

# Abstracts



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## The effect of grazing on the community structure of woody species in Mt. Vermio (Northern Greece)

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Mediterranean ecosystems have always been subject to human activities which result in degradation phenomena. Intense grazing and frequent fires are the main anthropogenic impacts in these ecosystems. This work is a preliminary study of the effect of grazing on the vegetation pattern of two formations at 450 and 900 m a.s.l., belonging to the transitional zone of evergreen-sclerophyllous and deciduous woodlands. The low altitude site is dominated by the evergreen-sclerophyllous species *Quercus coccifera*, while the deciduous species *Carpinus orientalis* dominates in high altitudes. Both sites have been subject to grazing (mainly by sheep and goats) for several years. This has resulted in the creation of pathways and open sites in between the stands. On the basis of the discontinuity of the vegetation cover, several sites can be distinguished, which are subject to grazing of different intensity. In order to define the difference in the plant communities in relation to grazing intensity, altogether 33 transects were drawn in the ungrazed, moderately grazed and overgrazed sites of both altitudes. Woody species cover was assessed by the point intercept method. Data were analysed by means of the Fuzzy set ordination method. The results showed that although grazing reduces the total vegetation cover, it acts differentially even within the same macroclimate. In low altitudes, grazing changes the species composition of the community and reduces the height of most species. In high altitudes, it increases heterogeneity, regarding both the species composition and height.

## Effect of disturbance on seed production, germination and seedling population density of tree species in a subtropical humid forest

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In order to analyse the impact of disturbance on natural regeneration of three important tree species *Quercus dealbata* L., *Q. griffithii* HK. and *Schima khasiana* Dyer., a study involving determination of seed production, seed germination and seedling population density was carried out during 1988-91 in highly disturbed, mildly disturbed and undisturbed stands of a subtropical humid forest in northeast India. The annual seed production and average seed weight for each tree species were determined. Seed germination was studied in relation to varying microsite characteristics by sowing the seeds on moss layer, litter layer and cleared forest floor in the undisturbed and disturbed stands. The population densities of the established seedlings of the three tree species were also determined. Seed production in *Q. dealbata* and *S. khasiana* increased significantly with the increasing disturbance. Both species of *Quercus* produced heavier seeds in the disturbed stands than in the undisturbed stand. Seed germination of *Quercus* species was better in the undisturbed stand compared to the disturbed stands, while *S. khasiana* germinated better in the latter.

Moss layer favoured seed germination of all the species but the litter layer had an inhibitory effect. Seedling population density was highest in the highly disturbed stand and lowest in the mildly disturbed stand. The study reveals that disturbance enhances seed production, contributes to fitness of seeds and favours regeneration by encouraging greater seedling recruitment.