

## Determination of karyotype in *Volvox carteri*

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### **SUMMARY**

The colonial green alga *Volvox carteri* and morphologically close relative species are suited for the study of the evolution of multicellularity and sexual reproduction. However, karyotypes have not been identified in these algae. The difficulty in conducting an observation of the chromosomes of Volvoclean algae can be attributed to their cell walls, chloroplast of cup-shaped around the nucleus, small chromosomes, small genome size and closed mitosis. Previously, we developed a new preparation method of physical treatment of cell for observing mitotic chromosomes in *Pleodorina starrii*. The chromosome size and definite centromeric constrictions were identifiable with this method. In this study, the karyotypes of heterothallic male strains of *V. carteri* were determined. The chromosome number of *V. carteri* was  $n=14$ . The karyotype consisted of one long submedian centromeric chromosome and 13 short median (or submedian) centromeric chromosomes.