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DNA barcoding: A reliable tool for species identification

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The birth of DNA barcoding was witnessed in the year 1982 with the employment of short DNA sequences from microbial species and this system has progressed a lot till now. It is widely employed for the identification of species. This method has been tested on a variety of taxa ranging from nematodes to elephants, and even on the dodo, which is the most famous extinct species. In general, DNA barcoding requires different regions to identify different organism groups but researchers in 2003 have stated that the mitochondrial-encoded cytochrome c oxidase I (MT-CO1) gene could serve as a common barcode region for all the animals. The DNA barcoding system promised a better classification resolution than the morphological studies and a partial solution to the decline in traditional taxonomic knowledge. Hence, DNA barcoding has been proposed as a tool not only to identify species but also to define species boundaries and aid in species delimitation. Today, DNA barcoding is a global enterprise; it has the power to attract a large amount of funding. There are limitations and doubts too regarding the usefulness of DNA barcoding. It remains unclear whether it is restricted to species identification or if it is a general tool that can be used for species discovery and delimitation.

Keywords: DNA, Barcoding, DNA sequences, Species identification, Species discovery

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