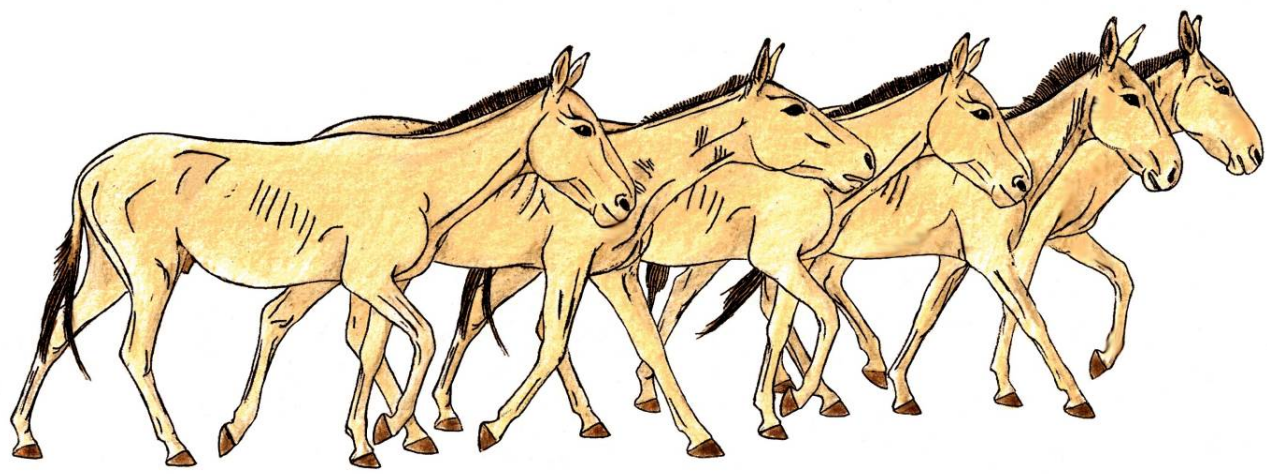
Landscape level research for the conservation of Asiatic wild ass in Mongolia

Report December 2009



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COLLAR SEARCH IN GREAT GOBI A SPA

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1. INTRODUCTION

In May 2007 we collared 5 wild Bactrian camels and 4 Asiatic wild asses with GPS / ARGOS collars in Great Gobi A SPA (see report Kaczensky and Walzer 2007). Due to previous problems with reaching the ARGOS system (Kaczensky et al. in prep.) we requested Telonics to increase the output power for these collars from 0.5 Watt to 1 Watt. Because this change draws heavily on battery power, we had 7 of the collars programmed to work as SOB units, and used the ARGOS uplink for testing and collar retrieval after drop-off. The remaining two collars were equipped with a new antenna design and attempted to connect with the ARGOS system every other day.

Collars appeared to be more successful in reaching the ARGOS system when not attached to the animal or after death and subsequent disintegration of the animal's body. Consequently we requested the collars to be programmed to have 3 different seasons: (i) May 2007: ARGOS uplink every day (*test mode*), (ii) June 2007 –December 2008: ARGOS uplink on 2 consecutive days every 30 days (*data collection and collar check mode*), and (iii) December 2008 (drop-off date) – end of battery: ARGOS uplink every 2. day (*retrieval mode*).

However a programming error by the producer made the units switched into the *retrieval mode* on 20 December 2007 instead of 20 December 2008 – a year earlier than planned. As a consequence batteries for the GPS and ARGOS units expired in September / October 2008, well before the drop-off release date. Thus the only chance to retrieve the units was locating them via the VHF transmitter. Given the remoteness and size of the Great Gobi A SPA plus the fact that there are no suitable airplanes available for aerial telemetry this meant to find the proverbial needle in the haystack.

Despite all odds, we were able to retrieve 4 of the 9 units originally deployed until June 2009:

- collar 70250 (camel) with the new antenna design worked as expected and was retrieved after drop off in July 2008 (see report Kaczensky and Walzer 2008)
- collar 25778 (camel) died in April 2008 and was retrieved by the Gobi bear team in 2008

- collar 25805 (camel) dropped after only 2 weeks and finally reached the ARGOS satellite in June 2008 and could be picked up in July 2008
- collar 25731 (khulan) mysteriously reached the ARGOS system in April 2009 and was picked up by the Gobi bear team in summer 2009

We decided to start a search expedition in fall 2009 to attempt to locate the missing 5 collars by climbing up the highest mountains in the areas used by the animals in December and January of the pervious years. For this we selected 31 possible search points (Fig. 1).

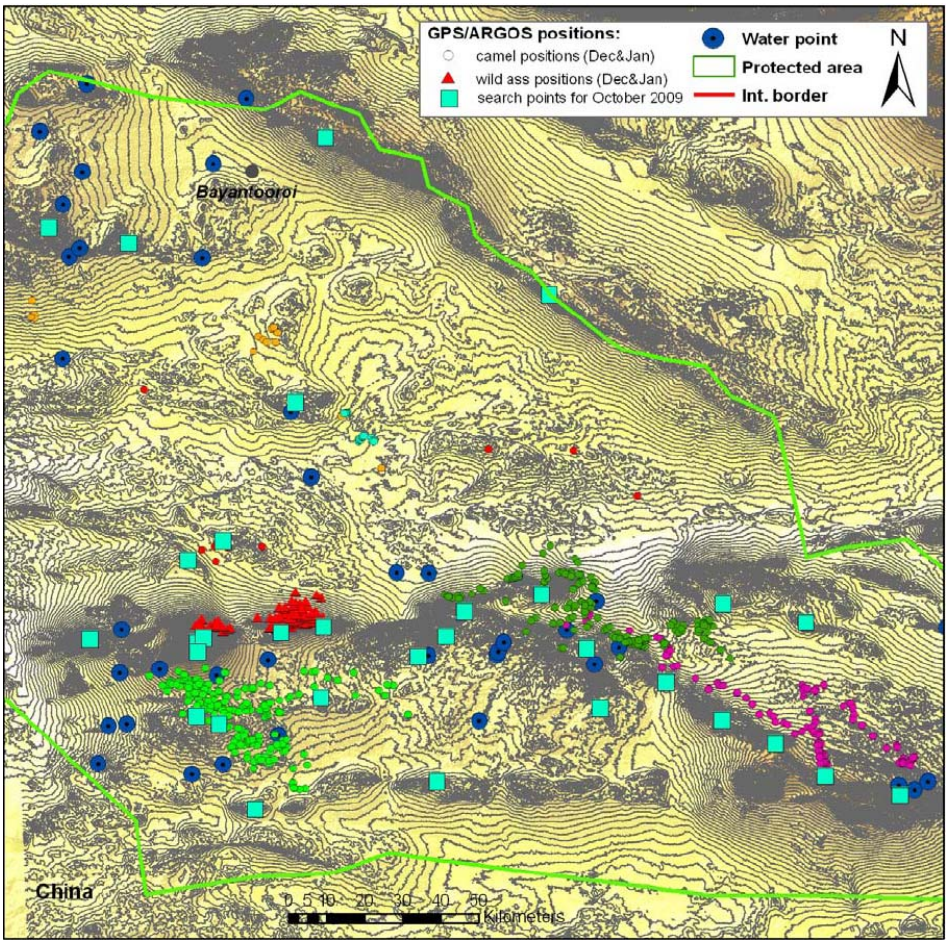

Fig. 1: Potential search points relative to known GPS locations of wild camels and khulans in Great Gobi A SPA.

2. SEARCH TRIP OCTOBER / NOVEMBER

The actual search trip in the Great Gobi A SPA lasted for 10 days from 23.10. until 1.11.2009. The team consisted of Petra Kaczensky, Saikhanaa, Dorjgato and Bolto. We covered about 700 km in the park and were able to check for the missing collars from 7 high points which varied in elevation from 1419 to 2603m (Fig. 2).

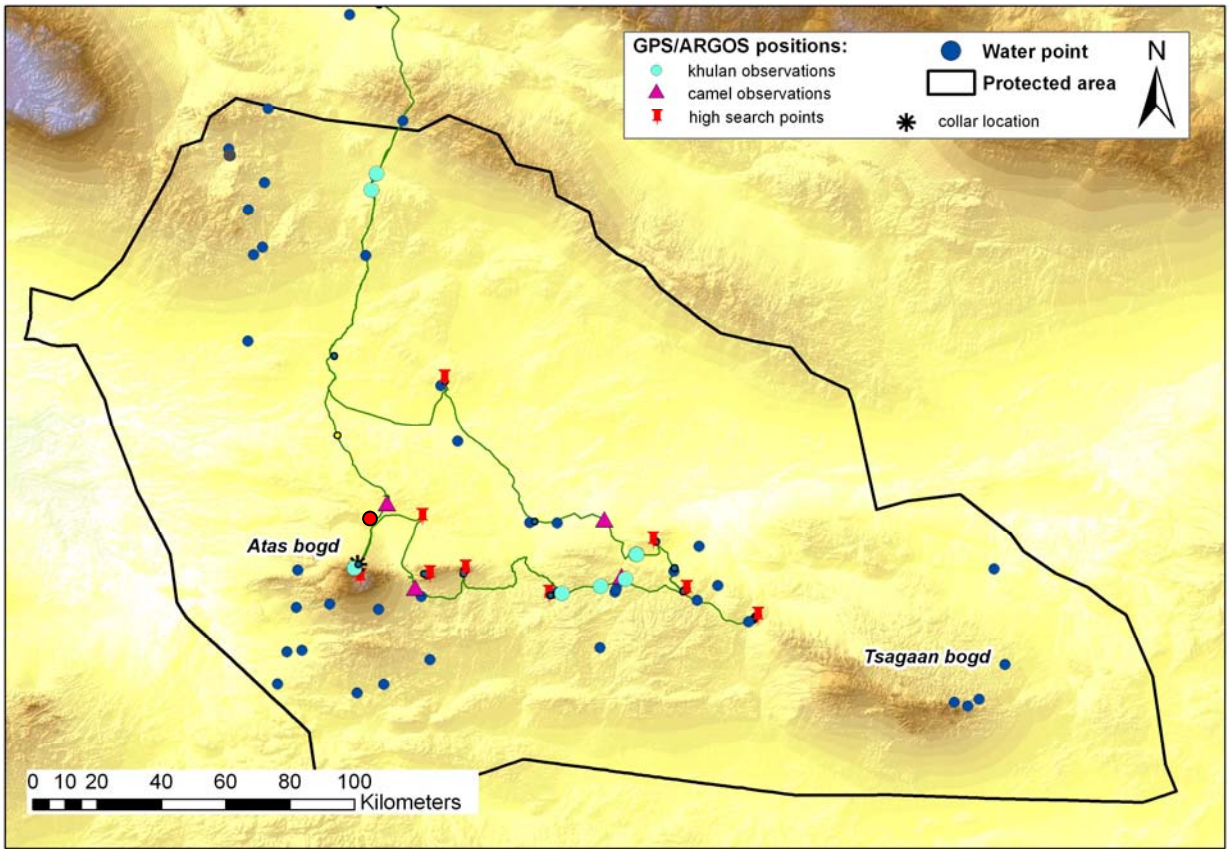

Fig. 2: Search route, actual high points from which we checked for VHF signals and wild camel and Khulan observations between 23.10. and 1.11.2009.

Despite our efforts we were only able to retrieve 1 missing collar. Collar 22366 (Khulan) was found on 24.10.2009 at the northern flank of the *Atas bogd*. The signal was picked up from a

small mountain range 15 km away. Further high points or checks on the way did not detect any further VHF signals.

Range checks with a test collar left in the van while climbing up the high search points showed that perception range in hilly terrain often was barely 3-4 km. We already experienced similarly short reception ranges in the flat areas. Given the topography of Great Gobi A, any systematic search from the ground is basically not feasible. Furthermore, approaching towards hiking distance of the high search points involved quite a bit of driving "off track". This resulted in a higher consumption of gas and greatly reduced our possible search route. Even with 350 litters of gas we were unable to reach the *Tsagaan bogd* area or venture further to the south.

Fig. 3: View from a high peak on Atas bogd *(top) and near* Mazaalain shand *(bottom).*

3. PERSPECTIVE

The SE part of the park will be temporarily opened for grazing by local herders for the winter 2009/2010. Pasture conditions adjacent to the park were so poor, that 60-100 local families are allowed to set up their winter camps along the northern flank of the *Tsagaan bodg* range. These families and their livestock will be regularly checked by the park rangers. The rangers already started to inform people about our missing collars and offered a reward in case somebody finds and retrieves a unit.

Additionally, we left one VHF receiver unit at Bayantooroi headquarters which will allow the rangers to opportunistically check for the missing 4 collars on future trips to the park. The expected lifespan of the VHF units is until April 2010. The frequencies of the missing collars are:

- ID 25915 (camel): 151.450
- ID 70348 (camel): 151.300
- ID 70349 (Khulan): 151.400
- ID 58848 (Khulan): 151.500

9. ACKNOWLEDGEMENTS

Funding for our research activities is provided by the Austrian Science Foundation project P18624 – “Landscape level research for the conservation of Asiatic wild ass in Mongolia”. I am grateful for the support of the Great Gobi A administration, namely director Mijiddorj and the Gobi bear team, namely Harry Reynolds. Adiya helped with the initial organization and we missed his company. Saikhanaa, Dorjgato and Bolto were a great team, competent and fun company and made this a safe and happy trip - besides the frustration of not finding more collars.