

Group composition and behavior of reintroduced *Equus hemionus* near a water source in the Negev Desert

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The Asiatic Wild Ass, *Equus hemionus*, was once abundant in western Asia. The species declined due to hunting and habitat loss. Between 1982-93 38 *E. hemionus* (21♀ 17♂) that originated from Iran and Turkmenistan were reintroduced to the Negev Desert, Israel. Saltz, Rubinstein and co-workers studied the released population till 1999. The current population in the Negev is estimated at more than 200 individuals, yet, their social and genetic structures are not known. Here we report group composition and behavior of *E. hemionus* near a water sources from the 2010 and 2011 field seasons, which is part of a wider study of the mating system and genetic diversity. We recorded and videotaped group composition and social interactions from a shelter, 150m from the water source. We recorded a total of 377 observations, in which 251 only males were observed, in 105 observations we observed females and juveniles, and only in 21 cases we observed a mixed group of females with at least one male. Not all wild asses were individually identified, but so far, we analyzed data from 69 individual profiles (based on photos), and recorded in which groups were they videotaped. Before reaching the water source, wild asses often aggregate in large groups and wait for the first few individuals to approach cautiously the water, and only then the rest of the individuals make a swift final approach. We did not consider these aggregations as social groups. We defined a group when individuals approached or left together the valley in which the water source is located. In a few encounters between *E. hemionus* and wolves (around sunset) we noticed that the wild asses showed interest in the wolves and increased alertness, but the wolves did not approach the equids under these conditions. Female groups (including those with a male) were larger than male-only groups (range 2-49 and 1-34, respectively; $P = 0.0191$). From records of individuals observed more than once, individuals appear on different days in groups of various sizes and compositions, suggesting

a social structure with a certain degree of fission-fusion. The mean proportion of juveniles per female was 0.57 and this value is higher than the average found in the 1990's study (0.5). Apart from the proliferation of the population, an important difference between the earlier and the current study stems from the fact that the *E. hemionus* in the Negev Desert expanded their range and it includes now the Negev Highlands, an area with slightly more mesic and stable conditions. Except for Sep., fewer adult females were observed compared to males ($P=0.028$). Different daily activity patterns of the two sexes may explain this observation. These results will be combined with the genetic work and will contribute to the assessment of population viability.

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