

Consistent CSR strategy of daisy fleabane *Erigeron annuus* (L.) Pers. despite its high morphological variability – a case study from Zagreb and Medvednica Mt., Croatia

Damjana Levačić, Sven D. Jelaska

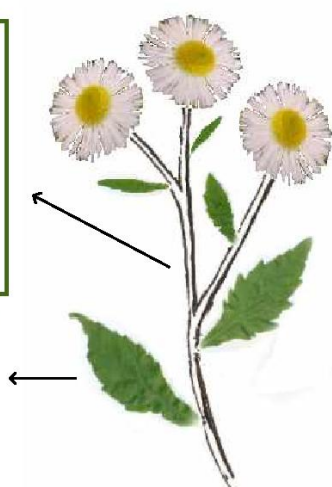
Department of Biology, Faculty of Science, University of Zagreb, Rooseveltov trg 6, 10000 Zagreb, Croatia
(damjana.levacic@gmail.com, sven.jelaska@biol.pmf.hr)

Erigeron annuus is an annual, biennial or perennial invasive species from the *Asteraceae* family. It was introduced to Europe from North America at the end of the 17th century as an ornamental plant, and today is widely naturalized throughout Europe, including Croatia. As a common weed species of early succession stages, it thrives best in full light and disturbed habitats – abandoned fields, roads, railways, river embankments, etc., often forming dense stands.

18 localities – 87 plant specimens – 435 leaves (Jun–Sep 2019)



Stems reached height between 60 – 166 cm. A population with highest stems and largest leaves inhabited well lit and nutrient rich environment, secluded from the wind. Plant height was 12% higher in populations growing at 300 meters or above

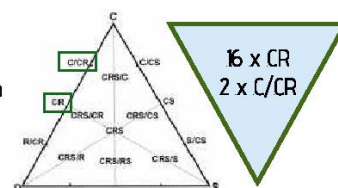


Specific Leaf Area is proportional to leaf growth rate. It was 14% higher in populations growing at 300 meters or above

Phenoplasticity aids plants' invasive potential especially in the early stages of development when they try to thrive within a wide range of environmental conditions.

Grime CSR strategies describe species' ways of adapting to the environment and it is determined by life traits, so we measured:

- stem height
- fresh and dry leaf mass
- length, width and leaf area
- Specific Leaf Area
- Leaf Dry Matter Content

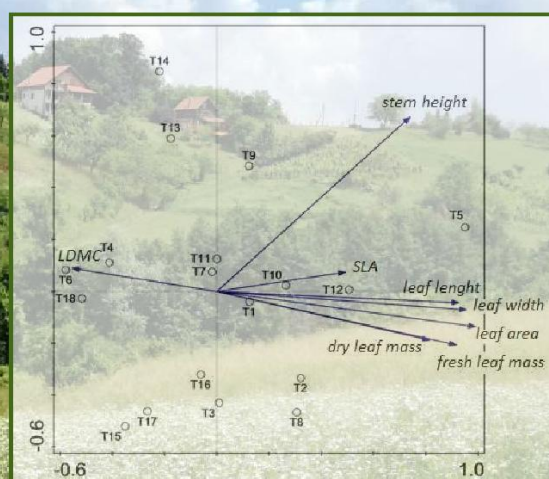


Within all measured traits, significant differences between localities were found and varied from 51–76%.

Life traits Specific Leaf Area and plant height were the most diverse

Daisy fleabane was less abundant on Medvednica Mt. given the dense forest vegetation prevailing

Long flowering period (over 7 months) strengthens the ruderal component of species.



Largest, longest and widest leaves were also the heaviest. Four out of five populations sampled in September had the lowest growth with small and light leaves. Almost all populations living at 300 meters above sea level or higher had the highest growth. Populations with a more pronounced competitive strategy (T4 and T18) had high LDMC with small, light leaves and medium height stems.