

African Chelonian Institute: aims for conservation of turtles, tortoises and terrapins on the African continent

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Origin of the initiative

Converting to an African freshwater turtle and tortoise expert by working to save threatened and endangered turtle species in Senegal for the past 20 years, I began rescuing endangered African spurred tortoises (*Geochelone sulcata*) as a teenager, creating in 1992 S.O.S. (Save Our Sulcatas), a non-profit organization. I co-founded and

built the Village des Tortues in Rufisque, Senegal, a sanctuary and captive breeding facility for spurred tortoises that now houses over 300 individuals and has re-introduced numerous others back to the wild. Also I have been actively involved in freshwater and marine turtle research throughout Africa. As a member of the IUCN Tortoise and Freshwater Turtle

Specialist Group and Chair of the African subgroup of the Turtle Survival Alliance I decided in 2009 to create the African Chelonian Institute (ACI) in order to expand turtle research, captive breeding, and re-introduction to all African species.

Here I report on ACI's progress and achievements to date to protect Africa's critically endangered turtles.



Fig. 1

ACI Founder, TOMAS DIAGNE, is heavily involved in outreach and education regarding turtle conservation throughout Africa.

Photo: Rolex Award, Eric Vandeville

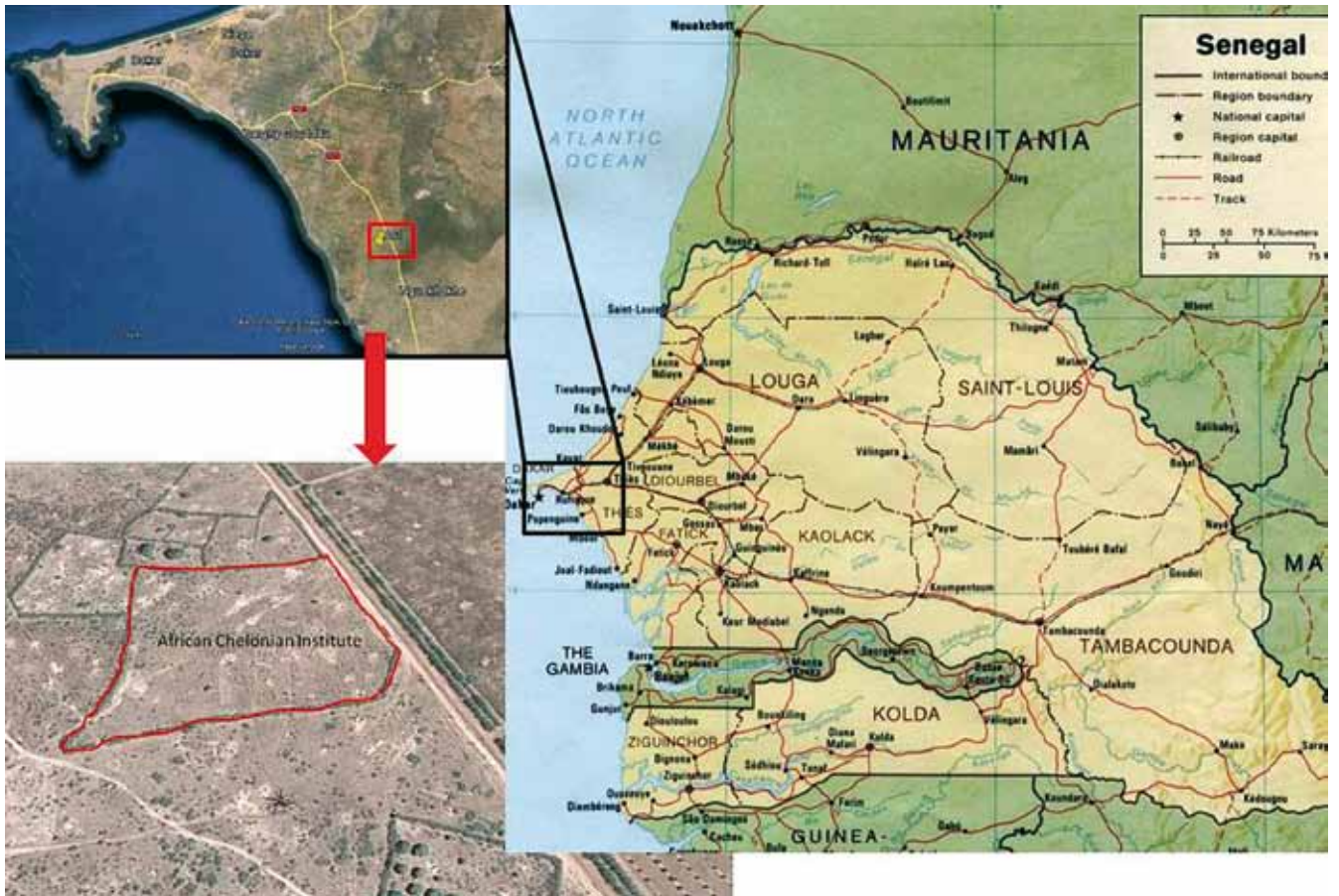


Fig. 2
The African Chelonian Institute (ACI) location overview map.



Fig. 3
Despite the fact they are fully protected by law, turtles are mostly considered by locals as inexpensive source of proteins in several countries in Africa.
Photo: Karim Sall



Fig. 4 Turtle local consumption have heavily impacted the survival status of Adanson's mud terrapin (*Pelusios adansonii*) in Lac de Guiers, Senegal, each year we were able to collect hundreds of empty shells by searching in fishermen village's garbage. Photo: Tomas Diagne



Fig. 5
Interactions with fishing gear is huge causes of bycatch of turtle in Africa, here a couple of dead turtles found in a fishing net in Lac de Guiers (Senegal).
Photo: Tomas Diagne

The issue and threats

The status and distribution of most of Africa's 46 freshwater turtle and tortoise species is insufficiently known. The remote locations where these turtles live make them very difficult to study, and they are hunted throughout Africa as a source of food. Globally knowledge, management, and protection of African terrapin and tortoise species and their habitats lag far behind conservation efforts for turtles worldwide. Much focus has been directed to the Asian turtle crisis, yet many African turtle species are likely equally imperilled. However, there is almost no data and documentation about most species to know for sure. We desperately need to increase

our understanding of freshwater turtle and tortoise population statuses and distributions across Africa, and to build research and management capacity in as many countries as possible before we lose species forever. We believe ACI can address these

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needs. The African Chelonian Institute is the first center of its kind in Africa, and includes a captive breeding facility, field research of wild populations, and grassroots programs

throughout Africa for conservation and re-introduction of captive-bred turtles.

Activities and Successes to date

ACI conducts field research on African turtle species in order to increase knowledge and conservation efforts. Currently this project's field effort is focused on Tocc-Tocc Reserve in northern Senegal, a community-based reserve to protect habitat for the endemic Adanson's mud turtle (*Pelusios adansonii*), as well as other species. I worked with the local communities at Lac de Guiers and with the Senegal government to get Tocc Tocc classified as a nature reserve, which took effect on



Fig. 6 Turtle shells and parts are really often seen for sale. Africans are using turtle parts for traditional medicine purposes despite bushmeat consumption. Photo: David Mifsud

March 22, 1996. It covers an area of 273 hectares (almost 675 acres) of diverse habitats (lake, wetlands, and land area). A local committee for management and conservation of the reserve is made up of volunteer members from the four villages surrounding the reserve and is led by NDIAGA BOH, the chief of Toleu village. In 2013 Tocc-Tocc Reserve was declared Senegal's fifth Ramsar site, and we received funding to hire and train 22 Eco-Guards, who now patrol the reserve, enforce regulations (including no fishing, hunting or livestock grazing in the reserve), and collect

data on the species found there. Additionally, ACI is collaborating in a genetics study of African freshwater turtles which is already underway with a collaborator at the University of Los Angeles in California, USA.

The Institute's vision is multi-faceted: it serves as a breeding facility for endangered and threatened African tortoises and freshwater turtles, it is building grassroots programs to reduce threats and re-introduce turtles back to their natural habitats, it will house one of the largest collections of reference specimens in Africa and a library of turtle media for study,

and it will serve as a training center for students and researchers, as well as an educational center open to the public. ACI is being constructed in phases, starting with the breeding facility, which is underway since last year. The African Chelonian Institute consists of four main components:

Living collection (The Rhodin Center)

We are building a breeding and display facility for African tortoises and terrapins, with priority focus on the most endangered species. The breeding center will initiate programs to



Fig. 7 Entrance sign of Tocc-Tocc wildlife refuge (Senegal) where we are implementing a community based project to protect Adanson's mud terrapin (*Pelusios adansonii*) in situ with local communities. Photo: Tomas Diagne

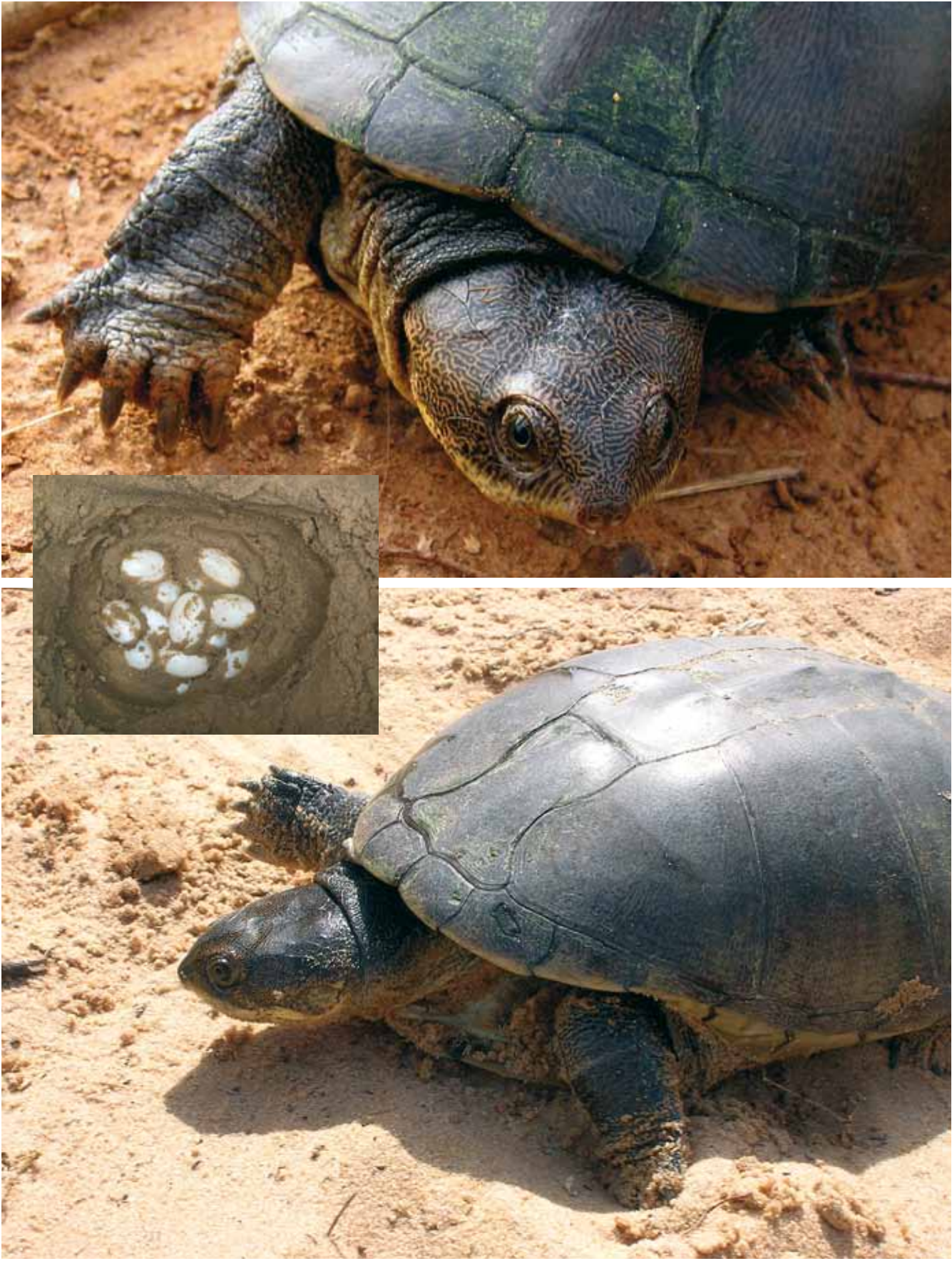


Fig. 8a-c

Close head view of an Adanson's mud terrapin (*Pelusios adansonii*) (a). Nesting female in the protected and monitored zone at Tocc-Tocc Reserve, Lac de Guiers (b). Each clutch can reach up to 20 eggs for this species (c). Photos: Tomas Diagne

reduce threats in the turtles' natural habitats and to re-introduce captive-bred turtles in collaboration with colleagues working with the species in their native ranges, as well as a strong educational outreach mission. An additional important function of the African Chelonian Institute is to receive African turtle species confiscated by officials in the context of the implementation of CITES (Convention on International Trade in Endangered Species) regulations. This activity is conducted in close collaboration with the Secretariat of the CITES convention, and with parties to the convention from the offices of Traffic International (Regional Office for Africa) the joint program of WWF & IUCN. ACI undertakes this activity to both save confiscated turtles from euthanasia (which is often the rule in

cases of confiscation) as well as to try to repatriate the turtles back to their countries of origin, or to include them in ACI's captive breeding facility if other options are not available for them.

Specimen reference collection

An extensive existing collection of African chelonian skulls, shells, skeletons, preserved specimens, and eggs will be archived at ACI and available to students and scholars for taxonomic, morphometric, genetics, and other studies. I have collected over 400 specimens to date as the beginning of this collection at ACI.

A multi-media library

A library housing books, reports, theses and dissertations, movies and videos, and photographs relating to

African freshwater terrapins, sea turtles, and tortoises will be available to students, turtle scholars, and the interested public as a reference collection.

Ethno-zoological and paleontological collection

Turtles are a powerful symbol in many African cultures, and are known in the rites of many people's (Dogon, Baoule, Yoruba, Ewe etc.). The Institute will house and exhibit important objects of African turtle art and turtle fossils, and it will also be a repository for documentation (folklore, stories, proverbs, traditional knowledge) of the African people's relationship with turtles. Educational graphics will explain the history and importance of the collection. In 2002 I began collecting African antique turtle art (pri-



Fig. 9

Lamine and Senoune taking weight of large male African Spurred tortoise (*Geochelone sulcata*) at Noflaye breeding Center.

Photo: Rolex Award, Eric Vandeville



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marily wooden masks, furniture, statues, and carved containers, and also pottery), and now the ACI has over 40 pieces representing 16 African tribes from West and Central Africa. ACI also intends to acquire replicas of important turtle fossils from Africa

and around the world for educational purposes.

This building project is now in its first phase. The ACI land has been purchased and the next steps are to fence the property, bring in the water and electrical lines, install breeding

pools, and construct a small building for storage, food preparation, and an office.

The African Chelonian Institute will provide more and more benefits to local people. It will be an educational resource for Senegal's schools



Fig. 10 Rescued Home's hingeback tortoises (*Kinixys homeana*) feeding at ACI breeding facility. This species is globally Critically Endangered according to IUCN Red List but still exported for the international pet trade. Assurance colonies like ours, may help management and recovery programs of the species at the local scale. Photo: Tomas Diagne

and students, as well as students and biologists from other African countries interested in turtles. It will also serve as a center for the public to learn the importance of conserving biodiversity, it will create jobs for several people initially, and more jobs will become available as the institute grows. Stay tuned.....

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Abstract

African Chelonian Institute: aims for conservation of turtles, tortoises and terrapins on the African continent.

Abstract

The African Chelonian Institute (ACI) was established in 2009 in Senegal (West Africa) in order to promote the long-term conservation of all turtle, tortoise, and terrapin populations across the African continent through research, education, and grassroots collaboration. To achieve these goals, we conduct field surveys to better understand the distributions and conservation needs of wild turtle populations throughout Africa, and we are building in Senegal the first facility dedicated to the research, conservation, and education for all turtle species of the African continent and associated islands.

Key words

Africa, Reptiles: Testudines, tortoises, turtles, terrapins, conservation, education, research