



Cytogenetic analysis of *Smirnovia iranica* Sabeti in different habitats: A case study of sand dunes in Kashan, Iran

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Abstract

Sand dunes in central Iranian habitats contain endemic shrub species and adapted shrubs of the family Fabaceae, known as *Smirnovia iranica* Sabeti. Not only are these very important for forage production and soil conservation, they also help create beautiful landscapes. They also possess medicinal value. This cytogenetic study was carried out on four sites in the sand dunes of Kashan within a distance of 30 km. From each habitat, a plant was selected, and the seeds harvested. Seeds and root samples were prepared for examination with high-resolution photos to view the mitotic metaphase chromosomes and measure the karyotype parameters, using Micromesure 3.3 software. The results showed that this plant is diploid ($16 = x2 = n2$). The largest chromosome was Chromosome 1 of Camp 1 site (15.6μ) and the smallest was Chromosome 12 of Camp 2 site (12.2μ).

Keywords: Seed, Cytogenetics, Chromosome, Metaphase cells, Karyotype.

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