

عنوان مقاله:

Comparative analysis of tandem repeats in four Aubrieta genomes

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خلاصه مقاله:

The genus *Aubrieta* Adan. (Brassicaceae) is widely distributed and diverged across different elevations. The genome components and organization of this plant are still less understood. Tandemly repeated sequences were examined in whole genome raw reads of four *Aubrieta* species using Next Generation Sequencing (NGS) and bioinformatics techniques. Six clusters of tandem repeats were found based on RepeatExplorer and TAREAN pipelines; one cluster in *A. pinardii* (ApinSAT\L) and *A. scardica* (AscaSAT\H), two clusters in *A. erubescens* (AeurSAT\۳۲L and AeurSAT\۳۰L), and *A. gracilis* (AgraSAT\۲L and AgraSAT\۱۵H) with the GenBank accession numbers (PP۳۹۱۵۴۴, PP۳۹۱۵۴۷, PP۳۹۱۵۴۸, PP۳۹۱۵۴۹, PP۳۹۱۵۴۵, PP۳۹۱۵۴۶) respectively, have been found within all examined genomes. The tandem repeated features were confirmed using de novo assembly contigs. Variable numbers of genome proportions and copies have been recorded for these elements. *Aubrieta erubescens* has a high copy number compared to *A. scardica* which has lower copies. The arrangement of tandem repeat clusters within the genome was tandemly organized except for *A. scardica* (AscaSAT\H) which was dispersed. Therefore, these genomes can be explained in terms of composition, structure, and evolutionary relationships

کلمات کلیدی:

Brassicaceae, Evolution, repeat sequences, next-generation sequencing (NGS), Bioinformatics

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