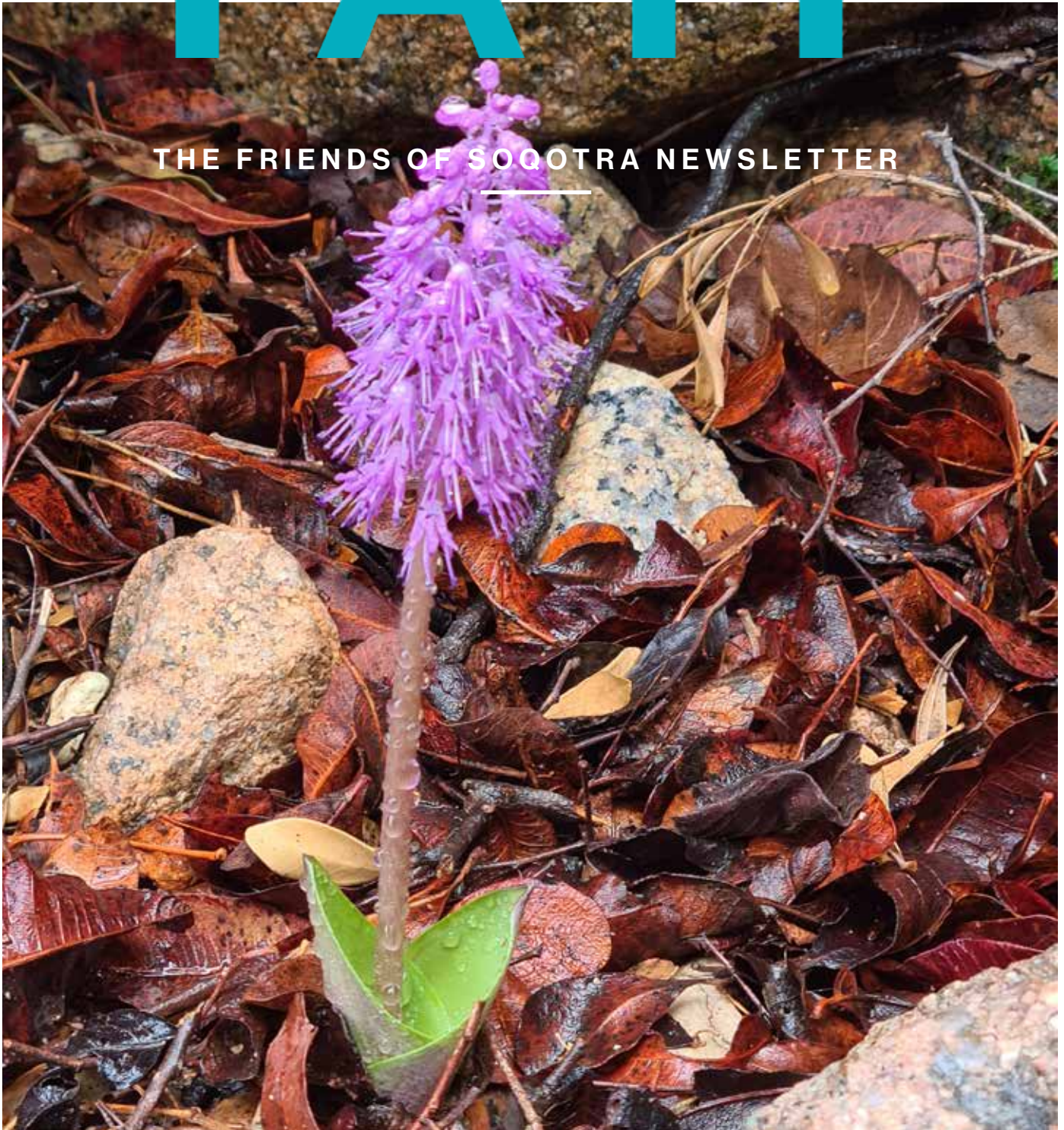


TAYF

THE FRIENDS OF SOQOTRA NEWSLETTER



Ledebouria grandifolia. Photo by Marketa Jakoverko, Socotra Island.

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EDITORIAL

Dear Reader,

We are proud to present the 19th issue of Tayf, our charity's annual newsletter. As in previous years, this 2022 issue is compiled by volunteers of FoS, containing news and information about Soqotra, announcements about the latest publications, scientific work and environmental awareness activities on the ground.

In this issue, we share news about the 20th annual Soqotra Conference and Annual General Meeting of FoS, held jointly with the 2nd Dragon Tree Consortium Conference at Ghent University Botanical Garden (Ghent, Belgium). By the end of 2021, FoS celebrated its 20-year anniversary! In several western countries, 20 year wedding anniversaries are celebrated by gifts of porcelain and pottery, to symbolise the delicate and fragile nature of a relationship. FoS has come a long way since 2001 and is continuing strong through committed individuals with a shared passion for Soqotra. However, the voluntary work is also delicate because it depends on the availability of people's free time and availability, over many years. As finding extra time is sometimes challenging, this issue of Tayf and the Arabic translation (which is intensive voluntary work) came with a few months delay, for which we apologize. I am happy to say that without exception and with full motivation, these efforts of FoS continue, including the organisation of the conferences. These are the only international annual meetings in the world where Soqotri are actively encouraged to present their work and views and witness scientific progress on local nature and culture. While the world was finally more relieved after the many covid-19 restrictions, there were still several measures that had to be taken at the 20th annual meeting in Ghent to ensure the safety of all attendees in person. The majority of the attendees were there virtually, as travel restrictions were still changing regularly, and there were presentations about biodiversity conservation, water issues and endangered trees. The next meeting in September 2022, would be organised in the beautiful Botanical Garden of Rome in Italy, organised by La Sapienza University, shown in the report in the next issue of Tayf.

This newsletter contains an overview of education and awareness activities of FoS in 2022 on Soqotra and Samha Islands. For the first time ever, Tayf was delivered on Samha, where people were very enthusiastic. The living conditions in Samha are extremely harsh, water is very scarce and the people are really isolated with no

local medical facilities, yet the people are very welcoming, good-humoured and friendly to visitors. In addition to the visit to Samha, a series of field visits and seminars were realised on Soqotra Island, including local language students and several NGOs (Soqotra Woman Association, SSCEF). In addition, the progress of the Mangrove Replantation Project in Ghubbah was evaluated together with the local Al Tamek Association. The *Avicennia marina* trees in this area are growing so fast, one could almost not imagine that they were ever gone.

This issue includes also an update on scientific papers that have appeared on Soqotra in 2021 (at least seven new species and one new genus were described from the island), and mentions a new and freely available UNESCO book about Soqotra as a Man and Biosphere Reserve and a Natural World Heritage Site. Several posters from this book, designed by the same person who did the new design for Tayf, were used during awareness activities on Soqotra. For biodiversity conservation issues, we share an article by the Franklinia Project team, who focus on the conservation of the endemic and endangered Frankincense Trees of Soqotra, and who present their work annually at the FoS conferences.

The tangible and intangible culture of the Soqotra Archipelago is just as important as its natural values, and one article mentions some recent updates in this field. The written travel journals of the Bents who visited Soqotra over a century ago, have now been made public and contain a lot of interesting information. We also present an alarming article illustrating the rapid ongoing destruction of archaeological sites in Soqotra, in the hope that this can help and raise awareness about these unique places which are part of the identity of the local people. Finally, as in previous years, we included a kids section with some drawings for coloring. On behalf of FoS, I hope that you enjoy this year's newsletter. Thank you for your continued trust in the charity, and for your interest in several aspects of Soqotra's unique culture and nature.

Your FoS Chairperson,

Dr Kay Van Damme

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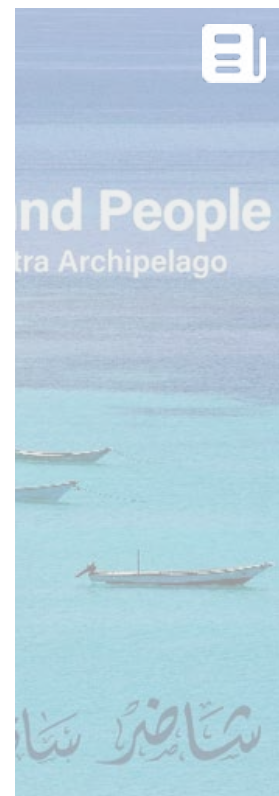
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THE 20TH CONFERENCE AND AGM OF FOS & THE 2ND DRAGON TREE CONFERENCE

Text by Kay Van Damme, photos by Dirk Van Dorpe

The 20th FoS Annual General Meeting and adjoining Socotra conference took place at Ghent University Botanical Garden in Ghent (Belgium), 24-26th September, 2021. While the world was starting to recover from the covid-19 pandemic, there were still some general health guidelines that were adhered to by all attendants in person, such as covid-tests before meeting, and checking the CO₂-devices in the meeting rooms to ensure enough airflow. As the year before (in Brno), the meeting was mixed including both attendance in person and virtually. It was the second time in the history of the charity that the meeting was held at Ghent University, the last one in Belgium was 14 years ago (in 2007). As each year, also during the meeting in 2021, general scientific progress in Socotra was shown by scientists at different stages of their careers (including live presentations by Socotri scientists) and several ongoing FoS activities were discussed during the AGM. The meeting was also attended in person by the Consul of the Embassy of Republic of Yemen to Belgium. Thanks to the support by scientists from Mendel University in Brno who brought special equipment, everything went smoothly for those attending online or in person. The Socotra conference continued directly into the 2nd meeting of the Global Dragon's Tree Consortium which is held every three years.

THE CONFERENCE

The meeting started informally on Friday evening of the 24th of September 2021, at the Palmarium in Ghent Botanical Garden. Attendees of the conference were welcomed by the Director of Botanical Garden, Ing. Chan-

tal Dugardin who provided a first small tour of the public greenhouses and the living collections. On Saturday the 25th of September, 12 presentations were planned divided over 4 sessions. A welcome speech was given by Prof. Dr Freddy Mortier, the Director of the Centre for Academic Heritage and

Archives of Ghent University, a professor in philosophy and science ethics, followed by a warm welcome by Ing. Chantal Dugardin, Director of the Botanical Garden. The conference was attended in person by 15 people, mainly scientists from Mendel University in Brno, Ghent University in Belgium,

other FoS members from Belgium and the Socotri PhD student from Ljubljana University in Slovenia (Ing. Salem Hamdiah), all other attendees (25) were online. Consul Yazan al-Eryani joined to represent the Embassy and gave a short welcome and expression of appreciation for the work of Friends of Soqotra and the importance of the charity for the islands but also for conservation of biodiversity in Yemen in general, during a time of crisis.

The presentations included an overview of 20 years of projects and activities of the charity by the FoS Chairperson, followed by presentations linked to the first phase of the Franklinia-funded project on the conservation of the endemic frankincense trees of Soqotra (*Boswellia*). These included a general overview of *Boswellia* conservation efforts by Prof. P. Maděra, and a talk about seed viability of the Soqotran frankincense trees by PhD students Salem Hamdiah and Lukáš Karas. The latter talk is now published as Hamdiah et al. (2022) in the journal MDPI Plants, which is the first publication ever in a high-impact factor peer-reviewed journal with a Socotri researcher as first author. Petr Vahalík presented remote sensing results of analysing current *Boswellia* tree stands in Soqotra using drones (part of a publication to appear in 2023), and PhD student Jana Tulková



The 20th FoS conference took place at Ghent University Botanical Garden in the city of Ghent, Belgium

presented preliminary results on the chemical composition of the resin of the Soqotran frankincense trees, followed by a presentation on endemic plant conservation by Dr Hana Habrová and Dr Martin Rejžek about the importance of large stones for the regeneration of plants in Socotra. In the afternoon, the sessions continued with a very interesting presentation about the genetic diversity and history of the Soqotri people by Dr Raquel Vasconcelos from Portugal, as well as a talk about general water health and water management issues in Soqotra and general impressions about Socotra by José-Marie Bel. On Sunday the 26th the FoS Commit-

tee held their annual public meeting, which was well attended including all but two members of the committee, in addition to several general FoS members. The importance of the Ghubbah Mangrove Project in collaboration between Al Tamek Association, EPA and ARC-WH was highlighted here. Dr Miranda Morris also mentioned the importance of this decade (2022 to 2032) as having been declared by the United Nations as the international decade of indigenous languages. The committee voted unanimously to continue the work and projects on the ground in 2022, and the Chair and executive committee were re-elected.

2ND DRAGON TREE CONFERENCE

The FoS meeting continued directly into the Dragon Tree Conference on the 27th of September, organised by the Dragon Tree Consortium and led by Mendel University. Also this conference included five more presentations about Socotra, specifically about the Socotran Dragon's Blood Tree of course. These included several presentations about scientific progress and conservation knowledge, resulting in the Socotran Dragon's Blood Tree now being one of the best studied *Dracaena* trees in the world. Large part of this is thanks to several scientists who are members of FoS.



The attendees enjoyed the beautiful arboretum of Ghent University Botanical Garden



THANKS

The 20th Anniversary of the FoS-facilitated Soqotra Conferences was realised thanks to the hosting institute Ghent University, in particular thanks to the efforts of the Botanical Garden Director Chantal Dugardin who kindly arranged the logistics. Much effort in organising the conference was also realised by the Mendel University team in Brno, in particular

the efforts of Dr Hana Habrová, Ing. Lukáš Karas, Ing. Jana Tulková and In. Klára Lengálová for their kind voluntary time while helping with the organisation and logistics, and to long-term FoS member Dirk van Dorpe for taking photographs. To commemorate the 20th Anniversary of the FoS Conferences, a special t-shirt was designed and made available (at production cost) for attendees. Finally, many thanks to the Embassy for the attendance of the Consul, and to Mr

Salem Hamdiah representing the Socotri scientists. The minutes of the meeting are publicly available at the FoS website.

MORE INFO:

Friends of Soqotra (/Socotra)
www.friendsofsoqotra.org

FoS Meeting 2021



Attendees of the 20th FoS meeting and Dragon Tree Conference in Ghent



NEW BOOK

NATURE AND PEOPLE IN THE SOCOTRA ARCHIPELAGO

By Tayf Team

Since 2003, the Socotra Archipelago has been a UNESCO Man and Biosphere Reserve and since 2008, the islands have been included as a UNESCO Natural World Heritage Site. In addition, Socotra harbours Yemen's only Ramsar Wetland listed since 2007, Detwah Lagoon. These three high nominations are part of international conventions aimed to improve conservation. They are a testimony of the global importance of Socotra's unique nature and people. The UNESCO recognition also indicates the need to protect Socotra's ecosystems, a responsibility of all humanity, now and for the future.

A new book appeared in 2022 with general information about Socotra's international importance, what the UNESCO designations mean, how the conservation areas and their boundaries were based on the Conservation Zoning Plan. The book is rich in illustrations and photographs, many of which were kindly provided by individuals who are also FoS-members. Lay-out and amazing infographics were realised by Czech graphic designer Iveta Lekešová who also provided the current design for the FoS Newsletter Tayf. From the book's introduction:

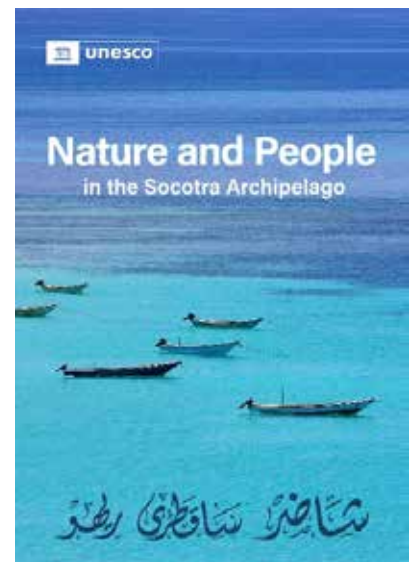
These remarkable designations came primarily as recognition of Socotra's outstanding biodiversity richness, characterised by a high proportion of unique species living in special island habitats. In addition, the cultural landscape of Socotra has been gently shaped through natural and human influences over several millennia. However, a recent decline of that vital bond, combined with the devastating effects of climate change, unsustainable resources use and other impacts, have affected

life on these islands for humans, plants and animals alike.

This richly illustrated publication, based on the currently available scientific knowledge and stories from the island's inhabitants, provides a brief overview of the rich biodiversity of the Socotra Archipelago Biosphere Reserve and World Heritage Site, highlighting the vital bond between humans and nature.

Challenges are highlighted as well as inspiring stories of hope, examples where the Socotran people are taking the lead in protecting their environment and culture. These examples of the unique yet fragile bond between people and nature in Socotra can be regarded as an inspiration worldwide, as many unique areas are facing similar challenges that are affecting the natural and cultural heritage.

It is the first book with general biodiversity information about Socotra that has appeared in Arabic and English. The UNESCO publication, authored by Kay Van Damme (2022) with a preface by Anna Paolini, is available online for FREE in both English and in Arabic (hard copies can be requested at UNESCO Doha Office):



English

<https://unesdoc.unesco.org/ark:/48223/pf0000381003>

Arabic

https://unesdoc.unesco.org/ark:/48223/pf0000381003_ara

Arabic infographics from the book were printed in large format and shared in Socotra Island in 2022 during awareness meetings in schools, with local communities and NGOs in a collaboration between FoS and UNESCO.



TANGIBLE CULTURAL HERITAGE OF SOQOTRA: **EXPLORE AND PROTECT!**

By Vladimir Melnik (zanskar@mail.ru)



Kosh in Shuab 2023 (green line archaeological area / Red – construction)

Soqotra history is diverse yet it contains many blank spots. During a long period, Soqotra was a transit point and a crossroad of different cultures and civilizations. For more than a decade, in my personal capacity as someone with a keen interest in exploration and archeology, I undertook regular field trips to Soqotra and walked a total of about a thousand kilometer of different routes on the island. This is with the aim to map and verify ancient sites that can be explored from on satellite images in hard-to-reach places of Soqotra. Now I can safely say that almost all large ancient settlements have been visited this way, and that most of these sites remain poorly explored. I recorded their GPS positions, photographed key structures, made aerial videos and

images, and laid out paths to reach them by foot. I believe my materials will help real explorers and archeologists interested in Soqotra in the future.

SOQOTRA'S KEY ARCHEOLOGICAL SITES ARE LARGELY UNPROTECTED

Despite their potential importance for the history of Soqotra and trade in the Arab region, all archaeological sites in the island are extremely vulnerable and unprotected. Luckily most of them are located in very remote parts of the island which

are only reachable by foot, sometimes walking for days carrying drinking water.

Nevertheless, last year I witnessed the results of destructive actions at several vulnerable archaeological sites which are no longer as before. One site is Maoriq Dessfarr which is situated on the southern plateau in Tedeia area. It was completely destroyed due to a land dispute between local communities, resulting in destruction without any purpose. Sometimes stones and other materials from ancient sites are used again by local people for the construction of new houses or goat dens. However, Maoriq Dessfarr was destroyed and the stones left.

Another site, or more precisely an entire archaeological area is Kosh in Shuab. Most probably this was an ancient trade seaport. Uncontrolled construction works had started earlier this year and affected the integrity of this unique area. In 2022, Soqotra was successfully nominated as one of the 25 sites on the World Monuments Watch as part of the efforts of the Soqotra Heritage Project and it was my hope that these sites would finally receive protection as a result of systematic surveys. Unfortunately, I have witnessed only deterioration, direct destruction and increased vulnerability of these sites.

CULTURAL HERITAGE IS IRREPLACEABLE

We should keep in mind that cultural property is an irreplaceable resource, integral to Soqotra, the identity of the islanders, and part of the story that we all share. And the fate of Soqotra's archeological sites, objects, landscapes, and even folklore are under threat now. Let's not only talk finally, but also implement protection and make it reality.



Maoriq Dessfarr in 2013



Maoriq Dessfarr in 2015



Maoriq Dessfarr in 2022



MORE INFO:
all photos by V. Melnik;
for a video of Soqotra's
unique archeological sites,
see
https://youtu.be/82Ln7_VvSuc

Kosh in Shuab 2023



THE SOCOTRA NOTEBOOKS OF THEODORE AND MABEL BENT (1896/1897)

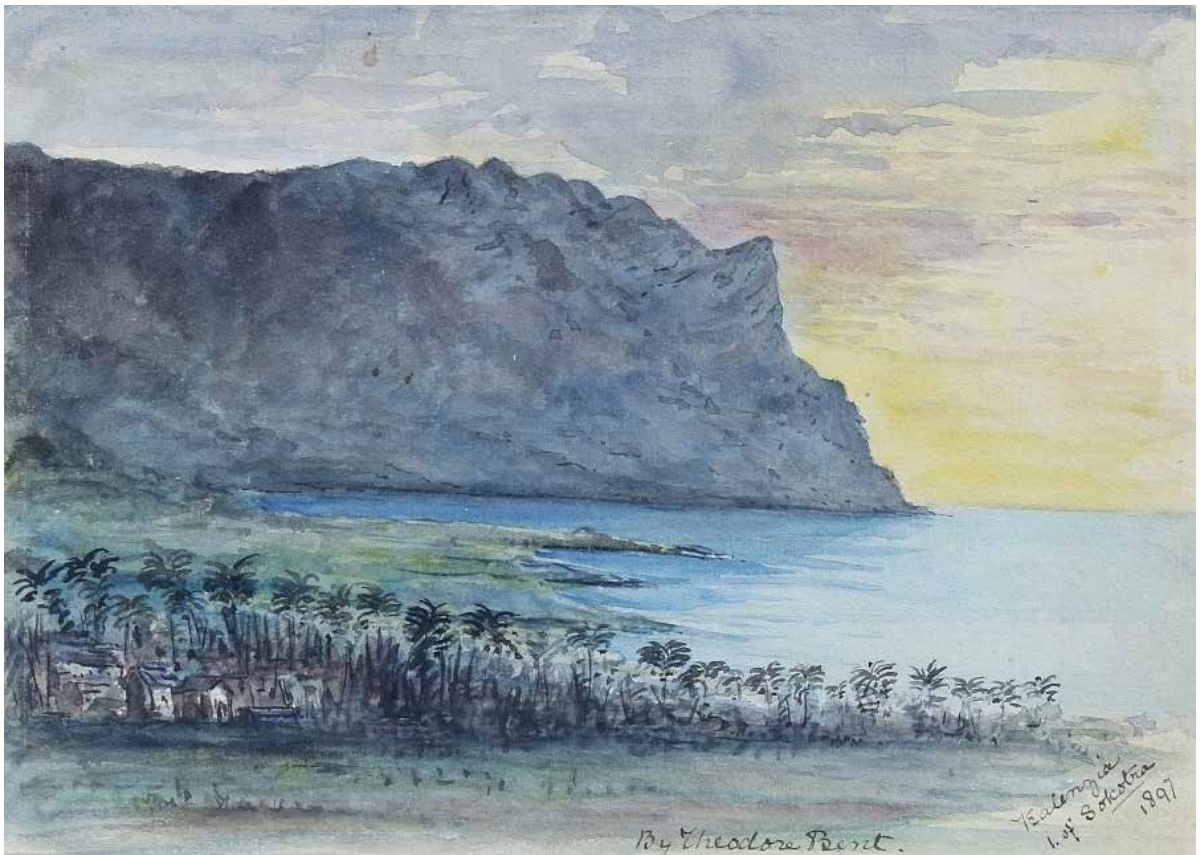
By Gerald Brisch (Rhodes, March 2022)

Many readers will be aware of the expedition to Socotra in early 1897 undertaken by those indefatigable British explorers and amateur archaeologists Theodore (1852–1897) and Mabel (1847–1929) Bent. The couple had been exploring the region for several years as part of Bent's wider interests in Yemeni history and culture, and this was to be their last arduous adventure together, for a few weeks after leaving the island in February 1897, Bent and his wife were stricken with malarial fever east of Aden, and hospitalized there. Still recuperating, they embarked on the the first available steamer to Marseilles and onwards to London; Theodore, alas, having first contracted this curse of a disease in the Greek Cyclades in 1883/4, suffered a relapse en route to their townhouse, a stone's throw from Marble Arch, and was dead just days later, a sad end to a passion for travel that had steered this inseparable and fascinating partnership, from their marriage in Ireland in 1877, until Theodore's death on May 5th, 1897, around rarely visited regions of the Levant, Africa, and Arabia, from Aksum to Zimbabwe, and points east and west. With Theodore suddenly dead (he was 45), Mabel's immediate and solitary task, in accordance with her late husband's wishes was to set about compiling from their joint memoirs an extensive legacy-mono-



Theodore and Mabel Bent (© The Bent Archive)

graph, *Southern Arabia* (London, 1900), a now classic account of their doings and researches in that part of the globe – beginning with a visit to Bahrain in 1889 (and the journey home – a ride, south–north, through Persia), until their final exploration of 'The Mahri Island of Sokotra' (Chapters 29–34 of *Southern Arabia*) and the 'Beled Fadhli and Beled Yafei' areas, on the mainland opposite (Chapters 35–37), all in the spring of 1897. This great work, it took Mabel just two years, was both a synthesis of Bent's many articles, papers, drawings, and notebooks, as well as Mabel's own travel diaries (her *Chronicles* she styled them) and



'Kalenzia', an original watercolour by Theodore Bent painted on site in 1897 (private collection, Kunst & Auktionshaus Eva Aldag, catalogue May 2013, https://www.altertuemliches.at/files/katalog_de_189.pdf).

photographs – she was expedition photographer ever since the couple's visit to the Eastern Mediterranean in early 1885.

This is not the place, in this short contribution, to retrace the Bents' astonishing Socotra trek (fascinating though it is) from 'Kalenzia' to 'Hadibo', via 'Mount Haghier and Fereghet', in early 1897 – Mabel's account is readily available in an on-line version of *Southern Arabia* and in her published *Chronicles* (2006, 2010, 2012) – but the intent is to urge the reader to open up the original Bent notebooks recently digitized (late 2021) and made freely available as part of the University of London's SAS-Space project – including the individual accounts that cover this pioneering journey to Socotra (details of where to find them appear in the References at the end of this article.)

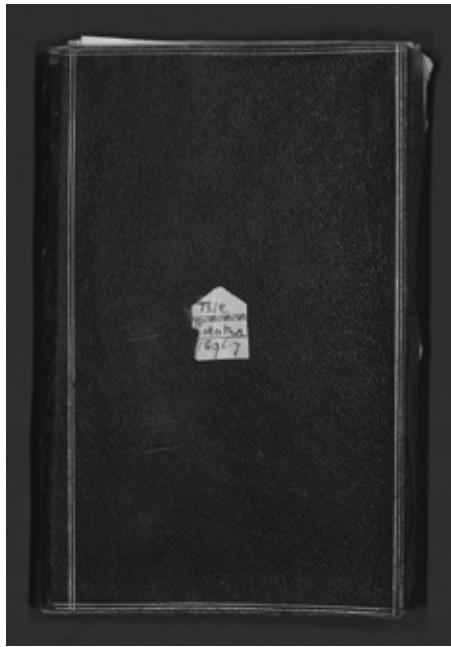
By way of a little background, since the late 1920s the collection of Bent notebooks has been safely curated by London's Hellenic Society (Theodore and Mabel were early members), whose library is administered by the University of London in Senate House. Mabel's series is complete, except for the notebook(s) chronicling the Bents' journey to Ethiopia in 1893; the majority of Theodore's journals also never reached the Hellenic Society, and the whereabouts of all this missing material remains a mystery.

We know the twenty-five notebooks in the Society's archive were given by Mabel's niece Violet

Hovenden Foliott (1882–1962) around the time of her aunt's death in 1929, but not why. After all, most of the later Bent expeditions were sponsored by the Royal Geographical Society of London – Theodore was a Fellow – and one might think that this institution would have been the logical first choice as a repository for these important travelogues: only the first few years of the couple's explorations related to areas of primary interest to the Hellenic Society). A possible explanation might have something to do with the snub Mabel received when the RGS decided not to appoint a second cadre of women Fellows in 1892/3: Mabel was on this list, and although she often said it was of no great matter, perhaps, for this strong-willed traveller, perhaps the first Western woman to penetrate



The Bent Collection in the Archive of the Hellenic Society, London (The Bent Archive).



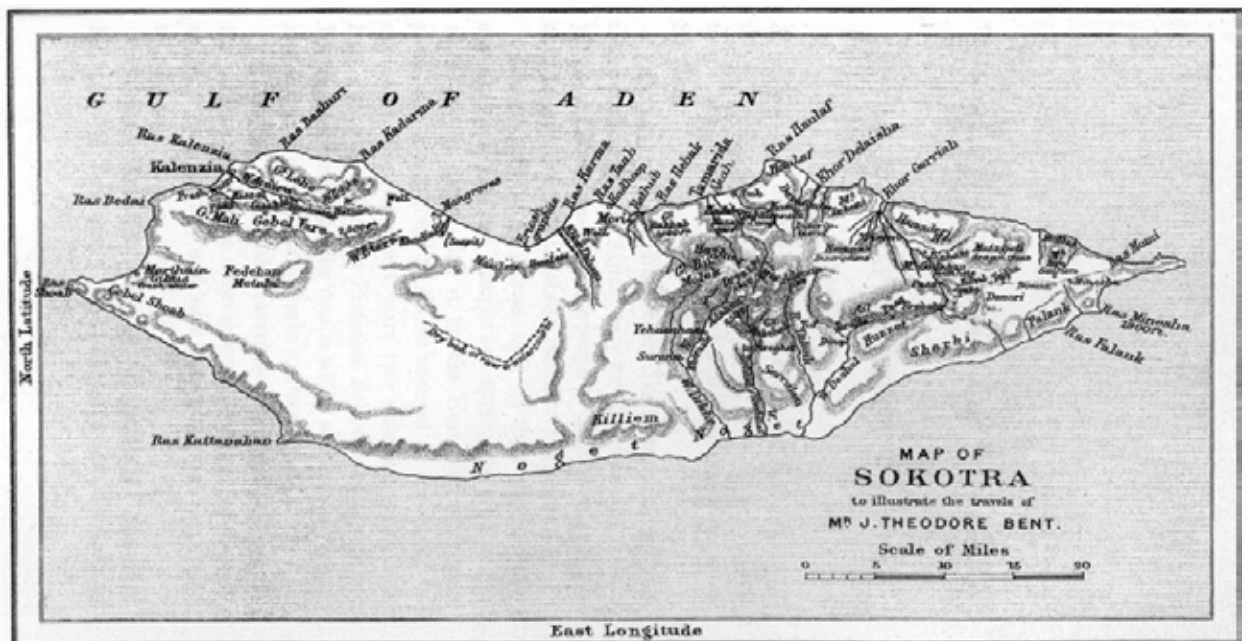
Cover of Mabel Bent's 'Socotra Notebook' (The Hellenic Society, London, Creative Commons: Attribution-No Derivative Works 4.0).



Cover of Theodore Bent's 'Socotra Notebook' (The Hellenic Society, London, Creative Commons: Attribution-No Derivative Works 4.0).

Socotra's interior, it was. Hitherto, access to the original Bent material has had to be restricted, but now, happily, all interested in the travels and travails of Theodore and Mabel can share in the explorers' first-hand recollections of their long days trekking and researching, with all the minutiae of being somewhere else. Great travel literature? Not really (but see the final paragraph). Great travel writing? Yes, although not always comfortable reading today. Diverting snatches of gossip, likes and dislikes, barking dogs, vicissitudes, and dangers; delightful souvenirs of music, dancing, colourful costumes, and exotic meals; indeed, amazing accounts of endurance and a reflection of courage, attitude, and apogee of empire.

Hooked on the Bents for twenty years, coincidentally the time the couple spent travelling together, this present writer can perhaps be excused for hearing in the closing lines of Mabel's final Socotra notebook just a little something of the Muse-given lyricism her fellow countrymen and women share (she was Anglo-Irish after all, her mother a Lambert of Beauparc, Co. Meath, the house stands); and what true voyager could ever end a last diary with anything other than – 'down to the sea'. But I leave it ultimately, of course, for lovers of Socotra to judge the Bents' words for themselves. Go travelling with them... from 'Kalenzia' to 'Hadibo', via 'Mount Haghier and Fereghet'!



The Bents' map of Socotra, facing page 342 in *Southern Arabia* (1900)



BRIEF PORTRAIT OF A SOCOTRAN ENDEMIC SNAKE: THE GÜNTHER'S RACER (*DITYPOPHIS VIVAX*)

Text by Raquel Vasconcelos and Kay Van Damme, photos by Raquel Vasconcelos

The Günther's racer snake is one of Socotra's unique reptiles. In Socotri language it is called 'bikiyli' (meaning snake in general), more specifically referred to as 'bikiyli dimino' and it is thought in the island to 'suckle goats and cause infections'. We wonder why... maybe because it looks very much like a viper. However, in contrast to what we may think looking at its vertical pupils and triangular head, this species is not poisonous to humans or livestock! And there are no records of this species suckling goats so far... In fact, all described snake species found on Socotra are harmless for people and for livestock.

Snakes in general are very useful animals as they catch rodents. On Socotra, snakes feed on the invasive mice and young rats that actually transmit diseases to humans and livestock, so snakes actually limit the spread of diseases. Thus, they are our friends, as they help to control the numbers of rodents. We should think about this next time we see one and be grateful by respecting it.

We are counting on you to help protect the unique, useful, harmless, and beautiful snakes of Socotra: spread the word!





CONSERVATION OF THE ENDANGERED ENDEMIC

BOSWELLIA TREES

IN THE SOQOTRA ARCHIPELAGO (YEMEN)

By Petr Madera, Kay Van Damme, Fabio Attorre, Dario La Montagna, Rostislav Nėtek, Petr Vahalík, Salem Hamdiah, Mohamad Amar, Shaikha Mubarak, Ahmed Adeeb, Ahmed Issa Bin-Affrar, Salem Keybani, Mohamad Shanayeghen. All photos by Kay Van Damme (unless stated otherwise)

Frankincense Trees (*Boswellia*) have been closely linked to human history for thousands of years. These trees are economically and culturally important, forming an integral part of many forest and woodland ecosystems around the world. There are about 24 species worldwide, which are native to subtropical and tropical regions of Africa and Asia, some species all the way in India. Recent studies have shown that the majority of Frankincense Trees in the world are threatened by climate change, collection of incense (olibanum), overgrazing by livestock, and other impacts.

WHY PROTECT FRANKINCENSE TREES?

The Frankincense Trees of the Soqatra Archipelago are currently threatened with extinction, facing many threats. In addition, half of the world's taxa (11) in *Boswellia* only occur in Soqatra, nowhere else. The most recent species was only described in 2020 from Samha Island, *Boswellia samhaensis*. However, the cyclone impacts of 2015 destroyed many Frankincense Trees, such as in Homhil area. Local communities and local authorities have been very concerned about the deterioration of the important woodlands and reached out to scientists and funding agencies to work together and to help these trees, which provide local income. It had become clear in this moment and through scientific models predicting the future trends, that without any help, the majority of the endemic Frankincense Trees of Soqatra will not be able to make it to the next century.

The loss of each tree, means loss of income from resin, loss of shade, water, biodiversity, and also loss of a huge part of the Soqotran unique identity. Recent changes in land management practices by local people cause overgrazing, resulting in the lack of tree regeneration and ultimately leading to decline, even extinction of local



Awareness meeting and establishment of a nursery for *Boswellia samhaensis* (Samha Island, March 2022)

populations, yet the cultural value is locally very high, as commerce with olibanum and other kinds



The Soqatra Women Association works closely with the team in awareness and education activities for women in the field (Diburak reforestation area for *B. elongata*, May 2022, photo by the Socotra Women Association)



Boswellia bullata is restricted to the west of Soqatra Island



Young *Boswellia popoviana* growing on limestone rock in Firmihin



Young *Boswellia samhaensis* in the wild (Samha, March 2022)

of resin has been a common practice on Soqatra since antiquity. In addition, this is a unique evolutionary group of island trees of a local value that cannot be measured. They are the focus of local culture, forest conservation, and scientific research.

SURVEYS, RESTORATION AND EDUCATION

Therefore, a brand new project was designed to help the unique Frankincense Trees of Soqatra survive. A consortium of several universities applied together in close collaboration with local authorities, communities and local NGOs in Soqatra to create a long-term plan for the protection and restoration of all species of Frankincense Trees. In January 2020, the Soqatra *Boswellia* project started, funded primarily by the Frankinia Foundation, with some co-funding. This project has been implemented immediately since the start and the second phase started already in 2023. It is coordinated by the consortium of Mendel, Sapienza and Ghent Universities, implemented on the ground by the local team and local NGOs, working directly with local communities and with the approval and enthusiastic support by the local authorities (EPA, Agriculture, Governor's Office, etc).

The project design is straight to the point and has three major elements:

- ★ survey of all *Boswellia* trees in the Soqatra archipelago with an assessment of the major threats, to strategize conservation efforts. Without such baseline information, protection is less effective, because many species have very isolated populations that require very specific actions.
- ★ direct conservation and reforestation activities to restore entire habitats and woodlands including *in situ* seed germination and establishment of local nurseries.
- ★ awareness and education activities to keep emphasizing the importance of these trees for Soqatra and beyond. This includes engaging schools, women associations, local villages, including all ages.

The project strongly focuses on gender equality, empowerment for women in nature conservation, through engagement of female students, local awareness activities led by Soqotri women, and involving and supporting local women NGOs. The main *Boswellia* nursery focusing on the survival of the young *Boswellia* seedlings, is led by Mona, a Soqotri elder woman from Manufo-Kishen area. She is the boss of her large beautiful garden and of the young trees within.

The end goal is to increase the resilience of these trees and their habitats, which have high ecological and cultural importance, and to ensure the long-term protection of these trees long beyond the project's lifetime. Many NGOs are engaged in the *Boswellia* protection now, including also beekeeper associations and



Boswellia socotrana ssp. *socotrana* produces olibanum with a very pleasant smell

there are *Boswellia* protection areas all over the island, at least one for each species (and subspecies). Some species are very remote and creating protection with galvanized iron fences is not an easy task, in addition to individual protections for naturally growing seedlings. Every year, when *Boswellia* trees produce seeds, there are seedlings found after rains, but they are quickly eaten by goats and not found back the year after, so the project aims to protect also these natural seedlings. All materials of the project, like the fences, are donated to the local communities: it is their land and their choice, and we only protect trees in the areas where there is a local request and an agreement with all communities of the area, to



One of the most knowledgeable Soqotri botanists in our team (Ahmed Adeeb) during fieldwork monitoring *Boswellia scopulorum* (March 2022).



Soqotri scientists and local NGOs (like the SSCEF) engage in careful monitoring of *Boswellia* seedlings under grazing pressure (seedlings *Boswellia socotrana* ssp. *aspleniifolia*, Shata Qalansiya, May 2022)



Surveys of frankincense and myrrh tree species in Hamaderoh (April 2022)

do so. The only way to do proper conservation is through leadership and engagement of the local communities, it is impossible without.

The project has not been easy in the start, because the COVID-pandemic struck the world quite directly at the start of it and impacted everything for the first years. However, international teams adhered to strict quarantine and vaccination-measures during each visit, and the local team in Soqotra continued the work throughout the year, in good health. In the end, even this annoying virus could not stop the protection of the *Boswellia* trees.

SUCCESS!

In April 2022, the project was evaluated by the Franklinia Foundation who visited Soqotra. The representative of Franklinia visited the *Boswellia* sanctuaries (reforestation areas), the nurseries and sat with local communities, NGOs and government officials to see the outputs. Between 2020 and 2022, the team had inventoried thousands of trees and their threats in detail (in person and by drone) and all distribution of the species



The team meets with the authorities (EPA and the Governor's Office) of the Soqotra Archipelago to discuss progress and implementation (Hadiboh, April 2022)



17/1



17/2



17/3



17/4



17/5

was mapped. More than a thousand seedlings of different *Boswellia* species were protected, over 500 people were directly involved in awareness activities in schools and with local NGOs, and six reforestation areas as well as several nurseries were newly established throughout the entire Archipelago, including Samha Island. In addition, many communities replanted trees in their gardens, where the project helped with protection of the garden from goats, and sustainable access to water. As a result from the project, also a new environmental NGO was established, the Soqotra Society for the Conservation of Endangered Flora (SSCEF) which already received funding by donors in 2022 to implement additional conservation work of *Boswellia*. It is now one of only two major nature conservation NGOs in Soqotra. The team made several scientific discoveries about *Boswellia* species, and the project has been expanded to the protection and restoration of endemic myrrh trees (*Commiphora*), which is done by the team from La Sapienza. The international coverage and support for the project was huge, with appearances in the World Expo and in the scientific journal Nature.

The result was a highly positive evaluation and the Soqotra *Boswellia* project being suggested as an example for tree conservation projects around the world, because of its leadership and engagement by local communities, integrated with science and awareness. All data of the project has been shared with local authorities on several occasions. The outputs of the project can be found in several articles online and are presented in Soqotra during every visit with each community and meetings with authorities, as well as at the FoS conferences and other international meetings. The Frankinia Team is very grateful for all the efforts of the local communities and the local team especially, and the hard work by many Soqotri and international students, working closely and positively together as friends and colleagues. Through such teamwork, the Frankincense Trees of Soqotra have a chance of surviving. The next phase from 2023 onwards, focuses further on more restoration and on enhancing the income from these trees, for example through increasing honey quality and production from the Frankincense woodlands in Soqotra. Definitely much more work needs to be done if we wish to protect these trees, but we are on the right path.

WELCOME

As a visitor of Soqotra, you are welcome to see the work of the project. You will see some of our reforestation areas even on the way to key areas, such as on the road to Firmihin. It is possible to support the trees and the local communities directly who are taking care of the Soqotran *Boswellia* trees. Just contact the project manage-

Figure captions:

17/1 Visits at reforestation areas includes sharing ideas, thoughts and food with the local communities (Shata Qalansiya Reforestation Area for *Boswellia socotrana* ssp. *aspleniifolia*, 2022)

17/2 Establishing a new nursery for the protection of local *Boswellia* species in Halah with team member Wagdi Omar from Rosh (April 2022)

17/3 Gianmarco Grippo from Rome Botanical Garden, La Sapienza (Italy) established a hydroponics system at Mona *Boswellia* nursery in Manufo area, to combine supporting local benefits and food security with the *Boswellia* project conservation (March 2022)

17/4 Visiting the *Boswellia* nursery at Mona garden during evaluation by Frankinia representative (April 2022)

17/5 Establishing new *Boswellia* nurseries with local communities in the south of Soqotra (April 2022)



Meeting local communities who replanted *Boswellia* on their own initiative in western Soqatra



Preparing signs for the *Boswellia* sanctuaries



A specialised team monitors the *Boswellia* tree stands using drones as part of the project; the data is used to count individual trees and assess impacts of landslides in inaccessible locations (April 2022)



In Diburak, seedlings of *Boswellia elongata* appearing naturally after rains are protected by the team and local community using specially designed individual fences, and monitored regularly (Diburak, April 2022)

ment (first two authors of this article) and in particular the Soqotran managers on the ground, Mr Salem Hamdiah and Mr Mohamed Amer.

An important reminder: all collection and export of live *Boswellia* specimens for commercial or individual purposes is strictly forbidden (only scientific research is allowed, with governmental permission, for non-commercial purpose). Bringing home a small quantity of resin to support local communities, is allowed. There is an illegal living succulent collector market which Soqatra is unfortunately part of, yet it is against Yemeni law, as it can actually threaten very small populations which have nearly no chance of regeneration in nature (every seedling counts!). Also within the island, replanting and transport of seeds or seedlings is done in a strict way to ensure no mixing of populations beyond the natural occurrence.

ACKNOWLEDGEMENTS

Many thanks to the Franklinia Foundation for funding the conservation work to help the endangered trees in Soqatra, and to the local authorities (EPA, Governor's Office) and local communities for their continuous efforts, and coordination with the local and international scientific and field teams. Also thanks to Lara Lee and the Cultures of Resistance Network for kind co-funding.

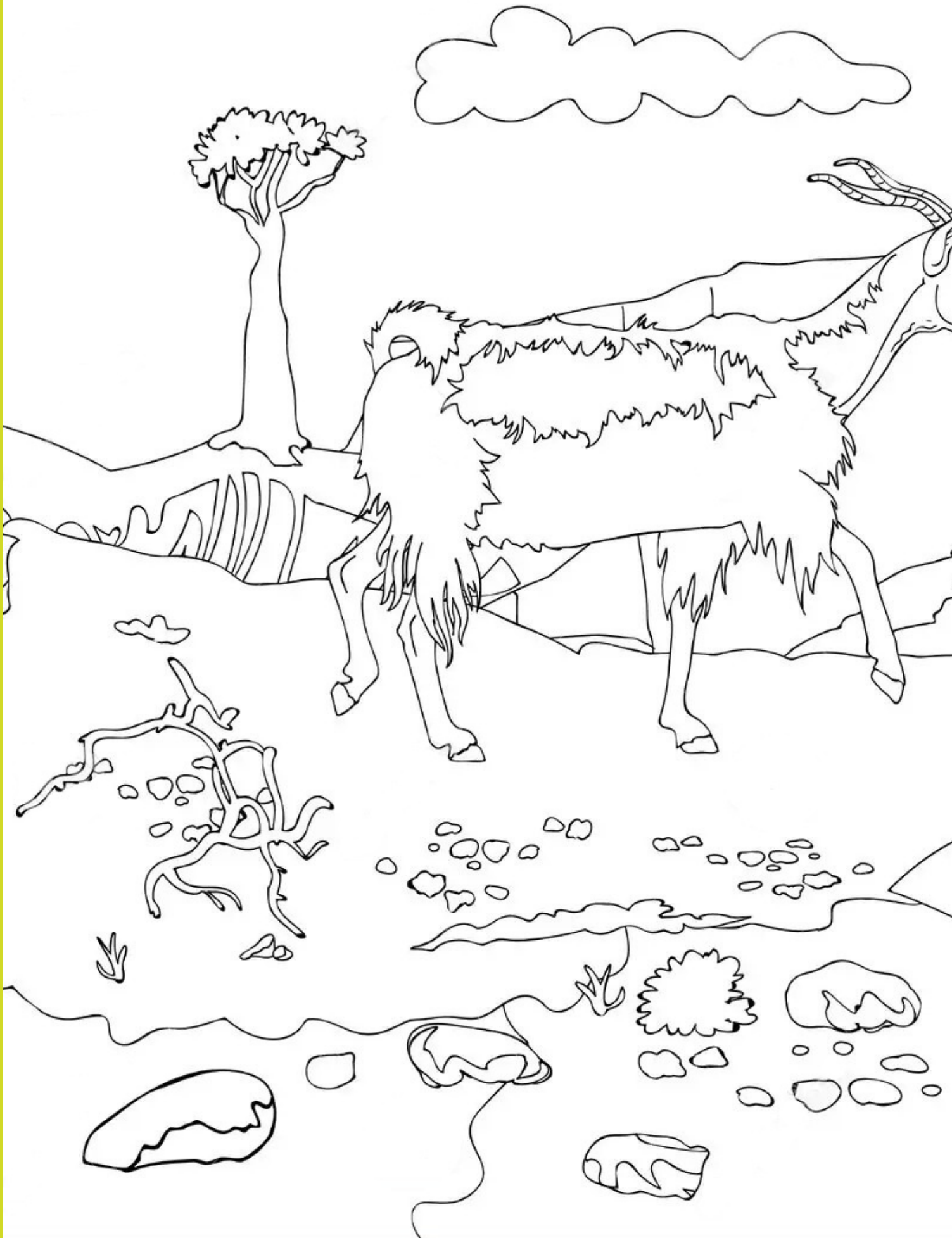
FURTHER READING

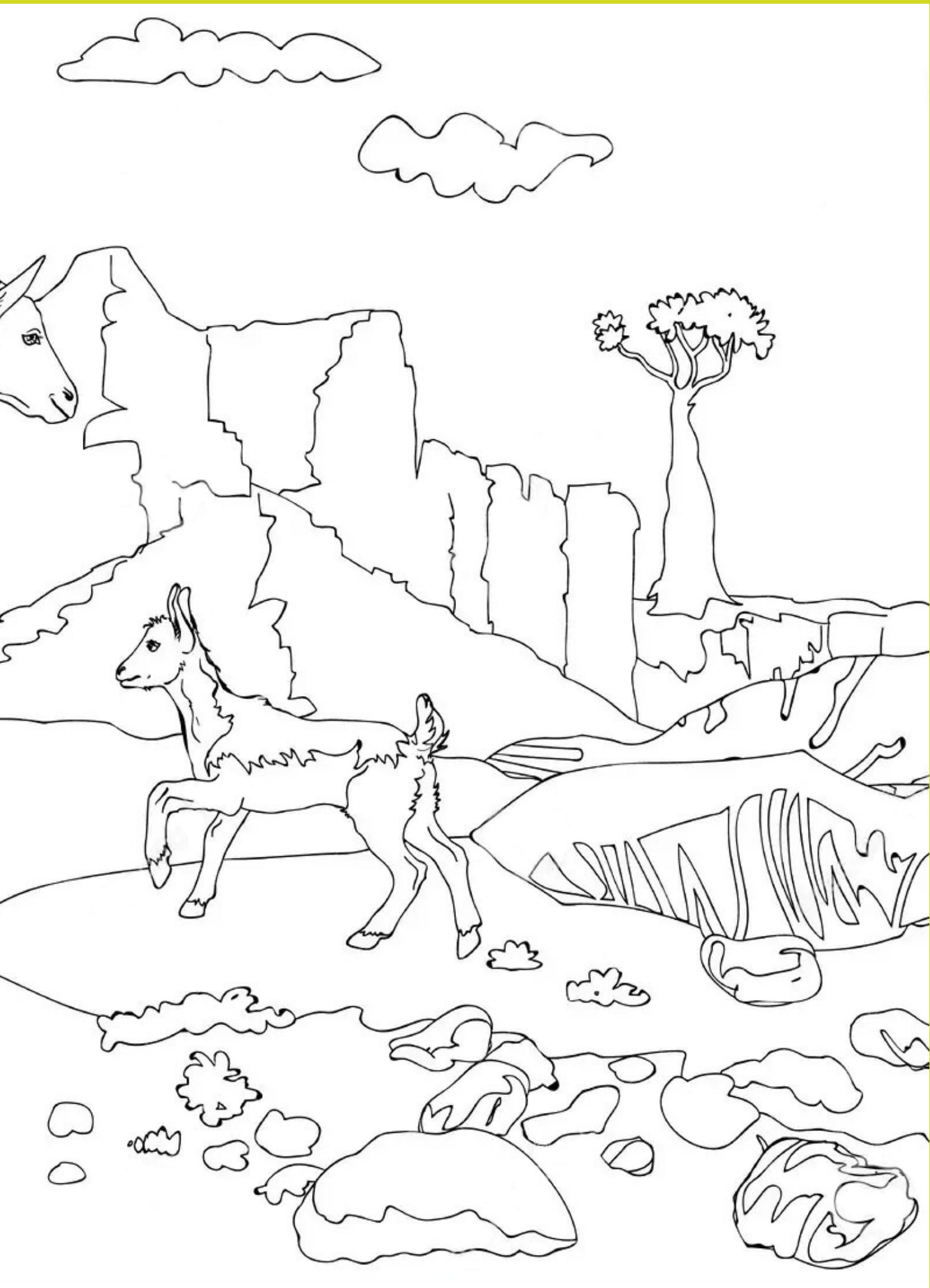
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CHILDREN'S SECTION









OH MY GOAT!

STUDENT COMPETITION IN DUBAI

Jana Tulková, Lucie Maderová

In November 2021, four students of Mendel University and the University of Ljubljana participated the 21st Annual Inter College Environmental Public Speaking Competition, which was part of the world EXPO in Dubai open to students around the world for the first time. This competition was under the patronage of the United Arab Emirates Ministry of Education, hosted by Emirates Environmental Group.

What was your topic and why did you choose it?

Based on our previous experience with field trips to Socotra Island, our decision was very clear. Protection of endangered frankincense trees (*Boswellia* trees) on Socotra touched our hearts deeply and it perfectly fit the proposed topic about Integrating Environment & Technology: A Solution to Sustainability? Our work on endangered *Boswellia* trees encompass mostly the inventory of individual trees, so we opted for the playful title for our presentation: Socotra Island – where every tree counts.

What was the composition of the team and why?

The team was composed of frankincense professionals, just kidding. Only doctoral students could participate in competition, and we were lucky to be four student focusing on Socotri *Boswellias* from various points of view.

Lucie Maděrová studies at Faculty of Agronomy at Mendel University in Brno (MENDELU) with a focus on the importance of goats on the Socotra Island. Her contribution to the topic was to clarify the impact of goat grazing on rejuvenation of the little frankincense seedlings.

Lukáš Karas studies at the Faculty of Forestry and Wood Technology (FFWT) at MENDELU. He is keen on natural and artificial rejuvenation of *Boswellia* species in laboratory conditions. Within the presentation he showed how to reproduce seedlings and protect them against adverse impacts. Salem Hamdiah studies at the University of Ljubljana and lives on Socotra Island. It was an honour to have Socotri in our team and also for the audience to meet an inhabitant of Socotra who participates in the protection of *Boswellia* in situ. His part of the presentation was dedicated to the awareness of local people and how to protect their land to preserve it for future generations.

Jana Tulková studies at FFWT and she deals with recognition of different *Boswellia* species based on the chemical composition of their resin. Her part of the presentation was devoted to Introduction of Frankincense

past present and future, basically how people use it through the ages, until now.

How did you prepare for the competition?

Thanks to Mendel university we could attend a special online course focusing to public speaking, which helped us with language skills and mostly with stage fright we all had before. In five days we were prepared and more than excited to fight for a medal. Unfortunately one of us couldn't attend the online course so we spent two days (and nights) at the hotel in Dubai to rehearse of our little show. It was intense, but we enjoyed every single moment.

How it went in the competition and what was the result?

We think we did great. Apart from our interesting topic, we also captivated the audience with our humour. Unfortunately, we didn't win the main prize, a crystal ball, but we did win the potato medal for the 4th place. We are grateful to be part of this all, to overcome our fears, make some friends in Dubai and also to raise awareness about the problems threatening the endangered *Boswellia* trees.





SOQOTRI CULTURE AND LANGUAGE – UPDATES

By Miranda Morris

(A) LATE 2021: BOOKLET OF SOQOTRI ORAL LITERATURE AUTHORED BY SOQOTRIS DISTRIBUTED ON SOQOTRA.

A booklet entitled *Muḳtaṭafāt min al-ʿAdab al-Soḳoṭrī al-Shifawī*, which I translate as ‘Selected Pieces of Soqotri Oral Literature’, authored by ʿĪsa ʿUṭhmān Jumʿān al-Daʿarhī, Aḥmad ʿĪsa ʿĀmir al-Daʿarhī and Mīsūn Muḥammad ʿĀmir al-Daʿarhī, appeared last year. It is encouraging to see that one of the authors of this work, of which a thousand copies have been distributed throughout the island, is a woman.

The work comprises 30 pieces in the Soqotri dialect of the authors: 28 stories, a section with some examples of poetry (‘munawwaʿāt shiʿrīya’), and a section of thirty-one riddles (‘al-ʿalghāz’). The Soqotri material is translated into Arabic and transcribed using the Arabic-based script devised by the authors and their Russian colleagues. There is a useful introductory section which explains the transcription system. The authors gratefully acknowledge the assistance they received from their Russian colleagues in producing the work, and are appreciative of the encouragement offered by the various Emirati authorities who printed the booklet.

This is a very exciting development and the authors are to be congratulated on their excellent work which complements the marvellous volumes published by the Soqotri and Russian team (*Corpus of Soqotri Oral Literature*, vol. 1, 2014, and vol. 2, 2018).

It is to be hoped that their efforts will encourage others representing different dialects and areas of the archipelago to collect, prepare and publish further material of this kind.

(B) 2021: ESTABLISHMENT OF MARKAZ AL-LUGHAT AL-SOQOTRĪ

Towards the end of 2021, a number of concerned Soqotrans got together to set up the *Markaz al-Lughat al-Soḳoṭrī* (‘Centre for the Soqotri Language’). Their aim is to encourage and promote the study of this unique language on the island itself, possibly even producing works such as the *Muḳtaṭafāt min al-ʿAdab al-Soḳoṭrī al-Shifawī* described above? It would be good if the founding members could write something about the new centre and its constitution for the next *Tayf* journal.

(C) EARLY 2022: SOQOTRA DECLARED A SITE FOR THE WORLD MONUMENTS WATCH

On 1st of March this year, Soqotra was successfully nominated as one of the 25 sites on the World Monuments Watch 2022. The nomination was proposed by the Royal Botanic Garden Edinburgh (RBGE) working with Soqotri, Yemeni and international partners. See <https://www.wmf.org/2022watch>, and the page specific to Soqotra at: <https://www.wmf.org/project/soqotra>

Although the title ‘World Monuments Watch’ might suggest a concentration of effort on built heritage, the Watch highlighted Soqotra as a location where, in comparison to the natural heritage, the island’s cultural heritage was under-represented. The WMF criteria for selection are not the same as those for the World Heritage Sites (to which Soqotra was inscribed in 2008 for its outstanding natural heritage),

and since 2008, Soqoṭra has undergone significant changes. Whereas its natural heritage has received considerable attention, the same cannot be said of its rich cultural heritage, despite the fact that the two are interlinked and have formed the basis of life on the islands for millennia. Today, both natural and cultural heritage are under threat from conflict, development and climate change. It is to be hoped that this recognition will help to raise awareness of the globally significant island group, and will assist in identifying and developing new opportunities that place long-term and sustainable heritage conservation at the heart of Soqoṭri society and livelihoods.

(D) THE SOQOTRA HERITAGE PROJECT

The Soqotra Heritage Project team are currently implementing three programmes on Soqoṭra.

The first programme is completing the documentation of a range of Soqotri traditional crafts, with information to be added to the Soqotra Heritage Database in collaboration with local authorities. This has been followed by making connections to a variety of local, regional and global markets to which traditional Soqotri crafts and natural products can be exported and sold. This is being set up and run locally, with the intention of providing a small but sustainable income that supports both expert crafts practitioners and the conservation of traditional skills and knowledge.

The second programme is examining the relationship between traditional land management and climate change. The Soqotri team have been speaking to a range of people about how they manage their land and their animals and the challenges they face, relating this to the changing climate and the availability of food and water for their animals. Comparison with similar work undertaken in the 1990s has given a valuable insight into how things have changed on Soqotra. Traditional management methods have focused on access to water and grazing, and this knowledge may hold valuable insights into coping with climate change and water access in the future.

The third programme involves repair work on the old mosque in ʿAlha village, Ḥadiboh. Built in 1947, this mosque is one of the few remaining historic examples of Soqotra’s traditional architecture that, like many of Soqotra’s heritage sites, is severely threatened by the extreme events brought about by climate change. The Soqotri team together with Julian Jansen van Rensburg, the General Organization of Antiquities and Museum (GOAM) and the World Monuments Fund (WMF) have worked closely with the community of ʿAlha and local builders and architects to document, assess, and undertake emergency stabilization and emergency conservation measures to prevent the mosque walls from further collapse. These and future works will help preserve one of Soqotra’s historical monuments for future generations to enjoy.



Mosque renovation in April 2002 (photo by Julian Jansen van Rensburg)



SCIENTIFIC PAPERS

ABOUT SOCOTRA (2021)

By Kay Van Damme

Each year we present a short overview of articles about Socotra that appeared in scientific literature in the year 2021. The overview is based on English articles listed in the online platforms *Web of Science* and *Google Scholar*, using the keyword "Socotra" and its alternative spellings. At least seven new species and one new genus were described from Socotra in 2021. More information and the FoS bibliography can be found on our website (www.friendsofsoqotra.org).

TERRESTRIAL AND AQUATIC INVERTEBRATES

INSECTS

Two new species and one new genus of **Spider Beetles** (Coleoptera: Ptinidae) were described from Socotra in 2021. The new beetle genus is named *Soqotranus* with one species, *S. niptoides* from Skand and Homhil (Fig. 1.1). The other new species is named *Silisoptinus hajeki*, found on frankincense tree wood (*Boswellia*) in Homhil Nature Sanctuary (Belles, 2021; *Zoology in the Middle East*). In general, small beetles and other insects play key roles in the food chain of terrestrial ecosystems, as scavengers and as prey for other animals. Also a new small **moth** (Lepidoptera: Erebididae) was described from Socotra (Fig. 1.2), found in Wadi Ayhaft and Difarho (Saldaitis et al., 2021; *Ecologica Montenegrina*).

CRUSTACEANS

Deep inside the water of karstic **caves** and wells of Socotra, small animals live **without eyes**, which are remnants of ancient groups that lived in long forgotten seas. Inside such cave environments, there is no light so these animals do not need eyes to see, or pigments to protect them from the sun. A new blind and white species of underground freshwater crustaceans, *Tethysbaena dioscorida* (Crustacea: Thermosbaenacea) was discovered in Ghiniba Cave in Shibehon and a coastal well near Qadub (Wagner & Van Damme, 2021; *Crustaceana*). The

species (Fig. 1.3) is part of a small relict crustacean group that is believed to have lived in the **Tethys** Sea before the separation of Socotra; the closest relatives of this small species live in underground waters in Oman and Somalia.

LEECHES

In freshwater springs at Homhil, the freshwater crabs *Socotrapotamon socotrensis* carry some hitchhikers. The hitchhikers are leeches (Annelida: Hirudinea) that feed on the tissue and blood of the endemic freshwater crabs (Fig. 1.4). Large leeches on the freshwater crabs of Socotra were first reported from springs at Adho di Melho in 1999 (Segers & Van Damme, 2004; *Fauna of Arabia*); the leeches from the spring at **Homhil** have now been described as new endemic species for Socotra (Schenkova et al., 2021; *Parasitology International*). These animals are harmless to humans.

TERRESTRIAL VERTEBRATES

REPTILES

Using molecular techniques, **parasites** were found inside several endemic Socotran **reptiles** by Tomé et al. (2021; *Parasitology*). The authors discovered a wide range of reptile-specific parasites related to blood and tissue of the hosts; these animals also play an important role in the ecosystem. This study was briefly discussed in the last issue of our newsletter (Tayf 18) by the Portuguese researcher Dr Raquel Vasconcelos and colleagues.

Herpetologists, researchers who study reptiles (Fig. 1.5), have also looked at the evolution of semaphore day-active geckoes of the genus *Pristurus* in Socotra (Tejero-Cicuéndez et al., 2021; *Proceedings of the Royal Society B*). After measuring a number of morphological characters (shape, size, length of toes, etc), they concluded that habitat, not the isolation of the island from the continent, plays a role in how these species look different from each other, especially on ground habitats.

BIRDS

The ornithologist G. Kirwan (2021; *Ostrich*) critically discusses a literature record of an amazing-looking bird, the **Pennant-winged Nightjar** (*Caprimulgus vexillarius*; Fig. 1.6), which is mentioned from Socotra in a publication that appeared in 1838. This species has never been recorded on Socotra in any other source, and therefore it is questionable. The Nubian Nightjar (*Caprimulgus nubicus*) is however very common, often seen on the western road to Qalansiyah at night. At present there is **no evidence** for the Pennant-winged Nightjar on any of the Indian Ocean islands, says Kirwan, but the species has the potential to occur there. True birdwatchers, stay on the lookout for this animal.

DRAGON'S BLOOD TREES

As expected from its importance to the inhabitants of the island, many Socotra **place names** refer to Dragon's Blood Trees (Fig. 1.7). But there are also areas with these names where Dragon's Blood Trees do not occur at present, for example in the **West** of the island (Al-Okaishi, 2021; *Journal of Ethnobiology and Ethnomedicine*). Perhaps Dragon's Blood Trees were living there in the past, for example in Maaleh. The most commonly used names for Dragon Trees in the Arab Region are "ahrieb" and its resin "dum al-akhawin". Al-Awthan & Bahattab (2021; *Biomed Research International*) briefly review the known plant **chemicals** (Fig. 1.8) of the Socotran Dragon's Blood Tree and their main medicinal properties. In the journal *Forests*, authors Maděra et al. (2021) wrote an introduction to the special issue that appeared in 2020 entitled "*Dragon Trees, Tertiary Relicts in Current Reality*".

MARINE FAUNA

Fish - Several studies, mainly led and carried out by Russian researchers in Socotra, have reported on **marine** fishes in Socotra; these studies include **new records** of fishes like several species of sharkrays and **guitarfish** and a revision of the flying fishes occurring in the waters around Socotra (Bogorodsky et al., 2021; Shakhovskoy & Bogorodsky, 2021 in *Zootaxa*). In total, 13 species of **flying fish** could be identified from these waters, and one species that was originally named different before (*Exocoetus socotranus*), was found to be actually the **Pharao flyingfish** (*Cypselurus naresii*; Fig. 1.9). Sometimes specialists have to **revise** the names of plant or animal species; when they compare an original (type) specimens used for description of a new species to other species, and they find that they are the same, and there is an older name for it, then the new name is called a synonym and it is not valid. So for every new species, it is important to check if no one has given it a name before in a valid way (description, publication and with a type specimen), sometimes centuries ago. Names can change and be updated, which makes **taxonomy** a difficult and changing field.

Two **new** fish species were described from Socotra in 2021. An amazing and conspicuous new fish species was named the **Socotra Blue-spotted Guitarfish** or *Acterobatus stehmanni* (Weigmann et al., 2021; *Marine Biodiversity*). The beautiful animal is about 60 cm long, with blue spots on the back (Fig. 1.10). In addition, a little inconspicuous fish was described as new, which is hiding inside small dark **holes**. The small gobiid fish is called *Heteroleostis nasoramosa* and has tentacles extending from its nostrils, likely to help find its way inside the coral holes (Kovačić et al., 2021; *Zootaxa*).

OTHER

Tectonics – The history of the opening of the Gulf of Aden since the Miocene, 16 million years ago, until today, has been reviewed in Gillard et al. (2021; *Frontiers in Earth Science*). Understanding the **seafloor spreading** is important, because this is related to the time when Socotra was separated from the mainland. **Oceanology** – Menezes (2021) investigated streams and currents in the Arabian Sea and discusses also the Socotra Passage, where particles in the sea may circulate in an arc, mainly around the east of Socotra.

Exotic Species – Socotra has been part of the analysis of a larger dataset on exotic plant species from six subtropical islands to check what determines a higher proportion of exotic species. The conclusion of the study was that human impact and precipitation drive plant invasion mostly (Irl et al., 2021; *Journal of Biogeography*). However, the exact distribution and composition of the exotic plant species is still not well known.

Renewable Energy – Researchers from Morocco discussed the potential of the natural solar and wind energy as sources to generate electricity rather than fossil fuel-based strategies (Serag & Adil, 2021; *Indonesian Journal of Social and Environmental Issues*).

Language/Culture – the monograph “*The oral art of Soqatra : a collection of island voices*” (Ed. by Morris, 2021; Brill) was discussed in the previous issue of *Tayf* (18). The book explains why it could be more meaningful in life to inherit wisdom (in the form of a good poem) than extensive riches (in the form of lands or large herds). In addition to the former work, more studies on the unique language have appeared, for example on the Socotran **lullabies** (Gintsburg & Kogan, 2021; *Folklore*). The latter authors conclude that the elements of the songs used to soothe babies to sleep (locally called a “**tendána**”) are also quite unique in Socotra. The latter belongs to the intangible **cultural heritage** of the island, and no articles appeared in 2021 about the rich tangible cultural heritage of Socotra.

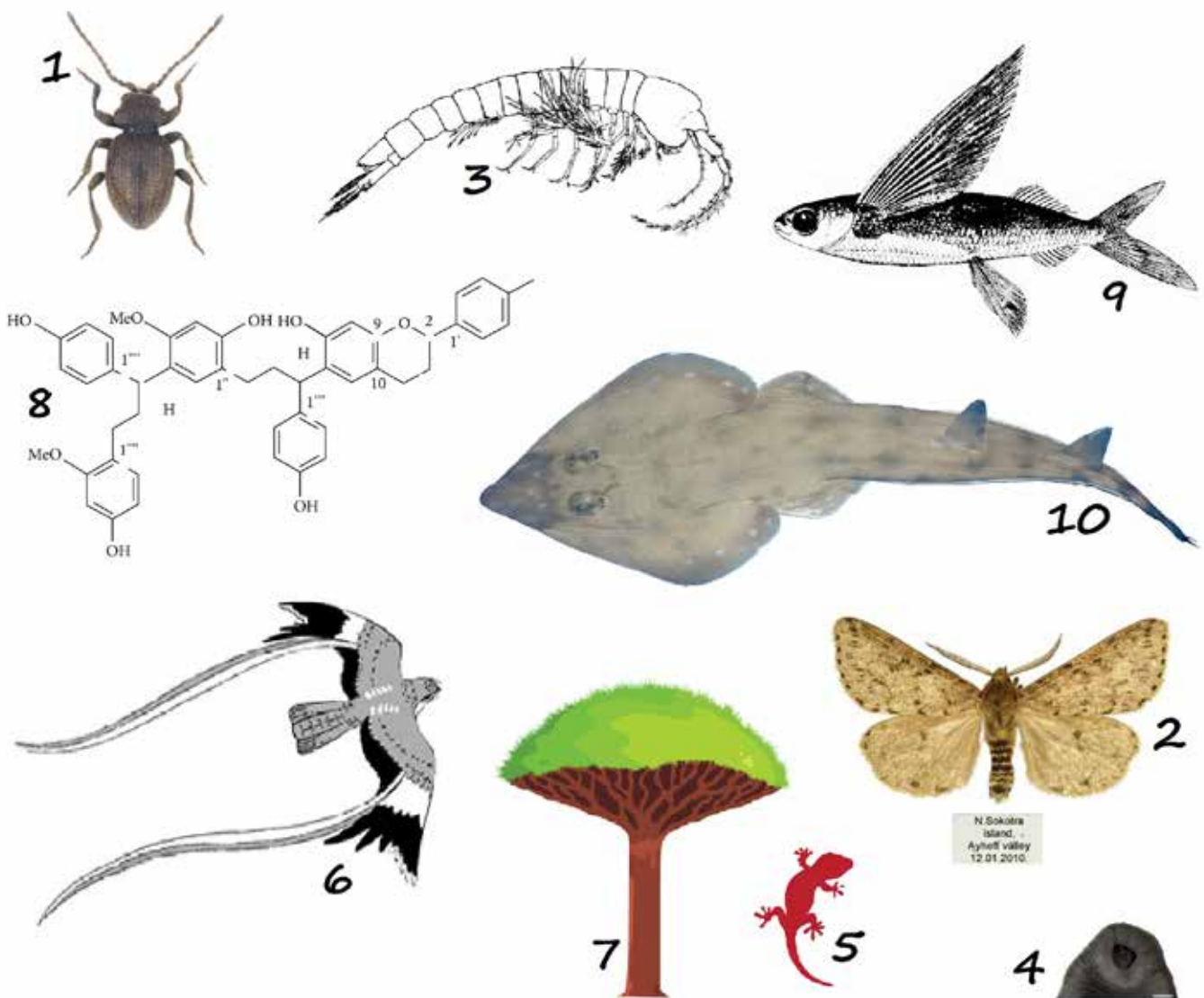


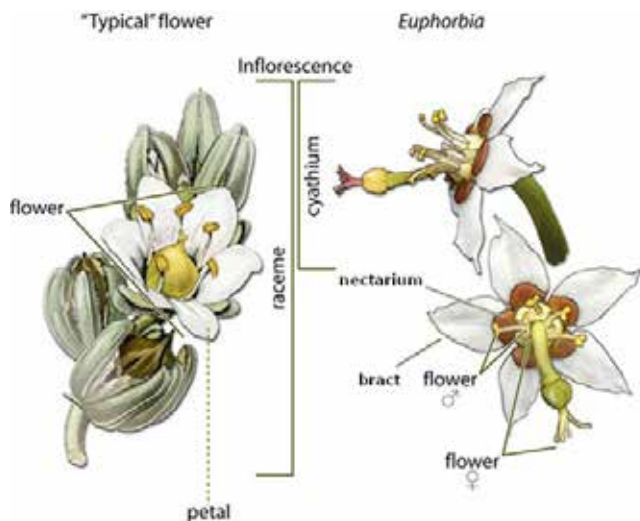
Figure 1 (Image sources Figure 1. (1) after Belles (2021); (2) after Saldaitis et al. (2021); (3) after Wagner & Van Damme (2021); (4) after Shenkova et al., 2021; (5) royalty-free vector from vectorstock; (6) Encyclopedia Britannica, Inc.; (7) royalty-free vector from vectorstock; (8) after Al-Awthan & Bahattab (2021); (9) FishBase, image FAO; (10) after Weigmann et al. (2021). Note: images (1-10) not to scale)



DO YOU KNOW THE FLOWERS OF SOCOTRI SPURGES?

By Lukáš Karas

What might appear to be a single flower of spurges (*Euphorbia*) is, in fact, a very small inflorescence known as a "cyathium", which can easily be mistaken for a typical flower on ordinary plants. This unique inflorescence comprises of several unisexual flowers, with most species having five smaller male flowers surrounding one larger female flower. Unlike traditional flowers, the cyathium lacks petals or sepals; instead, it features variously colored bracts and/or nectaria. There are several *Euphorbia* species in Socotra, some of them are very small, while others are trees (like *Euphorbia arbuscula*). Many are endemic, and the milk (latex) of *Euphorbia* species is often toxic. For more information see <https://euphorbiaceae.org>



The difference between ordinary flowers (left) and cyathia (right) of spurges (genus *Euphorbia*)



Euphorbia schimperi is an endemic which is quite common in Socotra; the flowers are yellow and often visited by bees (photo Petr Maděra)



Euphorbia socotrana inflorescence. This endemic tree only grows in the mountains (photo Hana Habrová)



Euphorbia spiralis is an endemic with green flowers and with spines, common on the limestone plateaus in Socotra (photo H. Habrová)



LAND DEGRADATION QUESTIONNAIRE SURVEY IN SOCOTRA

By Nikola Jurczková

Socotra is a very unique place, and I had the privilege of conducting a questionnaire survey to assess the views of local pastoralists on landscape degradation for my bachelor thesis (at Mendel University, Brno) on the island. My work was very enjoyable as I travelled to the villages and met the locals, mostly herders, who were very kind and friendly. The aim of my research was to find out if the herders were aware of the degradation of the rangelands due to, for example, drought, increase in livestock numbers, change in rainfall, etc.

I visited places like Qalansiyah, Homhil, Shuab, Diksam, Hadiboh, Firmihin and many others. I found that the local people are open to cooperation and very willing to help restore their landscape, which makes me very happy. The people of Socotra are willing to plant trees and to contribute to a better environment. They are aware of tree cover loss, the loss of fertile soil, salinization of the soil, also they indicated that the soil is getting drier, and that the number of young trees is decreasing. However, herders at the same time want to increase the number of their livestock, which does not have a positive impact on grazing pastures especially in woodlands, but this fact is linked to the traditions in Socotra.

Socotra is a fascinating place full of endemics that you won't find anywhere else in the world. I'm grateful that I was able to gather information for my bachelor's thesis here and to enjoy working with the team of local and international scientists who interact closely with local people, with mutual respect.

CONTEXT OF THE STUDY

Overgrazing is one of the main causes of landscape degradation in Socotra. The main objective of the bachelor thesis was to assess the perception of landscape degradation by pastoralists in Socotra based on a questionnaire survey. The island's biodiversity and its ecosystems are strongly threatened. As a result of the development of the island, changes in traditional farming practices and abandonment of tra-

ditional grazing practices are occurring. As a result of overgrazing, there is increased pressure on tree vegetation, and a number of endemic tree species are already threatened with extinction. Domestic goats are well adapted to the climatic conditions and are therefore the most common mammals on the island. They are able to browse various types of plants, including trees, directly affecting bark and tree branches. They can also completely devastate young seedlings. An important factor accelerating Socotra's environmental problems is climate change, which is one of the reasons for increased forest grazing. In total, we interviewed 37 herders (34 men and 3 women) from 12 villages in major areas of Socotra (highlands, lowlands, and all cardinal directions). The interviews were conducted during the course of one month, using questionnaires in Arabic (Oct. 2021), translated into Socotri language by local interpreters during each individual interview. Specific attention was given to the willingness of herders to participate in environmental conservation activities to improve the landscape (restoration activities, or more sustainable uses of rangeland),

THE SOCOTRAN PASTORALIST PERSPECTIVE

The questionnaires confirmed that the Socotran pastoralist is fully aware of landscape degradation and that this currently impacts and threatens forests. According to the people interviewed, it is the increase in drought which is identified the main cause of landscape degrada-

tion (95% of interviewed people), and they perceive a link between overgrazing and degradation as well. Herders are aware of the negative impacts on their livelihoods as a result of landscape degradation but they are unaware of the future consequences and threats to the long-term existence of forests. A large number of pastoralists (81%) is willing to participate in environmental protection activities on a voluntary basis through landscape management and awareness or education activities. It was also clear that pastoralists are willing to reduce grazing in the forest (51%) or reduce the number of their livestock in order to protect the forest (49%), but 35% of them only under financial compensations and others under other benefits (i.e., 51% new job opportunities, 51% fellowships for their children, etc.).



Interacting with the local communities during the field work (photo by Tomáš Kaplánek)

Based on traditional culture,

pastoralists still consider their livestock as a vital commodity. The majority depend on their livestock as the main source of livelihood in spite of 62% of pastoralists who state to be employed, but usually, the salary is only a part of their income. Other forms of land management (than the one currently applied) are considered by herders as very limited due to the extreme climatic conditions, mainly drought.

SUGGESTIONS

The study helps us to understand how the Socotran herders currently perceive landscape degradation and to what extent they

are willing to cooperate in nature conservation and restoration activities.

When implementing future forest protection and rangeland restoration measures, it is essential to respect the needs of local people and their indigenous traditional husbandry practices. Traditional farming practices in the pre-development era allowed for the preser-

vation of a unique and biologically diverse landscape, yet now there are new challenges such as the accumulative effects of climate change. Such new threats require adaptation and resilience, as they put a high pressure on culture and the traditional use of rangelands.

Equally vital is the preservation of cultural heritage, including the Socotri language, which is essential for the transmission of oral traditions to the younger generation. Awareness and highlighting the importance of cultural practices are among the key solutions to help preserve the high degree of endemism and uniqueness of the island.

MORE INFO:

For more info about the results of this study and other recent or ongoing studies on the current impacts of grazing on Socotra, please contact petr.madera@mendelu.cz



FRIENDS OF SOQOTRA AT THE FAWLEY FAIR (UK)

By Francesca Pella

The first fair stand of Friends of Soqatra was set up at the Fawley Farm Fair, Hampshire (UK), Sunday 3rd of July 2022.

Fawley Farm is a popular and locally lively fair, full of children. What better than such a festive occasion to introduce FoS to a (very) young audience? The stand was set up with posters that show the relevant characteristics and components of the archipelago, from its natural resources to the local communities and cultural heritage. Moreover, some of the FoS committee members were

introduced using mini posters, a synthetic way to explain what kind of research or activity they carried out on Soqatra, what role they have in the charity and what the archipelago means to them. To raise awareness of the nature and culture of Soqatra, some old Tayf magazines in English were presented at the stand as well. It was an unusual gazebo for a rural fair, set up





close to others with toys, cakes and biscuits, nevertheless it aroused enthusiasm and interest. The charity has been introduced to more than 40 adults and at least 20-25 children; I answered questions, offering butterfly biscuits and jelly tarantulas - coherent with the subject and linking to Soqotra's biodiversity!

The first question used to invite to approach the stand was "Where is Soqotra?". My friend lent a world globe to me, to better show the geographical position and effectively engage the fair attendants. Children often asked what "endemic" means, few adults were wondering if I was Soqotri. It was a great experience, and I can say that this promotion experiment definitely was worth it. The interest was evident, and the exposure resulted in other requests about seminars about Soqotra and the Charity. The local school head teacher proposed to organise a presentation for the kids, some of the visitors mentioned that they would be interested to be informed more about the archipelago and the activities of FoS.

Many thanks to the people that contributed to the stand, those that share the equipment used, like the gazebo, the tables and panels, and for the donation of the printed and laminated posters, which will be re-used for similar promotion activities.





FOS EDUCATION AND AWARENESS ACTIVITIES IN SOCOTRA & SAMHA ISLANDS (2022)

By FoS team

The mission of FoS includes, among other aims, the promotion of action-oriented research and to provide a source of expertise, assistance and training as well as sharing educational materials for young people of Soqotra. In doing so, FoS cooperates with other organisations or projects which have similar aims. Every year several volunteers of FoS carry out these goals to the best of their capacity, outside Soqotra and on the ground.

During a field visit in (April-March) 2022 and while coordinating with the Frankincense Tree project in Socotra (Franklinia Foundation), several scientists of the FoS committee focused their voluntary efforts and time to these goals and activities of the charity, working together with the local communities of Socotra and Samha Islands. The activities were requested by local communities, local NGOs and approved by the local authorities. FoS organised several environmental awareness and education activities with colleges/schools and local NGOs during this time. The activity each time included general interactive talks about the importance of biodiversity and the uniqueness of Soqotra's nature and culture, and current threats to both marine and terrestrial ecosystems such as climate change. Presentations were enthusiastically given by Francesca, while other FoS members including the Chairperson, attended and joined the activities. The narrative below is after the accounts of Francesca Pella

and Petr Maděra, compiled by Kay Van Damme. These FoS members were carrying out biodiversity conservation activities during this time, including spending voluntary efforts and time on FoS activities.

DISTRIBUTION OF TAYF IN SOQOTRA

Printed copies of the FoS newsletter have been brought to Socotra in the past. Whenever FoS volunteers have been going to Socotra in person and have been willing to carry copies as extra luggage, they have done so. Mendel University (Brno) has covered printing costs for the Tayf issues of the last few years to distribute. Each time these copies have been well-received on Soqotra. The Arabic as well as the English version are of interest, people love the many photographs, and children absolutely love

the kids' section.

In June 2021, six boxes containing older printed issues of *Tayf* (in English and in Arabic) which had been stored at CMEP (RBGE), were handed over by Dr A. Forrest to FoS Secretary Dr Francesca Pella, in Edinburgh (UK). These issues were sorted and the extra copies, on top of the newest ones, were prepared to bring to the islands in 2022. Finally in March 2022, Francesca carried a few kilograms worth of printed newsletters (years 2003-2013 in Arabic and English), while Prof. Petr Maděra carried more recent prints (of the years 2020 in Arabic and 2021 in English) and the remaining batch of T-shirts specially designed for the 20th anniversary FoS conference. These copies were delivered in several places in Socotra, and to several associations and villages, combined with awareness activities.

Moreover, UNESCO (Doha Office) donated a box of large posters with the infographics (in Arabic) from the 2022 book "Man and Nature in the Socotra Archipelago", which were very useful during the awareness activities. In addition to schools and local communities, copies of *Tayf* and the UNESCO posters were distributed to several local NGOs (SSCEF /Socotra Society for the Conservation of Endangered Flora through Mr Salem Hamdiah and Mr Mohamed Amer, Socotra Women Association through Shaikha Mubarak, Al Tamek Association for the Protection of the Mangroves, and Rosh Marine Protected Area Association), to EPA and to the Governor's office. A near-complete set of English and Arabic *Tayf* was donated to the public library of the Language Institute in Hadiboh ("Mahmoun's Institute") where there is a reading room for the students who love to sit and work undisturbed in the communal study spaces. Especially young women in the college use this reading room often.

This is crucial, because even though *Tayf* is available online for free from the FoS webpages in English and in Arabic, it is not possible to download these files or read them online in Socotra because of the currently weak and very expensive internet services. So, *Tayf* in print is very welcome on the island (in English and in Arabic). However, the digital version is well-received too, although Soqotri people have no access to strong internet to be able to read or download from the

website. So, at the end of the visit, Francesca gave extra digital material to the institute, such as articles and FoS brochures in pdf, to answer to the specific requests for further information (the students had expressed this during the meeting). We also gave all digital fauna and flora leaflets of FoS available on the website, and digital copies of *Tayf* to the NGOs and to government authorities (EPA,



FoS donation of copies of *Tayf* to the public library at Mahmoun's Language Institute in Hadiboh (March 30th 2022, Photo KVD)

Governor's Office) for their use in conservation and education activities, and as they requested.

SEMINAR WITH SOQOTRI STUDENTS IN HADIBOH

At the Language Institute in Hadiboh (30th March, 2022), 25 students were present among whom were nine young women. Several of the lecturers permanently stationed at the school (two English-speaking teachers from the USA) also expressed a keen interest in the activity. The UNESCO posters were placed on the wall, and guided the discussion and interaction, which was very dynamic. The discussion was in English, as it was considered as a part of the students' training and to be comfortable to interactively discuss about topics in the language they came to study there. Many of these students go on to become ecotourist guides or teachers. The Soqotri teenage students asked interesting and sometimes, confronting, questions. One student asked, "If sea turtles vanished from the sea forever, what difference would it make?", which led to talking about the roles of these animals in the marine ecosystem. The questions illustrated the continuous need for conservation awareness in



FoS awareness activity at Mahmoud's Language Institute in Hadi-boh, using the infographics donated by UNESCO (March 30th 2022, Photo KVD)



FoS awareness activity at Mahmoud's Language Institute in Hadiboh (March 30th 2022, Photo KVD)

Soqatra, connecting nature to people, to help ensure that the younger generations take care of the environment and the sustainable resources of the islands in a balanced way, as the generations before have done (to the best of their capacity). The seminars at the school were well received, and students and the head of the college expressed the need for more such environmental activities.

SAMHA ISLAND

Printed copies of Tayf were taken by boat to Samha Island (23-24th March) by the FoS and Franklinia teams. Living on one of the outer islands, the community of Samha is quite isolated. Freshwater is scarce (there is

The people of Samha, who are very friendly, were very enthusiastic and wanted to see and read as much as possible in the printed copy about their island. They literally jumped on the few copies and gathered with many to see as much as possible. The children absolutely loved the section with the story and colouring pages in Tayf 17 and the nice photos. During this same visit, the Franklinia team explored the small area where the endemic *Boswellia samhaensis* grows (by drone and on foot), and sat a long time with the local community to establish a nursery at their request in order to improve the chances of survival of this extremely rare tree in the main local village (Samha village). The Franklinia-supported nursery is in fact, the first environmental terrestrial conservation activity involving local communities directly



People of Samha proudly holding Tayf as it contains an article about their own endemic frankincense tree (March 24th 2022, Photo KVD)



Enthusiastic youth from Samha Island reading the children section of Tayf (March 24th 2022, Photo KVD)

only one large reservoir on the island) and living conditions are hard. In Tayf 17 there was an article by Paul Scholte about the discovery of the endemic Frankincense Tree of Samha (*Boswellia samhaensis*) which was described only very recently (in 2020), so we brought especially this issue of Tayf to the island (in Arabic).

in Samha Island. It is also the first time that copies of Tayf reached the people on Samha Island, but not the first time FoS did an activity there. After the cyclones of 2015 destroyed nets and boats of fishermen in Samha, providing their main source of survival and income besides goats, FoS sent a

local engineer from Socotra to do a boat repair workshop and to fix several boats and motors. The living conditions on the outer islands are truly challenging, and the people deserve huge respect for remaining so welcome and kind.



Hemerophis socotrae (Socotra Racer), Samha (March 24th 2022, Photo KVD)

BIRDWATCHING WITH THE SOQOTRA WOMEN ASSOCIATION

Amazing activities were carried out with the Soqotra Women Association, one of the oldest NGOs on Soqotra. The association consists only of women and is led by Chairperson Shaikha Mubarak. A meeting with members of the association was led by Shaikha and Francesca, each time translating the talks from English to Soqotri and back. Men were not allowed in this meeting. It was in an informal setting, at the house of Shaikha's parents, sitting on the ground with 15 Soqotri ladies and one ferenghi (foreigner), using powerpoint presentations, Tayf and the UNESCO posters as discussion guides and just talking about biodiversity. Also here many questions were asked to Francesca (who worked on Socotra reptiles as part of her PhD), such as "You are not afraid of snakes? Why!", explaining that the Soqotri snakes are not poisonous for humans and that they should not be killed because of their functions in the ecosystem. Other questions showed a general interest about the biology of species such as the

life cycle of caterpillars and butterflies, scorpions and birds. The women shared their knowledge about the different names in Soqotri language for several bird species, and their interest in butterflies. The questions and environmental discussions were followed by enthusiastic and funny talks and interactions about research, interesting animals, and why female scientists would want to study reptiles, and the general importance and uniqueness of Socotra's biodiversity.

In the following days, Shaikha, in her function as Chairperson of the Soqotra Women Association, joined FoS and the Franklinia team in the field. Francesca had been carrying around a copy of a field guide for birds and a pair of binoculars, sharing the enthusiasm of birdwatching with Shaikha. Both enjoyed it to a great extent, spending most of the time looking through the binoculars and identifying the birds from the book at Esgego Valley and Firmihin, while the rest of the scientific team was surveying, measuring and counting endemic frankincense trees as part of the standardized surveys. The birdwatching activity was an example of a nice relaxed environmental activity, enjoying aspects of nature that are often ignored, and the special focus and feeling of peace when observing bird behaviour through binoculars.

GHUBBAH MANGROVE REPLANTATION SITE

On the north coast of Socotra, west of Hadiboh and at the village Ghubbah, there is a Mangrove Replantation site that was realised at the request of a local NGO for the protection of mangroves (which have disappeared nearly completely from the north coast), the Al Tamek Association. Al Tamek, together



Joint activity of FoS and the Soqotra Women Association, enjoying birdwatching together (April 2022, Photo KVD)

with FoS, EPA (Socotra Branch), the Arab Centre for World Heritage in Bahrain (ARC-WH) started this restoration area since 2017 with great effort by FoS Vice-Chairperson Haifaa Abdulhalim and Socotra's culture expert Ismael Salem. It is now the only successful mangrove restoration site in the north coast of Socotra that has been continuous for so many years. Each year, FoS visits the site and sits with the local community to discuss progress and sustainability, checking health of the stands, exchange ideas, plans and manage expectations.

Visiting the people of Ghubbah and seeing the mangroves progress, is always very pleasant and engaging. On the 9th of April 2022, FoS visited the site together with the Chair of SSCEF (Socotra Society for the Conservation of Endangered Flora) and the Vice-Chair of Al Tamek. About 80 trees of *Avicennia marina*, grown from seeds from Shuab, have grown a lot even just since the last visit in autumn 2021. Al Tamek suggested to plant more trees, so that the area is filled, but we noted that several trees are producing a lot of seeds by themselves, which are starting to germinate. Protecting those seedlings can reduce the expense and effort of collecting new seeds from Shuab again. The Vice-Chair of Al Tamek also expressed the importance of engaging the local school, bringing children to the site and explaining about the history and importance of mangroves. Some trees were affected by a few leaves having black spots which should be monitored closely.

Together with the field visit to the mangrove trees, Francesca took the Vice-Chair of Al Tamek up to the ridge above the lagoon for birdwatching. Enjoying the binoculars for the first time and spotting some herons, our friend from Ghubbah was very enthusiastic.

LESSONS LEARNED

These activities were truly about sharing joy, fun and learning from each other, not one-way conversations. Soqotri people of local NGOs, local communities and schools/institutes, love and appreciate environmental activities and co-learning, and so do the volunteers of FoS. The people of Socotra are so knowledgeable about their nature and culture, that they are keen

to know more, discuss about it, and engage in conservation awareness activities. But the access to information on Socotra is limited due to the low internet connectivity. Printed copies of the



FoS Chairperson meeting with Soqotri NGOs (SSCEF and Al Tamek Association) discussing activities at the Mangrove Restoration Site in Ghubbah (April 9th 2022, Photo KVD)

Tayf newsletter and other awareness materials, such as the UNESCO posters about marine, terrestrial life and challenges, are useful tools to convey the message about the importance of protecting Socotra's nature now and for the future. Discussing informally on the ground in a circle is the Soqotri way, and therefore posters are very useful for demonstration and guiding discussions, more than PowerPoint presentations or other modern tools for which the facilities are not always available. FoS will continue its efforts to raise awareness, internationally and locally about Socotra's amazing nature, from the largest tree to the smallest animals.

ACKNOWLEDGEMENTS

There are many people to thank for support and help for these activities, including members of the local NGOs that led the activities (SSCEF, Socotra Women Association, Al Tamek), EPA and the Governor's office for their support (and their positive reaction to receiving copies of the Tayf newsletter), and all the people who have contributed to the various activities on the ground during general FoS-connected awareness activities and translations from Soqotri and Arabic to English and back, including Shaikha, Salem H., Mohamed Amer, Mahmoud, and many others, including Franklinia Foundation and Mendel University. And all our FoS members and volunteers, who continue to support these vital activities for nature protection in Socotra.



FoS meeting with Al Tamek Association and birdwatching at the Mangrove Restoration Site in Ghubbah (April 9th 2022, Photo KVD)



Joint activity of FoS and the Soqatra Women Association, enjoying birdwatching together in Firmihin (April 2022, Photo KVD)

Mangroves grown from seedlings in Ghubbah have become proper trees after six years (March 30th 2022, Photo KVD)



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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FoS Website

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
well. All financial reports and account
information are public on the website.

*If you would like to submit content for the
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