

## Chromosome Number Evolution in *Cirsium* Mill. and *Carduus* L. (Asteraceae)

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Chromosome numbers and karyotypes in flowering plants have been considered to be prominent features in taxonomic and evolutionary context. Despite the increasing numbers of cytological studies in Asteraceae, karyotype analysis of *Cirsium* Mill. and *Carduus* L. in Korean population have not been performed carefully. In this study, the chromosome numbers and karyotype analysis of all eight species of the genus *Cirsium* Mill. and one species of *Carduus* L. were analyzed. While the chromosome number in *Carduus crispus* L. was diploid ( $2n = 2x = 18$  or  $18+2Bs$ ) with  $x = 9$  as the base chromosome number, all seven species of *Cirsium* were diploid with  $x = 17$  except for *Cirsium lineare* (Thunb.) Sch. Bip. ( $x = 14$ ). The chromosome number in *C. pendulum* Fisch. ex DC. presented  $2n = 2x = 34$  from two populations and *C. lineare* exhibited  $2n = 2x = 28$  from one population. Aneuploidy was occasionally found in *C. japonicum* Fisch. ex DC. var. *spinossinum* Kitam. ( $2n = 2x = 34, 35, 36$ ), *C. rhinoceros* (H. Lév. & Vaniot) Nakai ( $2n = 2x = 32, 34$ ), *C. setidens* (Dunn) Nakai ( $2n = 2x = 30, 31, 32$ ) and *C. vlassovianum* Fisch. ex DC. ( $2n = 2x = 31, 32$ ). While *Cirsium japonicum* Fisch. ex DC. var. *japonicum* possessed several B-chromosomes ( $2n = 2x = 34, 35, 36$ ), polyploidy was only encountered in *Cirsium nipponicum* (Maxim.) Makino. ( $2n = 4x = 68$ ) from two populations in Ulleung Island. The present cytological data might be contributed to the taxonomic and evolutionary studies in the genus *Cirsium*.

**Key words:** Chromosome number, *Cirsium*, Taxonomy, Evolution, Polyploidy

[This work was partially supported by grants from the National Research Foundation of Korea (NRF) funded by the Korea government (grant numbers NRF-2018R1CB6003170) to T.-S. Jang.]

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