

Acclimatization of the endangered bromeliad *Nidularium minutum* after *in vitro* culture under low temperatures

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Workshop Information

I Workshop of Plant Biology (I Workshop de Biologia Vegetal) was held in the Bioscience Institute – UNESP, campus of Rio Claro, Brazil, during August 20 and 21, 2012. Workshop was a scientific event organized by Post-graduate students from that Institute aiming to integrate Post-graduate and Graduate students from different areas related to Plant Biology (Anatomy, Ecology, Evolution, Morphology, Physiology, and transitional areas) from different Universities. Workshop Organization offered a large number of speaking activities, scientific discussions, and extra short-courses to improve the knowledge and formation of students in Plant Biology.

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The increase in deforestation and harvesting of bromeliads may lead them to extinction, especially when the species is endemic, as *Nidularium minutum* Mez. It is possible to form *in vitro* collections of threatened plants by reducing the temperature of culture, which occupies little space, reduction of maintenance costs. However, it is necessary to resume plants growth when transferred to *ex vitro* conditions (acclimatization), in order to produce seedlings. The objective of this work was to evaluate *N. minutum* acclimatization from *in vitro* culture at low temperatures. Seeds of *N. minutum* were germinated *in vitro* in Murashige and Skoog (MS) medium, with macronutrients reduced to 50% (MS/2) and kept at 25°C under a 12-h photoperiod. After one month, the plants were transferred to temperatures of: 10 (T1), 15 (T2), 20 (T3) and 25°C (T4 - control). After six months, 80 plants from each treatment were transferred to acclimatization in trays with substrate (*Pinus* bark esterilized), fertilized weekly with MS/2 without sucrose and kept at 25°C for 120 days. We evaluated the relative growth rate (RGR) and water content. After 120 days, the survival rate was 70% for acclimated plants obtained from T1 and 100% for the

others. There were no morphological changes of acclimated plants that grown under low temperatures when compared with control. The RGR was similar among treatments, independent of previous *in vitro* temperature. The water content remained high in all treatments, with the lowest values found for the control plants. Due to the high survival rate and satisfactory growth, it is concluded that the use of temperatures of 10 and 15°C allows the *N. minutum* growth reestablishment when transferred from *in vitro* to *ex vitro* condition.