



Sandscript

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Beautiful desert plants like Tribulus (top) and Cornulaca (above) bloom in large numbers after rare desert rainfall. Both are vital for wildlife's survival.

Walking the walk

Welcome to **Sandscript 2!** Our guest editorial is by Dr. Steven Monfort, Associate Director for Conservation & Science at the Smithsonian Institution. Steve is one of SCF's founders and chairs its Board of Directors. He was intimately involved in early wildlife surveys of Chad and Niger and will soon be joining the team in Niger to help with an aerial survey of the world's last viable population of addax.

For decades, modern zoos have professed their dedication to connecting animals in their collections to the conservation of their counterparts in nature. Until recently, however, zoos too often failed to translate this philosophy into conservation action. In 1998 a small group of zoo managers and biologists who were passionate about Sahelo-Saharan antelope reached a simple conclusion: they had had enough of empty rhetoric and

they decided to challenge their own community of zoos to "walk the walk" by spearheading effective antelope conservation programs in North Africa.

The response from the zoo community was gratifying and led to the formation of the Sahelo-Saharan Interest Group (SSIG), which by 2005 had evolved into the Sahara Conservation Fund. SCF largely owes its genesis to the zoo community and its foundation remains firmly anchored by the continued core and project support provided by a growing cadre of North American and European zoos. SCF's evolution is also a tremendous example of the capacity that modern zoos and their partners have for working across the conservation spectrum – from single species propagation to meta-population management, and



Dr. Steven Monfort is a seasoned desert hand.

from landscape-level ecology to finding novel ways for nomadic people and wildlife to co-exist in the vast Sahara. SCF is a modern success story and the zoo community can take tremendous pride in the major role it has played in ensuring this success and in the fact that it stands shoulder-to-shoulder with SCF in its battle to save Sahelo-Saharan wildlife.

The miracle of life

We came, we saw...but we are still far from conquering the concerns we have for the survival of the addax. During fieldtrips in April and June this year over 50 were spotted in Niger. It sounds a lot but spread over the Sahara's 3 million square miles really

isn't. At ten times that number they are still incredibly vulnerable and by far one of the most critically endangered species on earth.

At this time of the year, when daily temperatures soar well above 120°F, the slightest shade cast by twig or tussock

is a blessing to the addax. To reduce heat stress and water loss, addax actively seek out shade during the hot season, often visiting favourable spots year after year where the odd tree still stands far enough out in the desert to provide shelter and security (cont. on p.2).



Some of the world's last wild addax spotted by SCF's project team in Niger, May, 2007 (Photo: Thomas Rabeil/ SCF)

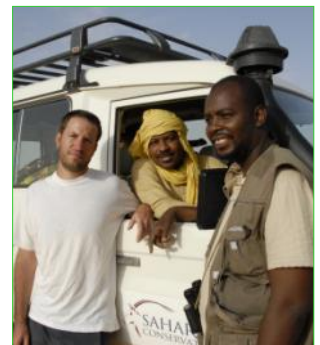
The miracle of life (cont.)

The above picture, taken in Niger this May, shows a group of unbelievably fit addax considering the conditions under which they live. It also underlines the miracle of their continued existence. Unlike the agile and more cosmopolitan gazelles, or the fennec and gerbils that can hide away underground in cool burrows, the addax has nowhere to hide from the heat and the sun. It is also a clumsy runner, desperately

avoiding any activity likely to waste energy and cause increased water loss. When chased by hunters or even zealous photographers keen on that shot of a lifetime, death through heat exhaustion invariably occurs. When it comes to balance with one's environment and corresponding vulnerability there can be no finer example.

In November, the team in Niger will carry out an aerial census for addax. With a

plane from *Aviation Sans Frontières*, ground support from Spazi d'Avventura and funding from SCF, Addax Petroleum Corporation, CMS, the EU and new partner Gilman International Conservation the survey will cover the nucleus of the known addax range in Niger. In 2004, the last survey carried out by local NGO *SOS Faune du Niger* recorded 128 addax. Fingers crossed that we find at least as many.



SCF team in Termit: Thomas Rabeil, Ahmed Oumarou and Abdoulaye Harouna.



Cybertracking desert wildlife

Cybertracker is the brainchild of South African, Louis Liebenberg. It comprises a pocket-PC, an integrated GPS unit and software that provides a pictorial interface for recording data. Its use amongst scientists, park rangers and community game guards has revolutionized data collection. The secret not only lies in the technology but in its growing use by people with intimate knowledge of wildlife

but not computers. In Niger, SCF uses Cybertracker extensively to collect data.

In the coming weeks we will be recruiting the first teams of community game guards to patrol the Termit area on camelback. Apart from keeping an eye on things and spreading the word about conservation, the guards will also be equipped with Cybertrackers and will record all

manner of data as they travel around. SCF scientists Thomas Rabeil and Abdoulaye Harouna will train the guards and then remain in close contact with them to download data from the hand-held devices. The combination of community game guard, camelback patrol and Cybertracker is expected to revolutionize data collection on the region's endangered species.



Thomas Rabeil makes a Cybertracker data entry in Termit.



Alhousseini Alghaler of Niger NGO GAGE-Azihar looks after some of the Sahara's last ostriches (Photo: Kelley Bishop/ SCF)

Ostriches are well endowed

SCF's ostrich project in Niger has been awarded significant grants from the AZA Conservation Endowment Fund (\$27,700) and St Louis Zoo's Field Conservation program (\$9,950). The funds will go towards the purchase of ostrich breeders, incubators, genetic analysis and training. With extra support from San Diego Zoo, the incubators will be shipped to Niger in early 2008.

SCF consultant, Kelley Bishop, has been working with our partners from Niger's wildlife service to identify suitable sites for an ostrich captive-breeding centre. With support from the International Foundation for Wildlife Conservation (IGF) and the local UNDP/GEF office

in Niamey, a site near the Sahelian village of Gadabeji has been identified. Gadabeji lies on the boundary of a gazetted game reserve and provides excellent access to potential reintroduction sites throughout Niger's Sahelo-Saharan region.

Next January, a team comprised of Sara Hallager (Smithsonian National Zoo), Scott Tidmus (Disney's Animal Kingdom) and vet Pete Black (St Louis Zoo) will visit Niger to take blood samples from captive ostrich for genetic analysis at the National Zoo. The samples will be used to select birds best matched for inclusion in the breeding programme.

In the north, SCF partner, GAGE-Azihar, continues to

look after the remaining six desert ostriches in their care. With assistance from SCF and a local GEF natural resources management project, food is being purchased and infrastructure maintained. The fact that the local town of Iférouane is currently under siege and has suffered some of the worst flooding in living memory only goes to underline the commitment of GAGE and its supporters. As soon as conditions permit, SCF will be providing humanitarian aid to address the flooding and destruction of local wells and gardens. Donations to our relief fund are desperately needed.

If you would like make a donation please contact us at scf@bluewin.ch



Burying our heads in the sand

Although the ostrich is not considered endangered on a continental scale, uniquely adapted Saharan populations

are virtually extinct. Loss of this gene pool and associated adaptations to life in a waterless environment would be

significant and extremely short-sighted in light of climate change and desertification.



SCF's Kelley Bishop has carried out a major inventory of captive ostrich in Niger.

Desert all stars: *Cornulaca monacantha*

The Arabs call it *hadd*, the Tubbou *zri* and the Twareg *tazera*. To the addax, it's the staff of life and what makes survival possible in one of the harshest environments on earth. *Cornulaca monacantha* (we have no common name for it in English) is a shrubby perennial that thrives on the sandsheets of the Sahara. Like

many drought resistant plants, it is prickly but in spite of its waterless home, the plant contains precious moisture; a source of water that makes it a preferred species for wildlife and camels alike. As it grows larger and collects windblown sand at its base, sizeable tussocks are formed that also serve as shelter for a wealth of

smaller desert species, including lizards, beetles and gerbils. Addax will often shelter from fierce sandstorms and shade themselves from the burning sun behind especially large specimens. All in all, it's a true keystone species and desert all star.



Cornulaca monacantha: good for addax, good for camels and good for controlling desertification.

It never rains but it pours

When it comes to rainfall in the desert, 'unpredictability' is a key word. When? Where? How much? Thankfully, rainfall has been good this year over much of the Sahara and areas that were parched expanses of sand just two months ago now look like well-watered golf courses. It is said that more people die each year of drowning in the desert than of thirst. Flash floods provoked by rainfall often many miles away can wash

away camps, livestock and anyone unfortunate enough to be caught unawares. This year the tiny desert-edge village of Tesker in Niger received an unprecedented 130 mm (5 inches) of rainfall in just two hours; the entire annual average rainfall in one downpour! Two nomads and hundreds of domestic animals were drowned. Many wells were wrecked as mud and sand poured into them, depriving locals and their livestock of

much-needed water. Thanks to a donation from St. Louis Zoo, SCF is helping rehabilitate the damaged wells. The needs of the people are still great and SCF welcomes donations to help with humanitarian aid and urgent development issues. If it is to succeed, conservation must go hand in hand with sustainable development and the satisfaction of basic human needs.

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 ☆ *"It is important to listen to*
 ☆ *people who have been in the*
 ☆ *desert for some time. To ask*
 ☆ *for too much water is to in-*
 ☆ *vite disaster. Only in a place*
 ☆ *like this would you bow your*
 ☆ *head and humbly request*
 ☆ *just the water you need and*
 ☆ *no more."* ☆
 ☆ **Craig Childs** ☆
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Loss of wells like this one at Tesker in Niger can deal a crippling blow to people and their livestock.

Saharan crocs past and present

It's hard to believe that 8-ton, dinosaur-eating "Super Crocs" roamed the Sahara 110 million years ago. More incredibly, perhaps, latter day versions are still living there. Historically, the Nile crocodile used to be found all around the Sahara and even on the Mediterranean coast. In the desert, permanent water in big rivers and pools in the Ennedi, Tibesti, Hoggar and

Tassili were until a century ago their home. Food mostly consists of the numerous barbel and catfish that inhabit the same waters. Today the best known remaining relict populations can be found in the Ennedi mountains of Chad (photo) and the Tagant in Mauritania. The Tagant population was thought to have disappeared in 1996 when the "last" head

was brought in for scientific research after the animal itself had been eaten by local inhabitants (photo). It was a big surprise when in 2007 Ursula Steiner photographed at least three crocs. Unless there is permanent water, desert crocs aestivate in deep burrows during the hot season. This is probably why the Tagant group had been overlooked for so long.



Friends of the Sahara

The San Diego Zoo and the San Diego Wild Animal Park have been strong advocates for Sahelo-Saharan wildlife for decades. Throughout the years these unique institutions have made significant contributions of both resources and expertise to help establish many of the captive breeding programmes for critically endangered Saharan species. Indeed, some of these species would not even be found within the North American zoo community today were it not for the leadership of the Zoological Society of San Diego animal staff. They have shown great foresight and stewardship in bringing these animals in and investing the effort to develop husbandry

protocols. Their willingness to share both animals and expertise within the AZA has been a cornerstone of the success of Sahelo-Saharan wildlife breeding programmes in zoos today.

At the same time, CEO and Executive Director Doug Myers has encouraged both Zoo and Wild Animal Park staff to look beyond their perimeter fence for ways to promote and support conservation in the Sahara itself. San Diego Zoo Director Richard Farrar has generously supported SCF's core activities with much-needed funds from the Zoological Society of San Diego. Mike Mace, Curator of Birds at the Wild

Animal Park, lends his considerable expertise to advise SCF's desert ostrich recovery program in Niger. At the San Diego Zoo, Curator of Mammals Carmi Penny and Animal Care Manager Curby Simeron have played a pivotal role in SCF's addax and scimitar-horned oryx reintroduction programme in Tunisia, handling all of the pre-shipment housing and testing necessary before animals can be transported to Tunisia for release.

For all that they do to ensure a future for wildlife in the Sahara, SCF salutes the Zoological Society of San Diego, the San Diego Zoo, and the San Diego Wild Animal Park as true Friends of the Sahara.



Cuvier's Gazelle at San Diego Zoo.



AAZK — keeping it safe

The American Association of Zoo Keepers (AAZK) is a non-profit volunteer organization made up of professional zoo keepers and other interested persons dedicated to professional animal care and conservation. Membership is currently about 2,800 and

includes individuals at all levels of zoo staff from directors, curators and veterinarians to zoo keepers, animal health technicians, volunteers and students. Members are from 48 of the 50 States, 5 Canadian Provinces and 24 foreign countries and represent nearly

250 animal-related facilities.

SCF warmly thanks the AAZK chapters at the Kansas City Zoo and the Denver Zoological Park for their generous contributions to our projects in Africa to save endangered species.



Pause for thought

American author, Craig Childs, writes extensively on the deserts of the US southwest. The following quote is from his excellent book *The Secret Knowledge of Water* (Back Bay Books, Little, Brown & Company).

“Especially among biologists there is a respect for life and in its uniqueness that goes almost unspoken, a reverence for the incomprehensible diversity of organisms that has woven itself into patterns across the earth. We, biologists or not, look at these

creatures, including ourselves, the same way we observe stars of the night sky – with unspoken questions hanging from our mouths. To be privy to the eradication of a species and to know damn well what is going on is a shame beyond repair.”



Addax in Tunisia © Oliver Born

Sandscript is the periodic newsletter of SCF, the Sahara Conservation Fund. It is edited by SCF CEO John Newby.

We gratefully thank the following for their great contributions to this issue: Dr. Steve Monfort, Bill Houston, Dr. Thomas Rabeil, Kelley Bishop, Dr Koen de Smet, Klaas de Smet and Arnaud Greth.

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SCF is specially thankful to **Sheri Hanna** and her company **Exotic Endeavors** for generously supporting this issue of **Sandscript**.



If you would also like to become a sponsor, don't hesitate to contact us.

SCF's mission is to conserve the wildlife of the Sahara and bordering Sahel grasslands.

Our vision is of a Sahara that is well conserved and managed, in which ecological processes function naturally, with plants and animals existing in healthy numbers across their historical range; a Sahara that benefits all its inhabitants and where support for its conservation comes from stakeholders across all sectors of society.

To implement our mission, we forge partnerships between people, governments, the world zoo and scientific communities, international conventions, NGOs and donor agencies. A powerful network with a common goal – the conservation of deserts and their unique natural and cultural heritage.

If you would like to know more about our work and how to contribute to our projects, please contact us at scf@bluewin.ch We would love to hear from you!

Last but not least: the wily fennec fox



Weighing in at only 1.5 kg (3 lbs), the fennec (*Vulpes zerda*) is the smallest of the Saharan foxes (top photo). Fantastically large ears and tiny, hairy feet make it a stealthy and highly mobile radar station, capable of tracking down rodents, lizards and beetles at night from their slightest sounds.

The fennec shares its desert habitat with two other species of small fox – Rüppell's (middle) and the pale fox (bottom). To distinguish the fennec from the marginally bigger Rüppell's fox (*Vulpes rüppellii*) look for the dark tip to the fennec's tail and its more compact shape. Rüp-

pell's fox has a white tip to its tail and a more slender, elongated build. To separate the fennec from the pale fox (*Vulpes pallida*), which also has a dark tip to its tail, look for the pale fox's slightly larger size and proportionally smaller ears.

If the fennec prefers open, sandy desert, Rüppell's fox is more at home in rockier areas. As for the pale fox, it is more of a sub-desert species, living in small colonies with invariably several burrow openings. Both the fennec and Rüppell's fox live in simple burrows with only one or two entrances.

While the ecology of all three foxes is still poorly known, it is suspected they suffer from the indiscriminate and illegal use of strychnine by nomads to poison stock-raiding jackals. SCF is keen to address this problem and is developing a research project in association with the IUCN Canid Specialist Group and the Universities of Niamey, Oxford and Missouri. It is hoped to learn more about the interrelationships between the Sahara's small carnivores and at the same time find ways of reducing stock-raiding by jackals without the use of poison or other lethal means.