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Impact of grazing abandonment on floristic diversity in the priority habitat type *9562 Grecian Juniper Woods

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The habitat type *9562 Grecian juniper woods (Juniperetum excelsae) includes Greek juniper (Juniperus excelsa M. Bieb.) forests and they are found mainly in the western sector of the Prespa National Park, NW Greece. Greek juniper forests are considered extremely rare for EU-28, recommending a priority habitat type in accordance with Directive 92/43/EEC. In addition, their ecological importance is great given its high plant taxa richness; they harbor most of the 900 plant taxa found in the western sector of the Park, many of them being important for EU or global scale. The accelerated invasion of deciduous hardwoods is the most significant risk for the habitat, since its rich flora is well-adapted to open light conditions produced by the open spaced Greek junipers. Also, the dense vegetated conditions deprive the regeneration of the photophilous Greek juniper. The invasion results from the lack of its natural controller, i.e. the grazing livestock. It is estimated that the total area of juniper forests for the Devas area decreased to 89% of the area of 1945 in favor of invasive hardwoods. The paper presents the analysis of the floristic diversity of the priority habitat type *9562 Grecian Juniper Woods (Juniperetum excelsae) (GJWs). Four (4) types of juniper forest ranges (GJWs) were distinguished in terms of canopy cover: (a) pure GJWs, (b) mixed open GJWs, (c) open GJWs, and (d) mixed dense GJWs. A total of 171 plant taxa were recorded, and distributed within 43 botanical families; the largest one being Leguminosae (26 taxa). The statistically estimated plant taxa richness for pure GJWs was 116.4, for mixed open 152.6, for open 57.9, and for mixed dense 90.2 taxa. The analysis of α-diversity indices did not reveal any specific trend of diversity for the four GJWs. The behavior of the variability of diversity among the four range types of GJWs was depending on the emphasis the used indices place on properties such as taxa richness or abundance. This fact was reflected in the diversity ordering diagram, based on the Renyi's index; it was shown that the response system of the four GJWs appeared as dynamic and thus reflected the distance of a standard system and a distinct floristic diversity regime of four levels. However it seems that mixed dense GJWs had the lowest floristic diversity, while the largest had the pure and mixed open GJWs.