Paper # (٣)

Morphological and Molecular identification of some *Uromastyx* species (Reptilia; Agamidae) in Makkah, Saudi Arabia by forensically informative nucleotide sequencing (FINS) of ١٦S rRNA gene and electrophoretic protein patterns

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Summary:

The morphological examination, of the collected Spiny-tailed lizards, revealed three *Uromastyx* subspecies (*U. a. aegyptia*; *U. a. microlepis*; and *U. ornate ornate* or *U. ornate philbyi*) to be inhabited in the holy land of Makkah of Saudi Arabia . FINS (Forensically Informative Nucleotide Sequencing) approach of ١٦SrRNA gene could confirm the morphologically identified first two subspecies to be *U. a. aegyptia* and *U. a. microlepis*, and identified the third subspecies to be *U. ornate philbyi*. This is the first successful typing of mitochondrial ١٦S rRNA gene with FINS approach carried out to identify the Spiny-tailed lizard, *Uromastyx* sp. in Saudi Arabia. The electrophoretic protein pattern analysis on SDS-PAGE showed the protein band of the molecular weight ٢٧٥ kDa to be a characteristic protein marker for *U. aegyptia microlepis*; the protein band of ١٥٠ kDa to be a characteristic protein marker for *U. aegyptia aegyptia*; and the three protein bands of ٢٠٠, ١٥, and ٥ kDa to be characteristic protein markers for *U. ornate philbyi*. The obtained results suggested that protein electrophoresis is not only powerful tool in targeting the genetic variability within species but also in identifying them.