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
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
Botany

Post-Fire Dynamics of *Cistus* spp. in a *Pinus brutia* Forest

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 [Keywords](#)

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Abstract: The population dynamics of 2 species of *Cistus* L. (*C. salviifolius* L. and *C. creticus* L.) were studied along a post-fire successional gradient in *Pinus brutia* Ten. forests in Marmaris National Park, Turkey. The population density of *Cistus* spp. was 16 individual m⁻² at the end of the first year after fire and then decreased exponentially ($r^2 = 0.926$, $P < 0.001$) the second year after fire to later successional stages. Total projected foliage cover of *Cistus* spp. was 26% by the end of the first year after fire, it increased to approximately 38% during the second year after fire and decreased linearly ($r^2 = 0.872$, $P < 0.01$) beyond this time. Rates of establishment of *Cistus* spp. were high in the first year after fire but were low in subsequent years and most of the *Cistus* plants flowered during the second year after fire. There was a significant positive relationship between the density of new seedlings of *Cistus* and cover of *Pinus brutia* trees in the sixth year after fire ($r^2 = 0.242$, $P = 0.002$). Seed yield of *Cistus* was reduced due to predation of seed capsules by Bruchid insects. Both species of *Cistus* were shown to be typical post-fire colonisers in terms of timing of recruitment and post-fire population dynamics. The major factors responsible for the decrease in density of seedlings of *C. salviifolius* and *C. creticus* are likely to be the mortality of young seedlings due to summer drought and competition among seedlings and with *P. brutia* trees. It is suggested here that the species considered have fire-dependent establishment behaviour and an increase in population is restricted to early post-disturbance in *P. brutia* forests in Turkey, as in other Mediterranean regions.

Key Words: Post-fire colonisers, post-fire succession, *Cistus creticus*, *Cistus salviifolius*, Turkey

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