

The study focuses on the Malvaceae plant family, highlighting its significance in understanding plant diversity in Iraq. The study involves DNA isolation from plant samples using the Genomic DNA GENEzol(TM) DNA Reagent Plant Kit at the MacroGen Center in South Korea and analyzing the samples through agarose gel electrophoresis. Migratory birds, for example, carry it in their intestines during their long journey back and forth between their original habitats and wintering areas. The plant *Dombeya wallichii* and *Bombax ceiba* are the exotic plants cultivated for ornamental purposes, these plants grew adapting to the environmental conditions in Iraq. Both plants perennial trees, so the study chose to compare with *Marva parviflora* because that represents the family Malvaceae and it plant grew and distributed very well in Iraq, native throughout the temperate, subtropical, and tropical regions of Europe, Africa, and Asia. Chloroplasts play a crucial role in sustaining life on earth, intracellular gene transfer and conservation, diversity, this genetic basis by chloroplast transgenes was engineered to enhance plant agronomic traits or produce high-value agricultural (biomedical) products. Genetic variations within the trnH-psbA intergenic spacer sequences were analyzed to study the biodiversity patterns of three plant isolates from the family Malvaceae (designated O1, W1 and W2) collected from Babylon. The development of modern scientific equipment and technologies, such as scanning and transmission electron microscopes, and karyotype studies, have greatly contributed to solving complex problems.