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An assessment of one temporary wetland regeneration after soil disturbance

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Mediterranean temporary wetlands are shallow, small and frequently visited habitats where domestic livestock and wild herbivores generate numerous physical soil disturbances that a ect the biomass, species composition and richness of plan communities, with an unknown e ect on communities dynamic and speed of regeneration. e present study is a combination of a laboratory and eld experiments, in order to verify these hypotheses concerning the vegetation of temporary wetlands. In eld, using two sizes of experimental plots (large: 1.20 m x 1.20 m; small: 0.3 m x 0.3 m), the e ects of soil disturbances on vegetati dynamics and the vertical distribution of seeds were studied in one Moroccan temporary wetland. In laboratory experiment was carried out using 72 soil samples collected from the same temporary wetland and placed in containers. e total biomass, the annual and perennial species richness was calculated to test the hypothesis. Results show that disturbance reduces the t biomass, especially of perennials, but without signi cantly increasing the richness of annuals, but a very rapid regeneration of temporary wetland vegetation in disturbed plots. e speed of regeneration depends on the size of disturbance and hydrology. ere was an almost complete return of vegetation to the reference state in the small disturbed plots by the end of the 1st year. is fast restoration was mainly due to seed banks, which play a key role in the regeneration of temporary wetland to the di erent size of disturbances frequently generated by herbivores, but also to lateral colonization by perennials.

Recent Publications

1. Sahib N, Rhazi L and Grillas P (2011) Post-disturbance dynamic of plants in a Mediterranean temporary pool (Western Morocco): E ects of disturbance size. Canadian Journal of Botany, 89:105-118.
2. Sahib N, Rhazi L, Grillas P and Rhazi M (2010) Impacts of physical soil disturbance on plant communities in temporary ponds in Morocco. EPCN Newsletter, 5:11-12.
3. Sahib N, Rhazi L, Grillas P and Rhazi M (2009) Experimental study of the e ect of hydrology and mechanical soil disturbance on plant communities in Mediterranean temporary pools in Western Morocco. Hydrobiologia 634:77-86.
4. Bouahim S, Rhazi L, Amami B, Sahib N, Grillas P, Rhazi M and Mesleard F (2008) Le pâturage dans les mares temporair mediterraneennes : e et sur la richesse des communautes et consequences pour la gestion. In : Bonis A. (ed.). Edition Tec & Doc Lavoisier, Paris : pp. 39-46.
5. Bouahim S, L Rhazi, B Amami, Sahib N, M Rhazi, A Waterkeyn, A Zouahri, F Mesleard, S D Muller and P Grillas (2010) Impact of grazing on the species richness of plant communities in Mediterranean temporary pools (western Morocco). Comptes Rendus Biologie 333:670–679.

Biography

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