

Thermo-hydric conditions and native species responses in the Paravachasca Valley, Córdoba, Argentina

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Summary

In recent times many undisturbed areas in the hills of Córdoba have been degraded by deforestation, rural fires, exotic plants introduction, overgrazing and advances of the agriculture frontier. Consequently, many changes have occurred on the landscape status creating dispersion barriers for many species with ethno-botanical importance and causing losses in the biodiversity. Extreme meteorological conditions such as droughts and excesses of moisture accelerate the degradation process of the environment because they alter the behavior and regeneration of the native vegetation after unfavorable periods. The thermo-hydric conditions for mid 2008 to mid 2016 were analyzed in relation to the disappearance and regeneration of 12 native species. Drought periods and a rural fire in the Paravachasca valley are highlighted which caused the total or partial destruction of those plants selected for monitoring the species behavior. The study shows that the species with greater resilience to recuperate the ecological niche after a disturbed environmental condition were: espinillo (*Vachellia caven*) and lagaña de perro (*Cesalpineia gilliesii*); and with lower resilience flor de papel (*Gomphrena pulchella ssp. rosea*); chuscho (*Nierembergia linariaefolia var. linariaefolia*) and botón de oro (*Gaillardia megapotamica var. radiata*). Those with a lower recuperation rate are: verbena común (*Verbena rigida*) and escoba dura (*Vernonia incana*). On the other hand, those species subject to greater damages and greater population losses were peperina (*Minthostachys verticillata*), carquejas (*Baccharis articulata and B. crispa*) and malvas (*Sphaeralcea bonariensis and S. cordobensis*).

Key words: biodiversity; climate variability; environmental conditions; Córdoba hills; native plants