Gazella subgutturosa marica

Dr. Nayerul Haque, a Research Biologist at the National Wildlife Research Center in Taif, Saudi Arabia, wrote (17 Aug 91) asking for suggestions about whether or not to release animals with different chromosome numbers.

"We have released 35 gazelles in the reserve, which is around 2200 sq km, and 43 animals are in the pre-release area. We are planning to release another 25 in the coming winter... During June we got 22 gazelles from the collection of Al Sudairy Farm at Al Qassim, Saudi Arabia, and most of them are having [Robertsonian] translocations, so we have not yet [agreed on a] policy for these animals. Of course, the earlier population which we received from Thumma, Saudi Arabia also had translocations, but we released only those animals which were not translocated. We released the males... having 33... chromosomes and females having 32 chromosomes.

"I would like to know your suggestion about this problem. Do you think that this may be a natural phenomenon or something else? Have you got any information about other species having the same problem? I would like your... suggestion whether we should release the translocated animals or not, or should we [undertake] a detailed study of the translocated animals before putting them in the wild?"

Recalling that the Center for Reproduction of endangered Species at the San Diego Zoo had published information about Robertsonian translocations and variable karyotypes in gazelles and the Arabian oryx (see Endangered Gazelles, by Oliver Ryder, September 1987 GnuSletter, p 4; and Steve Kingswood's letter in the article, Arabian oryx in Oman, ibid. 10(1):13), I copied his letter to Steve. Quoting his reply (9 Dec 91):

"Dr. Richard Estes has forwarded your inquiry regarding Arabian sand gazelle to me and has asked that I respond to your questions. I am quite happy to do this as our lab has been studying the chromosomes of captive sand gazelles in the U.S. that originated from eastern Jordan.

"I believe the Robertsonian translocation that has resulted in chromosome polymorphisms in sand gazelles is a natural phenomenon. Based on cytogenetic study of Gazella subgutturosa marica from Jordan (our lab) and animals in Saudi Arabia, it may be that the proportion of animals homozygous with the translocation (2n=30/31, females/males), heterozygous (2n=31/32), and homozygous without the translocation (2n=32/33) varies geographically. We have documented similar chromosomal variation in other gazelles and antelopes, but the problem with making firm conclusions about occurrence in the wild is that we do not have precise capture locality data for the specimens. However, we do have fairly precise locality data for the sand gazelles from eastern Jordan. Do you have any information regarding the origin of the sand gazelles that were karyotyped in Saudi Arabia? Is it possible to karyotype sand gazelles from wild populations of known location?

"In the absence of knowing where the captive sand gazelles that were karyotyped in Saudi Arabia were captured, my guess is that 2n=32/33 animals become more common, and 2n=30/31 animals less common, along a gradient toward the southern end of the Arabian peninsula. It would not surprise me if all the sand gazelles in Oman are 2n=32/33. If this theory is correct, there should be a mix of the three cytotypes throughout much of Saudi Arabia. Populations in northern Saudi Arabia would have more 2n=30/31 and 2n=31/32 animals, with the ratio of the three cytotypes changing as one moved south.

"Based on this information, I believe that animals with the translocation should be included in reintroduction efforts. If it is at all possible to document the chromosomes of wild populations of sand gazelles, this would be extremely valuable to our understanding of how the translocation related to sand gazelle evolution, and it could also be applied to our conservation efforts. Likewise, any information regarding the origin of those sand gazelles already karyotyped would be important to have."

Gazella bilkis in Kazakhstan

Early this year I received a book, Rare Animals of Desert Regions (Problems of protecting Kazakhstan vertebrates genofond), published by the Kazakh SSR Academy of Sciences Institute of Zoology, Alma-Ata, 1990. The book was sent by D. A. Blank, who is the author or co-author of chapters on Gazella subgutturosa, Equus hemionus, and the mammalian fauna of the Kazakhstan Desert.

In a covering letter, Blank wrote, "I send you my work about goitered (Persian) gazelle... which was researched by me nine years (1981-1989). I'd like to continue this work in the future, but I'll move to Israel in nearest two or three months. It isn't known where I'll work in [this] other country... I'd like to take part with great pleasure in any practical work of MSOP on bovids and predators. Especially I'd like to work on gazelles and other antelopes in different countries, but particularly in USSR, Mongolia, and maybe China." Born in Alma-Ata in 1958, Blank graduated from Kazakh University (faculty of biology, subfaculty of zoology, and worked in the Institute of Zoology of Kazakh Academy of Sciences from 1981-1990, including research on ecology and ethology of ibex (Capra sibirica), processes of formation of new populations of the onager, and joint work with the Institute of Evolutionary Morphology and Ecology of the Academy of Sciences (Moscow), and the Foundation for Preservation and Protection of the Przewalski Horse for reacclimatization of wild populations of Equus przewalski in Kazakhstan.

If any readers happen to know the present whereabouts of D. A. Blank, please send this information to Rod East or Dick Estes. Apart from thanking him for the book and some photos of goitered gazelle, Blank's help with the Asian Antelope Survey would be invaluable.

Gazella bilkis

Another member of the National Wildlife Research Center at Taif who is studying the taxonomy of Arabian gazelles is Arnaud Greth. In his letter of 25 May 91, he writes, "In order to clarify the status of the different taxa of gazelles in the Arabian Peninsula, we would like to collect information about the dark forms of gazelles occurring in Yemen and in the south of Saudi Arabia.

"You will find enclosed pictures of gazelles from this area that are breeding at the National Wildlife Research Center in Taif, Saudi Arabia. This taxon could be Gazella bilkis, described as a new species by Groves and Lay in 1985 on the basis of specimens from Yemen, or, more probably a dark subspecies of Gazella gazella. The status of Gazella bilkis and of this uncertain subspecies is unclear, but could be endangered in view of the paucity of information.

"The main sighting of Gazella bilkis occurred in the area of Ta'izz, North Yemen. If this is a dark subspecies of Gazella gazella, its origin is unknown.

"Any information about these taxa (taxonomy, distribution, sightings, photographs, contacts of people concerned) will be useful to propose appropriate conservation measures on an international level."