

ROCK

PAPER

SCISSORS



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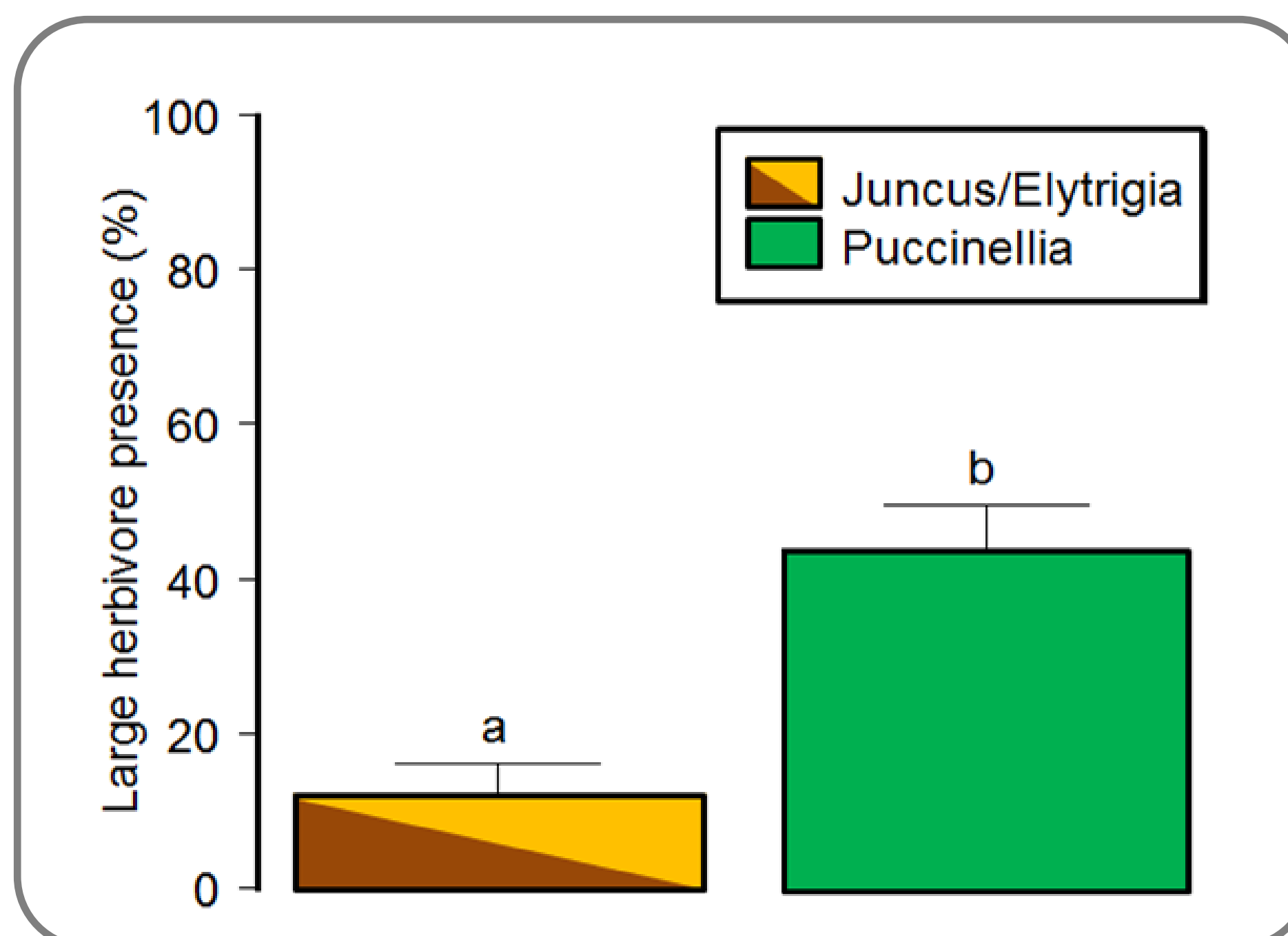
Community and Conservation Ecology
Group, Centre for Ecological and
Evolutionary Studies, The Netherlands

on the salt marsh

Ruth Howison, Han Olff and Chris Smit



How does the interplay
between large grazing
herbivores and plant
life strategies generate
shifting vegetation
mosaics



What we found

Large grazing herbivores
prefer *Puccinellia*
(short) vegetation and
create a patchy mosaic

Each patch type can be invaded by the next

Elytrigia

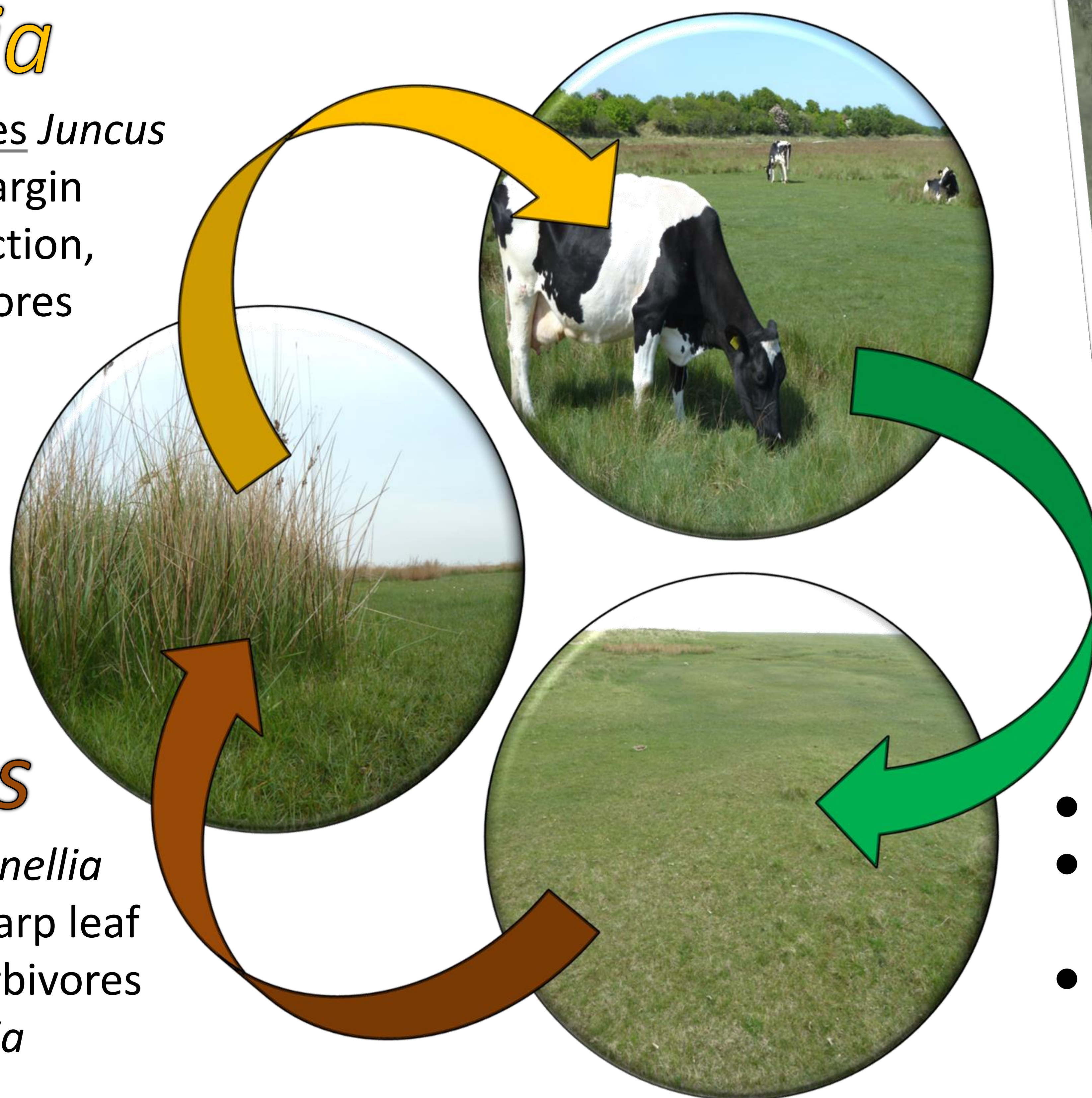
- *Elytrigia* outcompetes *Juncus*
- *Juncus* persists at margin
- *Elytrigia* loses protection, attracts large herbivores

Juncus

- *Juncus* invades *Puccinellia*
- *Juncus* defended, sharp leaf tips, deters large herbivores
- Outshades *Puccinellia*
- Facilitates *Elytrigia*

Puccinellia

- *Puccinellia* replaces *Elytrigia*
- *Puccinellia* better tolerates trampling and defoliation
- Low C:N, quality forage preferred by large herbivores



SYNTHESIS

**Large herbivores drive continuous transitions
with alternating competition and facilitation**

