

of *Cedrus brevifolia* forest

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The forest of *Cedrus brevifolia*

Cedrus brevifolia is a narrow endemic coniferous tree in Cyprus. It grows in an area of 263 ha and an altitudinal range of 900-1362 m. The sole population of *C. brevifolia* shapes the habitat type of "9590* *Cedrus brevifolia* forests (Cedrosetum brevifolia)", which is included in the Annex I of the Directive 92/43/EEC, where it is characterised as a priority habitat type. Since 1879 has been under non-management, and, hence, without silvicultural treatments. Today the Mediterranean region is under the pressure of climate change with geographically marginal and peripheral forests/habitats being negatively affected by this change.

The LIFE-KEDROS project investigated the structure of natural and artificial stands, analysed natural regeneration of single species and mixed stands, and proposed and implemented principles for silvicultural treatments of natural and artificial stands of *C. brevifolia* (Cyprus cedar).

Field work

To achieve the objectives of this study, eight structure types were set for the natural formations and eight for the artificial formations of *C. brevifolia*. The structure types in *C. brevifolia* were classified based on the species composition and the site productivity. For this research, 44 permanent sampling plots of 500 m² (square) were established in the natural stands and 27 (rectangular) plots of 200 m² were established in the artificial stands.



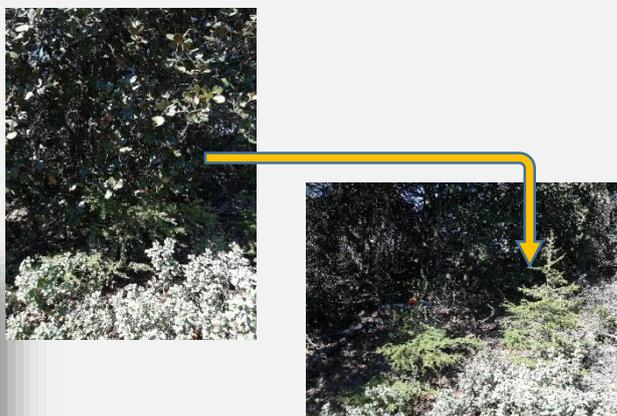
Shape of adult Cyprus cedar tree and examples of the negative impact of *M. schimitscheki* and bark beetles on the trees' ability.

In each sampling plot established in the natural stands, numerous parameters were recorded for each woody species (trees with a height of over 1.3 m): total height, breast height diameter (dbh), height where the living crown begins. Further, the growth form of regeneration plants was determined, together with the vitality of the regeneration plants and the number of seedlings (height > 10 cm). In the artificial stand all trees were classified according to their social position as dominants, co-dominants, intermediates or suppressed.

Results - Outcomes

Scientific outcomes from this study imply that *C. brevifolia* is a high competitive species, which can grow in various site qualities. Thus, *C. brevifolia* has an increased ability to cope with unfavourable soil conditions.

The current study led to the elaboration, for the first time, of the "Principles for silvicultural treatments of natural and artificial stands of *C. brevifolia*", based on which silvicultural manipulations are implemented in natural and artificial formations of *C. brevifolia*. These manipulations are applied for distributing the growing space in order to favour *C. brevifolia* individuals. The intensity of manipulations is light in most cases.



So far:

- 6924 trees were cut, equaling to 1017.27 m³
- 8398 *C. brevifolia* are favored

