March 2020, Newsletter 7

IN THIS ISSUE

Featured Species

Kori Bustard

Ardeotis kori

Kori Bustard (Eng.); Jugley (Som.)

Kori Bustards are the largest flying birds in Africa. Adult males weigh 8-20 kg, the average weight being around 11 kg. Although they can fly, Kori Bustards prefer to run, flapping their wings as they do so. The Somali name, "Jugley", refers to the sound generated by their wings.

Kori Bustards used to be a fairly

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Environmental Overview of the Galxiddigaale Walk

Ahmed Ibrahim Awale

On 11 February 2020, I was lucky to be a part of a team of nine nature enthusiasts, (including internationals), who ventured on long (78 km) walk that started at the famed Laas Geel Rock Art site and ended in Bulahar, a town on the coast of the Gulf of Aden. The trip was organized by Hargeisa Cultural Center (HCC). The three day trek passed through four of Somaliland's ecological zones: Ogo, Golis Mountains, the sub-coastal, and the coastal (*Guban) zones.* As we walked, differences in the composition of the floral and faunal communities within each zone became easy to sense and see.


Galxiddigaale pool

One of the most spectacular features we saw during the walk was the Galxiddigaale permanent pool on the bank of one of the main tributaries of the Waaheen seasonal watercourse. Its name refers to its dark, blue and deep permanent water which reflect the stars during moonless nights. At Galxiddigaale, three seasonal watercourses which drain the Golis Range, from Gacan Libaax Mountain in the southeast, and Dhaboolaq west of Hargeisa meet to form the Waaheen watercourse. During the rainy season, these watercourses carry billions of liters of water to the sea. Wonderful tales are told about the pool, including that it has a subterranean connection into the sea (approximately 55 km away to the north). There is no evidence that this is the case.

We were fortunate. 2019 was exceptionally wet. It saw a record of eight cyclones, culminating in Tropical Storm Pawan in the first part of December. This was in marked contrast to the many preceding years which had been marked by drought, sometimes severe drought. The impact on the vegetation was evident throughout

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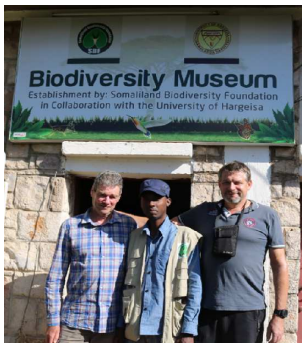
Apocynaceae in Somaliland

Peter Bruyns

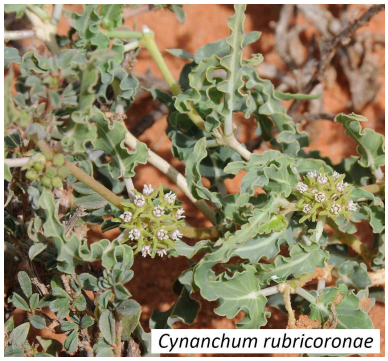
In October 2019, Pavel Hanáček (Mendel University of Brno, Czechia) and I (University of Cape Town) spent two weeks in Somaliland investigating species of *Apocynaceae*. We were accompanied by Faisal Jama (University of Hargeisa's Biodiversity Museum). Our journey began in Hargeisa and took us first to Berbera, then to Las Dawo, Hudiso and Sheikh. We spent some days exploring around Sheikh and then went on to Ga'an Libah and Burao. From Burao we travelled north-east to Suqsada and Gebo Gabo and also southwards to Ceeg. After this we returned via Odweine.



Left to right: Peter Bruyns, Faisal Jama, Pavel Hanáček .

The *Apocynaceae*, with around 90 species, is about the sixth largest plant family in Somaliland. Because of the dry climate, about half the species are stem-succulents. Most belong to the group traditionally known as stapeliads, all of which are now placed in the genus *Ceropegia.* A few stem succulents, such as *Adenium obesum* and *Cynanchum viminale*, are not stapeliads.

The rainfall before our visit had been average but not exceptional. Nevertheless, virtually everywhere we went was green, the succulents were plump, and many geophytes were in full growth. This last meant Faisal was able to collect several for the Herbarium's succulent garden which we would otherwise not have seen. Among these were many of the ephemeral, geophytic species such as *Raphionacme borenensis* and several small members of *Cynanchum*.


Cynanchum rubricoronae

Stapeliads were evident in many places where we stopped but were most plentiful and most diverse on the escarpment. Some species, such as *Ceropegia virchowii* and *C. ahmarensis,* were restricted to the top of the escarpment whereas others grew at many different elevations on it. There were fewer species on the rocky areas south of the escarpment and hardly any in the relatively uniform sandy flats further south. Very few of the stapeliads we saw were in flower. Most occurred only as scattered individuals but, where grazing pressures were high, the populations were larger.

The flora of Somalia was investigated before Somaliland declared its independence from Somalia, so less time was spent by botanists there than in Puntland and Southern Somalia. Despite this, they seem to have found most of the *Apocynaceae* species present, but many were known from only a few sites. Thus, the main aim of our work was to develop better knowledge of species distributions in Somaliland. Two examples of species for which we obtained better knowledge are *Ceropegia watsonii* and *C. malum.*

Prior to our visit, *Ceropegia* (*Echidnopiis*) *watsonii* was known in Somaliland only from a collection made between Hargeisa and Borama. On our study Pavel found it near Suqsada. This extends its known distribution many kilometres to the north-east, a most unexpected result.


Apocynaceae: *Ceropegia malum*, a geophyte

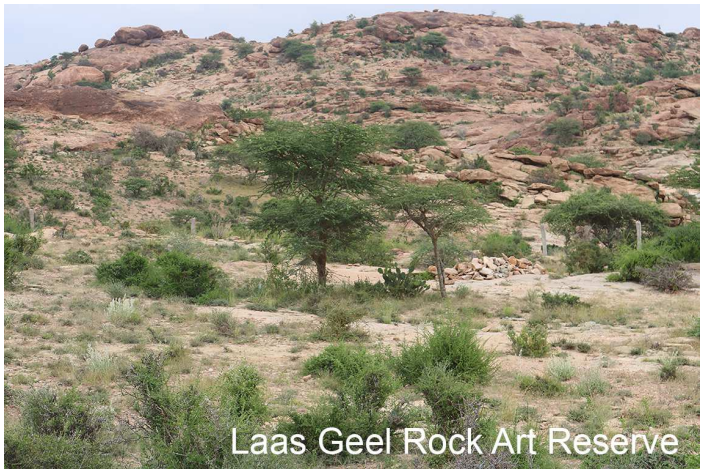
Ceropegia (*Echidnopisis*) *malum* was known to be widely distributed in the Horn of Africa, but there were only two known sites In Somaliland. one near Mayt and another near Hudiso. It is, however, an extremely inconspicuous plant, usually growing beneath other shrubs with its prostrate branches partly buried in the soil. When dry, the branches become dark, almost black, resembling dried twigs, and are often covered by sand. In moist conditions, however, the branches swell up, throw off the attached sand grains and become green, making them more visible. The rains that preceded our trip revealed that it is a common species in Somaliland. We saw it at nearly every stop north of the escarpment and it is even fairly plentiful in the hills around Hargeisa.


Glossonema revoillii

Image of team members by Jamal Abdikarim, of plants by Peter Bruyns.

Biodiversity of the Laas Geel Rock Art Reserve

Mary E. Barkworth



Laas Geel is the site of remarkably well-preserved petroglyphs. Somaliland's Ministry of Trade, Industry and Tourism is working to their ensure preservation while promoting the site's tourism potential. One of its first actions was to fence off and guard the area immediately around the petroglyphs, thereby protecting it from large animals (including humans). In doing so, it created an opportunity for studying the area's biodiversity and its response to reduced grazing pressure.

In August 2019, the Somaliland Biodiversity Foundation submitted a proposal for monitoring, in collaboration with the Ministry of Environment and Rural Development, the plant diversity both inside and outside the fenced area. Specifically, the Foundation proposed developing a documented list of all the plant species in the fenced area, setting up permanent monitoring stations both inside and outside the reserve, and preparing illustrated checklists, posters, and booklets about the area's flora.

Field study in late 2019, showed several plants that looked, judging by their relatively long young shoots, to be benefitting from the protection the fence provides from browsing animals. In addition, grasses seemed to be more much more conspicuous within the fenced area than outside. Ahmed Awale was particularly struck by the presence of *Andropogon kelleri* ('Duur'), which used to be more abundant in Somaliland. It has many traditional uses, for example, the weaving of grass mats that go into the Somali hout (Aqal), and shading water cisterns to reduce evaporation. In addition, its stems were used as pens when using wooden tablets for Quranic (Koran) education.

Another noteworthy finding was a healthy plant of *Maytenus undata* ('Ulayar'). This species is also becoming rare as a result of overbrowsing. We are posting a checklist of species from the area to https://OpenHerbarium.org (see "Flora Projects/Somaliland"). So far, the list includes 88 species.


Celastraceae: Maytenus undata

SBF's proposal concerned only plants but we have asked others to help us develop similar information for other groups. Both Osman Gedow and Tomáš Mazuch immediately agreed to do so. Osman, who provided many records for Ashe and Miskell's (2013) *Birds of Somalia*, visited the site in November 2019 and promised to revisit the site on future visits to Somaliland.

Tomáš immediately sent a list of the amphibians, reptiles, scorpions, and mammals he saw at the site between 2010 and 2017. Both checklists can be found at OpenZooMuseum.org. Click "Flora projects/Somaliland" to see them. Yes "flora" will be changed to "Fauna" soon. To see a combined list of animals, select "Laas Geel Fauna—all taxa".

These three checklists are in a very early stage of development. Future site visits will undoubtedly lead to additions. One point to emphasize: the checklists themselves are not our primary goal, but they are the critical first step towards that goal, development of resources about Somaliland's biodiversity that can be used in its schools and colleges, by its ministries, and the general public.


Agamidae: Agama somalica pregnant female

Images from Mary Barkworth (site), Ahmed Ibrahim Awale (*Maytenus*), Faisal Jama (*Agama*).

Venomous Snakes in Somaliland

Tomáš Mazuch

Venomous snakes are members of the Suborder *Serpentes.* They all produce venom, which they use for killing prey, for defense, and to assist with digestion of their prey. The venom is typically delivered by injection using hollow or grooved fangs, although some venomous snakes lack well-developed fangs. Not all venomous snakes are dangerous to humans. To be so, they must produce large amounts of strong venom and have effective fangs (Wikipedia 2020).

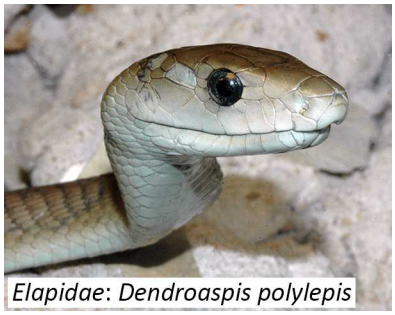
Somaliland has about 52 snake species. Of these, about half are venomous (=have venom glands) but only 12 of these venomous species are potentially dangerous to humans (Table 1). This means they produce enough venom that is strong enough to endanger lives of humans and that they have sufficiently well developed fangs to inject it into a human. Other venomous snakes fail to meet one or more of these criteria.

Of the 12 dangerous species. *Hydrophis platurus* (Yellow-bellied sea snake) is rarely encountered because it spends its whole life in sea water, including the Gulf of Aden. This means it is rarely encountered.

The most widespread dangerous venomous snakes in Somaliland are the four species of *Atractaspis*, the Burrowing asps. Despite this, they do not cause many fatal bites in Somaliland because they are nocturnal, secretive, and spend much of their time underground in holes.

Lamprophiidae: *Atractaspis fallax*

Two large, less wide-spread dangerous species in Somaliland are Black Mamba (*Dendroaspis polylepis*) and Boomslang (*Dispholidus typus*). The Black Mamba can be as much as 3.2 m long but it is a shy and fast-moving snake. It is most common in the Ogo Mountains and Haud Region of Somaliland. It is both arboreal and terrestrial. I am not aware of any recent observations of it, nor of any bites. It only attacks humans if it is threatened or cornered.



Elapidae: *Dendroaspis polylepis*

Table 1. Dangerous venomous snakes of Somaliland

Family	Scientific name	English name	Somali name	Comments
Colubridae	*Dispholidus typus*	Boomslang		Large, arboreal
Elapidae	*Dendroaspis polylepis*	Black Mamba		Large, arboreal & ter-restrial; very rare
Elapidae	*Hydrophis platurus*	Yellow-bellied sea snake		Open sea
Elapidae	*Naja haje*	Egyptian cobra		Bites
Elapidae	*Naja pallida*	Red spitting cobra		Bites and spits
Lamprophiidae	*Atractaspis fallax*	Peters burrowing asp	Jilbis	Nocturnal, secretive, spend much of their time in underground holes.
Lamprophiidae	*Atractaspis leucomelas*	Ogaden burrowing asp	Jilbis	
Lamprophiidae	*Atractaspis magrettii*	Magretti's burrowing asp	Jilbis	
Lamprophiidae	*Atractaspis scort eccii*	Somali burrowing asp	Jilbis	
Viperidae	*Bitis arietans somalica*	Somali puff adder	Abguri	Africa's largest viper
Viperidae	*Echis hughesi*	Somali carpet viper	Abeeso	Small , pale viper
Viperidae	*Echis pyramidum*	Northeast carpet viper or Saw-scaled viper	Abeeso	Small but one of the two worst

Venomous Snakes (continued)

The Boomslang is smaller, averaging 1.2-1.5 m long but sometimes reaching 2.1 m. It is almost totally arboreal, diurnal and usually not aggressive. It was recorded from Hargeisa (Parker 1949), but I am not aware of any recent observations or bites from it. The picture is of an adult with green coloration. There are many different color phases.


Colubridae: Disphodelus typus

Two other species in the *Elapidae* are *Naja pallida*, the Red Spitting Cobra and *Naja haje*, the Egyptian Cobra Bites from both species can be fatal but the Red Spitting cobra can also spit venom.

The Red Spitting Cobra is very common in Somaliland, living in all regions. It can become as much as 1.5 m long. Despite its name, it is usually olive-brown in Somaliland but specimens from further south in the Horn of Africa are often red. It has frequently caused serious problems in recent years.


Elapidae: Naja pallida


Elapidae: Naja pallida

The Egyptian Cobra is difficult to distinguish from the Red Spitting Cobra but only the Egyptian Cobra has scales around its eyes (red arrow in lower picture). Little is known about its distribution in Somaliland but most specimens have come from the Ogo Mountains.


Elapidae: Naja haje


Elapidae: Naja haje

The remaining three species of dangerous venomous snakes in Somaliland are all species of in the family *Viperidae.* All are called "Abeeso" in Somali. One, *Bitis arietans somalica*, the Somali Puff Adder, is Africa's largest viper, sometimes growing to 1.85 m long although most are smaller. Somalis refer to it as the "large Abeeso". It is widespread, being well known in all regions of Somaliland and much of Africa. Somalilanders have told me that they have often seen them around their dwellings. Despite this, I have heard no recent reports of bites from these species in Somaliland.


Viperidae: Bitis arietans somalica

Both the other two vipers found in Somaliland, *Echis hughesi* the Somali carpet viper, and *Echis pyramidum*, the Northeast Carpet Viper, are known in Somali as Small Abeeso. They are small snakes, having a maximum size of 80 cm. The Somali Carpet Viper occurs in the Sanaag and Sool Regions of Somaliland but it is much more common in Puntland and Central Somalia. I am not aware of any recent observations or bites from the Somali Carpet Viper.

The last species is the Northeast Carpet Viper. It also has the worst reputation of all Somaliland's venomous snakes. It occurs only in the Guban area of Somaliland, extending from Djibouti to Puntland along the coast of the Gulf of Aden. It is a nocturnal species that lives In hot areas at elevations of 0-900 m. Northeast Carpet Vipers are small but aggressive snakes that do not avoid humans.


Viperidae: Echis pyramidum

To summarize: based on my observations the majority of snake bites in Somaliland are caused by two species, the Northeast Carpet Vipers in hot areas near the coast and Red Spitting Cobras in mountainous and inland areas. The Boomsland and Black Mamba, despite their size, are responsible for very few bites.

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Parker, H.wW. (1949), The snakes of Somaliland and the Sokotra Islands. Zoologische Verhandelingen 6: 1-115.

Wikipedia (2020). https://en.wikipedia.org/wiki/Venomous_snake. *Accessed 23 February 2020.*

Images by Tomáš Mazuch except *Naja pallida* from Ethiopia by Pavel Novak and *Naja haje* (whole animal) by Ahmed Kadleya.

Birds of the University of Hargeisa

Osman Gedow Amir

Birds are an integral, and often conspicuous, part of the world's terrestrial ecosystems. They are also known for their ability to warn of environmental problems. In 1911, coalminers started carrying canaries into the mines because they are more sensitive to poisonous gases than humans. If their canary died, the miners left the mine as fast as possible. Rachel Carson started work on *Silent Spring*, the book that led to restrictions on the indiscriminate use of pesticides, in response to a letter about the number of dead birds in an area sprayed with DDT to kill mosquitoes. Today, long term data from bird counts are being analyzed for the trends they show. The number and diversity of bird species in a count reflect the diversity of habitats present and show how species are responding to change.

0n 24 February 2020, Faisal Jama, of the Biodiversity Museum, University of Hargeisa, and I conducted a bird survey within the compound of University of Hargeisa. It took us two hours and fifteen minutes to complete a listing of the birds seen on that occasion. We identified twenty species, and made 44 observations during the exercise (see below). Subsequent visits, particularly if conducted at different times of year, will undoubtedly increase the number of species seen.

Birds in and around the University of Hargeisa, 2020-02-24

Family: Accipitridae
White backed Vulture, (*Gyps africanus*)

Family: Columbidae
Speckled Pigeon (*Columba guinea guinea*)
Namaqua Dove (*Oena capensis capensis*)
Red eyed Dove (*Streptopelia semitorquata*)
Ring-necked Dove (*Streptopelia capicola somalica*)
Laughing Dove (*Streptopelia senegalensis senegalensis)*

Family: Apodidae
Little Swift (*Apus affinis affinis*)

Family: Upopidae
Eurasian hoopoe (*Upupa epops epops*)

Family: Hirundidae
Eurasian Barn swallow(*Hirundo rustica rustica*)
Ethipian swallow (*Hirundo ethiopica amadoni*)

Family: Pycnonotidae
Somali Bulbul (*Pycnonotus barbatus somaliensis)*

Family: Muscicapidae
Pied wheatear (*Oenanthe pleschanka*)

Family: Corvidae
Cape crow (*Corvus capensis kordofanensis*)

Family: Sturnidae
Greater Blue-eared Starling (*Lamprotornis chlybaeus cyaniventris*)

Family: Passeridae
Swainson's Sparrow (*Passer swainsonii*)

Family: Ploceidae
Ruppell's Weaver (*Ploceus galbula*)
Northern Chestnut Weaver (*Ploceus rubiginosus rubiginosus*)

Family: Estrildidae
Red-billed Firefinch (*Lagonosticta senegala somaliensis*)


Upopidae: *Upupa epops epops*


Columbidae: *Streptopelia semitorquata*


Ploceidae: *Ploceus galbula*

For further information, see:

Silent Spring on Wikipedia (https://en.wikipedia.org/wiki/Silent_Spring)

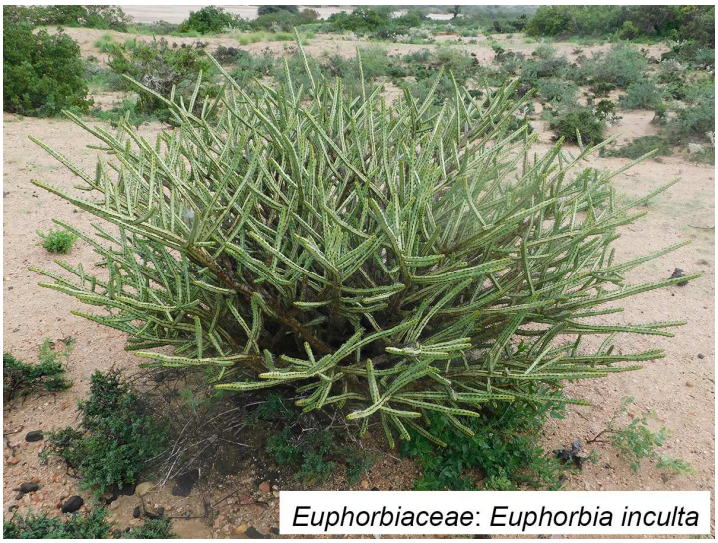
Carson, Rachel (1962). *Silent Spring*. Houghton Mifflin Co.

All images by Osman Gedow Amir

Galxiddigaale walk (continued)

the walk. Nevertheless, the years of drought combined with overgrazing has caused a drastic reduction in many palatable species, grasses in particular, resulting changes in the composition of the pasture. For example, *Iphiona rotundifolia* ('Gagabood') has taken over large areas, displacing many palatable shrubs and herbs.

Even though I did not want to be left behind by my companions, I could not help taking time to enjoy the high species richness along our route. Among the many species I saw in large numbers were *Euphorbia inculta* ('Dibow') in the area of Galxiddigaale. Also, I could not resist collecting *Odontanthera radians* ('Sobkax'), a member of the *Apocynaceae* family, which is found in the coastal and sub-coastal areas of Somaliland. I also collected another member of the family, which initially looked like *Glossonema varians,* known from the Middle East and Central Asia, but it had peculiar leaves. We shall be asking experts on the group for help with its identification.



Euphorbiaceae: *Euphorbia inculta*

The wide coastal plain between Faruur and Bulahar is dominated by *Balanites rotundifolia* ('Kulan') interspersed with *Boscia miminifolia* ('Maygaag'), but there has been a decline in *Vachellia tortilis* ('Qudhac') compared since 2006, when I conducted a study in connection with a climate change study of the coastal areas of Somaliland.

Very picturesque mountains, some with peculiar shapes, marked the landscape along the walk, making the mind and weary muscles rejuvenated with renewed energy and making the trip enjoyable. Some of the wildlife observed include Soemmerring's gazelle, Waller's gazelle, the tiny dikdik, the rabbit, rock hyrax, foxes, tortoises, baboons, and a number of reptilian species.

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Candlelight (2011). Perennial Plant Mortality in the Guban Areas of Somaliland, Candlelight/Heinrich Boell Foundation Study.

Candlelight (2006). Proliferation of Honey Mesquite (*Prosopis juliflora*) in Somaliland.

Apocynaceae: *Glossonema* sp.

All images by Ahmed Ibrahim Awale

Kori Bustard (cont).

common in Somaliland, but it is now "near threatened" (IUCN 2020). The major threats to it come from hunting and habitat loss. This lone bird was seen by Ahmed Awale on the Banka Ununuf Plain, about 75 km east of Hargeisa., on 6 March 2020.

Kori Bustards are non-migratory but will travel significant distances in search of food and water. They consume both animal and plants but their primary food is of animal origin: insects and small mammals, reptiles and other birds. They supplement their diet with seeds, berries and, occasionally, gum of the Acacia trees. They are, in turn, hunted by animals larger than themselves.

Kori Bustards are most abundant in two regions of Africa, the Horn of Africa, including Somaliland, Somalia, Ethiopia, Kenya and Tanzania and a more southern area, that includes Botswana, Zimbabwe, Namibia, Angola, South Africa, and Mozambique. There are two subspecies. The full name of the northern subspecies, the one seen in Somaliland, is *Ardeotis kori struthiunculus.*

For more information see:

Wikipedia (https://en.wikipedia.org/wiki/Kori_bustard)

Collar, N. & Garcia, E.F.J. (2020). Kori Bustard (*Ardeotis kori*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E. (eds.). *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona. (https://www.hbw.com/node/53714 on 16 March 2020).

Second Cheetah Safe House Opens in Hargeisa

Mary E. Barkworth

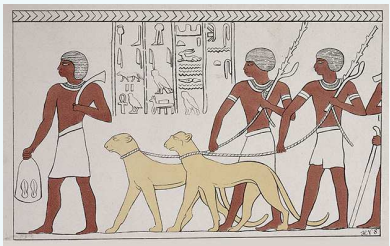
On 1 March 2020, Laurie Marker, Director and Founder of the Cheetah Conservation Fund (SSF), and Minister Shukri Bandare, of Somaliland's Ministry of Environment and Rural Development (MoERD) and the special guest of honor, Vice President Abdirhman Saylici, opened the second cheetah safe house in Somaliland.

Laura Marker

The second safe house meets two important needs: it has enough space for young cheetahs to play in and facilities for training people in all the skills required for restoring rescued cubs to health. As Marker explained, "Our goal is to have local veterinarians and caregivers capable of providing services without 100% supervision". Rescued cubs are usually in appalling condition, suffering from a combination of dehydration, starvation, disease, broken bones, and other problems. Their immediate need is for urgent medical care but this has to be followed by long-term care. The new safe house is, therefore, an important step in enabling Somaliland to care for and manage an important element of its biological heritage.

Minister Shukri & VP Saylici tour the facility

The event featured speeches by several dignitaries plus a tour of the facilities. VP Abdirahman Saylici emphasized the need to stop the illegal wildlife trade. and, after touring the facility, thanked all those whose efforts had made it possible and pledged the government's continued support for its efforts. Cheetah cub smuggling is driven by their value as pets in Arabian Peninsula where they are valued as status symbols. This importance is not new. They appear in sculptures dating from Egypt's New Kingdom (16th to 11th centuries BCE) and in many later paintings and accounts, sometimes as valued state gifts.



Cheetahs in Ancient Egypt

The problem is that the number of cheetahs in the wild has dropped dramatically In the early 1900s, there were about 100,000 cheetahs in the world. Today there are about 7000. Without conscious conservation efforts, they are likely to become extinct.

The major threat to cheetahs is habitat loss. They can live in many habitats if there is sufficient prey and not too many predators. The ideal habitat seems to be large open areas with some cover from. This allows cheetahs to stalk and pursue their prey while minimizing the risk of encountering larger carnivores. Establishment of safe houses does not restore or create habitat, but it is important to the species' conservation and will increase opportunities for people to learn about these fascinating animals.

Images from Cheetah Conservation Fund (Laura Marker & tour), Wellcome Collection gallery via Wikipedia (Cheetahs in

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