

Karyotype morphometric data of two species of the genus *Clematis* L., a cosmopolitan and diverse genus, were studied. *Clematis flammula* is a diploid with $2n = 16$ chromosomes. It exhibits a gradual decrease in size of chromosomes from $14.83 (\pm 3.6) \mu\text{m}$ to $7.58 (\pm 3.65) \mu\text{m}$. Its karyotype formula ($2n = 2x = 16 = 10m + 6sm$) differs from those of *Clematis orientalis* ($2n = 4x = 32 = 18m + 8sm + 6st$), which is in addition a tetraploid species. The intrachromosomal asymmetry (A1) indicates that *C. flammula* had the most symmetric karyotype $A1 = 0.39$ in comparison to *C. orientalis* ($A1 = 0.96$). The karyological data available in the literature for the genus have also been discussed against the backdrop of the present analysis. This is the first attempt to present the karyotype morphometric data for the tetraploid cytotype of *C. orientalis* from India.