

**Karyomorphological analysis of the *Cynaroidae* section (*Cousinia*, Asteraceae) from Turkey**

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**Aim of the study:** The aim of this study is to examine the chromosome number and morphology of *Cousinia* Cass. taxa belonging to *Cynaroidae* Bunge sections which are spreading naturally in Turkey.

**Material and Methods:** Plant materials belonging to the genus *Cousinia* were collected from several localities of Turkey. The seeds collected from wild were germinated in petri dishes and root meristems were used to obtain healthy metaphase plates. Samples were pretreated with 0.002 M 8-hydroxyquinoline at 4°C for 8 h. The material was fixed with Carnoy's solution for 24 h at low temperatures (+4°C). Before staining, the material was hydrolysed with 5 N HCl for 1 h at room temperature, stained with 1% aceto-orcin and mounted in 45% acetic acid. At least 10 metaphases were examined per taxa; the best metaphase plates were photographed (100×) with a digital camera, mounted on an Olympus BX53 microscope. We took into account different asymmetry indices to analyze the karyomorphologies of *Cousinia* taxa using KAMERAM.

**Results:** The chromosome numbers and morphology of the studied six taxa for this section are reported for the first time in here. *Cousinia aintabensis* Boiss. & Hausskn. ex Boiss. & Hausskn., *Cou. arbelensis* C.Winkl. & Bornm., *Cou. birecikensis* Hub.-Mor., *Cou. eriocephala* Boiss. & Hausskn. ex Boiss. & Hausskn., *Cou. grandis* C.A.Mey. ex. DC. And *Cou. vanensis* Hub.-Mor. are diploid with  $2n=24$  chromosomes. The basic chromosome number is  $x=12$ . Besides these, a satellite was specifically observed on the karyotypes of *Cou. arbelensis* and *Cou. eriocephala*. Karyotype analysis informed that the chromosomes are metacentric (m) and submetacentric (sm). *Cou. aintabensis* was found to have the highest coefficient of variation of the centromeric index ( $CV_{CI}$ ) whereas the lowest were observed in *Cou. birecikensis*. From  $CV_{CI}$  values, we can deduce that *Cou. aintabensis* has the more evolved karyotype comparing to the remaining species, unlike this, *Cou. birecikensis* might be evaluated the most primitive due to it's the lowest  $CV_{CI}$  and the most simple karyotype.

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**Keywords:** Cardueae, Karyotype symmetry, Turkey.