COMBINED EFFECT OF TEMPERATURE AND WATER STRESS ON GERMINATION AND PLANT GROWTH OF *MAGNOLIA PUGANA*, *POPULUS LUZIARUM* AND *P. PRIMAVERALEPENSIS* ENDEMIC AND ENDANGERED SPECIES FROM WESTERN MEXICO

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Since 2016 we have conducted research on the conservation and germination of *Magnolia pugana*, *Populus luziarum* and *P. primaveralepensis* seeds. Our main objective is to know the response in germination and plant growth with the combination of high temperatures and water stress as these conditions are projected for the area where they are distributed. Since 2018 this research is part of the doctoral project of the student César Jacobo Pereira. Germination tests for *M. pugana* have been performed with the combination with three temperatures (24, 28 and 37°C) and five water potentials (0, -0.3, -0.6, -0.9 and -1.2 MPa). The interaction of temperature and water potential on germination percentages was significant (ANOVA: $F = 3.86$, $P < 0.001$). The highest number of germinated seeds (78%) was obtained at a temperature of 24°C and 0 MPa. These results indicate that germination of *M. pugana* is severely affected by the interaction between increasing temperatures and decreasing precipitation. In *P. luziarum* and *P. primaveralepensis* we tested germination and storage of their seeds at two temperatures. In the first 24 hrs after seed collection, germination was high (91 and 95%, respectively). Germination percentages decreased when stored at 21°C and for more than four weeks. The germination percentage of *P. primaveralepensis* decreased more slowly than that of *P. luziarum* at 4°C. This indicates that subtropical *Populus* subtropical seed storage conditions respond similarly to those in temperate climates. If approved, the grant for which I want to participate will serve to continue my studies and experiments to generate crucial information to establish in situ and ex situ conservation and repopulation programs.