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# Turkmenian Kulan (*Equus onager kulan*) Captive Population

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## Turkmenian kulan (*Equus onager kulan*) captive population

A. Mekarska

### Abstract

The Turkmenian kulan (*Equus onager kulan*) is critically endangered, less than 1500 animals are left in the wild. In 2004, there were additional 570 Turkmenian kulans living in captivity: 156 specimens in Euro-Asian zoos, 83 in Askania Nova Reserve and 331 in Canyon Colorado Equid Sanctuary. Population size in EAZA region is decreasing both in terms of numbers and genetic parameters. Those facts underline the urgent need for coordinating development of Eurasian kulan's captive population. From 2004 onwards, large efforts to create healthy breeding groups in zoos raised bigger interest in this species in European zoos.

**Key words:** captive population, EEP, ISB, Turkmenian kulan

### Results

The Turkmenian kulan captive population descends from 129 individuals imported from the wild. Most of them have been caught in Turkmenistan in Badchys Reserve. The first kulan was imported from the wild to Aschhabad Zoo in Turkmenistan in 1938, but the main transports to Eurasian zoos took place in the fifties, sixties and seventies (POHLE 2000). In the seventies, Berlin Tierpark has started editing the International Studbook for the Asiatic Wild Asses. In 1989 the European Endangered Species Program was established for Turkmenian kulan. Since 2004 this program is conducted by Krakow Zoo.

The latest edition of the International Studbook of the Asiatic Wild Asses, reporting data until 31.12.2004, lists 570 kulans, of which 239 animals are kept at 43 Euro-Asian institutions. 156 kulans live in zoos and 83 in a semi-wild reserve in Askania Nova (Ukraine). A large herd of 331 kulans is held in the USA, mostly under semi-wild conditions at Canyon Colorado (POHLE 2005).

The kulans population in Zoos are based now on 80 founders; in terms of genomes 54 of these are still represented. The number of wild-born kulans kept in zoos is very low now. The mean inbreeding coefficient is 0.1090, mean kinship value is 0.0211. In 2004 there were only 20 births, in consequence there are more animals older than 15 years than younger ones, and since 1983 the size of the Eurasian zoos population has been decreasing (from about 350 to 239). This situation is worsened by a high number of non-breeding institutions keeping single-sexed groups (11 from 43 zoos) or separating animals during oestrus season. Given that the species is endangered (less than 1500 animals left in the wild; PERELADOVA 2002), demand for kulans in zoos is surprisingly low. Out of 43 zoos within the European Association of Zoos and Aquaria (EAZA) keeping kulans only 10 have good reproductive groups; these are: Berliner Tierpark, Bratislava Zoo, Chemnitz Zoo, Hodenhagen Safari, Kiev Zoo, Kolmarden Zoo, Lodz Zoo, Nürnberger Zoo, Rostocker Zoo and Tallin Zoo.

Two semi-wild herds exist in Ukraine and in the USA; these could in theory serve as good sources of kulans for zoo populations. Both populations grow healthily. In Askania Nova there are 10 - 20 foals every year, in Canyon Colorado there were 69 foals born in 2004. The problem is that those herds are genetically related to zoo populations. All kulans living in Askania Nova are descendents of animals that came from the same Badchys Reserve. Kulans in Canyon Colorado are descendents of animals imported directly from European zoos. Other

problems are the potentially high costs of transport and veterinary requirements. Although both herds are not part of the EEP their managers regularly send data to the EEP Coordinator and International Studbook Keeper. They are also interested in kulan transfers.

All those facts highlight the urgent need for coordinating development of Eurasian kulan's population. Apart from the fact that large numbers of kulan holders are not member of EAZA, the most serious management problem of the Kulan-EEP is the fact that the population consists of too many old animals, and that several zoos only keep single-sexed groups or even single animals. These problems need to be tackled, as soon as it is known how many zoos are willing to participate actively in the Kulan-EEP (transfer recommendations). Very important for the captive population are kulans living in non-EAZA zoos: Chimkent (KZ), Erevan (AR), Karaganda (KZ), Kosice (SL), Perm (RU) and Rostov (RU). It would be very important to invite those institutions to work together in the EEP, i.e. exchanging knowledge, data and especially animals to improve captive populations.

The first promising signals for Eurasian zoo population started to appear in 2004 / 2005 when new zoos expressed interest in this species. Safari Beekse Bergen, Opole Zoo and Edinburgh Zoo are willing to breed kulans and they are offering very good and large enclosures for this species.

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