



University of Zabol

Supplementary Education Management
School of Agriculture
Department of Animal Sciences
The Thesis Submitted for the Degree of M.Sc

Title

**Evaluation of genetic diversity of different camel ecotypes in
Sistan and Baluchestan province using microsatellite markers**

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Abstract:

There are differences between other people, and these differences make them distinguishable from them, which is said to be a microsatellite because of the diversity, if studied in the present study. From different populations of Jamazeh and Baluchi camel population in different areas of Sistan and Baluchestan province, 9 Jamzesh and 15 Baluchi were randomly selected. Blood samples were taken from the jugular vein and collected in tubes containing 5% EDTA and stored at -20°C until DNA extraction. In the present study, 5 markers of CVRLO6, VOLP32, LCV66, WYLLO and CMS17 in different regions of the camel genome were selected and amplified from the latest microsatellite marker association maps in camel species. In the results, the number of alleles in 5 markers In two races, Jamaze and Baluchi, they varied in the range between 1 and 6 alleles The number of alleles in Jamzesh population at CVRLO6, VOLP32, LCV66, WYLLO and CMS17 markers were equal to 3, 2, 3, 4 and 1 alleles, respectively, and in Baluchi population, the number of alleles at the locus were 2, 4, 2, 5 and 1 were alleles and 3, 4, 3, 6 and 1 alleles were observed in the whole population, respectively. According to the results, the range of heterozygosity observed in the studied sites in Jamzesh and Baluchi breeds was in the range of 0.29-2.52. Examination of the samples for Hardy-Weinberg equilibrium showed that both Jamzesh and Baluchi populations were in equilibrium at all marker positions ($P > 0.05$). The results showed that the two populations have more than 96% similarity and the difference between them is 3%, which could indicate that two populations have split from a single herd. The highest value of PIC in Jamzesh race for WYLLO position was 0.42 and the lowest value was related to VOLP32 position with value of 0.18 and in Baluchi race the highest value was related to WYLLO position with value of 0.55 and the lowest value was related to CVRLO6 positions. And LCA66 were 0.33.

Keywords: Different ecotypes of camels, Genetic diversity, Gene flow, Polymorphism information content