

Sahelo-Saharan Interest Group meeting

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Compiled & edited by Tim Woodfine



The Sahelo-Saharan Interest Group

The Sahelo-Saharan Interest Group (SSIG) is an informal network of individuals and institutions with a common interest in the conservation of the wildlife of the Sahara and bordering Sahelian grasslands. The group brings together people from many disciplines, including the zoo community, research establishments and government wildlife departments. Membership is open to all and the group stays in contact via a dedicated list-serve.

SSIG was established following the landmark meeting organized by the Convention on Migratory Species (CMS) in Djerba, Tunisia, in February 1998 to adopt an action plan for endangered Sahelo-Saharan antelopes. The group first met in 2000 at Marwell Zoological Park in England. Since then SSIG has held meetings in Almería, Spain (2001), Bratislava, Slovakia (2002), Agadir, Morocco (2003), Souss, Tunisia (2004), La Haute Touche, France (2005), and Douz, Tunisia (2006). The technical reports from these meetings can be found on the Sahara Conservation Fund (SCF) website: www.saharaconservation.org. Through its Science & Conservation Committee, SCF will continue to organize the SSIG meetings and to produce the annual proceedings.

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HUMAN ATTITUDES AND CONSERVATION OF SAHELO-SAHARAN ANTELOPES AND CHEETAH: ALGERIA IN CONTEXT

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1. INTRODUCTION

At the present time, the status of North African Cheetah, *Acinonyx jubatus hecki*, and Sahelo-Saharan antelopes (SSA) are giving serious cause for concern, while Scimitar-horned Oryx, *Oryx dammah*, has been wiped out from its natural habitat.

Habitat loss and degradation, hunting and poaching, and competition with livestock for natural resources have been suggested to explain both endangerment and extirpation of native antelopes (Beudels-Jamar *et al.* 2005). On the other hand, habitat fragmentation, a declining prey base, and conflicts with local human populations through livestock depredation are among the factors affecting cheetah survival (Marker 2000; Berry *et al.* 2002)

As far as SSA are concerned, a range of conservation measures have been set up or proposed (*cf.* Beudels-Jamar *et al.* 1999; Beudels-Jamar *et al.* 2005) for stopping the decline of threatened species and reintroducing populations of extirpated ones into their former habitats. These measures can be summarized as follow: setting of international agreements (CITES and Bonn conventions) and national legislations (lists of protected species), prohibition of species exploitation, creation of protected areas (national and even transboundary), habitat conservation and management, reintroduction of threatened populations into their native habitats, rational utilization of species, and captive-breeding.

Actions for saving threatened free-ranging cheetahs have been undertaken worldwide. The Cheetah Conservation Fund (CCF) worked in developing ways to mitigate conflicts opposing

Namibian livestock/game farmers and cheetahs, through collaborative research, education and improvement of livestock management techniques (Marker 2002; Marker *et al.* 2003). CCF is also conducting education programs and scientific research on cheetah biology, genetics, and conservation (Marker 2005b). In southern and eastern Africa, other range countries have also initiated measures for managing their cheetah populations in a sustainable way (*e.g.*, South Africa, Zimbabwe, Kenya; Berry *et al.* 2002). In addition, it is worth underlining the laudable Iranian initiatives for saving the last critically endangered population of Asiatic cheetah *Acinonyx jubatus venaticus* (*cf.* Rahgoshai 2002).

In North Africa, cheetah populations are endangered (IUCN *in* Nowell & Jackson 1996) and their survival in the near future has not been secured yet (*cf.* abovementioned threatening factors). This alarming situation is compelling for urgent concerted actions to be designed and implemented by governments of range countries and all stakeholders (NGOs...). Algeria, in particular, is expected to play a leading role within the international efforts for saving the last North African cheetahs for that it is still supporting an internationally important free-ranging population (Marker 2005a), chiefly roaming within two large national parks, the Ahaggar and Tassili NPs, both located in the Central Sahara. Additionally, the privileged geographical locations of the Ahaggar shield and Tassili plateaus have been suggested to be of primeval importance for potential recolonisation of cheetah in adjacent countries (De Smet 2003). However, the success or failure of any conservation project with regard to antelope restoration and cheetah conservation in the Sahelo-Saharan region will definitely depend on the degree of human awareness and attitudes, at different levels (local, organizational, national), towards the initiative in question. The purpose of the present paper is to briefly summarize and discuss different human attitudes which may affect the development of any project aiming to restore and conserve extirpated antelopes and cheetah, respectively, in Algeria.

The following lines reflect the author's personal judgment on human attitudes and conservation issues prevailing in Algeria.

2. HUMAN ATTITUDES AT DIFFERENT LEVELS

2.1. Attitudes of local people

It is established that the recent extirpation of large antelopes, such as Addax, *Addax nasomaculatus*, and Scimitar-horned Oryx, from the Sahelo-Saharan region has substantially been due to excessive hunting and poaching on already depleted populations (Beudels-Jamar *et al.* 2005).

In Algeria, though Saharan ungulates (dorcass gazelle *Gazella dorcas*, Barbary sheep *Ammotragus lervia*...) are listed on the national list of protected species (Décret n° 83-509 du 20 Août 1983), these are still either hunted, chased by vehicles, or trapped by local people, chiefly for food. Recent observations in Ahaggar indicated poaching activities in Tendjedj Mountains where butchered remains of one Barbary sheep and at least three dorcass gazelles were found (Wacher *et al.* 2005). In other respects, it has also been noted that dorcass gazelles are occasionally caught alive by locals to be offered as gifts to private persons who keep the animals captive in their own properties (figure 1).



Figure 1. Dorcas in a private property at Tamanrasset
(Photo: Aïssa Moali)

A limited number of informal interviews done with local people, in Ahaggar, revealed an inclination for greeting a potential reintroduction of dama gazelle, *Gazella dama*, and addax in the region; but, on the other hand, recent observations (*cf.* Wacher *et al.* 2005) indicated

that dorcas gazelles and Barbary sheep are actively chased and hunted by local people, when accessible. It is evident from the above that rising local awareness of conservation issues and promoting positive behaviors are two critical issues to be considered along with any antelope restoration project.

Local attitudes toward cheetahs are primarily expressed as retaliatory actions following depredation on livestock (figure 2). Cheetah attacks chiefly target camel calves, but sometimes small stock too. It is worth mentioning the peculiarity of camel management in Algerian Tuareg society, consisting of periodical releases of stocks to forage unhobbled and untended, spending long periods far from their owners and people (Wacher *et al.* 2005); a situation which, indeed, favor cheetah depredation on camel calves. After an attack, guilty cheetahs are killed, when possible, after more or less prolonged tracking. However, to date, no thorough scientific study investigated the level of conflict opposing cheetah and local livestock keepers. The frequency of cheetah depredation on livestock is in all likelihood influenced by the low availability of its natural prey-base (primarily dorcas gazelle), though this remains to be scientifically supported.



Figure 2. Cheetah captured by locals in Tefedest, Algeria, March 2004 (Photo taken by the staff of Parc National de l'Ahaggar *in* Wacher *et al.* 2005)

In other respects, it has been reported that local Tuaregs formerly used cheetah pelt as ornament for their saddles (De Smet 2003); however, no information is available to assess whether cheetahs have intentionally been killed for their pelt or the ornamental use was a consequence of a retaliatory action.

It should be added that, to date, cheetah pelts are occasionally kept as decoration in private properties and stores.

2.2. Attitudes of organizations based in Sahara

The literature documented the negative impacts of motorized hunting on the extinction of large antelopes in the Sahelo-Saharan region, mainly due to military, mine, oil or administrative personnels, either African or expatriate (Gillet 1965, 1969; Newby 1978a, 1978b, 1988; Hassaballa & Nimir 1991 *in* Beudels-Jamar *et al.* 2005; Dragesco-Joffé 1993).

In Algeria, the impacts of organizations based in Sahara on the depletion and extirpation of native ungulates have not been substantially documented yet (but *cf.* Dupuy 1972), nor have been assessed attitudes toward cheetah.

2.3. Attitudes of desert tourists and tour operators

The slaughters perpetrated on SSA in Sudan (Cloudsley-Thompson 1992 *in* Beudel-Jamar *et al.* 2005), Niger and Mali (Newby 1990 *in* Beudels-Jamar *et al.* 2005; Bousquet 1992), resulting from hunting tourism, particularly from Gulf countries, is well documented and represents a potential major threat for antelope survival in the Sahelo-Saharan region (Beudels-Jamar *et al.* 2005). On the other hand, tourism activities, managed by operators exploiting commercial market with little concern for conservation and causing damages to wildlife and environment, will indeed negatively impact any wildlife conservation project. In Niger, Newby (1989 *in* Beudels-Jamar *et al.* 2005) mentioned the case of tourists chasing addaxes with all-terrain vehicles, with a high risk of jeopardizing the survival of exhausted animals within the ten minutes following the pursuit (Newby 1989, 1990 *in* Beudels-Jamar *et al.* 2005).

With regard to Saharan cheetah, Dragesco-Joffé (1993) brought to light its distinctive susceptibility to chasing. Retaliatory actions by local pastoralists against cheetahs, using prolonged pursuits, often end in the death of guilty animals (Dragesco-Joffé 1993; personal interview with local herders in Ahaggar).

In Algeria, attitudes of desert tourists and tour operator personnels toward environment and wildlife have not been substantially documented yet. However, in the recent *Elaboration de la stratégie nationale et du plan d'action national de la diversité biologique (phase 2)*, it has been stressed on the lack of ecological-oriented desert tourism due to a temporary lack of regulating instruments (Tolba 2003). It is expected that the new perspectives recently launched by the Algerian Ministry of Tourism, for reviving desert tourism, along with the development of private tour companies, will very likely impact Saharan environment and wildlife.

2.4. Attitudes of mechanized sport organizations

The Algerian Central Sahara was formerly a substantial component of rally-raid routes, including the well-advertised *Rallye Paris-Alger-Dakar*, until the end of the eighties. These sporting events involved an imposing array of racing cars, trucks, and motorbikes boisterously roaming in the desert. In the nineties, rally-raid itineraries have been modified, excluding Algerian Sahara, chiefly for security reasons (Anonymous 2004). Recently, the Algerian Federation of Mechanized Sports (FASM) attempted to revive international rally-raids in Algeria by encouraging and co-organizing the *Rallye du Hoggar* and *Rallye Raid de l'Amitié*, in 2005 and 2006, respectively. However, both events did not take place. Among the reasons put forward for the cancellation of the *Rallye du Hoggar* was a designed route which did not avoid protected sites of the Ahaggar National Park (Anonymous 2005). On the other hand, the cancellation of *Rallye Raid de l'Amitié* was due to a proposed route going through areas of oil activities, though strictly respecting archaeological, cultural, and historical sites; a situation which resulted in the reserve of the Algerian Ministry of Energy and Mines, as reported by a communiqué from the FASM (Anonymous 2006). It is worth noting that the *Rallye Raid de l'Amitié* was designed to totalize about 3,500 km, racing across Biskra, El-Oued, Hassi-Messaoud, Grand Erg, El-Goléa, Ouargla, and Djelfa (Anonymous 2006).

In Algeria, impacts of rally-raids on fragile desert habitats, as well as drivers' attitudes toward wildlife have not been assessed yet. One should be careful of any route design which does not consider wildlife ecological requirements, along with disrespectful attitudes toward environment, because of the high risk of detrimental consequences which could result on the Saharan biodiversity.

In other respects, the organization of rally-raids going through either the Great Eastern or Western Ergs, without any study beforehand on the distribution of endangered slender-horned gazelles and their habitats, could negatively affect the populations of the species. It is worth remembering that the center of gravity of the distribution of *Gazella leptoceros loderi* is found in Algeria, following a line eastern Saoura – Oued Messaoud, in the Great Western Erg, the Great Eastern Erg, the Hamada de Tinrhert and the smaller ergs surrounding the centro-saharan Ahaggar and Tassili N'Ajjer massifs (Sclater & Thomas 1898, Trouessart 1905, Lavauden 1926, Joleaud 1929, Dupuy 1967 in Devillers *et al.* 1998; De Smet 1989, Kowalski & Rzebik-Kowalska 1991; Dragesco-Joffé 1993).

2.5. Organizational management and conservation planning

The inclusion of organizational management in the present paper is justified for that it indirectly involves human attitudes and interactions within and between organizations and institutions devoted to wildlife conservation. Indeed, the way institutions work and interact will definitely impact the development of any wildlife conservation project. On the other hand, sustainable wildlife conservation requires the development of national strategies which lay the main broad policies for achieving conservation objectives.

In Algeria, the first project of Action Plan and National Strategy on Biodiversity (Projet de *Plan d'Action et Stratégie Nationale sur la Biodiversité*) was developed by a panel of national and international experts in the year 2000. The final version of the project was then completed and submitted for approval to the different organizations and Parties involved in the project, prior to be officially endorsed by the Government. Afterwards, with the assistance of the Global Environment Facility (GEF), the Algerian Government achieved the *Rapport de Synthèse sur "La Conservation in situ et ex situ en Algérie"* (Ref. MATE-GEF/PNUD: *Projet ALG/97/G31*), which is a synthetic report chiefly highlighting i) the implementation of measures for *in situ* and *ex situ* conservation and sustainable use of the biodiversity, including planning, strategies and national legislations, ii) the assessment of needs required for strengthening capacities to evaluate and reduce factors threatening the biodiversity, and iii) the assessment of needs for strengthening capacities required to the conservation and sustainable use of agricultural biodiversity (Abdelguerfi 2003).

It is worth mentioning that the abovementioned Report highlighted the fact that different central structures are entrusted with the enforcement of the national policy of nature conservation.

The structures are as follow:

- The *Direction Générale des Forêts*, falling under the remit of the Ministry of Agriculture and Rural Development (Forests General Directorate).
- The *Direction Générale de l'Environnement*, under the remit of the Ministry of Land Management and Environment (Environment General Directorate).
- The *Agence Nationale pour la Conservation de la Nature*, under the remit of the Ministry of Agriculture and Rural Development (National Agency for Nature Conservation).
- The *Ministry of Culture*, the highest authority supervising both Ahaggar and Tassili National Parks.

According to the Report, the above situation creates an overlapping of prerogatives and problems in decision making and management design; hence, negatively affecting biodiversity conservation in Algeria. It has been contended that a consistent national conservation strategy must be enforced by a unique central structure, while its development must call for all stakeholders (administration, scientists, managers, NGOs; Abdelguerfi 2003).

In addition, a sustainable rehabilitation and conservation of SSA and cheetah in Algeria requires the development of species action plans, habitat management plans, and integrated conservation development plans to be embedded within national conservation strategies. However, to take up this challenge, Algerian institutions must resolve the aforementioned issues and unite their efforts in the form of effective inter-institutional concerted actions.

2.6. Awareness and educational issues

Among the major threats put forward by conservationists to explain wildlife endangerment and extirpation are habitat loss and species overexploitation. However, it has been suggested that human indifference is the greatest and most depressing problem in conservation (Balmford 1999). Public awareness and education are, indeed, critical to strive against human indifference and raise conscience with regard to conservation issues.

In Algeria, environmental education is still in its infancy. The last Report on biodiversity conservation highlighted that biodiversity themes have been poorly valorized in educational institutions, as exemplified by primary and high schools (Abdelguerfi 2003). Additionally, based on author's (F. Belbachir) personal observation and judgment, universities have not generated enough incentives for motivating students to get enrolled in ecological disciplines. The above situation resulted in a poor knowledge on wildlife and legislation at a national level, particularly townspeople (based on personal assessment from university students and other people categories). For instance, most, if not all, students and people who were informally interviewed by the author were not aware of the existence of cheetah in Algeria, while knowledge on antelopes was only limited to the imprecise name 'gazelles' with no species distinction. Furthermore, it has been noted a poor knowledge of the National List of Protected Species.

In the view of the above, it can be stated that any antelope/cheetah conservation project requires a substantial change in behavior and compliance with legislation. These can be achieved through education, by encouraging a general interest in antelope and cheetah, generating greater awareness of conservation issues, and bringing about a specific change in opinion.

3. RECOMMENDATIONS

The present paper attempted to summarize and discuss the major human attitudes which could jeopardize any future project aiming to restore extirpated antelopes and conserve the last free-ranging Saharan cheetah populations in Algeria. Following are some recommendations addressed to Algerian authorities, governmental institutions and all stakeholders who are interested in increasing human awareness and changing attitudes toward wildlife at different levels (local, organizational and national) to let any future conservation project have a chance to be crowned with success:

3.1. Local people

Prior or along with any conservation/restoration project in Algeria, it is recommended that scientifically-based information on local opinion and attitudes towards SSA and cheetah be collated in order to portray actual human-wildlife interactions and, hence, let experts suggest alternatives for mitigating any field conflicts that could jeopardize the development of the project. For instance, cheetah depredation on livestock, chiefly on camel calves, in the Central Sahara, compels for urgent investigations in order to mitigate human-cheetah conflicts. Furthermore, raising awareness and bringing about changes in local behaviors require working in close contact and building trustful relationships with pastoralists and local people. These can be achieved through a dynamic process of information exchange and explanatory meetings involving local cultural and natural history museums. Importantly, the aforementioned recommendations must be on an equal footing with a strict enforcement of the legislation in the field with regard to wildlife poaching.

3.2. Sahara-based companies and institutions, tourists and tour operators, and sport organizations

Generating greater awareness on SSA and cheetah plights and bringing about a change in opinion among personnels of companies and institutions based in Sahara, desert tour operators and tourists, and rally-raid promoters and racers, are crucial for a sustainable development and viability of any future conservation project. Indeed, if properly involved, the aforementioned organizations could substantially help project managers by providing useful information on targeted species in Sahara (*e.g.*, distribution, new locations, and group sizes). It is worth citing the South African experience on cheetah photographic surveys relying on photographs taken and submitted by tourists, park officials and their research team (Mills 2004). Furthermore, eco-labeled tourism and mechanized sports, encouraging the design of itineraries considering wildlife ecological requirements and respectful attitudes toward environment, should also be promoted, along with a strong enforcement of the legislation in the field toward irresponsible acts, like chasing or poaching gazelles and other wildlife species.

3.3. Organizational management and conservation planning

As far as organizational management is concerned, the challenge to be taken up by national institutions is to resolve the problem of prerogative overlapping which lead to problems in decision making and management design, as highlighted by Abdelguerfi (2003). Resolving

the abovementioned issue is a critical prerequisite for the setting of a consistent national strategy for the conservation of SSA and cheetah in Algeria, in which will be developed species action plans, habitat management plans, and integrated conservation development plans.

In other respects, it is important that trustful working relationships be built up within and between institutions and organizations in order to efficiently channel all available skills in the conservation of SSA, cheetah and other threatened wildlife species.

3.4. Awareness and education

Heightening people awareness on conservation issues requires both a suitable integration of biodiversity themes in education programs, encompassing different stages (from primary school to university), and providing targeted information to the society through the medias. It is necessary that contents in relation with biodiversity be readjusted and restructured (Abdelguerfi 2003) to let Algerian pupils and students actively involved in the dissemination of the environmental culture. Furthermore, universities should generate more incentives, through their faculties and laboratories, to motivate students and let them enrolled in ecological and nature conservation disciplines.

In other respects, increasing national awareness on the plight of threatened species and conservation initiatives also require the diffusion of information through media coverage (TV footages and spots, radio, newspapers, publications).

Another way to promote the conservation of SSA and cheetah is to involve political or distinguished figures to act as patrons of conservation organizations and projects, as it is exemplified by the Cheetah Conservation Fund – Namibia, directed by Dr. Laurie Marker, under the international patronage of His Excellency Dr. Sam Nujoma, the Former President of the Republic of Namibia. It is worth mentioning that Dr. Nujoma has recently been presented the 2004 Lifetime Conservation Award by CCF's Executive Director, acknowledging his stewardship of cheetah conservation in Namibia (Cheetah Conservation Fund 2005).

Additional recommendations with regard to SSA and cheetah conservation projects in Algeria deal with partnerships between international organizations and Algerian institutions. It is noteworthy that effective international collaborations require trustful working relationships between parties involved in common projects. Furthermore, collaborations aiming to local capacity building, along with technical and scientific assistance, should be encouraged. Importantly, international cooperation promoting scientific research involving national universities and research institutions should be given priority to lay the foundation for future self sustaining scientific-based studies on wildlife conservation ensured by Algerian skills.

Last but not least, it is also important that the laudable actions currently undertaken by the Sahelo-Saharan Interest Group (SSIG) and the Sahara Conservation Fund (SCF) for conserving and restoring antelopes in Sahara and Sahel regions, and the Cheetah Conservation Fund (CCF) for saving cheetahs worldwide be well publicized in Algeria to heighten decision-makers' awareness on the urgent need of developing partnerships and, thus, stopping the extinction countdown of the last Algerian flagship species. Saharan antelopes and cheetah deserve the world community's attention.

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