

The majority of the *Origanum* species are important medicinal plants as well as culinary herbs and have thus a great economic value. Some taxonomic issues are still pending within the genus and the cytogenetic studies about this genus are still very scarce. Therefore, studies concerning chromosome number and genome size can provide complementary data that may be useful to characterize the genus *Origanum*. These two approaches have been used to characterize five Moroccan taxa of the genus *Origanum* occurring in the wild in addition to the exotic species *O. onites*. All investigated taxa are diploid with chromosome number of $2n = 30$. This is the first time the chromosome numbers have been counted in *O. grosii*, *O. compactum* and *O. × font-queri* as well as in *O. vulgare* subsp. *virens* from Morocco. The genome sizes are considered as small, and the mean values ranged from 1.43 pg/2C in *O. vulgare* subsp. *virens* to 1.53 pg/2C in *O. compactum*. Besides, no significant intraspecific variability in genome size was observed among populations of *O. elongatum* as well as of *O. grosii*.

