

T.L. Zharkikh, N.I. Yasynetska Demographic Parameters of a Przewalski Horse (*Equus Przewalskii* Poll, 1881) Population in the Exclusive Zone of the Chernobyl Power Plant // Bulletin of Moscow Society of Naturalists. Biological series – 2008.-Vol.113.-5. P.3-9.

In 1998 the Biosphere Reserve Askania Nova launched a Programme on establishing a free-roaming population of the Przewalski horse in the exclusion zone of the Chernobyl power plant for the purpose of restoring and enrichment of biodiversity of its ecosystems. In 1998 and 1999 the Reserve together with the State Forest Enterprise Chernobylles transported 31 Przewalski horses (PH) including 10 males and 18 females from Askania Nova and 3 males from a local zoo of the Lozovski stud to the Chernobyl exclusion zone (CEZ). Eight horses including 2 ones from the local zoo died during transportation or soon after that; others formed 2 harem groups and one bachelor group. The PHs were kept in acclimatization enclosures from few weeks to 8 months; then they were released into the wild. The only survived male from the local zoo refused to leave the acclimatization enclosures and died there 18 months later. In 2004, unknown to the Reserve Askania Nova, other thirteen PHs were transported from some city zoos into CEZ and were released into the wild without acclimatization. The PHs failed in adaptation to the nature environments and soon died without posterities.

PHs began breeding in 1998. Totally, 15 mares and 2 stallions (61% of the horses transported from Askania Nova) gave offspring and became founders of the population. The first foals of the 2nd generation were born in 2004. Until 2006, a foal/mare ratio varied between 68 and 100%. Between 1998 and 2007, 86 PHs were born in CEZ (birth sex ratio was 1 : 0,9), including at least 9 foals of the 2nd generation. The highest number of foals (14) was recorded in 2003. A survivorship of youngs under the age of 2 years was 91,3%. Between 1999 and 2003, the population increased with peaks of 65 specimens in 2003 and 2004. Then, the population gradually decreased to 30—40 PHs in October 2007.

Over the first 5 years, a mortality rate was 13,7%. Between 2004 and 2006, the mortality increased to 47,4%. Anthropogenic factors affected the high mortality, as more than 70% of deaths with a determined death case were a result of illegal hunting (poaching). Changes in composition of PHs' herds caused by shooting of their members, might affect reproduction parameters in 2006 (a foaling rate was < 40%). As the population descended from few founders, killing of some of their offspring of the 1st and 2nd generations can lead to the loss of the genetic diversity followed the extinction of the population. The present study indicated that both wolf predation and diseases had no significant impact on the population. In future, the PH population may be threatened by diminution of its habitats as a result of artificial forestation of the territory and by possible hybridisation with domestic horses if extensive horse-breeding will be started within CEZ.