ABSTRACT

The exact identification of plant species based on morphological character creates doubt for taxonomists. In a lot of plant species, ecotypes have been observed, which provide an opportunity for the fake herbal business. District Kasur is famous for agriculture. As well as rich in natural biodiversity. Tehsil Kasur City has a huge number of herbaceous, tree members of the family Solanaceae and Fabaceae. Biodiversity on the Planet encounters a taxonomic crisis. The accurate identification of known species along with a precise depiction of unidentified species is needed for profitable and research applications. There are some imperfections of outmoded taxonomic and morphological methods of describing organisms correctly. There must be some alternative and corresponding approaches that could help in plant identification on a molecular level. DNA barcode methods of identification of organisms have been widely accepted in recent years. The Organization of CBOL (barcode of life) working plant barcode. They advise the common chloroplast genome (cpDNA) typically rbcL and matK in pair form for land plants. Fragments of the rbcL and matK marker sequences are regarded as genetic "barcodes" since they are specific to each species and can resolve issues with the taxonomy currently in use. Due to its uncomplicatedness and high accuracy compared to the subjective preferences and complexity involved with morphology-based taxon identification. DNA barcoding of plants formerly in advance reputation. The rbcL and matK gene lengths are 552 to 1500 nucleotides respectively. They are considered the unsurpassed plant barcode with a high intolerant efficiency. In District Kasur city, there are many natural and cultivated agriculture fields. They contribute a significant role at a commercial level and towards balancing of ecosystem. Some indigenous plants were collected from the different areas of District Kasur city. Then their cpDNA was extracted and the desired markers were amplified using a polymerase chain reaction. After PCR these markers then sequenced by Sanger's methods. Nucleotide BLAST was done to check the similarity index for species identification. Then the software Mega6 was used to construct the phylogenetic tree. The cataloging derivative from the DNA Barcode tree was then compared with the outdated morphological base taxonomy. The current study demonstrates strong intra and inter-specific evolutionary relationships between all known and studied classes of angiosperm of District Kasur city plants.