

## Karyomorphological Analysis of the *Stenocephala* Section (*Cousinia*, Asteraceae) from Turkey

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**Aim of the study:** The purpose of the present study was to examine chromosome number and morphology of *Cousinia* Cass. taxa belonging to *Stenocephala* 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 number and morphology of *Stenocephala* section were reported for the first time here. *Cou. davisiana* Hub.-Mor., *Cou. ramosissima* DC. and *Cou. stenocephala* Boiss. are diploid with  $2n=26$ . The basic chromosome number is  $x=13$ . A satellite was detected in two chromosome pairs, and usually positioned at the short arms of the third and fifth chromosomes of *Cou. ramosissima*. Karyotype analysis indicated that the chromosomes are metacentric (m) and submetacentric (sm). TCL values show a moderately ranges from 18.13 to 24.097 among the taxa. Generally, we can conclude that the species examined in here were exactly different karyomorphologically and they display very characteristic karyotype formulas. If need to make a general inference from asymmetry indices, the taxa of this section have more evolved karyotypes and it can be mentioned conceptionally from the presence of chromosomal rearrangements according to  $CV_{CI}$  values.

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