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Title: Phylogenetic analysis using d-loop marker of mtDNA of Saudi native chicken strains

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Abstract: This study was carried out to figure the potentiality of d-loop of mitochondrial DNA in discriminating among Saudi native chicken strains and other species of genus Gallus. The first 500 base pairs of d-loop region were amplified and successfully sequenced. The results indicated that native chicken strains and genus Gallus species have a tandem repeat sequence with (14) base units into a two copy. Also, there was clear evidence that the native chickens have a unique tandem repeat sequence with (42) base units as a two copy. Two haplotypes (T) and (C) were observed in native chicken strains. Our research displayed approximately (26) transition substitutions in nucleotide sequences specific for native chicken strains, whereas it was 120 mutant sites in case of other species of Gallus. We found that the genetic divergence between these types of chickens was very low (0.022). The phylogenetic tree revealed that each strain of native chicken belonged to each other with the same cluster. In addition, each strain has its own cluster in some individuals. The results showed that the native chicken strains are closely related to Gallus gallus and its subspecies G. g. spadiceus and G/ g. bankiva.

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