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CHEETAH CONSERVATION IN THE HORN OF AFRICA – NOTES AND THOUGHTS IN THE LIGHT OF FIELD EXPERIENCES

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Abstract

The future of many of the emblematic species of the African continent is facing enormous challenges in our modern, tumultuous world. Yet, there is a growing number of conservation participants whose perseverance and dedication show an excellent example for the coming generations. This article intends to present the cheetah as a flagship species of the African landscape, to provide a general overview of its conservation, and to introduce the work of the Cheetah Conservation Fund (CCF), the major organization committed to protecting the species. It aims to do so based on personal field experiences in CCF's facility in Somaliland, putting the conservation effort in the political-economic context of the Horn of Africa.

Keywords

cheetah; conservation; Somaliland; Hargeisa; CCF

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Introduction - About the cheetah

Predators in the African wilderness play a crucial role in regulating the ecosystem by controlling the number of herbivores. As they are at the top of the food chain, they are sensitive to environmental changes and serve as good indicators of overall ecosystem health. Among all predators, the cheetah is perhaps the most delicate. With its slender and light body, long legs, non-retractable claws and small head, it is designed for short bursts of high-speed chases on the open plains, which makes it perfectly suitable to occupy a niche, albeit at the very end of the predator-hierarchy. The same characteristics that make the cheetah so attractive, elegant, and a successful hunter also make it highly vulnerable not only to other predators such as lions, spotted hyenas, and leopards, but to larger prey species as well. The tusk of a warthog or a kick from a zebra during a hunt can cause serious, sometimes even fatal injuries. Cheetah numbers vary in the wild according to available suitable environments, prey animal density, and lion population sizes. The cheetah faces many challenges, including habitat loss, hunting, persecution, and illegal wildlife trafficking. Its population has continuously declined, with over 90% of its historic range lost and only around 7,000 individuals remaining in the African savannahs (Durant et al., 2017). Additionally, there is a small and fragile population of Asiatic cheetahs in Central Iran. Due to these factors, the IUCN classifies cheetahs as vulnerable.

As commonly known, the cheetah is a member of the order Carnivora, whose ancestors can be traced back to the Miacids (genet-like small mammals) in the early Paleocene era. This group soon split into the known sub-orders of Caniformia and Feliformia, the latter having given birth to the true cats to which the cheetah belongs. It is, at present day, the only existing predator that is specialized for sprinting. Still, its skillset is not without precedent in the evolutionary history of the felids: according to fossil findings, the striking resemblance of the skull of the *Dinaelurus* led experts to think that this species that emerged approximately 30 million years ago – though not a member of the cat family, but the extinct branch of the *Nimravidae* – may have been a "proto-cheetah" with very similar physical features. The global trend of gradual cooling and the opening-up of closed habitats in the late Miocene and Pliocene eras may have helped give rise to a predator more adapted to a cursorial lifestyle. The modern cheetah appeared approximately 1,9 million years ago, and its fossils are restricted to East Africa (Van Valkenburgh, 2018). Still, there were multiple cheetah species present across the globe at the time: the giant European cheetah (*Acynonix pardinensis*) weighed almost twice as much as its present-day counterpart, and the North American *Miracynonix* retained the ability of fully retracting claws from their common *Pseudaelurus* ancestors (Adams, 1979). It survived up until the dawn of the Holocene era. This animal may be important for understanding the seemingly surprising results of molecular analyses that group the cheetah in close relation with the puma (*Puma concolor*) and the jaguarundi (*Puma yagouarundi*) - providing an argument for the possible American origin of the present-day cheetah (Hunter, 2007). The wave of extinction in the late Pleistocene era that washed away the European and American megafauna, including the European cheetah and the

Miracynonix, resulted in a genetic bottleneck on the sole surviving cheetah species, causing increased genetic fragility and elevated level of exposure to the detrimental effects of diseases (Menotti-Raymond, 1993).

The cheetah's historical range spread over the African continent (except for the Congo Basin and the Sahara Desert) and stretched from the Arabian Peninsula to Eastern India. They were easily tamed and showed little aggression towards humans. Because of these traits, combined with their speed and effectiveness as predators, they became ideal hunting companions. Ancient Egyptians tamed and used cheetahs for hunting and as pets. This practice was popular among noblemen from Genoa and Venice, the Middle East, and China (Allsen, 2006). The tradition pinnacled in 16-17th century India, where cheetahs and caracals were used for hunting, and Akbar, the ruler of the Mughal Empire, is said to have kept over a thousand cheetahs at a time. He had nearly 40,000 "khasa" for coursing during his half-a-century reign. To keep their "sharp" hunting skills, they were not bred but were continuously taken "fresh" from the wild instead; the constant removal of individuals in such large numbers was a contributing factor to the decline of the species in the Deccan (O'Brien, 1986).

Large-scale human persecution of wildlife – including the cheetah and other cats – on the African continent started as a result of the shift from a traditional lifestyle to an agricultural one, which was magnified under European colonial rule (Schreber, 1775). Even in protected areas, such as national parks (the first of them being the Kruger in the 1890s), large carnivores were heavily persecuted as vermins that threaten protected game (Linnell et al., 2001; Woodroff & Ginsberg, 1997). In addition, the demand for the supply of animals for zoos put pressure on cheetah populations due to their poor breeding success in captivity (Marker-Kraus et al., 1996). It wasn't until the 1970s when the first efforts of cheetah conservation took place, following the results of the studies on wild cheetahs published by George Schaller (Schaller, 1968), Randal Eaton (Eaton, 1974), and Norman Myers, who had already voiced his concerns over the exponential growth of human population in Africa, and the gravity of human-wildlife conflicts resulting from it (Myers, 1975). The cheetahs threatened livestock, so farmers trapped and killed them whenever possible. To protect cheetahs captured in these conflicts, Pretoria Zoo, in partnership with Anna Van Dyk, created the De Wildt Cheetah and Wildlife Center in 1971, which later became one of the most successful breeding centers for the species (Marker-Kraus, 1990). IUCN's CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) in 1975 prohibited sourcing cheetahs from the wild for zoo exhibits; as a consequence, zoos started to pay more attention to breeding programs, promoting conservation and educating the public. Safari parks were established in the United States and strived to provide more suitable, better environments for captive cheetahs, thus increasing their lifespan, quality of life, and breeding success. In the 1980s, genetic research discovered the loss of gene diver-

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sity – due to the infamous ”bottleneck” – in the cheetah (O’Brien et al., 1983), and a species survival plan (SSP) was developed by the American Association of Zoos and Aquariums (AZA). Meanwhile, studies of wild cheetahs continued in Africa, conducted by Tim Caro, David Drummond, and others. Throughout the next two decades, several states native to the cheetah started to pay more attention to the conservation of the species - Kenya, Zimbabwe, and Botswana introduced projects or conservation programs dedicated to the cause (Marker et al., 1998). NGOs were established that have been relentlessly fighting for the survival of this emblematic animal: the Iranian Cheetah Society (ICS) was born in 2001, the Cheetah Outreach near Cape Town in 1997, yet the forerunner to all was the Cheetah Conservation Fund established in 1990 by Dr. Laurie Marker in Namibia, a country that had just proclaimed its independence from South Africa.

Cheetah Conservation Fund

CCF is now one of the world’s longest-running conservation NGOs, whose goal has been to tackle issues that threaten the survival of the cheetah, raise awareness worldwide of these issues, develop tools to help mitigate human-wildlife conflicts in the cheetah range, educate local communities and the general public about conservation, contribute to genetic research, fight illegal pet trade, and provide care for cheetahs rescued from wildlife trafficking.

With an extended network of affiliates worldwide (Australia, Canada, France, Italy, Netherlands, UK, US), its primary field headquarters are situated on the opposite ends of the African continent – Namibia and Somaliland, respectively. Both centers focus on different tasks according to the specific issues in and around their locations. The Conservation Center in Namibia was established adjacent to

the Waterberg Plateau Park, a national park in the central part of the country. Here, their programs are focused mainly on human-wildlife conflict and habitat loss. The organization tries to help rural communities gain solutions that benefit all parties – farmers, domestic animals, and wildlife. It is essential because livestock and game farmers halved the cheetah population of Namibia in the 1980s, in a country that still serves as a stronghold for free-roaming cheetahs due to its low density of people and vast unfenced semi-arid areas. Since 1994, CCF has been breeding livestock guard dogs – Anatolian shepherds – at their model farm to help local farmers protect their herds and improve their attitude towards predators by reducing preventive or retaliatory killings (Rust, et al., 2013). The program has proven successful, reducing livestock loss to predators by up to 90% (Marker, et al. 2021).

The model farm focuses on researching and promoting predator-friendly livestock and wildlife programs. It includes a creamery producing goat cheese from goats guarded by the facility's guard dogs. Additionally, there is a Biomass Technology Demonstration Center on-site. The complex is known for its research center, veterinary clinic, and Africa's only in situ genetics laboratory at a conservation facility. This laboratory plays a crucial role in understanding cheetah gene flow and geographical patterns of genetic variation. The research at CCF covers a wide range of activities, including studies on cheetah populations and densities, other carnivores such as caracal and brown hyena, as well as large herbivores like elephants, black rhinos, and buffalo. The research also involves international collaborations, disease studies on babesia and amyloidosis, illegal wildlife trade, and scat analyses using scat detection dogs to locate cheetah scat in the field.

To fulfill as many of the goals of CCF's mission as possible, an education center and a cheetah museum are open to visits from students and school groups; moreover, the organization's facilities provide specially designed programs for youth officials, teachers, health officials and farmers.

The Cheetah Conservation Fund and Dr. Marker have been reaching out from Namibia to cooperate with conservation organizations in other countries covering the cheetah range, such as Kenya, Tanzania, Botswana, South Africa, Iran, and even India, where a plan has been formed with the help of the Wildlife Trust of India and the government to reintroduce the cheetah to certain protected areas of its former range.

CCF in Somaliland

CCF's second African facility in Somaliland has to face quite a different political-economic environment and tackle issues accordingly.

The Horn of Africa has been a turbulent region throughout modern history (Molnár, 2014; Marsai, 2016; Marsai & Tarrósy, 2022). Muslim kingdoms were already established in the early Islamic period (Lewis, 1955), and independent sultanates controlled the area of modern-day Somalia until the arrival of European colonizers. One of them, the Isaaq Sultanate, was established by a clan of the same name, and the Isaaq is still the dominant clan of Somaliland, making up 80% of its population (Wiafe-Amoako, 2018). Being a challenging environment, a rough and bare desert,

the region did not raise much European interest for a long time. It was only after the Berlin Conference in 1884 that European powers felt entitled to colonize the region, just like the whole of Africa, on a 'first come, first serve' basis. The British, expanding from their ports across the Red Sea, established the British Protectorate in the north, while Italy took hold of the southern territories (Ledesma, 2020). France was marginally present in the region as well, controlling Djibouti. The very different approaches of the colonizers to managing colonial administration and the conflict between the idea of 'statehood' and the loose, clan-based understanding of kinship, territory, and culture of the Somali people led to (not so) invisible divisions that are felt today. They made it extremely difficult after the formal withdrawal of the Europeans to maintain a united Somali state. The first half of the twentieth century saw numerous bloody conflicts in the region, from the Dervish Wars through the East African Campaign of the Second World War to Sheikh Bashir's rebellion (Jama, 1996). The wave of independence of African nations in 1960 brought along the merging of the Trust Territory of Somaliland and British Somaliland (more precisely, the 5-day-old State of Somaliland) to form the independent Somali Republic. After a few relatively peaceful years, Mohammed Siyad Barre took power through a coup d'etat and held on to it for 22 years. Gerard Prunier describes in his book 'The Country That Does Not Exist – A History of Somaliland' the social-political-ideological context of the conflict between the general and the Isaaq clan of Somaliland due to the targeted persecution of the latter (Jeng, 2012), which led to a bloody civil war culminating in the „Isaaq genocide," also known as the „Hargeisa Holocaust" between 1987-1989 (Igiriis, 2016), which claimed tens of thousands of lives. After

Somaliland self-declared its independence from Somalia in 1991, armed conflicts still flared up between the two sides throughout the decade. Still, the northwestern territory avoided being caught up in extreme Islamist insurgencies and managed to create a relatively stable socio-political background for – as stated in its constitution – a presidential republic and multi-party democracy. The international community does not recognize its sovereignty, but – and this is where we connect to the topic of this article – with foreign investment flowing into the country, and due to Somaliland's willingness to seek international relations and cooperate with civil organizations, allowed CCF to settle in the relatively safe side of the Horn of Africa, and deepen the collaboration with the government regarding conservation tasks.

The relationship with its southern border state is still heavily conflicted to this day. In January 2024, Somaliland leased a 20 km long coastline to Ethiopia in exchange for an expected recognition of statehood, which upset the Somali government and further deteriorated the relationship between the sides involved.

Forming the north-northwestern part of Somalia, Somaliland has a long coastline along the Gulf of Aden, near the Bab-al-Mandab strait, which has long served as a major trade hub between the Red Sea and the Indian Ocean. Connecting the interior of the Horn of Africa with the Arabian Peninsula, the ports of Somaliland, such as Berbera, lie on a "popular" smuggling route that is used for trafficking wildlife, where the demand for exotic pets in the Middle East meets with extreme poverty in the source country.

Each year, the number of cheetah cubs taken from the wild is still around 300. Between 2010 and 2019, nearly 500 cubs were taken from Northeast Africa and sold across the Gulf of Aden according to Schmidt-Künzel et al. (2023), which indicates a significant issue. Moreover, the number of adult cheetahs capable of reproducing in the region is estimated to be no more than 500, making the situation even more concerning. The same study, based on extensive data collection, reveals that most of the sellers are indeed from the Arabian Peninsula, and most of the advertisements for pet cheetahs land on popular social media platforms, such as Instagram, Twitter, or Facebook.

When the cubs are separated from their mother at a young age (6-10 weeks), they are extremely vulnerable and not cared for properly during the journey. As a result, 3 out of 4 cubs do not survive, and the majority of those who do will not live longer than two years.

The cheetah has four subspecies: the nominate *Acynonix jubatus jubatus*, populating Southern Africa; the Asiatic cheetah (*A. j. venaticus*); the Northwest African cheetah, *A. j. hecki*, which occurs in Algeria, Benin, Burkina Faso, Mali, and Niger; and the smaller Northeast African subspecies (*A. j. soemmeringii*) that lives in fragmented habitats from South Sudan to Ethiopia. Genetic analysis of confiscated cubs in Somaliland showed that they all belong to the latter (*A. j. soemmeringii)*, so it is not exaggerating to say that trafficking poses a serious threat to the subspecies' very survival (Tricorache et al., 2021).

The CCF in Somaliland has been working collaboratively with the government of Somaliland since 2018 to combat the illegal trafficking of cheetahs. The aim of the project is severalfold: to preserve cheetah habitat and biodiversity, disrupt trafficking networks, increase law enforcement capacity in Somaliland, and give the best possible care for the cheetah cubs confiscated by the government.

I joined the team of CCF's Somaliland facility to contribute to the latter, having had the good fortune of spending three months with a group of seven cubs, gaining insight into the dedicated work of staff and animal keepers alike.

My plane landed early on Christmas Eve at the Hargeisa airport. Xamse, the tireless operations manager, was waiting for me as I stepped into the worn-down room kindly dubbed „arrival hall." He led me to a land cruiser with an SPU unit in it – a Special Protection Unit assigned to accompany any foreigners. We were not permitted to leave the camp without a rifle guard. We travelled out of the city on wide sand and dirt tracks designated as the main road to CCF's new facility. Only later did I have the chance to drive through Hargeisa in daylight to experience its ambiguity first-hand. The capital of Somaliland is a sprawling city with over a million inhabitants, located in an enclosed valley of the Ogo highlands at 1,334 meters above sea level. Despite its significance, the city displays many characteristics of a third-world semi-rural environment. It has dirt roads running through slum-like districts and more decent-looking streets with simple but characteristic architecture typical of a generally poor Islamic country. Minarets tower over the skyline, while second-hand cars imported from Japan and Dubai crowd the dusty roads. The city's urbanized terrain is minimal compared to its size, as it sits – using David Kilcullen's words – at the core of a vast social, political and economic ecosystem, which includes the city's diaspora living in Europe, North America, Australia, the Gulf States, and elsewhere (Kilcullen, 2019). Somalilanders abroad who have access to better jobs, education, and higher social status contribute significantly, despite not being physically present, to the human and communication networks and financial flows centered in the city. This is an aspect that may help the observer understand the duality of Hargeisa. In the era of the modern information society, with easier access to air travel, money transfer, smartphones, and the internet, the ties between the diaspora and the hinterland at home could be pulled tighter, stimulating modernization and economic growth. In contrast, the fabric of the society of Somaliland – both in the city and outside of it – is deeply embedded in its tribal roots. Nomadic pastoralism is the traditional lifestyle defining Somali trade and culture, and live animal trade to Saudi Arabia and the Gulf States is the country's only significant export. The four noble clans of the ethnic Somali region are all pastoralists who control the trade of camels herded through the desert following rainfall patterns – the Somali way of life is still closely tied to the prestige of camel and clan (Kilcullen, 2019) – as Ioan Lewis writes: "nomads are not cut off from the life of urban centres or culturally and socially separated from the majority of urban residents … from the President downwards, at all levels of government and administration, those living with a modern lifestyle in urban conditions have brothers and cousins living as nomads in the interior and regularly

have shares in joint livestock herds" (Lewis, 2008). Since markets are in the city, herds of camels are frequently seen in everyday traffic. On my way to the airport in the early morning, we patiently waited at a crossing while a herd of 50 camels had the right of way heading downtown.

The two-faced nature of Hargeisa is further apparent through its insufficient urban infrastructure. The private, largely informal economy – in no small part due to the remittances sent home from abroad – is thriving, but the public sector is lagging behind. There are few decent tarmac roads, even downtown, and vehicles must navigate mostly on gravel or dirt. These roads are sometimes paved by well-constructed, camera-protected houses or businesses that further highlight the contrast. Needless to say, the quality of the roads can cause significant economic loss as well through the time and effort needed for transportation.

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Situated in an arid area without decent rivers or lakes around, limited water access is a major issue that puts enormous pressure on Hargeisa's dense and growing urban population. Only a small minority of households have access to running water in the city's heart; most people purchase it from donkey-drawn water carts that roam the streets all day. The amount of time urban residents have to spend on basic tasks such as hauling water or supplying household generators with petrol or diesel naturally burdens economic productivity and urbanization (Kilcullen, 2019).

In 2018, CCF established three safe houses within the city of Hargeisa for rescued animals and international staff. However, by the summer of 2023, a new, spacious facility was completed in Geed Deeble, located at an hour's drive from the capital. The site covers 800 hectares within a protected area of acacia thorn-scrub vegetation. The location sits on weak, rocky soil with a granite base rock underneath, where the government plans to establish the country's first national park. Here, away from the city noise, cheetahs now have the opportunity to live in large enclosures within a naturalistic environment, surrounded by wildlife such as spotted hyena, black-backed jackal, dik-dik, Hamadryas baboon, scrub hare, spurred tortoise, a wide variety of birds, and more. That is where we were heading.

The camp was comfortable, with friendly-looking houses and a kitchen plus dining room over-looking a vast plain of acacia bush and cheetah enclosures. I quickly learned about the tough realities of the job the very first morning, as a truck drove

in at 6 a.m. with the weekly delivery of 80-90 goat carcasses for the cheetahs. They are butchered according to halal, skinned and gutted, but the rest has to be done by the staff of CCF. Keepers clear the carcasses of fat, and the vets assess and select the usable internal organs. They are to be processed and/or portioned for the cheetahs of different enclosures, with their occasional special needs considered. The whole process takes approximately 4-5 hours. It's probably not the most ideal Christmas Day that comes to mind.

The facility cares for over a hundred cheetahs, all "refugees" from confiscations over the years. They usually arrive at CCF very young, between 7-12 weeks. Despite thorough and dedicated veterinary care, many of them do not survive the trauma of being separated from their mothers and the negligent care of the smugglers. Additionally, the establishment takes care of a leopard and a caracal because cubs of other cat species are often mistaken for cheetahs at a casual glance and sold on the black market just the same way. A qualified veterinary and animal keeper team – mainly from overseas – oversees (pardon the pun) the general health of the animals and the daily tasks (feeding, collecting and analyzing faeces, changing water, checking fencelines, etc…) around them. The political situation in the Horn of Africa is often unstable. There was an armed incident in February near the camp, and we were prepared to leave if the situation worsened. Fortunately, it didn't escalate, but a few days later, we heard intense shooting from the neighboring property. It alarmed both the staff and the cubs, but we were told it was just a training drill of a private military unit belonging to a presidential family member. These events highlight the need for trained local staff who can manage the facility and care for the animals without relying on international supervision. For that reason, a group of dedicated local employees were being trained to become fully capable cheetah keepers – a mission

that not only safeguards the facility's future but hopefully lays the groundwork for broader education of local communities and their acceptance of cheetah conservation as well.

It soon became clear to me that learning to recognize and distinguish 90 adult cheetahs is a task close to impossible for such a short period of time, so instead, I was scheduled to work mainly in the clinic building and its attached yards with different groups of cubs confiscated not long before my arrival – it proved to be a very rewarding, sometimes tedious, and other times, a truly emotional experience.

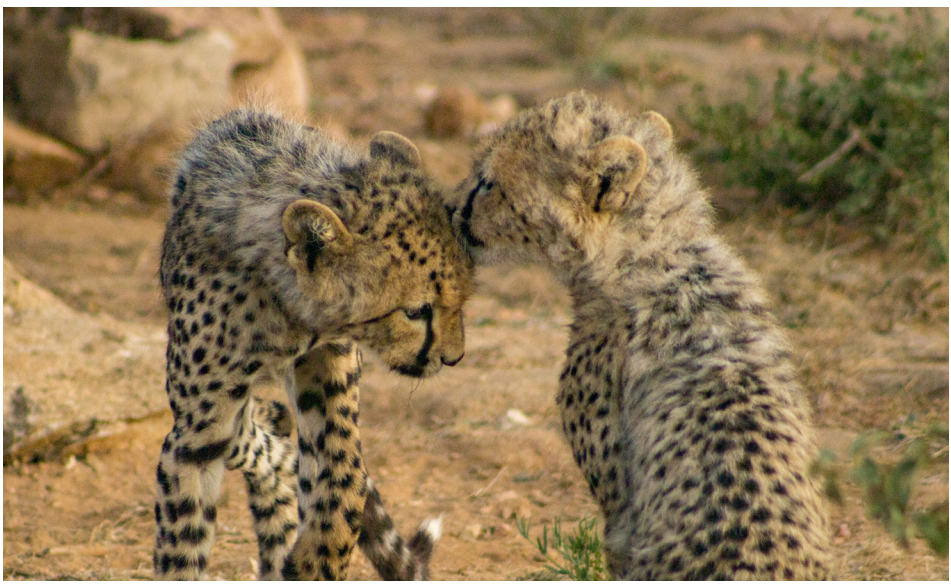
Conservation and animal welfare – a side note

In a natural setting, yet still in captivity, there are over a hundred cheetahs, which are many mouths to feed and care for. The population is growing due to frequent confiscations. From a holistic, ecological perspective, is it worthwhile to invest significant financial and human resources to ensure a high quality of life for these animals, even though they won't be released back into the wild and won't contribute to the survival of their species in their natural habitat? Ethical rescue centers and sanctuaries, in most cases, do not open their facilities to public tourism, so they will not profit directly from their animals – they need to manage their finances by other means – donations, sponsorships (or selling "christening rights" for thousands of dollars: as a result, cheetahs end up being called 'John Cheeto', or 'Miss Behave'…). Rescued and captive cheetahs are vulnerable to many infectious diseases, some of them treatable, some with more serious consequences: Feline Herpesvirus (FHV), Feline Parvovirus (FPV), Feline Leukemia Virus (FeLV), and Feline Coronavirus (FCoV), to name a few, can equally pose a threat on the sensitive cheetah populations of sanctuaries and breeding centers (Ziegler-Meeks, 2009). Once they are exposed to any of these, their release can no longer be taken into consideration to spare the wild population the risk.

Many people consider mainly the economic aspect when discussing this issue – I've encountered a strong opinion among those involved in the guiding and hospitality industries of game reserves in South Africa. They believe that the money spent on supporting ecologically 'sterile' individuals (rescued animals that cannot be reintroduced into the wild) could be better invested into protecting natural habitats and reserves, restoring and maintaining a healthy ecological balance. The debate has been ongoing. Conservation science has set out to look at the bigger picture (Soulé, 1985), while animal welfare, as such, focuses on the quality of life of individuals (Fraser, 2008). Opinions may still differ today, but the CCF is proof that these two should not exclude each other. The organization strives to provide the best possible life for every animal it rescues while also being dedicated to preserving or restoring healthy habitats worldwide. This is important for the animals' well-being and for fostering a mutually beneficial coexistence between animals and humans in our modern world.

Conclusion

The cheetah, like many other African megafauna species, is facing a serious threat to its survival due to shrinking and fragmented habitats, human persecution, and exploitation of its environment. Three out of four cheetah subspecies have fewer than a thousand individuals in the wild, and the species is genetically fragile, which adds to the risk. Various NGOs such as the Cheetah Conservation Fund and the Cheetah Outreach are working to save the species in different ways: by protecting natural habitats and prey species, educating farmers and the public about the cheetah's ecological role, addressing human-wildlife conflicts, combating illegal wildlife trafficking, and providing care for rescued or injured animals. They are collaborating with protected areas like national parks, game reserves, and national governments across the cheetah range to establish conservation policies that support their efforts. A considerable part of the cheetah's remaining wild habitat lies in economically poor and/or politically unstable countries (such as Chad, Niger, South Sudan, Ethiopia and the Horn of Africa) where such policies are non-existent or ineffective. Regions that experience frequent armed conflicts and social unrest make conservation work, including monitoring, habitat protection, research, and rescue, much more difficult, if not impossible. This endangers the survival of the species in those areas and also highlights the areas where conservation organizations face fewer hindrances due to stronger governmental dedication to conservation or economic interests. This makes CCF's presence in Somaliland valuable – it operates from a relatively stable socio-political background amid a highly conflicted region, which made possible the establishment of a stronghold for cheetah conservation in the Horn of Africa, intercepting wildlife trafficking towards the Middle East and maintaining a refuge for rescued animals.



References

- Adams, D. (1979). The cheetah: native American. *Science*, 205(4411), 1155-1158.
- Allsen, T. (2006). Natural history and cultural history: the circulation of hunting leopards in Eurasia, seventh-seventeenth centuries. In: V. Mair, *Contact and Exchange in the Ancient World*. Hawaii: University of Hawaii Press. pp. 116-135.
- Durant, S. et al. (2017). The global decline of cheetah and what it means for conservation. *Proceedings of the National Academy of Sciences*, 114, pp. 528-533.
- Eaton, R. (1974). *The Cheetah: Ecology and Behaviour of an Endangered Species.* New York: Van Nostrand Reinholt.
- Fraser, D. (2008). *Understanding Animal Welfare: The Science in its Cultural Context.* Oxford, UK: Wiley-Blackwell.
- Hunter, L. (2003). *Cheetah.* South Africa: Penguin Random House.
- Ingiriis, M. (2016). "We Swallowed the State as the State Swallowed Us": The Genesis, Genealogies, and Geographies of Genocides in Somalia. *African Security*, 9(3), 237-258.
- Jama, M. (1996). *Constructing colonial hegemony in the Somaliland protectorate, 1941-1960.* University of Toronto: thesis.
- Jeng, A. (2012). *Peacebuilding in the African Union: Law, Philosophy and Practice.* Cambridge University Press. p. 245.
- Kilcullen, D. (2019). *Hargeisa, Somaliland - Invisible City.* Brenthurst Discussion Paper. 2019/4.
- Ledesma, P.A. (2020). *Breve revisión de los procesos de resistencia contra la colonización en el Cuerno de África. Las luchas en la Somalia italiana y el Movimiento Derviche (1890-1930).*
- Lewis, I. (1955). *Peoples of the Horn of Africa (Somali, Afar, and Saho).* London: Routledge.
- Lewis, I. (2008). *Understanding Somalia and Somaliland.* London: Hurst & Co., p. 56.
- Linnell, J., Swenson, J., & Anderson, R. (2001). Predators and people: conservation of large carnivores is possible at high human densities if management policy is favourable. *Animal Conservation*, 4(4), pp. 345-349.
- Marker, L. et al. (2021). Twenty-five years of livestock guarding dog use across Namibian farmlands. *Journal of Vertebrate Biology*, 69(3).
- Marker, L., Grisham, J., & Brewer, B. (1998). A Brief History of Cheetah Conservation. In: P. Nyhus, *Cheetahs: Biology and Conservation*. Academic Press. pp. 3-16.
- Marker-Kraus, L. (1990). *1988 International Cheetah Studbooks.* Washington D.C.: Smithsonian Press.
- Marker-Kraus, L., Kraus, D., Barnett, D., & Hrulbut, S. (1996). *Cheetah Survival on Namibian Farmlands.* Windhoek: Cheetah Conservation Publication.
- Marsai, V. (2016). A szomáliai helyzet két kutatóút tükrében. *Afrika Tanulmányok / Hungarian Journal of African Studies,* 10(1-2), 5–22.
- Marsai, V. & Tarrósy, I. (2022). The Potential for Violent Extremist Organizations in Africa to Take Advantage of the COVID-19 Pandemic Crisis in Ungoverned Spaces: The Cases of al-Shabaab and Boko Haram, *African Security*, 15:2, 163-185
- Menotti-Raymond, M., & O'Brien, S. (1993). Dating the genetic bottleneck of the African cheetah. *Proceedings of the National Academy of Sciences*, 90(8), 3172-3176.
- Molnár, D. (2014). Afrika Szarva – és ami mögötte van. *Afrika Tanulmányok / Hungarian Journal of African Studies*, 8(2), 101–105.
- Myers, N. (1975). *The cheetah, Acynonix jubatus, in Africa.* Morges, Switzerland: IUCN Monograph.
- O'Brien, S., & Wildt, M. (1986). The cheetah in genetic peril. *Scientific American*, 254(5), pp. 68-76.
- O'Brien, S., Wildt, D., Goldman, D., Merril, C., & Bush, M. (1983). The cheetah is depauperate in genetic variation. *Science*, 221, 459-462.

- Prunier, G. (2021). *The Country That Doesn't Exist - A History of Somaliland.* Hurst.
- Rust, N., Whitehouse-Tedd, K., & MacMillan, D. (2013). Percieved efficacy of livestock guarding dogs in South Africa: implications for cheetah conservation. *Wildlife Society Bulletin*, 37, pp. 690-697.
- Schaller, G. (1968). Hunting behaviour of the cheetah in the Serengeti National Park, Tanzania. *African Journal of Ecology*, 6(1), pp. 95-100.
- Schmidt-Künzel, A. et al. (2023). Genetic support to uplist an African cheetah subspecies, Anócynonix jubatus soemmeringii, imperiled by illegal trade. *Conservation Science and Practice*, 6(1).
- Schreber, J. (1775). *Die Säugthiere in Abbildungen nach der Natur mit Beschreibungen.* Erlangen: Wolfgang Walther.
- Soulé, M. (1985). What is conservation biology? *BioScience*, 35, 727-734.
- Tricorache, P., Yashphe, S., & Marker, L. (2021). Global dataset for seized and non-intercepted illegal cheetah trade (Acynonix jubatus) 2010-2019. *Data in Brief.*
- Van Valkenburgh, B., Pang, B., Cherin, M., & Rook, L. (2018). The cheetah: evolutionary history and paleoecology. In: L. Marker, L. Boast, & A. Schmidt-Kuentzel, *Cheetah: Biology and Conservation.* London: Academic Press.
- Wiafe-Amoako, F. (ed.) (2018). *Africa. 2018-2019.* Lanham, MD. p. 238.
- Woodroff, R., & Ginsberg, J. (1997). Past and future causes of wild dogs' population decline. In: R. Woodroff, J. Ginsberg, & D. Macdonald, *The African Wild Dog Survey and Conservation Action Plan.* IUCN, Gland.
- Ziegler-Meeks, K. (ed.) (2009). *Husbandry Manual for the Cheetah (Acynonix jubatus).* White Oak Conservation Center.