

[P6] SATELLITE DNA – LIKE ELEMENTS DISPERSED WITHIN EUCHROMATIN OF BEETLE *Tribolium castaneum*

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Satellite DNAs are in the form of long tandem arrays encompass regions of pericentromeric heterochromatin in many eukaryotes. In addition, they can be a source of regulatory sequences and can act to distribute regulatory elements throughout the genome affecting neighbouring genes. Bioinformatic analysis of the whole genome sequence of red flour beetle *Tribolium castaneum*, performed in this study, reveals that abundant satellite DNA TCAST, concentrated within pericentromeric heterochromatin, is also dispersed within euchromatin of all chromosomes. Dispersed TCAST satellite elements are found in the vicinity of 105 protein coding genes, either at 5' and 3' end or within the introns. They exhibit no sequence-specific preference for insertion and are statistically enriched on chromosomes 3 and 9. Based on the sequence characteristics they are classified into two groups: the first group encompasses TCAST satellite-like elements in the form of partial satellite monomers or tandemly arranged monomers up to the tetramer, while the other group named TCAST transposon-like elements contains satellite elements embedded within a complex unit that resembles DNA transposon. No significant difference in the homogenization of dispersed TCAST-like elements at the level of local array and at the level of chromosome, as well as among different chromosomes is found. Significantly higher divergence among TCAST transposon-like elements indicates their earlier dispersion and integration within *T. castaneum* euchromatin, relative to TCAST satellite-like elements. Annotation of genes in whose vicinity TCAST-like elements are found is performed and evolutionary relationship between the two types of dispersed TCAST-like elements as well as modes of their dispersion are discussed.