Caprinae

Newsletter of the IUCN/SSC Caprinae Specialist Group

April 2000

In this issue

Editorial

As usual we have a mix of good and bad news for Caprinae conservation. This issue begins with two updates from biologists working in Pakistan and China , both countries important for the conservation of Caprinae .

In the Conservation News section, reports on Caprinae are not exactly encouraging. The sad, but not unexpected fate of the last Spanish Ibex is reported by Dr. Alados, while Dr. Wehausen summarises the challenges faced by bighorns in the Sierra Nevada of California. Just as we go to press, I received news of a disease-related die-off of California bighorn sheep in south-central British Columbia, and of more disease-related deaths this time in markhor from Chitral, Pakistan. In both these cases the involvment of domestic livestock is suspected.

As this newsletter goes to press, we are in the process of completing final organisational details for our **Workshop on Caprinae Taxonomy,** to be held in Ankara at the beginning of May. The organising committee, ably cahired by Marco Festa-Bianchet, secured funds to support the attendance of several biologists, and Can Bilgin has dealt with on-site logistics and organisation in Ankara. Additional workshop details are given at the end of the newsletter.

Changes will be occurring at the end of the year in both our membership and officers. I will be stepping down as Chair, and have recommended that Dr. Marco Festa-Bianchet take over this position, with Dr., Richard Harris replacing Prof. Sandro Lovari as Deputy Chair.

As always – remember this is your newsletter – please keep making submissions.

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TROPHY HUNTING: update from Pakistan

As reported previously in Caprinae News (August 1998), efforts are underway to use limited trophy hunting of *Caprinae* as a conservation tool to enhance the status of key species in different parts of northern Pakistan. This brief provides an update, and comparison, of two such projects following the 1998/99 hunting season.

Markhor *(Capra falconeri)*

Following the CITES COP10 resolution to allow an annual export quota of 6 hunting trophies from Pakistan, the first permits were allocated during the 1998/99 season: 4 of these permits went to North West Frontier Province and 2 to Balochistan (Table 1). Of the 6 permits, only 3 were used, all in NWFP.

While the hunts took place in December 1998, the 3 trophies were not exported from Pakistan until June 1999. There were several reasons for this. First, the CITES Management Authority in Pakistan took a long time arranging for the required CITES tags. Second, a number of concerns were raised by different institutions (e.g. Central Asia Sustainable Use Specialist Group, IUCN-Pakistan and the IUCN Caprinae Specialist Group) with respect to the management of these first hunts in NWFP, specifically regarding the lack of community involvement and the sharing of benefits from the hunts.

The hunts in NWFP were managed by the NWFP Wildlife Department who engaged a German outfitter to market the hunts. The Government set a license fee of US $18,000 that included both a markhor ($15,000) and ibex ($3,000) tag. While the hunts were originally advertised in German magazines for $40,000, the hunts were sold at an average price of $30,000 according to the government. In the end, the communities received a 75% share of the license fee and this share was divided among the communities within the “conservancies” where the hunts occurred. It is not known, at this stage, what proportion of the community share or government share (25%) has gone towards markhor conservation efforts. However, it seems reasonably clear that if this program is to benefit markhor conservation, it must be managed more effectively at the federal, provincial and community levels.

The annual quota should be allocated early in the season and only to community-managed conservation areas. The quotas must be based on good biological data. Communities must be involved from the outset in both the planning and management of the hunts. Finally, for markhor to benefit from this

program, maximum benefits should go towards conservation, through the communities, while the government & outfitter share should be as small as practically possible. In case of the recent NWFP hunts, these were sold at a considerable discount and, in the end, the community share was less than 50% of the discounted hunt price.

Table 1. Recent hunting statistics for markhor in Pakistan

Location	Size (km^2)	Estimated Population (source)	Quota for 1998/99	Number taken
Tooshi Shasha Conservancy, Chitral, NWFP	200	350 (NWFP Wildlife Dept)	2	2
Gehrait Conservancy, Chitral, NWFP	950	300 (NWFP Wildlife Dept)	2	1
Torghar Conservation Area, Balochistan	1,000	1,296 (Frisina *et al.* 1998)	2	0
Total			**6**	**3**

Asiatic Ibex (*Capra [ibex] sibirica)*

In Northern Areas (NA) of Pakistan, a co-operative program between government (NA Forest, Parks and Wildlife Department - NAFPWD), NGOs (IUCN and WWF) and local communities has resulted in a reasonably successful attempt at developing limited and sustainable trophy hunting of ibex as an economic incentive towards conservation.

In the second year of the program (1998/99), 15 hunting permits were issued by the NAFPWD to 8 "Community Controlled Hunting Areas" where ibex surveys had been completed and management plans prepared. Ten of these permits were sold to international hunters who paid a license fee of $3,000 per permit, and 5 to Pakistani hunters who paid a smaller license fee. In each case, 75% of the fees goes to the community and 25% to the government. In addition, some of the international hunters made extra financial contributions to the communities following the hunts.

Of 15 permits sold, 11 hunters arrived and 6 were successful (Table 2). Trophies ranged in size from 82 to 107 cm (32 to 42 in) where specimens >100 cm are considered to be "large". At this early stage of the program, there are still a few wrinkles to work out, including increasing both success rates and trophy sizes. While some hunters have gone back empty-handed, virtually all have agreed that this program offers a unique hunting experience where the spectacular scenery is only matched by the commitment shown by local communities to conserve their wildlife.

The co-operation between government, NGOs and communities in this program has also enhanced transparency. Payments are made directly and in front of the entire community, and most of the community share is invested in Village Conservation Funds (VCFs) used to pay local Village Wildlife Guides for "watch-and-ward". The spin-offs from this program include:

- Greater community awareness of the economic value of wildlife and the need for protection, regular monitoring and calculating annual off-takes,
- Setting aside some high pastures specifically for wildlife, thus reducing livestock pressure and continued habitat degradation.
- Using proceeds from ibex hunting to establish a limited, community-controlled compensation fund for livestock depredation from snow leopard and wolves (plans are underway to use parts of both the government and community share for this).
- A virtual ban on poaching ibex and markhor that now also applies to "influentials" who previously had a free rein on hunting.
- A sense of community "ownership" of wildlife resources that may be the best option to ensure the future of mountain ungulates.

The future

While the ibex program is well on its way, some fundamental changes need to be made (particularly by the CITES Management Authority in Pakistan) in the allocation, management and monitoring of the markhor export quota. The IUCN/SSC Caprinae Specialist Group provided useful international pressure to enhance transparency during the past hunting season. It is now time for Pakistan to put its own house in order to make sure future hunts are managed according to the spirit and intent of the CITES resolution.

On the bright side, Government of Pakistan has finally approved the UNDP/GEF funded "Mountain Areas Conservancy Project" (approved by GEF Council in February 1999). This is a 7-year project and the full operational phase of the pilot "Biodiversity Project" that helped initiate both the markhor and ibex hunting programs. MACP is a community-based conservation project spread across four "conservancies" (about 16,000 km^2) in northern Pakistan. The project will focus on developing

Table 2. Recent hunting statistics for Asiatic ibex in Pakistan.

Location (District)	Size (km^2)	Total Ibex Observed * (source)	Quota for 1998/99	Number taken
Hushey (Ghanche)	800	636 (IUCN)	6	1
Basho (Skardu)	250	69 (IUCN)	0	0
S-K-B (Skardu)	360	170 (IUCN)	1	0
Kachura (Skardu)	500	234 (IUCN)	1	1
Khyber (Gilgit)	200	152 (IUCN)	2	2
Bar (Gilgit)	950	297 (WWF)	2	0
Ghulkin (Gilgit)	100	33 (WWF)	1	0
Khunjerab Buffer Zone (Gilgit)	115	152 (KVO)	1	1
Karambar (Ghizer)	680	197 (WWF)	1	1
Total			**15**	**6**

* Based on actual numbers sighted during ground surveys between November 1998 & January 1999

sustainable use demonstration projects, including strengthening both the ibex and markhor programs. We hope members of the IUCN Caprinae Group will be able to come to review and provide further advice to the project and, first hand, experience some of the challenges in trying to add wildlife conservation to the agenda of both governments and local communities in the mountain regions of Pakistan. The MACP Project Brief can be viewed at the GEF web site (www.gefweb.org) and going to the October 1998 Council Meeting.
(**Ed. note**: Dr. Christopher Shank was recently hired to manage implementation of the MACP)

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Argali Hunting Area in China: 1999 Update

Beginning in 1997, personnel from the University of Montana have engaged in technical assistance to the wildlife protection office in Aksai county, far western Gansu, in the People's Republic of China (see May 1998 CSG Newsletter). Aksai Kazak Autonomous County (Fig. 1) was created from portions of Gansu, Qinghai, and Xinjiang Provinces in 1954 to provide grazing and administrative services for a group of Kazaks who had fled Xinjiang during the 1930's. Almost the entire county consists of desert and mountainous grasslands. The county's 1993 population was 7,229, of which roughly half were Kazaks. The wildlife protection office operates a small-scale argali (*Ovis ammon*) hunting program under administration of the Gansu (provincial) wildlife protection office and the China Wildlife Conservation Association (in Beijing).

Anecdotal information suggests that argali in this area travel widely, however little is known of movement patterns or their biological correlates. Thus, we intended to capture a sample of argali for fitting with GPS-equipped collars, with the objective of better understanding herd distribution, range use, and interactions with domestic livestock. Unfortunately, during two field seasons (November-December 1998 and April-May 1999) we were unsuccessful in capturing argali. We are unsure exactly why it has been so difficult to bait argali in to our capture devices. Certainly, a history of poaching together with their naturally wary nature has played a part in their sensitivity to human presence. Their long-range and presently unpredictable movement patterns also makes ground-based capture operations difficult, particularly given the logistic constraints of working in this remote, undeveloped setting. Were the study site in North America, we would use helicopter support in such a situation; however, that option appears closed to us in China.

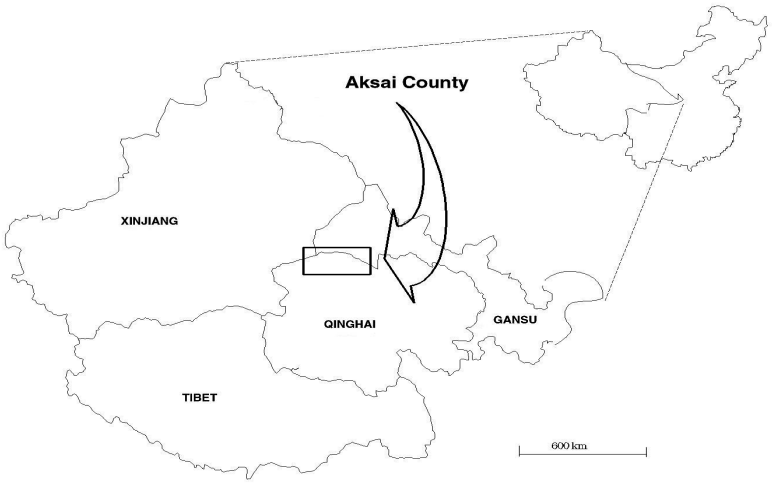

Figure 1. Map of project area showing locaiton of Aksai County within Qinghai and Gansu provinces, China.

Despite this setback, we are continuing our technical assistance program, and hope to make concrete improvements in conservation efforts there. Here, I briefly outline some findings to date.

Argali Population

During December 1998, we documented at least 141 argali wintering along a series of low-rising hills near the Kharteng River. We suspect the total population is considerably greater, but have not yet conducted a comprehensive survey. We received an indication of the kind of movements these animals are capable of during spring 1999. We had expected to camp along the southern slopes of the Danghe Nanshan (mountains), where spring argali hunts are routinely conducted. However, we found not a single individual during preliminary surveys of the Danghe Nanshan, although we did find at least 53 remaining in the winter range. Deep snow during February claimed the lives of at least a dozen argali, and may have also produced unusual springtime distribution patterns.

The main summer ranges of argali in this area are the Danghe Nanshan and Turgan Daba Shan Mountains (both western extensions of the Qilian Shan mountain range, which forms the border between Gansu and Qinghai provinces). Examination of topographic features from maps or aerial photos would elicit concern that resident argali may lack connectivity with those in other mountain ranges (which are surrounded by lower elevation desert). However, during winter 1999 we observed argali crossing the Kharteng River, which separates these two mountain ranges, suggesting that these arid habitats pose no obstacle to movement.

Argali appeared to display avoidance from domestic sheep herds (and herders) on large and small spatial scales. We noted that argali were quite rare (we saw none) in the main domestic sheep grazing areas. Argali were common only where domestic sheep were absent. However, when domestic sheep did enter an area with argali, we noted a small-scale spatial response. Roughly half the argali that we'd seen in the area appeared to move southward, approximately 10 km. Those remaining were often within 2-3 km of domestic herds, but only once did we see

any < 1 km; in general, argali appeared to leave areas when domestic sheep moved in. Argali appeared to prefer higher slopes than prior to when domestic sheep arrived, and appeared willing to travel longer distances to obtain water from the river (in order to drink at locations more distant from pastoralist encampments).

We observed pre-breeding behavior (including head butting, tending of ewes by apparently dominant rams, and flehmen) on a number of occasions during November/December 1998. Most groups observed were mixed sex (whereas sexes are invariably segregated during summer and spring). However, we did not observe any copulation or attempts, and argali behavior suggested to us that breeding peaks sometime after December 17, our last day in the field.

Bone samples from skulls and skeletons have been contributed to the systematics study being conducted at the University of Buffalo (USA) by doctoral candidate Feng Jiu; we tentatively consider these animals to be *O. a. hodgsoni*

Other Species of Interest

During our attempts to capture argali, we also documented (but did not enumerate rigorously) Tibetan wild ass (*Equus kiang*), white-lipped deer (*Cervus albirostris*), wild yak (*Bos grunniens*), Tibetan gazelle (*Procapra picticaudata*), goitered gazelle (*Gazella subgutturosa*), and blue sheep (*Pseudois nayaur*). Wild ass appear to be increasing, and are viewed as forage competitors by local pastoralists. White-lipped deer are occasional dispersers from adjacent Subei county (see below). Both gazelle species and blue sheep appear to be stable. Wild yaks are in low numbers and probably declining.

Although none are common, Aksai contains a broad array of carnivores. We documented wolf (*Canis lupus*), dhole (*Cuon alpinus*), red fox (*Vulpes vulpes*), desert cat (*Felis bieti*), lynx (*Lynx lynx*), snow leopard (*Uncia uncia*), and bear (*Ursus arctos*).

Conservation Problems

As with other trophy-hunting programs recently established in China, reduction of poaching is cited as a major accomplishment of the Aksai hunting area. Based on our ground reconnaissance and behavioural observations of argali behavior, it appears that poaching has been reduced to a very low level. Very few local pastoralists kill wildlife of any sort. Part, albeit not all, of the credit for this, goes not to the hunting program, but rather to the local police which confiscated every gun in the county following a drunken brawl which ended in a murder. Even if armed, local pastoralists would have to make specific efforts to poach argali, because their encampments usually displace argali (see above). However, commercial poachers from neighbouring Subei county took about 20 wild yak, as well as a few gazelles, shortly after we left the field in December 1998. The offenders were captured by Aksai wildlife personnel (who were required to pay for police assistance), and are currently serving prison sentences.

Livestock is nominally managed under a private-property mimicking system in which each herder is restricted to specified seasonal ranges. Theoretically, this should limit herd growth. However, it appears that the system may not be working well, and that county officials (other than the wildlife office) provide little consideration for forage needs of wildlife. Official statistics are dated and unreliable, but we estimate that approximately 50,000 domestic sheep (including goats), 2,000 horses, and 2,000 camels reside within the Kharteng Valley portion of Aksai, the location of the hunting area. We are planning to investigate range conditions and livestock husbandry practices specifically; our initial impression is that forage conditions have deteriorated seriously in recent years. Expected demographic responses on the part of argali to a reduction in their density (by regulated hunting) may not be achieved if newly-vacated argali habitat is simply filled by domestic livestock.

Aksai county has recently received substantial subsidization from provincial and national levels to support an increased human population. Aksai's county seat has grown markedly in the past year, partly from planned movement of poor people from eastern Gansu, but primarily from independent entrepreneurs in search of economic opportunity. Current plans call for diverting a portion of the Danghe (river) from Subei to Aksai to increase irrigated acreage. Oil has been discovered under some of Aksai's deserts, and production (with attendant human development) is beginning. Long-term plans also call for an irrigation dam on the Kharteng River, to allow further irrigation, agriculture, and development. None of these developments affect argali or their habitat directly, but all increase human presence, and thus pose long-term, indirect threats.

These problems are not unique to Aksai or to its hunting area. For example, the entirety of adjacent Yanchiwan township (approx. 425,000 ha) in Subei county is officially recognized as a nature reserve, yet it has a similar number of livestock, a larger number of resident pastoralists, greater mining development, greater poaching problems, and -- if anything -- a less active wildlife management program than does "unprotected" Aksai. Declaring this huge neighbouring region a nature reserve looks impressive on paper, but does nothing to conserve flora or fauna. However, the Aksai hunting program has not yet lived up to its promise of providing incentives to limit ecosystem simplification in deference to wildlife. Aksai staff are aware of the problems, and are interested in gaining the technical capacity (from us), and the legal empowerment (from higher Chinese authorities) to make improvements.

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Conservation News

Pyrenean Ibex extinct

The last individual of the Pyrenean Ibex (*Capra pyrenaica pyreniaca*) in Ordesa National Park, Huesca, Spain has died – it apparently was killed by a falling tree.

The last ibex or "bucarda" was found dead on January 6th under a tree trunk of *Abies* spp. The animal was found on the north slope of Ordesa Valley. The bucarda was provided with a radio collar last spring, which emit a special signal when the animal is dead. That allowed to a quick animal detection. The carcass was brought to Servicio de Investigaciones Agrarias (Zaragoza) on January 7th.

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Bighorn sheep in the Sierra Nevada, U.S.A.

On April 20, 1999 the U.S. Fish and Wildlife Service listed bighorn sheep populations in the Sierra Nevada mountains of California as endangered on an emergency basis. By the 1970's these sheep had dropped to 2 native populations. The large size and productivity of 1 of these allowed its use as a reintroduction source to re-establish 3 additional populations between 1979 and 1988. However, during that same time period, there was a large increase in mountain lion (*Puma concolor*) in this region, and in California in general. Effects of mountain lion predation reversed the recovery trend of these sheep and have now caused a loss of two-thirds of the total bighorn population. Currently, only about 100 sheep remain, distributed across 5 populations. The greatest negative effect of lions on these bighorn populations resulted from changes in habitat selection in which the sheep abandoned regular use of low elevation winter ranges.

Emergency listing of Sierra Nevada bighorn sheep was sought by a coalition environmental groups to provide resource management agencies with some badly needed tools. In 1990, the voters of California passed a proposition that eliminated authority of the Department of Fish and Game to engage in mountain lion control for endangered species in California. However, a lion could still be killed if it had preyed on livestock or pets, or was considered a threat to public safety. Under Federal listing, the U.S. Endangered Species Act will supersede this state law and again allow focused lion control where needed. In addition, there are some domestic sheep allotments abutting bighorn sheep ranges, and stray domestic sheep have been documented in recent years within bighorn habitat. Federal listing will require the U.S. Forest Service to correct this situation immediately. (*Ed. Note – domestic sheep have been implicated in population die-offs in bighorn sheep in several areas in western North America)*

Bighorn sheep in the Sierra Nevada have long been considered part of the California subspecies *Ovis canadensis californiana*), once thought to stretch from this mountain range, north to British Columbia. Recent research on mitochondrial DNA and skull morphometry have not supported this. Instead, bighorn sheep in the Sierra Nevada appear to be part of the desert clade, but are notably unique among all desert bighorn. The U.S. Fish and Wildlife Service used its authority to list unique populations, rather than taxa, in handing down the emergency listing for bighorn in the Sierra Nevada mountains. This occurred because the research revising the traditional taxonomy for North American Bighorn sheep had not been published (this work has since been accepted for publication by the Journal of Mammalogy). When the 240 day emergency period is completed, and the Fish and Wildlife Service establishes permanent listing, it can be expected to be on the basis of this new taxonomy rather than on a population/geographic basis.

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Recent Publications

Réale, D., Boussès, P., Pisanu, B. & J-L. Chapuis. 2000. Biannual reproductive cycle in the Kerguelen feral sheep population. *J. Mammal.* 81:169-178.

Wehausen, J.D. & R. Ramey II. 2000. Cranial morphometric and evolutionary relationships in the northern range of *Ovis canadensis*. *J. Mammal.* 81:145-161.

Meetings

IUCN/SSC Caprinae Specialist Group's Workshop on Caprinae Taxonomy

8-10 May 2000, Ankara, Turkey

Following directly from the 1997 IUCN Caprinae Action Plan's recommendation 12.2.2 - Taxonomy & Genetic Diversity, the purpose of the workshop is to:

- Provide an update on the current status of taxonomy of mountain ungulates
- Identify knowledge gaps, particularly those most relevant to conservation
- Provide a forum for a frank and open exchange ideas about caprin taxonomy and conservation
- Foster the establishment of collaborations among researchers
- Favour co-ordination of future research and conservation efforts
- For those taxa for which a consensus exists, produce a guide to the identification of the world's mountain ungulates

Speakers will present papers on:

- Evolutionary/fossil history of Caprinae
- Why caprin taxonomy is important for conservation
- What are the problems involved in using taxonomy for conservation
- A synthesis of current knowledge of the taxonomy of Caprinae subgroups
- Hunters' view of caprin taxonomy, and how it may (or may not) differ from scientific taxonomy
- Molecular Vs morphological taxonomy: can we agree on anything?
- Identification of taxa that require clarification
- Appropriate and inappropriate taxonomic characters
- What are the most important and urgent taxonomic problems of Caprinae that affect their conservation?
- World-wide co-ordination of sample and data collection
- Production of a standardized sampling protocol useful for trained and untrained field people
- Production of a guidebook with pictures and drawings of the world's Caprinae, useful for field identification, customs officials and management and enforcement agencies
- Revision of taxonomic categories used for trophy evaluation of Caprinae
- Co-ordination of funding strategies and of graduate student and field personnel training strategies

To date, Caprin biologists from over 12 countries are participating.

The following organisations have generously supported the Workshop: The International Council for Hunting and Conservation (CIC), the International Foundation for Conservation of Wildlife, the Peter Scott IUCN/SSC Action Plan

Fund, and the Unites States Fish & Wildlife Service.

For more information visit the workshop website at:
http://callisto.si.usherb.ca:8080/caprinae/iucnwork.htm
or e-mail Marco Festa-Bianchet at:
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2000 International Meeting of the Ungulate Research Group

30 May –2 June 2000
Ford Castle, Wooler, Northumberland, UK

Scientific programme

There will be two full days of scientific presentations. If you would like to present a talk, please send a summary (around 150 words) to Stephen Hall, before 15 February 2000. If you wish to exhibit a poster, please tell me its title. Selection of papers and posters will be by the organising committee with advice from specialist assessors.
Possible themes include: *Multiple land uses in the uplands; management of lowland grasslands for biodiversity; pastoralism; tropical ungulates; ungulate behaviour; ecological genetics; deer in woodland*.

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International Mouflon Symposium

"Mouflon (*Ovis gmelinii musimon*) as introduced species on the European continent"
27-29 October 2000
Sopron, Hungary

Organisers
Dr. Adrás Náhlik (Hungary)
Walter Uloth (Oberdorf1. D-98617, Seeeba/Rhön, Germany)

Scientific Program

- Management of populations
- Genetics & systematics
- Reproduction
- Feeding strategies, habitat use & home range
- Diseases, condition & reproductive technologies
- Managed enclosed populations

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Deadlines:
Final registration with the transfer of the reduced registration fee - 30 April 2000

Final announcement with detailed program - 10 September 2000

Acknowlegements

- Faculty of Agricultural Sciences, UBC.

Editorial Note

Views expressed in the articles in this newsletter, do not necessarily reflect those of the Caprinae Specialist Group