

Intraindividual Variation in Nuclear DNA Content in *Durvillaea Antarctica* (Chamisso) Hariot, *Macrocystis pyrifera* (Linnaeus) C. Agardh and *Lessonia spicata* (Suhr) Santelices (Phaeophyceae)

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Macrocystis C. Agardh, *Durvillaea* Bory and *Lessonia* Bory are three brown seaweeds genera of commercial importance for Chilean fishermen. *Macrocystis pyrifera* (Linnaeus) C. Agardh (Laminariales, Laminariaceae) is one of the world's most ecologically and economically important seaweed collected in Chile for alginate extraction; and as food for abalone aquaculture, *Lessonia spicata* (Suhr) Santelices (Laminariales, Lessoniaceae) represents more than 70% of the total brown seaweeds annual landing in Chile; and *Durvillaea antarctica* (Chamisso) Hariot (Fucales, Durvillaeaceae) is consumed as food, being considered very healthy because of its iodine content. Despite the economic importance of these species their nuclear DNA content is unknown until this moment. The present research was initiated to determine the nuclear DNA content and the intraindividual ploidy level variation in these seaweeds. The DNA-localizing fluorochrome DAPI (4',6-diamidino-2-phenylindole) and red blood cell (chicken erythrocyte) standard were used to estimate the nuclear DNA contents by image analysis. *Durvillaea antarctica* presented lower 2C DNA (1.2 pg) content and narrower range of DNA contents (1C-2C) than the Laminariales, which showed higher 2C DNA contents (1.4 -1.5 pg) and a wider range of ploidy level, achieving up to 4C in *L. spicata* and up to 8C in *M. pyrifera*. This higher ploidy levels observed would be related with the more complex cortical organization in the Laminariales than *D. antarctica*. 1C nuclei were only found in mature antheridia (*D. antarctica*) and sporangia (*M. pyrifera* and *L. spicata*). The 2C values observed for the taxa assessed were in the range of other previously published Fucales and Laminariales. © 2019 Publications scientifiques du Muséum national d'Histoire naturelle, Paris.

C-value

DNA content

Fucales

Laminariales

polyploidy