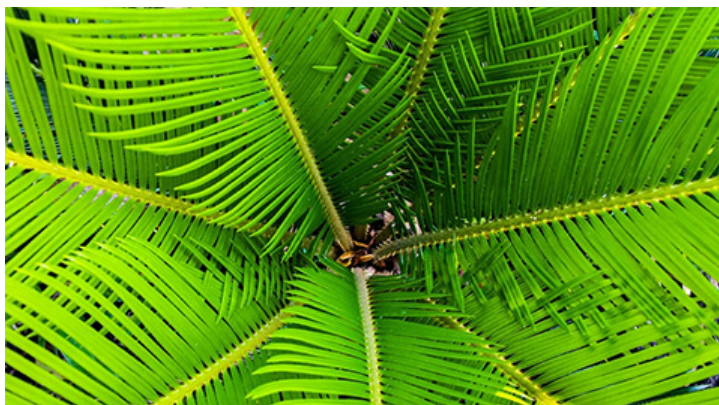


# SibFU scientists proposed simple method of identifying sex of date palms

Konstantin Krutovsky, the Head of SibFU Laboratory of Forest Genomics has revealed molecular markers that allow of a reliable identification of date palm sex at seedling stage in a joint [research](#) with the scientists of National Research Centre, Cairo (Egypt) and University of Gottingen (Germany).



*"There have been numerous attempts to identify sex-linked molecular genetic markers that can be used to distinguish among male and female trees in date palm (*Phoenix dactylifera* L.) in the past. We applied a comparative genomics approach and used a sex-linked Tormozembryo Defective (TOZ19) gene found to be male-specific in aspen. Using BLAST program we found a putative Transducin Beta-like Protein 3 (TBL3) gene in date palm that was highly homologous to the TOZ19 gene. We sequenced it in three male and four female trees from four economically important date palm cultivars from Egypt. Based on the obtained multiple nucleotide sequence alignments, male- and female-specific date palm haplotypes were identified by screening single nucleotide polymorphisms (SNPs). Subsequently, a respective gene fragment in additional five date palm samples comprising three females and two males was cloned and sequenced to independently confirm the previously identified putative sex-linked SNPs."* — says **Konstantin Krutovsky**.

The three putative sex-linked SNPs that the scientists revealed can be used now to distinguish between male and female date palms at their seedling stage and this will significantly simplify commercial date palm cultivation through seeds.

*"The identified molecular markers are relatively easy, cheap, fast, and reproducible sex identification tools." **Krutovsky** noted. "I think that similar markers could be developed for the needs of Russian agriculture and forestry when the selection at early stages of fruit or ornamental plants of the needed sex is necessary, for example the selection of dustless hypoallergic plants for gardening or fruit-bearing plants for fruit farming."*

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