



Economic importance and natural enemies of the red poplar leaf beetle (*Chrysomela populi* L.) in poplar short rotation coppice in Germany



Vancouver, 2014-07-
22

Outline

Part I The red poplar leaf beetle (*Chrysomela populi* L.)

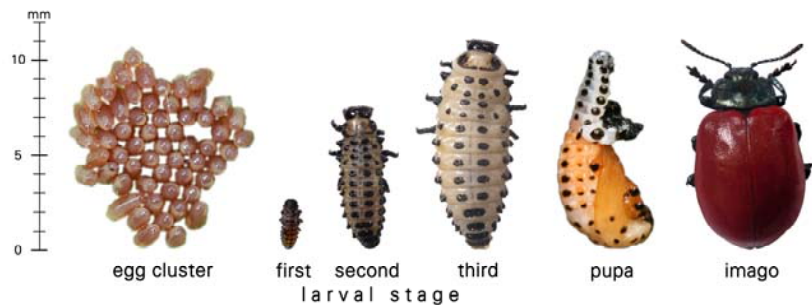
Part II Economic importance of *C. populi*

Part III Natural enemies of *C. populi*

Part IV Future perspectives

(great) red poplar leaf beetle (*Chrysomela populi*)

- ▶ two generations per years
- ▶ larvae and imagoes feed on young leaves
- ▶ main pest species in poplar SRC, esp. on 'Max' varieties
- ▶ benefits from the short rotation lengths (3-5 years)



imagoes on sprouting cutting



imagoes on sprouting stool after harvesting



Larvae of *C. populi*



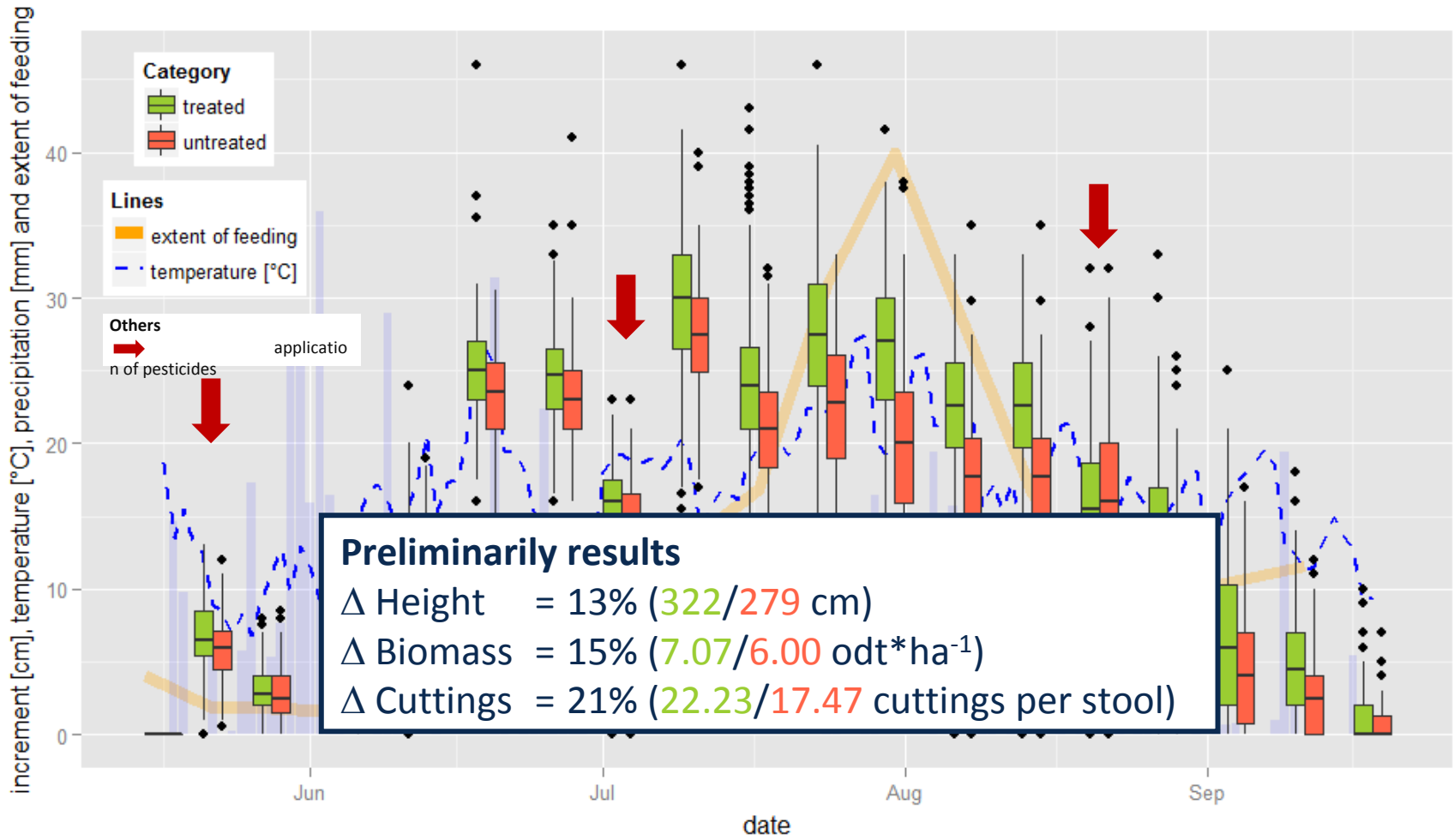
damage on apical leaves



height
biomass
cuttings
quality



undamaged poplar



Influence of feeding of *C. populi* on weekly height growth of Max 3 (n=120 stools per category in four blocks)



imago



egg cluster



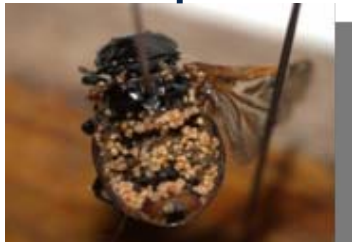
L1

L2

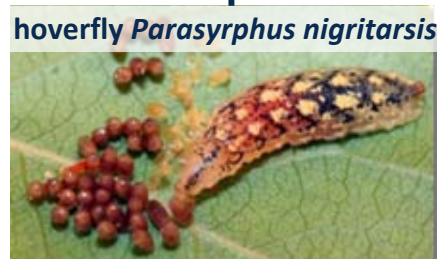
L3



pupa



mite *Linobia coccinellea*



hoverfly *Parasyrphus nigritarsis*



bug *Picromerus bidens*



chalcid wasp
Schizonotus sieboldi



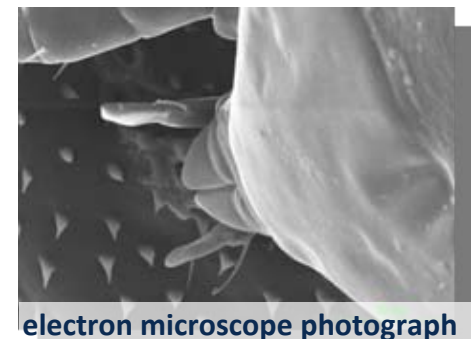
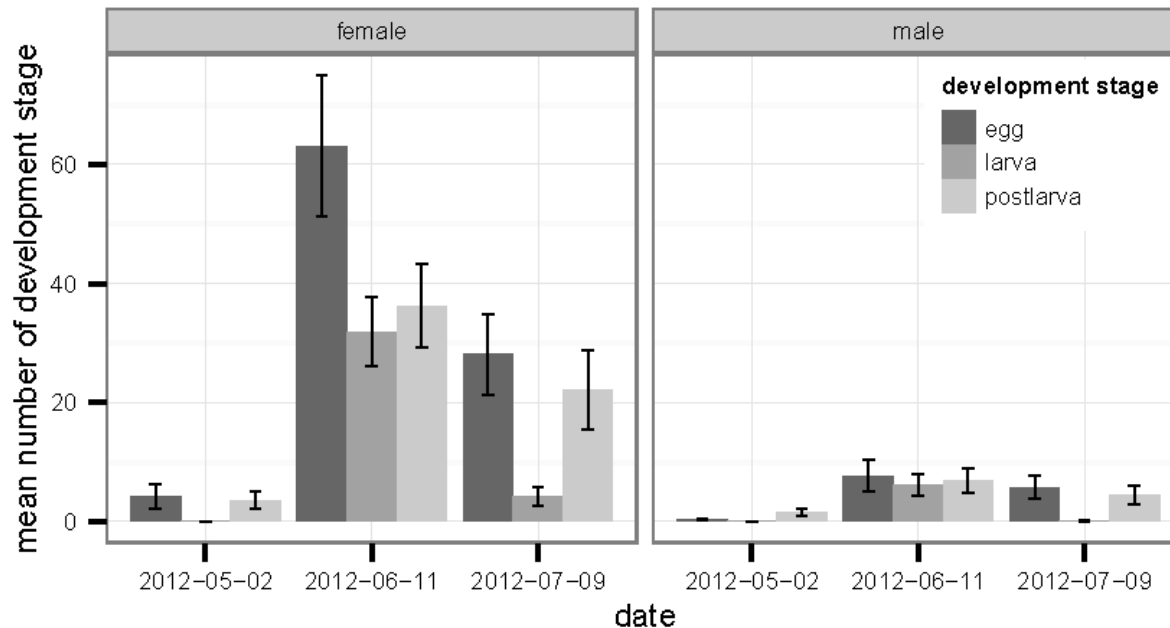
hoverfly *P. nigritarsis*



parasitised pupae by
tachinid fly *Cleonice callida*

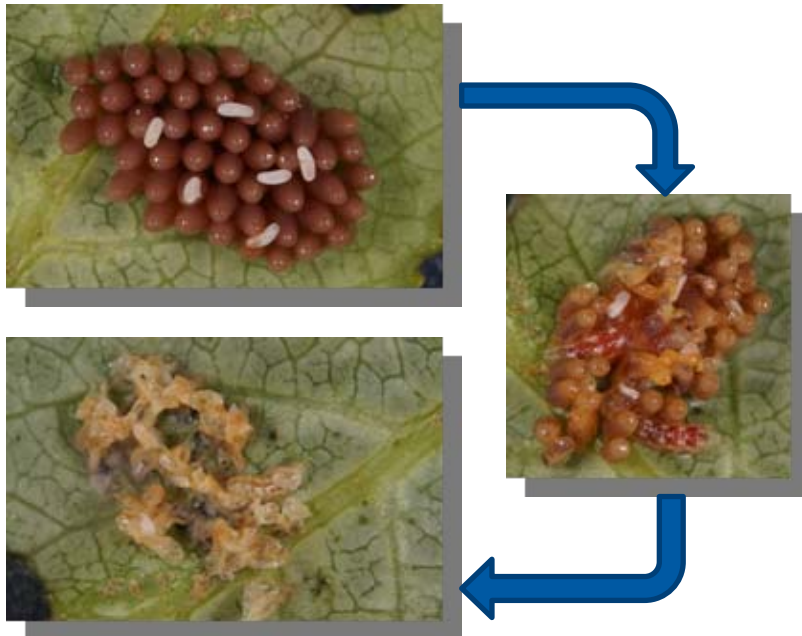
Linobia coccinellae

- exoparasitic mite, sucking on haemolymph
- colonization of new host mainly during copulation
- fast increasing parasitisation rate and density

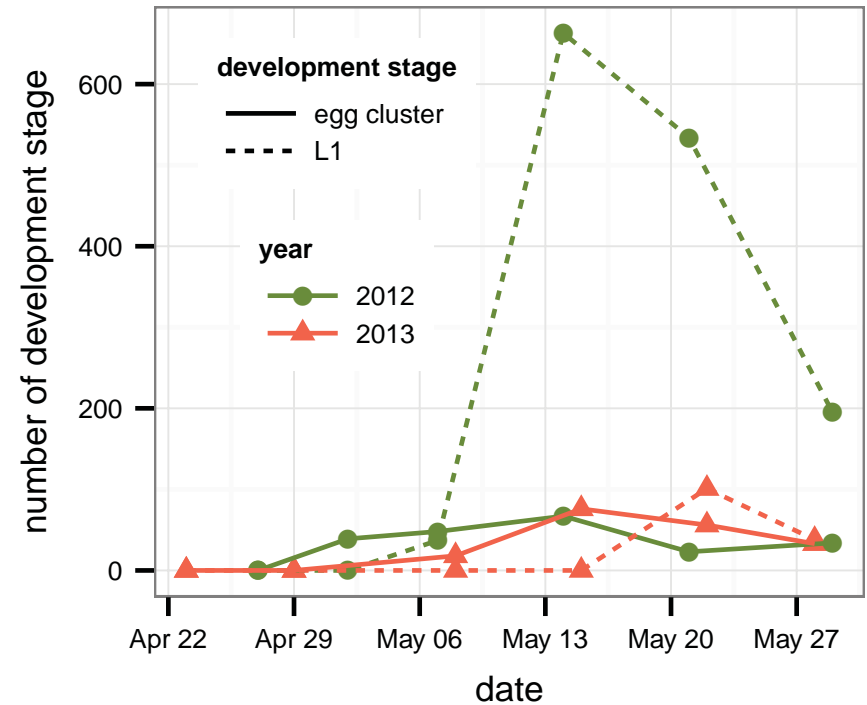


Mean number of different development stages of *Linobia coccinellae* on imagoes of *C. populi* on three different dates; error bars representing standard deviation

Parasyrphus nigratarsis

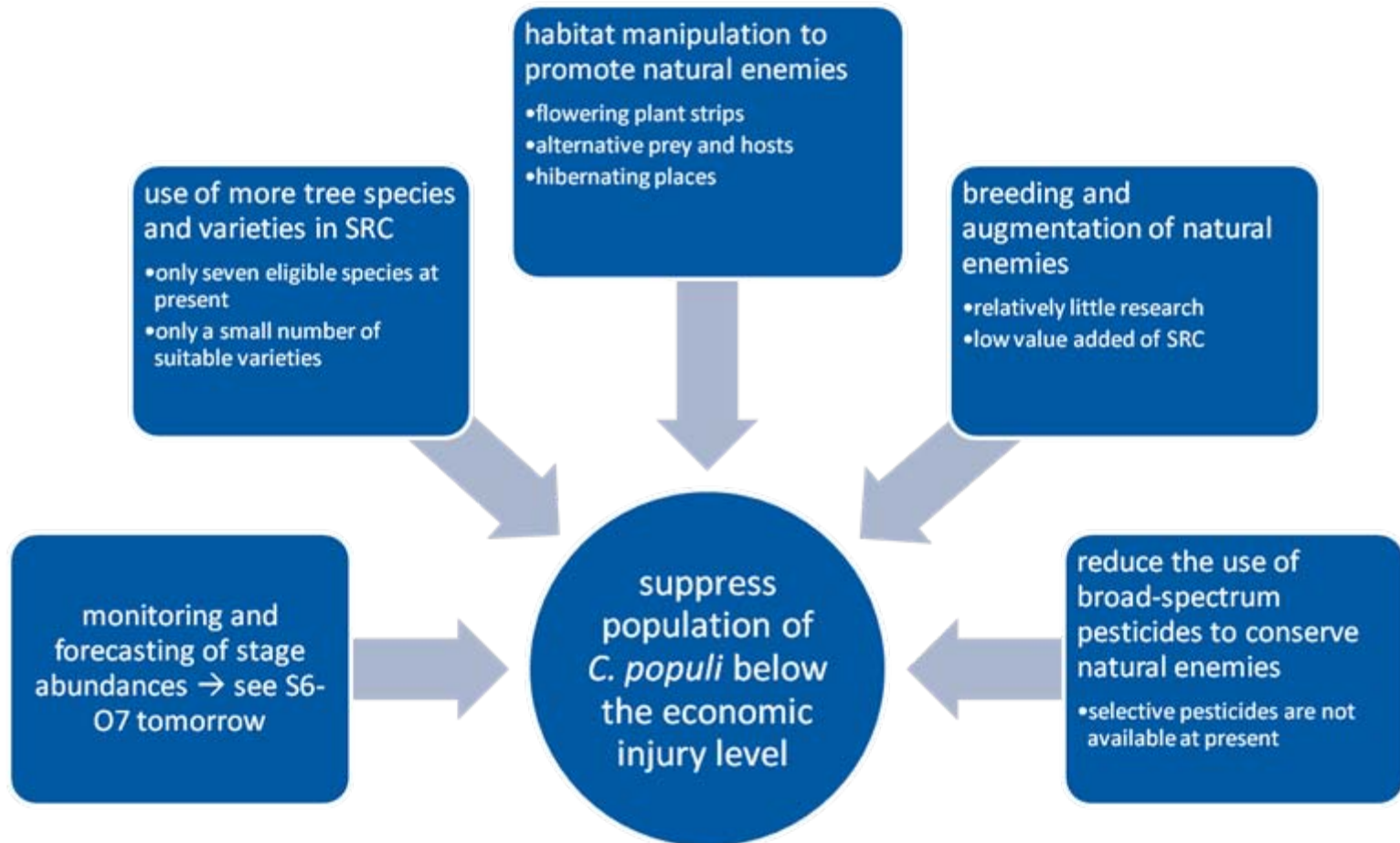


Development of larvae of *Parasyrphus nigratarsis* and influence on egg cluster of *C. populi*



Comparison of the development from egg cluster to first larval stage in 2012 and 2013. The low number of larvae in 2013 could trace back to the high predation rate of eggs by the hoverfly *Parasyrphus nigratarsis*.

Integrated pest management strategy for *C. populi*





Thank you for listening!

Contact:

Richard Georgi
TU Dresden
Chair of Forest Protection
Pienner Str. 8
01737 Tharandt
035203/3831623
www.tu-dresden.de/forst/waldschutz

 SUSTAINABLE
LAND MANAGEMENT

AGROFORNET

<http://www.agrofor.net>

GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung


Projektträger Jülich
Forschungszentrum Jülich