Takhi Post

ITG INTERNATIONAL TAKHI-GROUP

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A future in the Gobi.

We are still unable to answer many important questions about the Gobi desert habitats. To secure a future for their life forms, we need to better understand their needs.

Photo: Rebekka Blumer

Protect the primordial Wild Horse and its habitat.

Dear friends of the Wild Horse,

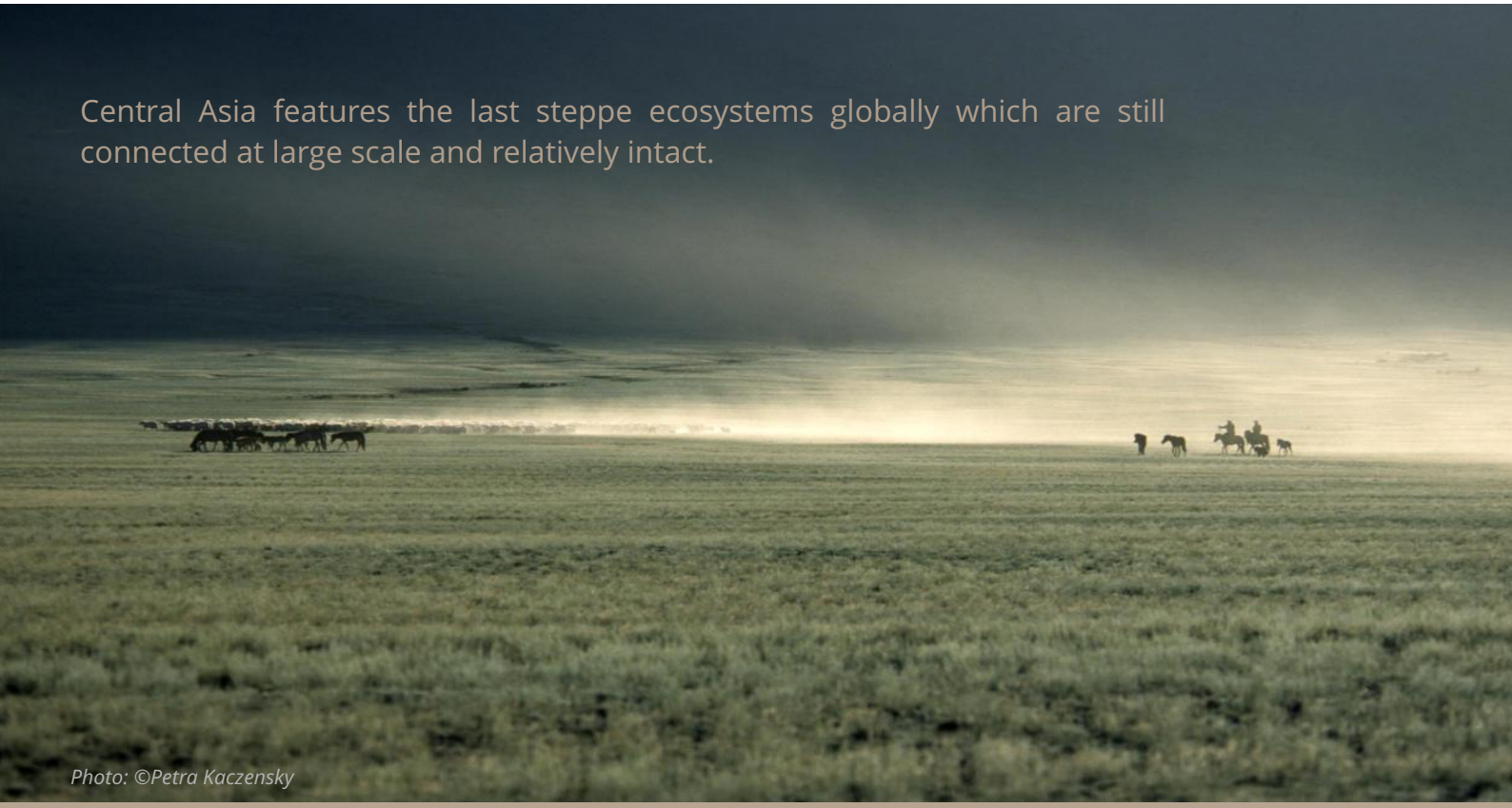
Almost everywhere today's world is shaped by man. Globally, near-natural habitats are fragmented and isolated. Wilderness persists almost exclusively in reserves which are almost always much too small in ecologically terms. And even in protected areas, the smaller and more isolated they are, the fewer species survive. Isolation means pauperization. That's why it is of utmost importance to network areas in which rare species have survived.

Globally Central Asia features the last steppe ecosystems which are still connected at large scale and relatively intact. These dry, treeless grass and shrub landscapes appear sparse but harbor unique life forms: besides primordial Wild Horses (Takhi), Asiatic wild ass, goitered gazelle, saiga and other large mammals, many specialized small mammals, birds, reptiles, invertebrates and plant species that occur only in this biotope. Larger steppe dwellers must be mobile to survive, as forage and water supplies are scarce and change rapidly. Any border thus poses a problem. Barbed-wire boundaries, pipelines, even simple fences, a road or railroad can be an unsurmountable obstacle. End of migration. End of life form.

To enable such species to survive requires supranational thinking and acting. That's one of my priorities as Swiss delegation leader at CMS (Convention on the Conservation of Migratory Species of Wild Animals), also called Bonn Convention. In ITG we advocate the enlargement of the Mongolian Great Gobi B Strictly Protected Area and its networking with adjoining steppes in Mongolia and China – a goal perfectly fitting the action plan of CAMI (Central Asian Mammals Initiative), a CMS initiative for the conservation of large Central Asian mammals.

To effectively protect grown life forms, we need to know their further needs – i.e., reality of their life in the 21st century. Easier said than done! Even many fundamental questions remain unanswered today. We thus have to use serious research and hands-on measures to find specific answers for the manifold threats. How can we prevent the spread of diseases through ever-larger herds of cashmere goats, the primary source of income for the local population? Is the prospection for mineral resources, tied to enormous economic interests, compatible with the protection of steppe animals? How can we monitor the growing, but still fragile takhi population in future, and could tourism contribute to financing conservation in the Gobi? Such questions keep us busy. If we solve them successfully, we will conserve, together with the primordial Wild Horse, many other species of its habitat. But let's not lean back yet! There is still much to do, and we only succeed if big-hearted people continue to be willing to engage for such ideational goals, along with us. People with a horizon as vast as the steppe. You, maybe?

Dr. Reinhard Schnidrig, President of ITG



Central Asia features the last steppe ecosystems globally which are still connected at large scale and relatively intact.

Photo: ©Petra Kaczensky

Wild Horses need pasture!

The Great Gobi B Strictly Protected Area is not reserved for wildlife alone, but rather being used by nomads from time immemorial. In winter they drive their cashmere goats, sheep, domestic horses and camels from the adjoining mountain pastures down into this basin surrounded by mountain ranges, where they graze around the water holes. Yet the sparse pastures of the preserve are also critical for gazelles, khulans (wild asses) and takhi. This raises important questions. How strong is the competition for food at the precious water points? Is it increasing because ever more cashmere goats, albeit from ever fewer herders, roam there? Is shy wildlife being displaced to poor pastures by the presence of people, or can it coexist with the livestock herds – and if so, how? Do the 15'00 gazelles, 9'000 khulans and 200 takhi of Great Gobi B occupy separate ecological niches, or do they depend on the same pastures? In a cleverly designed study[1] European and Mongolian researchers investigated the forage plants of wild asses, wild and domestic horses. For this purpose they analyzed tail hairs. During their slow, steady growth they store, centimeter by centimeter, stable carbon isotopes (atoms with variable atomic weight) from the fodder. Their ratio varies by type of food plant. Burning the tail hair sequentially allows for analyzing the carbon with a mass spectrometer and thus deducing seasonal food composition, provided one knows the speed of tail hair growth. The result: khulans graze in summer but change to browsing on shrubs and grazing in winter. They can then be found far from water points, as they need less water and are more mobile than domestic horses and takhi. These prefer to feed on grass even in winter, the most challenging season. Hence they congregate at water holes with the best forage. There they meet direct competition from the nomads' domestic horses and livestock. That's a problem for the wild horses which exactly in winter meet their limits. The researchers conclude that clearer rules are needed for livestock grazing in the preserve to avoid jeopardizing the coexistence of domestic and wild animals. Work for ITG!

[1]Martina Burnik Šturm, Oyunsaikhan Ganbaatar, Christian C. Voigt and Petra Kaczensky: Sequential stable isotope analysis reveals differences in dietary history of three sympatric equid species in the Mongolian Gobi. Journal of Applied Ecology 2017, 54, 1110–1119, doi: 10.1111/1365-2664.12825

Photo: Rebekka Blumer

The presence of people displaces the shy khulans to poor pastures. How this resource conflict can be solved sustainably is an important, as yet unanswered question.

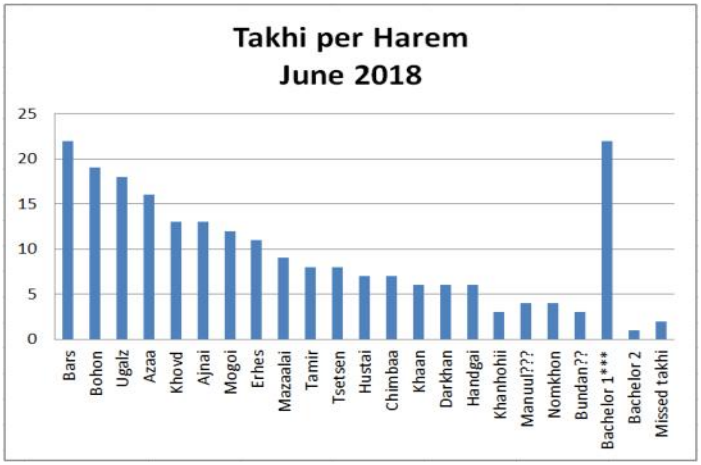
Dzungarian field data on isotopes

Stable isotopes (atoms with variable atomic weight) form highly informative archives associated with large-scale landscape patterns. Global isotope patterns in precipitation can thus be used in wildlife migrations, forensics, authentication and traceability studies. However, there are only a few hundred locations world-wide for which such data have been collected for at least one year. As of late, this includes the Dzungarian Gobi (Mongolia), where Martina Burnik Šturm and Petra Kaczensky (Research Institute of Wildlife Ecology, Vienna) were the first to measure hydrogen and oxygen isotopes in precipitation, rivers and other water bodies[2]. Their field data deviate from modelled isotope data, highlighting the difficulty of modelling isotopic values for extreme climatic zones such as the Dzungarian Gobi. Therefore, the researchers want to collect long-term field data in the region.

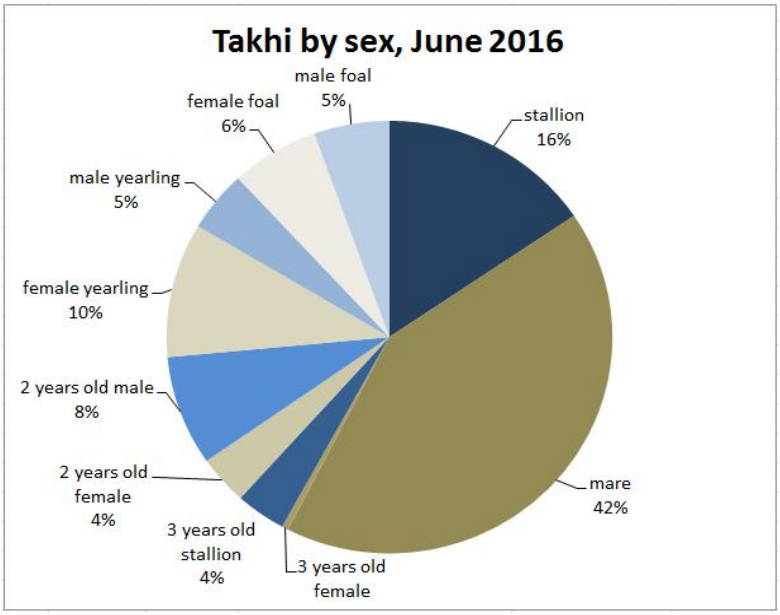
[2]Martina Burnik Šturm, Oyunsaikhan Ganbaatar, Christian C. Voigt and Petra Kaczensky: First field-based observations of δ2H and δ18O values of event-based precipitation, rivers and water bodies in the Dzungarian Gobi, SW Mongolia. Isotopes in Environmental and Health Studies, 2016,https://doi.org/10.1080/10256016.2016.1231184

New peak of takhi count in "Great Gobi B"

The Great Gobi B Strictly Protected Area lies in the Dzungarian Gobi, a mountain-framed basin with an elevation of 1200m above sea level in the Southwest of Mongolia. Here the world's last free-roaming primordial Wild Horses persevered before they disappeared in the sixties of the 20th century. And here, about 30 years later, the offspring of a dozen of the takhi surviving in zoos started to be released into the wild again. Since then the tiny population has also been reproducing well, despite the harsh environment. However, the catastrophic winter 2009/2010 claimed the lives of 2/3 of the population. Since then it has been recovering, and in May 2018 it reached a new peak at 223 individuals (of which 23 were this year's foals). Nevertheless, this remains a small, fragile population which requires further protective efforts. This is evidenced by the other population of approximately the same size in the Hustai Nuruu National Park which this year suffered from drought and lost horses. Moreover, infectious diseases that could be spread by livestock at shared water points and pastures remain a constant concern. An encouraging sign is the increasing spatial dynamics of the takhi since 2015, through which the originally very sedentary harems are familiarizing better with the changing resources of the preserve and have found to a totally wild way of life. However, this renders the hitherto very precise monitoring more difficult. In the mid-term, a change in strategy may thus be required, moving from the current observation at individual level (which allows a most detailed insight into the population dynamics) to a broader focus. Likewise, the relevance of transports may increasingly shift towards a special scenario, as their contribution to increasing and genetically mixing the population tends to decrease. Currently the Director of Great Gobi B, Oyunsaikhan Ganbaatar, ITG specialists and scientists are working on a new management plan that will define future guidelines for the management of the Takhi, but also for the other key themes of Great Gobi B.



*This year there were many changes between harems. However, the harems' mean size remained unchanged at around 10 takhi. Meanwhile the number of bachelors (bar „Bachelor 1***) increased by almost 50%. Bachelor 2 is the lone young stallion Tzuut.*



Currently almost 2/3 of all takhi in Great Gobi B Strictly Protected Area are female. Because of the social organization in harems this is an ideal pre-condition for fast population growth. In contrast, the gender ratio among sub-adult Wild Horses is balanced (20% females, 22% males), suggesting a future decrease in harem size and/or increase in bachelor groups.

Tzuut is alone again

Regular Takhi Post readers will remember Tzuut, a stallion foal which lost his mother in mid August 2015. Alone, a foal survives for a week at most. The surprise was huge when the little horse, long believed dead, showed up in a domestic horse herd in early October. He was caught, loaded into a van and brought to an acclimatization enclosure with three takhi. Again he was lucky: the mare "Paradise" adopted him. In mid June 2016 the four takhi were released. By the eastern water point Khonin us they joined a group which had come from the western waterhole Takhin us. In July they followed the group eastbound and joined the harem of the stallion Khaan. In November 2016 they moved to stallion Khovd's harem. In early May of this year Khovd expelled Tzuut from his harem – a typical fate of teenage stallions. In the west of Great Gobi B, where only few takhi roam, Tzuut is now the only stallion having to eke out a living all by himself, without a harem or bachelor group. Not an easy feat, the more so as wolf packs patrol the area. Until Tzuut can conquer his own mares, he will have to endure several years. We cross our fingers for him and wish him the luck he had to recourse to already so often.

2018 the population reached a new peak at 223 individuals. Nevertheless, this remains a small, fragile population which requires further protective efforts.

Species portrait: Argali

The Argali (Mongolian for *Ovis Ammon*) is the world's largest wild sheep and the Central Asian equivalent of America's Bighorn sheep. Its original preferred habitat is rolling hills, soft slopes and plateaus. Today's remnant populations (whose status as subspecies is under debate) live scattered over a huge area in Central Asia from Kazakhstan to China. In Mongolia, Argali live in the Mongolian Altai, Trans-Altai, Khangai mountains and in rocky regions of the Gobi. As per IUCN's Red List[3], the populations are decreasing by almost 10% per generation. There are no reliable respective data from Mongolia, but available evidence suggests that there are a few thousand Altai Argali and about 10'000 Gobi Argali, according to IUCN. The species is now absent from large areas in western Mongolia where it used to live.

In other Central Asian countries its conservation status is even direr; in Kazakhstan Argali have been hunted with automatic rifles; in Kyrgyzstan the population collapsed according to (not very reliable) estimates by almost 40% between 2003 and 2006 alone. Its global population trend is decreasing. The reasons are always the same: overhunting and poaching, as well as competition for forage, displacement by and possibly disease transmission from livestock.

In Mongolia Argali are hunted for meat, but also increasingly to export their horns to China. There, keratin, from which horns (and our fingernails) are made, is considered a medicine.

Nomadic herders displace wild sheep from their habitat. Not only are Argali extremely intolerant of human disturbance; the ever more numerous livestock also grazes its forage, and herding dogs chase and kill young wild sheep.

Moreover, the fast increase in exploration for soil resources leads to the loss of ever more living space and to additional poaching. Finally, a predominantly local threat is posed by non-sustainable trophy hunting.

All these threats are serious, especially because the effectual conservation laws are rarely enforced throughout the entire Argali range. In Mongolia Argali are listed as "rare" since 2001, Altai Argali as "endangered" since 2006. General hunting of Argali (but not controlled trophy hunting) has been forbidden since 1953. In 2005 the export quota according to CITES Appendix II was 80 trophies and 44 skins and horns.

The lucrative trophy hunting could theoretically finance conservation activities. According to current hunting law (1995) its revenue – USD 18'000 per Altai Argali, USD 9'000 per Gobi Argali – should go to the state (70%), the Province (20%) and the local hunting party (10%). The 90% of revenues paid to authorities would have to benefit the

[3] Harris, R.B. & Reading, R. 2008. Ovis ammon. The IUCN Red List of Threatened Species 2008: e.T15733A5074694. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T15733A5074694.en. Accessed 31.5.2018.

The Argali (Ovis ammon) is the world's largest species of wild sheep. Its numbers are dwindling in its range through poaching and displacement. The numbers of Mongolian Argali are decreasing quickly (IUCN estimate: max. 30% per 3 generations / 24 years).

Reinhard Schnidrig with what is claimed to be the world's largest known Argali trophy, located in Ulaan Baatar's Museum of Natural History.

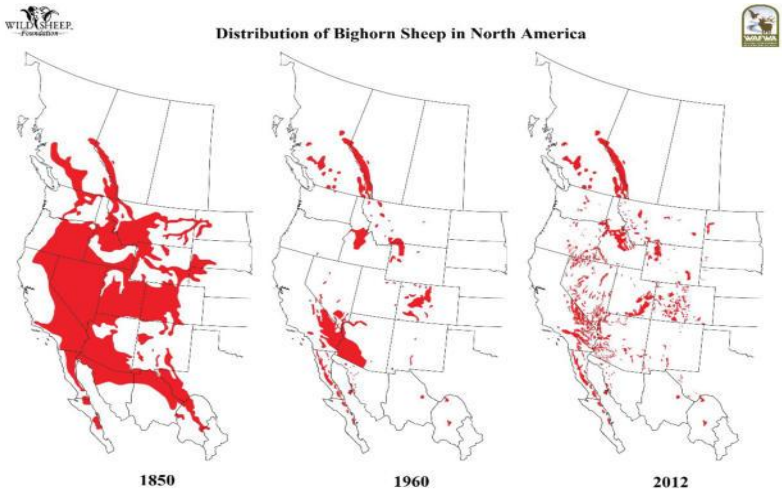
Trophy hunting has to be well planned and monitored, otherwise it eliminates the strongest, fittest individuals of a population. In contrast to natural selection, which favors exactly those individuals, excessive trophy hunting thus weakens the populations.

In Mongolia Argali are listed as "rare" since 2001, Altai Argali as "endangered" since 2006.

region's population and official conservation activities. In reality, at the turn of the millennium little money made it back to such beneficiaries[4].

In 2002 the Mongolian Ministry of the Environment and WWF developed an Argali conservation and management program. For the Argali to have a future in Mongolia, the recommendations of this plan should be followed and the existing hunting law should be enforced. This requires more rangers in areas with important Argali populations, and the local population should benefit financially from the Argali's existence – e.g. through conservation activities, tourism or major revisions of trophy hunting regulations, as recommended by S. Amgalanbaatar in 2002.

In Colorado, Alaska and other US federal states, wild sheep are popular photo subjects flushing plenty of money into the states' treasuries.



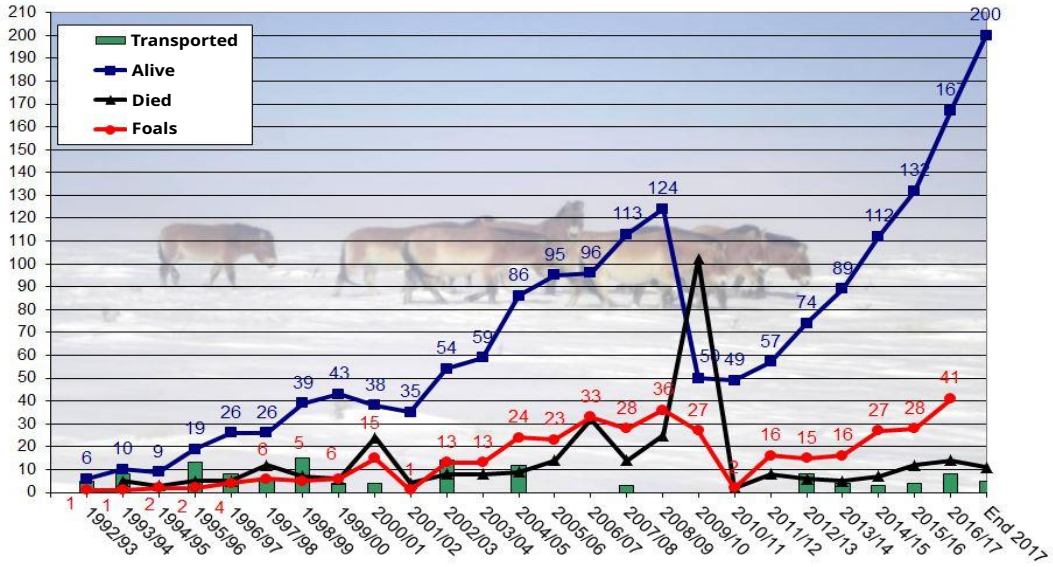
Distribution of Bighorn sheep in North America: first collapsed and fragmented, then re-expanded by suitable conservation measures. A warning and an example for the Argali's case.

Khulans follow water

Large herbivores in scant habitats show unpredictable, large-scale nomadic movements rather than seasonal migrations. The respective triggers have barely been investigated, but changes in food supply have been suspected. In the Mongolian Gobi khulans cover vast distances during such movements. Led by Dejid Nandintsetseg, a group of Mongolian and international scientists investigated which scarce resources provoke the high mobility of khulans[5]. To do so they used sightings of the species over the 6 years in which ground-based game counts took place. They matched these with the simultaneously recorded vegetation productivity, enabling the modelling of the habitat. Vegetation productivity proved to be an important factor in khulan migrations, but it fluctuated too little seasonally and over several years to explain the large-scale movements of the wild asses. However, the model showed that khulans do not move farther than 21km from water points. Factoring in additional telemetry data, water availability at widely scattered waterholes seems to be the main reason for the species' high mobility. The authors thus recommend to government agencies and conservationists to ensure functional connectivity among water bodies in dryland ecosystems.

[4] Amgalanbaatar, S., Reading, R. P., Lkhagvasuren, B. and Batsukh, N. 2002. Argali sheep (Ovis ammon) trophy hunting in Mongolia. Pirineos 157: 129-150.
[5] Dejid Nandintsetseg, Petra Kaczensky, Oyunsaikhan Ganbaatar, Peter Leimgruber, Thomas Mueller: Spatiotemporal habitat dynamics of ungulates in unpredictable environments: The khulan (Equus hemionus) in the Mongolian Gobi desert as a case study. Biological Conservation 2016, https://doi.org/10.1016/j.biocon.2016.10.021

The recommendations of the Argali conservation and management plan developed in 2002 show how the Argali's future in Mongolia can be secured.



Takhi numbers at a peak

Since the catastrophic winter 2009/2010 the population has been recovering quickly. In 2018 it reached a new peak at 223 individuals (of which 23 were this year's foals). Another 35 mares are still pregnant, so that the mark of 250 individuals might be reached. Nevertheless, this remains a small, fragile population which requires further protective efforts.

Adaptation to change

By Lena Michler, M.Sc.

Not only takhi and khulans trek through the vast plains of Great Gobi B, but also nomadic herders with their livestock. But will this traditional life-style still be possible in the future? Mongolian herders, too, are not immune against urbanization, modernization and the impact of climate change. Currently 40 herder families and their animals use the natural resources of Great Gobi B in the winter and spring months. But will the younger generation continue this nomadic life-style? Can herders in Great Gobi B subsist on their herds alone? And how can conservation in Great Gobi B, including with regard to a desired park enlargement, be made compatible with the use by nomadic herders?

These are questions I deal with as a doctoral candidate at the University of Hohenheim, Germany, under the supervision of Dr. Petra Kaczensky and Anna Treydte. The aim of our study is to develop, together with the local herders and the park management, easy-to-use grazing strategies. We use an innovative approach combining socio-economic and ecologic questions. Involving herders in the management of protected areas is still rather unusual. More research is needed on National Parks which on one hand contribute a lot to conservation, and on the other hand secure the subsistence of traditionally living people. This applies in particular to regions such as Great Gobi B, where resources are scarce and the ecosystem is strongly climate-dependent. We aim at developing alternative co-management strategies for sustainable grazing through interview data, experiments, field observations and subsequent computerized modelling. This will happen in close cooperation with the local herders and the park management of Great Gobi B. Eighty herder families in and around Great Gobi B will be interviewed, and 20 goats and sheep will be fitted with GPS collars to monitor their movement patterns. Through DNA bar coding, dung samples from takhi, khulans, goitered gazelles, goats, sheep, camels, cows and domestic horses shall allow identifying the most sought-after forage plants and potential food competition between wild and domestic animals. The vegetation potential in different vegetation units within the entire preserve shall be investigated in experimental areas. Soil analyses from around the herder camps shall measure nutrient distribution in the soil, and a pot experiment will examine the number and species of germinable seeds in the soil. Together these data shall provide a holistic picture of the herder families' socio-economic situation in and around the Great Gobi B and depict the ecological situation of the pastures on which the nomadic herders of the Dzungarian Gobi depend until today.

Lena Michler (back row, 2nd from left) with the Takhin Tal team of Director O. Ganbaatar (back row, middle) and nature filmer Humair Hayat (front row, first left). Photo: Humair Hayat.

What one centimeter of tail hair tells

The distribution of isotopes (i.e. atoms of the same chemical element with different atomic weight) in the environment changes with temperature. Therefore, it can be matched with Earth observation data of NASA (EOSDIS). In this way, a summer/winter rhythm is recognizable in each analyzed tail hair. It allows calculating that 1cm of tail hair growth on average takes 19 days in khulans, 17 days in takhi and 13 days in domestic horses[2a].The speed of growth also varies by individual. Applying these data to takhi tail hair from museums, it can be shown that in the final phase before their extermination, takhi were feeding like khulans, i.e. eating shrubs in addition to grass – apparently a consequence of the merciless persecution that forced them into unsuitable habitats.

[2a]Martina Burnik Šturm, Budhan Pukazhenti, Dolores Reed, Oyunsaikhan Ganbaatar, Stane Sušnik, Agnes Haymerle, Christian C. Voigt and Petra Kaczensky: A protocol to correct for intra- and interspecific variation in tail hair growth to align isotope signatures of segmentally cut tail hair to a common time line. Rapid Communications in Mass Spectrometry, 2015 Jun 15;29(11):1047-54. doi: 10.1002/rcm.7196.

Faces of conservation: Batsukh Jamiyandorj

Starting in the 2018 business year the Mongolian ITG Team was reinforced with a hearty boost of woman power. To find more support for our program in the country of the Great Gobi B, too, ITG hired Mrs Batsukh Jamiyandorj as Program Manager, based on a careful application process. Batsukh holds an MBA in International Management of Nürtingen University (Germany) and has more than 18 years of work experience in various national and international organizations, including SDC, GIZ, The Asian Foundation and the Hilton Hotel UB. She is not only fluent in German, English and Russian, but is also blessed with near-inexhaustible energy. She impressed the ITG Board by not only contacting numerous potential sponsors to expand the Mongolian sister club of the "Friends of the Wild Horse" and acquire donors, but also by achieving first tangible results in a very short time. Such energetic support is most valuable for ITG!

ITG: Batsukh, how well do you really know horses?
Batsukh: Before I started to work for the Friends of the Takhi Foundation, I didn't know horses well. Actually once in Denver/Colorado (USA), a Korean was teasing me that I was the first Mongolian ever she saw who couldn't ride a horse. But now I know quite a lot more about horses – especially about Takhi.

ITG: Your professional development adds valuable knowledge and experiences to the small ITG team in Mongolia. What made you lend your working power to our organization?
Batsukh: I am enthused by the work that has been done by ITG and enthused by the people who made it happen. I can't breed or treat horses, but what I can do is support with management and organization, having studied Business Administration and collected respective professional experience.

ITG: What would you like to achieve for ITG over the next 3 years?
Batsukh: Above all, I would like to win many more young people as members of our Takhi Friends Foundation, if ever possible. For it is very important that the young generation realizes how fragile our ecosystems are and how critical it is to protect the environment.
I would also like to involve more local herders and communities into our activities. As new members they could be valuable volunteer rangers.

ITG: How do you try to inspire donors to support the Takhi Friends Foundation in Mongolia?
Batsukh: Firstly, this work was started 26 years ago and keeps being a success, mostly through the help and donations from private foreign investors, zoos and parks. Now it's time for Mongolians to get more actively involved in this generous work and support it. In those 26 years so much has been achieved, like airlifting a total of 124 horses from Europe, and a lot more. As the Takhi have returned, it's our duty now to keep reproducing under our protection. Obviously, Great Gobi B SPA is a governmental organization, but additional support is very important. Secondly, Friends of the Takhi not only supports the Takhi, but the entire fragile ecosystem of Great Gobi B SPA, which is very important for Mongolia. This ecosystem is unique, so we must conserve it for the future, especially for our children. Think of the nomads of this region – they need to involve more, as they also depend on this ecosystem in their neighborhood.

ITG: Although Mongolia had an enormous economic growth in the past decade, large portions of the population are not yet wealthy. Can we even expect such people to be appreciative of the conservation of the Gobi ecosystems and especially that of a very rare large animal species?
Batsukh: True, it isn't easy. But we have to understand that we need to join in already now, and not expect someone to come and help us. We are Mongolians, we can't move to some other place: this is our country. We need to protect it now, or it will be too late.
For us, anything counts, even a very small donation or membership fee – for all together we can surely achieve much more.

ITG: How would you envision an ideal compromise between the economic development of your country and the conservation of its beauty of nature?
Batsukh: In Mongolia, the sectors considered most suitable for economic growth are stock-breeder products and resource products. Economic development should endorse the principle of sustainability. In simple words, one has to understand that surely one can make a lot of money selling resources or breeding stock – but once the pasture is exhausted or the resource is extracted, no paper money will be able to buy it back. And where will our children breed their stock once the pasture is gone?
Maybe that's why we need to re-think how our ancestors were dealing with nature. Just now in May I was in Gobi-Altai and Hovd Aimag, right at the time when herders were combing out their cashmere goats. I was completely surprised by the number of goats owned by some families: between 500 and 1000. Yet at the same time all the herders were complaining about pasture degradation. Surely global warming does have an influence, but I was thinking that maybe herders should ponder whether they really need that many goats. It seems like we're destroying what feeds us. But admittedly, that's only a limited perspective of this large problem.

ITG: Batsukh, we thank you for your strong engagement and wholeheartedly wish you great success in your challenging but fascinating activity.

Joining hands together!

Should you, dear reader, feel inspired to also support our program with deeds (web design, communication, developmental aid, construction work, project management, …), just reach out to ITG (rebekka.blumer@sannet.ch). Our somewhat hoary team volunteering their time to wild horses and their ecosystems would be grateful for energetic support. Bring in your ideas and energy. There is always something to do for the conservation of the Gobi – be it as Board Member or from outside the Board. Plus… see Takhin Tal with your own eyes and stay there for free. It's part of the package!

 Photo: Rebekka Blumer

Takhi are primordial Wild Horses

Premature conclusions can be drawn even from carefully generated data: they may fit one interpretation, but also others, much more plausible ones. In a recent publication in "Science", a group of researchers concluded from (very careful) genetic analyses that primordial Wild Horses (Equus przewalskii) were feral descendants of domesticated horses of the Botai culture (around 4000 B.C.E.)[6]. Other researchers are not convinced by this hypothesis[7, 8, 9, 10].

It is based on one hand on the genomic analysis of bones from 44 horses and on the other hand on archaeological finds: remnants of two enclosures interpreted as horse corrals and slaughtering places; traces of horse milk fat on ceramic fragments; and dental pathologies that may be bit-related. From this evidence it is concluded that the Botai changed over from hunting wild horses to "domesticating" them. The genomic analysis places these in the horse phylogeny just above the Takhi, which means, according to the authors, that current Takhi descend from feral domestic horses of the Botai.
This implies that the Botai and other nomads, despite the then low human population density, either managed to exterminate all wild horses roaming Central Asia at that time, or that all those which they failed to capture left no offspring ever. Both options are unlikely.

However, this story can be interpreted more soberly. Firstly, the wild horses which the Botai learned to first catch and slaughter, then manipulate, were in all likelihood primordial wild horses – what else? No wonder they are closely related to today's Takhi. Secondly, manipulation in captivity is by no means identical to domestication (a very diffuse term in any case), as shown by a glance at tamed, manipulated elephants and other wild species. Thirdly, 5000 years-old genetic samples do not allow to construe a phylogenetic tree with any sufficient certainty[8].
Fourthly, the individual-based phylogeny calculation used by the authors is inadequate for population-genetic questions; the data presented do not even allow distinguishing the "feral" claim from a scenario in which all current Takhi are true wild horses[10].

The data therefore do not allow concluding that the "Botai horses" were direct ancestors of the Takhi, but merely that Botai horses derived from the same population of (primordial) wild horses which also gave rise to today's Takhi.

Finally, regardless of all academic arguments, the Takhi is the only remaining representative of an archaic horse type. As such it deserves the utmost conservation efforts. This message is much more important than overexcited interpretations of an archeological excavation.

[6] Gaunitz C et al.: Ancient genomes revisit the ancestry of domestic and Przewalski's horses. Science 2018, 360 (6384):111-114.
[7] Walzer C et al.: Przewalski's horses may be wild, despite close relationship with early domestic horses. E-letters to Science, 17.5.2018: http://science.sciencemag.org/content/360/6384/111/tab-e-letters, accessed 30.5.2018
[8] Boyd L et al.: Hold your horses. E-letters to Science, 1.5.2018: http://science.sciencemag.org/content/360/6384/111/tab-e-letters, accessed 30.5.2018
[9] Leimgruber P et al.: As wild as they come: Study confirms that Przewalski's horses are the best of the rest. E-letters to Science, 4.5.2018: http://science.sciencemag.org/content/360/6384/111/tab-e-letters, accessed 30.5.2018
[10] Vogl C et al., in preparation

Foto: Rebekka Blumer

25'000 years-old cave paintings show a wild horse species barely distinguishable from today's Takhi.

Regardless of all academic arguments, the Takhi is the only remaining representative of an archaic horse type.
As such it deserves the utmost conservation efforts.

What we need your help for

Conservation work is not always spectacular. However, routine jobs in the background make a project successful. Our examples show how much you can achieve with your contribution. Each donation is valuable and most welcome.

You pay a ranger his daily salary and for the use of his material.

You fill the gasoline tank of a patrol vehicle.

You contribute to the maintenance and repair of heavily strained patrol vehicles.

You contribute to building a solar well for Argali and ibex.

You enable the ranger patrols of one month.

You help to finance the ranger training for the large mammals census in 2020.

ITG works in an honorary capacity.
Each donation is used directly for protecting the primordial Wild Horse.

Join the ‚Friends of the Wild Horse'!
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