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Genetic Diversity of *Hottentotta Zagrosensis* and H. saulcyi (Scorpions: Buthidae) using RAMS (Random Amplified Microsatellites) in Khuzestan

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Abstract

Scorpions belong to the Buthidae family have several genera in the World. One of the genuses is *Hottentotta* which is located in Iran. There is no phylogenetic data regarding to this scorpion, in spite of its medical importance. Ten scorpion samples of *Hottentotta Zagrosensis* and *H. saulcyi* were collected from different regions of Khuzestan province in Iran. The molecular phylogenetic analysis was carried out using RAMS (Random Amplified Microsatellites) and PCR-RFLP. Of the 6 RAMS primers, that were checked, P-CCA generated 78 sufficiently clear and reproducible bands. The band sizes from 20 scorpion samples ranged from 200-1000 bp. The percentages of the polymorphic and monomorphic bands are 94.8 and 5.2%, respectively. After band score calculations, the similarity level was measured using the Dice coefficient, and denderogram were obtained by the UPGMA algorithms. The results show that the scorpions within the *Hottentotta* genus has been grouped in two species *H. zagrosensis and H. saulcyi* with mean percentage of shared bands 65% and 60%, respectively. Two scorpion samples from Dezful (HZ9 and HS5) are significantly dissimilar within their groups. This result was confirmed by PCR-EFLP. Denderogram results for scorpions in *Hottentotta* genus located in the Khuzestan showed intraspecies genetic diversity. This study shows RAMS primers could be useful tools to assess genetic diversity in *Huttentotta* scorpions in Khuzestan.

Keywords: *Hottentotta Zagrosensis*, *H. saulcyi*, Scorpion, phylogenetic, RAMS

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