

INTERSPECIFIC WAR

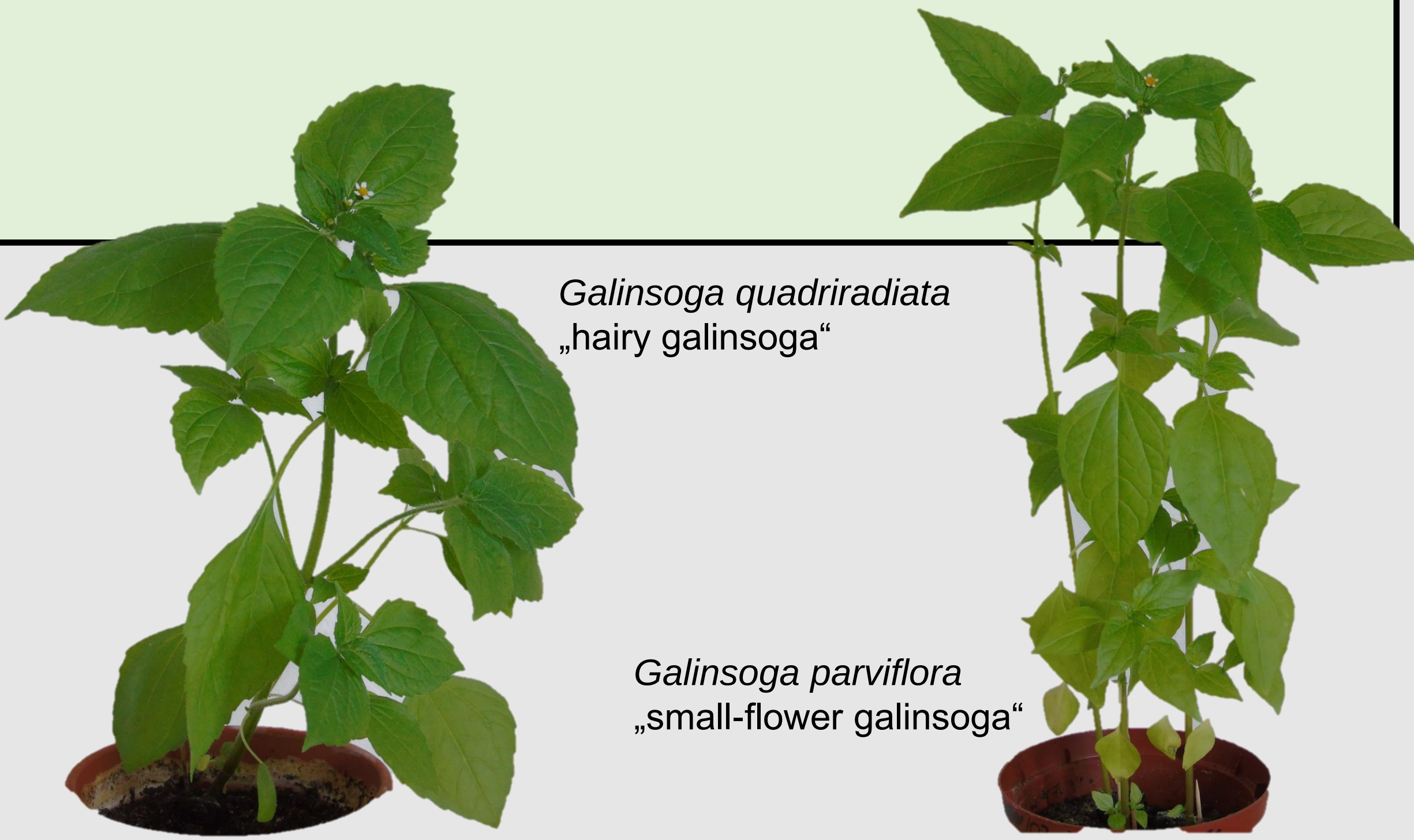
Battle of a niche

INTRODUCTION

There is a war between plants. They fight about a niche. A niche is a place with its own special conditions. *Galinsoga parviflora* and *Galinsoga quadriradiata* live the same niche and it could be possible, that they also have to fight for this niche. *Galinsoga parviflora* has a starting advantage because it moved way earlier to Europe than

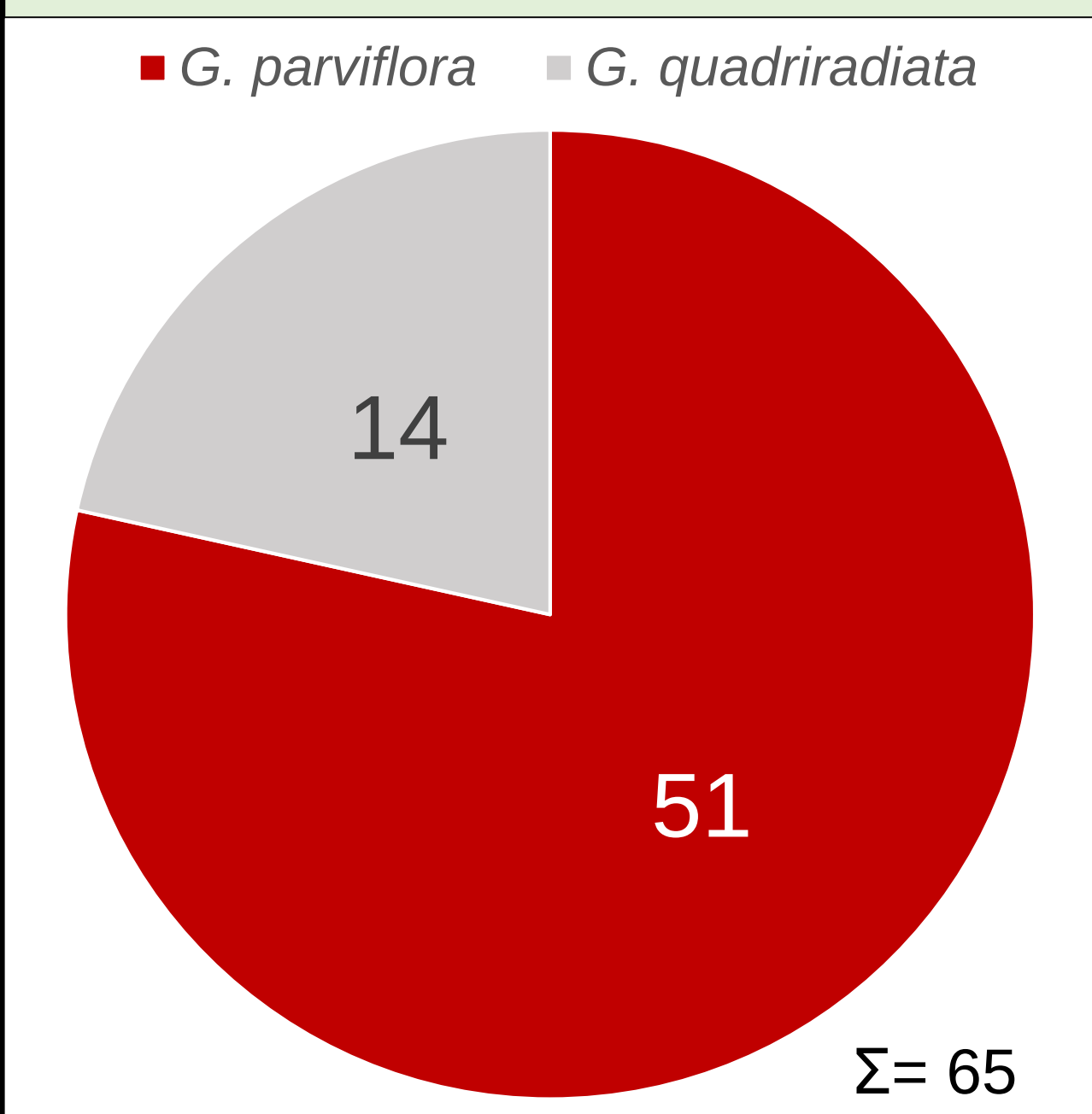
Galinsoga quadriradiata, but what is the current situation? Has *Galinsoga parviflora* even now an advantage or is *Galinsoga quadriradiata* ready to take place?

- cosmopolitans
- *Galinsoga* is native in south america
- *G. parviflora*: ~1800 in Europe
- *G. quadriradiata*: ~1850 in Europe
- ruderal plants
- Ruderal vegetation: vegetation in disturbed urban habitats
- Neophytes: new species in a location since 1492



RESULTS

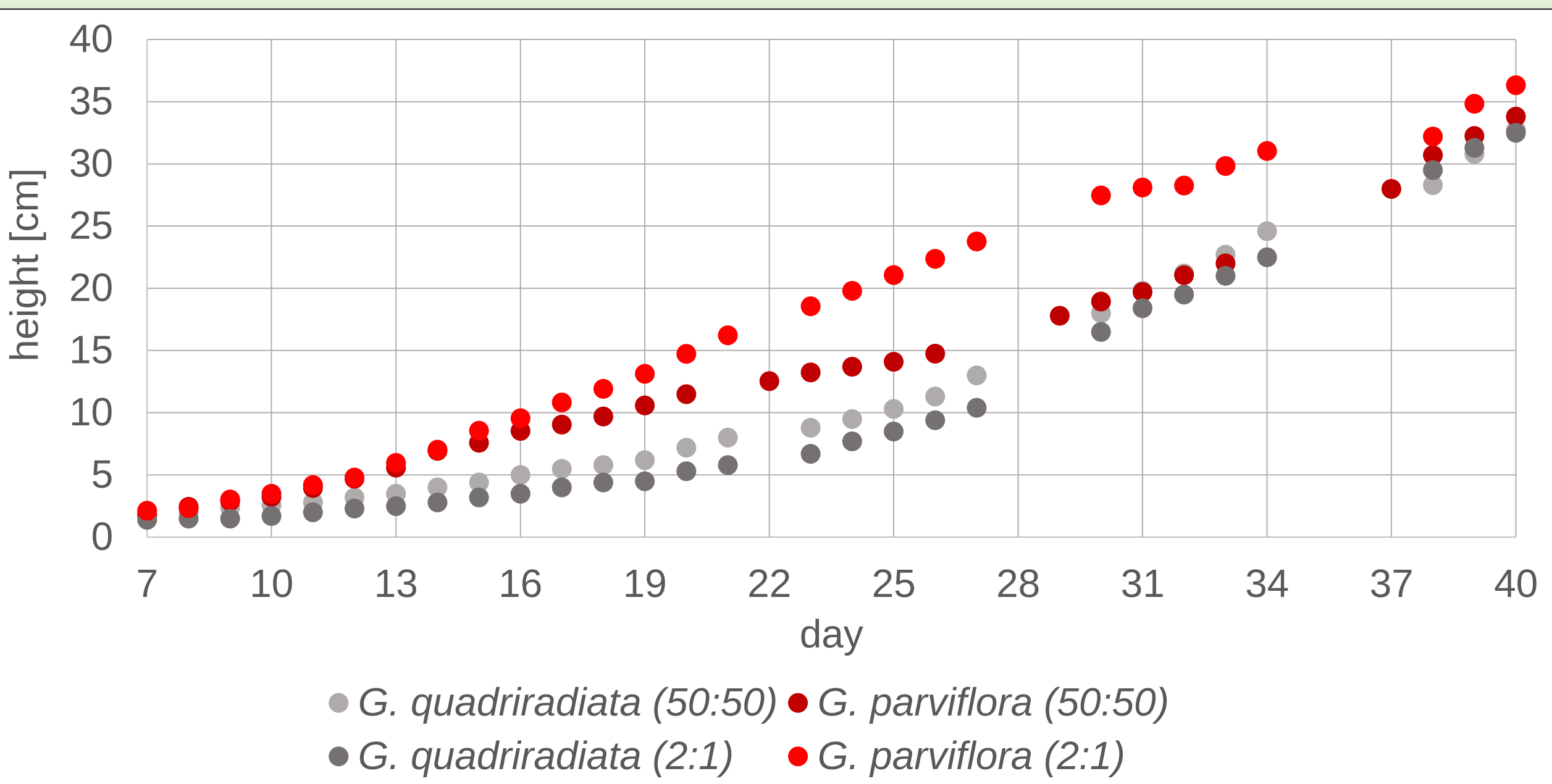
Mapping



There were more places with plants of *G. parviflora*. This shows, that this specie still has higher advantages than *G. quadriradiata* for this niche.

Sample area: Braunschweig, Germany

Growth



This experiment is non conclusive, because both species have nearly the same size in the end of this experiment. The only seen advantage for *G. parviflora* (2:1) is, that it grows faster in the middle stages.

Study of seeds

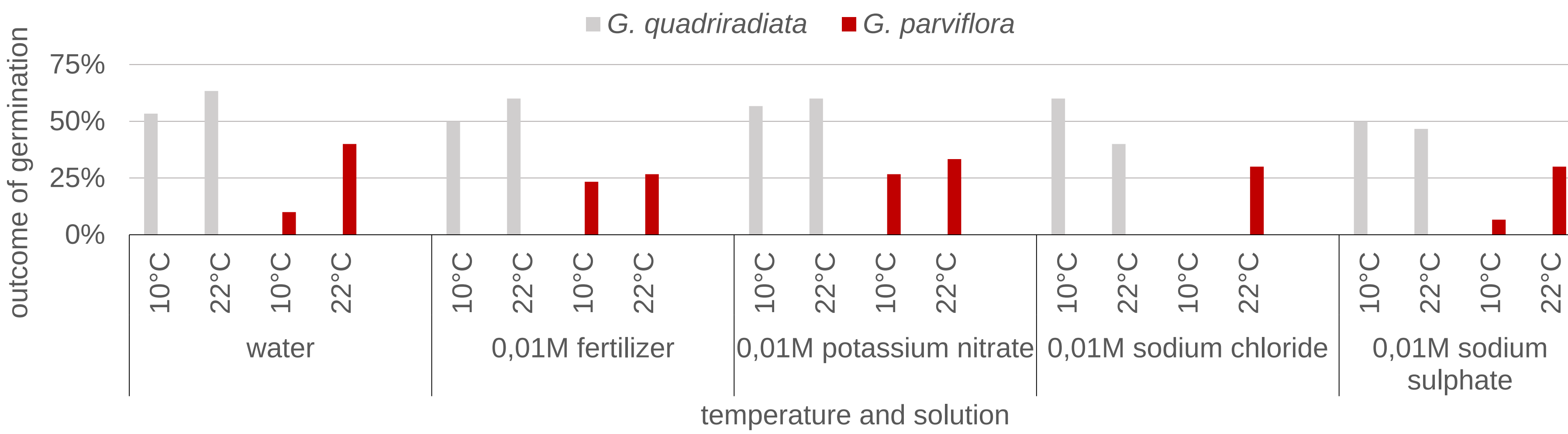
		G. p.	G. q.
weight [µg]		206,67	239,33
size [mm]:			
Achene	length	1,5	1,43
	width	0,49	0,58
Pappus	Length	1,08	0,88
	Width	0,27	0,21

G. parviflora has an advantage with its seeds, because they are lighter and have a longer and wider pappus, which increases the gliding capacities. That allows them to travel across larger distances.

Weight measure: Σ=150 Length and width measure: Σ=30

Germination

G. quadriradiata has a clear advantage with the germination of its seeds, because they can germinate in a larger temperature spectrum and have a higher outcome of germination. Also the seeds can germinate better on a wide spectrum of solutions, which increases the variability.



CONCLUSION

Today *Galinsoga parviflora* has a supremacy for this niche, because it occurs a lot more in nature. But if you look at the experiments, there are clues that *Galinsoga quadriradiata* has a higher overall outcome of germination, and is especially better adapted to lower

temperatures. That's why there is a chance for *G. quadriradiata* to win the battle of this niche, but *G. parviflora* is equipped for the fight.