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DNA Barcoding Of Biodiversity Of Croatian Fauna

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DNA barcoding has been promoted in 2003 as a new digital method of identifying natural species on the idea that a tiny fragment of genome can identify each species. A small fragment of any organism's DNA ("microgenome") can be translated into a digital artefact ("barcode"). DNA barcode is entered in the Barcoding of Life Database System ("BOLD"). [1]

A 648 base-pair region in the mitochondrial cytochrome c oxidase 1 gene was found to be useful as barcode region because of three reasons: it is a short gene segment to be sequenced quickly and cheaply, it is long enough to identify variations between species and the variation that can be detected between different species is routinely found to be more marked than the variation within the same species.

The chain from sample to barcode include: specimen collecting, tissue sampling, collecting Data, photographing, extracting DNA, PCR amplification and DNA sequencing, managing DATA, meeting the BARCODE and dating standard.

Project CroBarFauna includes determination of the biological samples from Croatia in purpose of the identification of species and discovering new ones (especially endemic, cryptic and endanger species). At this time approximately 800 samples have been DNA barcoded. Some of the 15 groups that are involved in project are: Mollusca, Arachnida, Insecta, Reptilia and Amphibia. DNA barcoding of orders: Pseudoscorpiones (160 samples), Plecoptera (130 samples) and Trichoptera (170 samples) from 150 different locations are part of my PhD thesis.

References:

[1]: Waterton, Claire; Ellis, Rebecca; Wynne, Brian; *Barcoding nature (Shifting cultures of taxonomy in an age of biodiversity loss)*; Routledge; 1 edition (2014)