the IUCN Red List. Endemic to Abd al Kuri island. Photo by Lars Petersson, Abd al Kuri, March 17, 2022.

Among these collections, were specimens of a bird called the Long-billed Pipit (*Anthus similis*). This is a widespread species, occurring in the Southern Middle East, its range stretching out across Africa below the Sahara and in most of India. There are many subspecies of the Long-billed Pipit, which look very similar. In 1917, a subspecies called *Anthus similis* ssp. *sokotrae* or the Socotra Pipit, was described (Hartert, 1917) based on museum specimens from the expedition by Forbes. This subspecies was originally differentiated from others by details of the coloration of the plumage. About a century later, two researchers (Kirwan & Grieve, 2010) compared more museum specimens of the same bird species from different areas in Africa and Arabia. They made

detailed measurements and concluded that there are indeed consistent differences, such as a relatively smaller wing and tail as well as a larger bill size in the Socotran specimens when compared to other subspecies. Therefore, the local subspecies from Socotra Island, the Socotra Pipit, was considered valid by them. However, this name and this inconspicuous bird is often forgotten in Socotra. In the future, detailed genetic analysis can hopefully reveal more about the relationships between the Socotran Pipit and other subspecies of the Long-billed Pipit.



Figure 4. Socotra Bunting (*Emberiza socotrana*) or “dafhan”, the rarest endemic bird of Socotra Island (Near Threatened in the IUCN Red List). Photo by Lars Petersson, Haggeher Mountains, March 17, 2022.

Also the beautiful Socotra Grey Shrike (*Lanius excubitor* ssp. *uncinatus*) is a fascinating case. It is a subspecies of the Great Grey Shrike (*Lanius excubitor*). Some researchers consider the Socotran subspecies the same as the Levant Grey Shrike (*Lanius excubitor* ssp. *aucherii*) because it looks almost identical. However, DNA analysis has revealed a more intriguing story, as it revealed the uniqueness of the local populations and research indicates it could even be considered a full species in the future (Olsson et al., 2010). More detailed work is necessary to understand the status of this bird.

In taxonomy (the science of classifying living organisms), when a species is very similar to another one and it can almost only be distinguished by DNA, it is called a cryptic species, forming part of a species group of very similar species.

While the Socotra Pipit is more widespread in Socotra Island, the habitat of both these birds is very different. The Socotra Pipit likes open areas, often with stones or gravel. The Socotra Grey Shrike is more typical for areas with (often spiny) shrubs in valleys, limestone plateaus and mountain environments. It can be found easily for example in Firmihin.

LIST OF SOCOTRA'S ENDEMIC BIRDS

Below is a list of all the endemic bird taxa (species and subspecies) currently recognised from the Socotra Archipelago, in total ten endemic species and two endemic subspecies (presented in alphabetical order by the English name). As stated before, in the future, a subspecies (like the Socotra Grey Shrike) could still be recognised as a full species, or other subspecies might be considered as valid (or invalid), depending on scientific insights. One endemic sparrow is restricted to Abd al Kuri Island,

English Name	Latin Name and Authority	IUCN Red List Status (+ year)	Remarks
Abd al Kuri Sparrow (Fig. 3)	<i>Passer hemileucus</i> Ogilvie-Grant & Forbes, 1899	Vulnerable (VU) – 2022	Only in Abd al Kuri Island, where it is locally widespread. Often near human settlements from morning to early afternoon. Socotri name “izfiroh”
Socotra Bunting (Fig. 4)	<i>Emberiza socotrana</i> Ogilvie-Grant & Forbes, 1899	Near Threatened (NT) – 2017	Rarest endemic bird on Socotra Island. Quite shy bird, in highlands and slopes at 500-1,200m, typically breeding at around 600m, on rocky slopes, granite cliffs and alpine meadows. Ground-foraging, eats mostly seeds (grasses), occasionally invertebrates. Sometimes groups with Cinnamon-breasted Bunting. Breeding season November to February. Socotri name “di dhaf’han” (“with many stripes”) or just “dhafhan”.
Socotra Buzzard (Fig. 5)	<i>Buteo socotraensis</i> Porter & Kirwan, 2010	Vulnerable (VU) – 2022	Socotra Island. Foothills, plateaus and wadis from lowlands up to high altitude. Nests in cliffs and rocks. Diet reptiles, small mammals and invertebrates. Socotri name “nihiymi”
Socotra Cisticola (Fig. 6)	<i>Cisticola haesitatus</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2022	Socotra Island. In a variety of habitats, but coastal plains and lowland shrubs mostly around 100m and below, rarely above 600m (however, present at about 650m in Maleh). Often in short halophytic shrubs in sandy areas along the coast. Ground-foraging, eats mainly insects, breeding season October to April. No specific Socotri name, but general name for warblers or warbler-like birds is “cheyi” or “chihachakh”?

English Name	Latin Name and Authority	IUCN Red List Status (+ year)	Remarks
Socotra Grosbeak (Socotra Golden-winged Grosbeak) (Fig. 7)	<i>Rhynchostruthus socotranus</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2024	Widespread in Socotra Island at all altitudes but mostly around 200-800m. In dry submontane shrubland mainly, granite cliffs, arid woodland and small trees, also in the high mountains. Eats mainly fruits and berries, grosbeaks are important seed dispersers. Breeding season October to March. Socotri name "mshilhiwan".
Socotra Grey Shrike (subspecies of the Great Grey Shrike) (Fig. 2)	<i>Lanius excubitor</i> spp. <i>uncinatus</i> Sclater & Hartlaub, 1881	Subspecies not assessed. Great Grey Shrike Least Concern globally (LC) – 2024	Socotra Island, found in all habitats but prefers woodlands on limestone escarpments, cliffs and valleys. Shrikes feed on insects, small birds and mammals, and reptiles. They tend to impale their prey on spines of bushes, a snack for later use. Breeding season October to April. Socotri name "hifiyfi" or "di zalhangiyih".
Socotra Pipit (subspecies of the Long-Billed Pipit) (Fig. 1)	<i>Anthus similis</i> ssp. <i>sokotrae</i> Hartert, 1917	Subspecies not assessed. Species (Long-billed Pipit) Least Concern (LC) globally – 2024	Socotra Island. Lowlands mostly but found at 0-1000m altitudes, often on open areas, stones and pebbles and between herbs on limestone plateaus. Ground-foraging on open ground, eats insects, occasionally seeds. Socotri name "di qasiqas".
Socotra Scops Owl (Fig. 8)	<i>Otus socotranus</i> Ogilvie-Grant & Forbes, 1899	Least Concern (LC) – 2024	Socotra Island. Its habitat includes valleys and lowlands, especially among palm trees, which are the preferred nesting places, as well as <i>Ficus</i> trees and in sheltered gardens. Found up to about 850m altitude. It feeds mainly on reptiles, rodents, cockroaches (and other insects). Often heard at night, typical hooting sound. Breeding season October to April. Socotri name "shigidihan" or "shegdhan".
Socotra Sparrow (Fig. 9)	<i>Passer insularis</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2018	In Socotra, Samha and Darsa islands. Its environment is wide and varied, and it is the most widespread endemic bird, following the spread of villages. Human settlements have become one of its most important environments, where animal feeds and is often found near water areas, such as kareefs and wells. It is a bird that adapts greatly to different environments and to populated areas. Breeding season November to June. Socotri name "izfiroh"
Socotra Starling (Fig. 10)	<i>Onychognathus frater</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2024	Socotra Island. A very widespread species, found in various environments and valleys from 0-1000m mainly. In particular common where palm trees are found during the fruiting season. Often found in <i>Ficus</i> trees, and at the entrance of caves. Widespread in the mountains as well as in the lowlands, a bird that adapts easily to human presence, common in villages where it feeds on food scraps. Sometimes found together with the Somali Starling, which looks similar, but both species have different plumage and different roosting and feeding behaviours. The Socotra Starling males have a dark-coloured head (Somali Starling males have a grey head), a more square tail-end and a longer, relatively straighter bill. Breeding season November to April. Socotri name "shihili"
Socotra Sunbird (Fig. 15)	<i>Chalcomitra balfouri</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2016	Socotra Island, one of the more distinctive endemic birds here. Found at a wide range of altitudes (0-1000m), but its habitat is quite limited, mostly in relation to <i>Trichocalyx obovatus</i> trees and other nectar-producing flowering woody plants, which is its main food source. It nests often in <i>Maerua angolensis</i> subsp. <i>socotrana</i> trees, as well as in <i>Trichocalyx obovatus</i> trees. Common in areas such as Daneghan and Ayhaft valleys. Can be quite territorial, without fear of humans. Breeding season September to May. Socotri name "chowmat haram", "mowchit di haram" or "mowchit".
Socotra Warbler (Fig. 16)	<i>Incana incana</i> Sclater & Hartlaub, 1881	Least Concern (LC) – 2024	Socotra Island. A shy bird that hides among bushes. Widespread at around 0-1000m altitude (mostly up to 800m), generally widespread in areas with shrubs such as hillsides with bushes, however it is quite localised within the island. Its main food consists of insects, but also plant seeds. It often nests in shrubs and bushes such as <i>Pulicaria aromatica</i> . Breeding season November to April. Socotri name for warblers or warbler-like birds is "chey'i" or "chihachakh"

all others are found in Socotra Island only, except for the Socotra Sparrow which is also found in Samha and Darsa. There is also one near-endemic seabird (see below). The IUCN Red List status and the year of assessment are also provided. Socotri names are after Wranik (2003).

Often considered in this list, is a near-endemic for the northwestern Indian Ocean, a seabird called the Jouanin's Petrel (*Bulweria fallax*) (Fig. 11). It is considered a near-endemic, because it has been found breeding only on Socotra Island so far, but it could in fact also be nesting in other places.



Figure 5. Socotra Buzzard (*Buteo socotraensis*) or "nihiymi", Socotra's largest endemic bird of prey (Vulnerable in the IUCN Red List). Photo by Lars Petersson, Wadi Ayhaft, March 16, 2022.

Not an endemic, but with a Socotran name because it was described from there first, is the Socotra Cormorant (*Phalacrocorax nigrogularis*) (Fig. 13), which has a wider distribution and nests in other areas, in particular along the Gulf.

NEWLY RECORDED SPECIES: THE BARN OWL (TYTO ALBA)

In 2024 and in 2025, we had some exciting new bird observations in Socotra. These included the spotting of two juvenile specimens of the Christmas Island Frigatebird (*Fregata andrews*) (Fig. 14). This is an endemic breeding bird of Christmas Island in the Indian Ocean, which was observed just offshore the coast of Socotra Island near Hadiboh in October 2024. This is, in fact, the first observation of this species in the entire region studied by OSME (Ornithological Society of the Middle East, the Caucasus and Central Asia). It is important to note that in immature specimens, the Lesser Frigatebird (*Fregata ariel*) and

the Christmas Island Frigatebird can almost not be distinguished, but the current identification is the most likely. In addition, an owl was identified and documented on May 3rd, 2025 at sunset by Jamil Saad Amer in Socotra Island, confirmed by a series of photographs. The Barn Owl (*Tyto alba*) was caught (Fig. 12) and released again to complete its journey. This record has increased the avian diversity of the Socotra Archipelago, and it confirms the presence of this species (note by Tayf editors: see overview of scientific articles in this issue, where researchers mention skeleton remains of this species from Socotran caves). This nocturnal predator is known

to play a vital role in controlling rodent populations. The new observations highlight the importance of Socotra for migratory birds, and the need for continued observations and conservation of the archipelago's avian biodiversity.

CONSERVATION CHALLENGES

Birds on islands play key ecological roles in the local ecosystems, including control of insects and rodents (in case of larger birds



Figure 6. Socotra Cisticola (*Cisticola haesitatus*). Photo by Lars Petersson, Qaysoh wetland, March 15, 2022.

of prey) as well as distributing seeds of endemic plants and other functions in the ecological networks. Habitat loss and invasive species nowadays threaten Socotra's native birds. In particular degradation of vegetation, land changes, collection of firewood



Figure 7. Socotra Golden-winged Grosbeak (*Rhynchostruthus socotranus*) or "mshilhiwan" eating *Ziziphus spina-christi* fruit. Photo by Lars Petersson, Wadi Ayhaft, March 19, 2022.

and direct habitat destruction (through direct human intervention) as well as habitat decline (due to climate effects), are all factors that directly have an impact on some unique Socotran birds. Besides open shrubland and woodlands and their importance to many birds in Socotra, an important habitat on the island for migratory and native birds, are coastal wetlands such as Sirihin Lagoon near Hadiboh, which are being threatened by rapid urban expansion. In addition, non-native (introduced) mammals such as rats, cats and civet cats may impact ground-nesting birds in particular, and these invasive predators are known to affect endemic birds on islands all over the world.



Figure 8. Socotra Scops Owl (*Otus socotranus*) or "shegdhan" in a date palm at night. Photo by Lars Petersson, Khor Sirihin, March 15, 2022.

protect these species by providing safe places for birds in their villages, gardens or date palm areas, and every visitor can support birdlife by treating the endemic species with respect.

Currently, 21 Important Bird Areas (IBAs) are recognised in the Socotra Archipelago, which are considered places that are important for local birdlife. However, many places in Socotra beyond these areas are also crucial for bird biodiversity, and are sensitive to habitat changes. Socotra is also the only place in Yemen that has an internationally recognised Ramsar Wetland (Detwah Lagoon, since 2007), although increasing tourism really nowadays causes a lot of disturbances for local bird populations in this protected area. Awareness about these important habitats is very important.

Sustainable tourism, continuous awareness and stricter environmental policies are essential to protect these irreplaceable species. Socotra's birds are not only biological treasures, they are also a symbol of resilience in one of the world's most unique ecosystems. It is important for everyone to not disturb Socotran birdlife and respect these animals wherever they live in our islands. Every inhabitant of Socotra can also help to



Figure 9. Socotra Sparrow (*Passer insularis*) male or "izfiroh" on *Trichocalyx obovatus* shrub in Diksam Plateau. Photo by Lars Petersson, March 15, 2022.



Figure 10. Socotra Startling (*Onychognathus frater*) or "shilihi" perching on a shrub. Photo by Lars Petersson, Haggeher Mountains, March 15, 2022.



Figure 11. Jouanin's Petrel (*Bulweria fallax*) at sea between Socotra and Abd al Kuri, a near-endemic seabird that has only been found breeding on Socotra Island so far. Photo by Lars Petersson, March 17, 2022.

BIRD OBSERVATIONS/ TRIPS

If you have any new bird sightings for the Socotra Archipelago, please share them with me, confirmed by photos and other info, so that we can keep track of new records. Photographs are key for new records.

Are you interested in photographing and observing some Socotran birdlife yourself? It is possible to participate in custom ecotourism travels for birding to Socotra. For those who are interested in bird-specific travels focusing on ornithology only, feel free to contact me at 009777714224 (WhatsApp) or soc.niase@gmail.com (email).

ACKNOWLEDGEMENTS

Many thanks to Lars Petersson in particular and Jamil Saad Amer for giving permissions of sharing their bird photos from Socotra and Abd al Kuri for this article in Tayf. Please check out the amazing website of Lars with many photos of Socotran birds (www.larsphoto.se). Also thanks to Dr Kay Van Damme for help with the text and to Dr Dario La Montagna for identification of plants in the photos.



Figure 12. Barn Owl (*Tyto alba*) found on Socotra Island in 2025. Photo by Jamil Saad Amer, Hadiboh, May 3, 2025.



Figure 13. Socotra Cormorant (*Phalacrocorax nigrogularis*), not an endemic species, but forever linked with Socotra by name. Photo by Lars Petersson, Qadub, March 20, 2022.

FURTHER READING

For detailed information about taxonomy and the complexity of solving the status of Socotran endemic birds, please check out the papers by G.M. Kirwan in particular.

AviBase (for a checklist of all Socotra Archipelago birds) <https://avibase.bsc-eoc.org/avibase.jsp>
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Figure 14. Christmas Frigatebird (*Fregata andrewsi*). Two juvenile frigatebirds, most likely belonging to this species, were observed off-shore near Hadiboh in October 2024 (OSME, 2025). Photo by Lars Petersson, Christmas Island, August 21, 2024.



Figure 15. Socotra Sunbird (*Chalcomitra balfouri*) or "mowchit" foraging on *Dirichletia obovata* shrubs in Wadi Ayhaft. Photo by Lars Petersson, March 14, 2022.



Figure 16. Socotra Warbler (*Incana incana*) or "chey'l" (also "chihachakh") with typical red eye sitting on *Cebatha balfouri*, an endemic spiny shrub. Photo by Lars Petersson, Haggeher Mountains, March 20, 2022.

CONTACT INFORMATION

Friends of Soqotra (FoS)

Friends of Soqotra (UK Charity Number 1097546) was formed in 2001. Its distinctive rationale is to bring together people with backgrounds in scientific research and those with a more general interest and develops the synergies between them in order to:

- Promote the sustainable use and conservation of the natural environment of the Soqotra island group.
- Raise awareness of the archipelago's biodiversity and the unique culture and language of the islanders
- Help improve the quality of the islanders' communities and support their traditional land management practices



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The Friends of Soqotra website
is maintained by the website
subcommittee including Dana
Pietsch and Luca Malatesta. It
provides information on completed
and ongoing scientific research on
the Soqotra Archipelago including
data, bibliography and contacts of
institutions and research teams. The
structure and layout also includes
a page in Arabic, which gives some
general information about FoS. Also
the constitution is included in Arabic as
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