Klimatikus mikrorefúgiumok: azonosítás, élővilág és kezelés

Microrefugia: identification, biodiversity, and management

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Microrefugia

- Small areas with stable environmental conditions that support long-term species persistence
- Various types and characteristics
- Refugial capacity: ability to sustain biodiversity over time
- Implications for conservation and management

Keppel et al. (2024) TREE

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Dolines/Sinkholes

- Closed depressions in karst surfaces [Veress (2004)]
- Usually on limestone (also on evaporites)
- Various types of dolines (e.g., solution or collapse)

solution dolines are bowl- or funnel-shaped depressions formed by the dissolution of rock at the bedrock–soil interface

Mecsek Mts, Hungary

Biokovo Mts, Croatia, photo: Tamás Pócs

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Relict populations

2025

Past

Dracocephalum ruyschiana

Aconitum variegatum

Bükk Mts, Hungary

Functional trait and phylogenetic patterns in refugia

Trait	Expectations for trait in refugium	Example references
Traits associated with generally more stable and favourable environmental conditions		
Lifespan	More long-lived plants due to stable conditions	Bhagwat and Willis (2008); Mosblech *et al.* (2011); De Smedt *et al.* (2018)
Reproduction type	Prevalence of vegetative (less genetic variation) over riskier sexual reproduction	Dayrell *et al.* (2017); Jiménez-Alfaro *et al.* (2016)
Seed dormancy	Low dormancy associated with lower investment in sexual reproduction	Dayrell *et al.* (2017)
Seed size & mass	Large, heavy seeds due to less need for long- distance dispersal	Rossetto and Kooyman (2005); Bhagwat and Willis (2008); Kooyman *et al.* (2011); Weber *et al.* (2014)
Traits associated with consistently cooler and moister (more mesic) conditions, as found on north-facing slopes in the Northern Hemisphere		
Plant height	Small plants associated with ecological limits imposed by cold, wind stress and high elevations	Doležal *et al.* (2012); Copeland and Harrison (2015)
Specific leaf area (SLA)	High SLA as a result of reduced sclerophylly and more acquisitive nutrient uptake strategies	Spasojevic *et al.* (2013); Copeland and Harrison (2015)
Dispersal mode	Low proportion of wind-dispersed species, related to more investments in on-spot persistence	Copeland and Harrison (2015)

„Plant communities in refugia and endemism hotspots should, due to long-term environmental stability, display unique functional characteristics linked to distinct phylogenetic patterns."

Keppel et al. (2018)

Szakdolgozó feladatai

Elvárások:

- 1. vagy 2. évfolyamos BSc szakos hallgató
- Elhivatottság, terepi állóképesség

Lehetőségek:

- Szakdolgozat és diplomamunka, TDK, PhD
- Csapatmunka
- Konferenciák

Thank you for your attention!