

Results of investigations of an island population of the feral horse (Rostov Region, Russia)

N. N. Spasskaya

Zoological Museum of Moscow Lomonosov State University

A feral horse population inhabiting the Vodnyi Isl, Manych-Ghudilo Lake, on the territory of Rostov Region, S Russia, has been established in 1950s according to questionnaire data (Paklina, Klimov, 1990). It is a sole permanent grouping of feral horse known to exist in European Russia (Spasskaya, Spasskiy, 2007; Spasskaya, 2008). Range of this group is part of Federal Reserve "Rostovsky" established in 1995, and its monitoring has being been conducted since 2006. The principal aim of monitoring includes gathering data on demographic, spatial, and ethological structure of the island horse population, along with investigation of its phenotypic and ethological patterns.

Analysis of previously published (Paklina, Klimov, 1990) and recently obtained data on the color patterns of the island horse indicate that they have become isolated supposedly about 18–20 years ago. Some trends in variation of several phenotypic traits indicate slight rising of inbreeding level in this population, including decrease in the horse withers height, changes in body proportions, increase of heterogeneity in body color patterns (size and number of head and leg spots), and increase of frequency of dental malformations, especially of false polydonty of P1 (Spasskaya et al., 2010).

Principal demographic parameters of this population are similar in general to those known for other feral horse studied by now. However, several peculiar features of this population were revealed: its age structure appeared to be of steadily fading type judging by high proportion of mature individuals (64–72 %); high mortality rate of individuals of the first year of life (16–25 %); predominance of males among newborns with increase of population size.

Ethological structure of the population included standard harem bands and bachelor groups, with few solitary animals (usually old or sick stallion). The most of individuals (58.2–84.3 %) were the part of harem bands, which appeared to be the most stable

groupings. The harems were small in their numbers with predominatingly 3–8 individuals. The bachelor groups were inconstant in composition, their portion in population being not high (7.7–15.4 % of the total number).

A lot of "mixed" groupings of various composition were recorded in the population during its high number phase: harem bands with several mature stallions; associations consisting of several harem bands; youth groupings consisting of approximately coeval stallions and mares. These "mixed" groupings appeared to be rather stable, with their total number reaching up to 25.8 % of the population. They however used to disappear with population number decrease.

The Rostov population is characterized by absence of conspicuous home range of social groupings (Spasskaya, Shcherbakova, 2007; Spasskaya, 2009), so the latter form a united herd with minimal intergroup distances. This phenomenon is probably not related to population density or to the island size, but is rather caused by some other factors to be revealed.

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Corresponding author:

N. N. Spasskaya

Tel:

Fax:

E-mail: equusnns@mail.ru