

## Biological protection in forestry, use of entomopathogenic fungi

Slavomír Rell



## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



### **Ips typographus** European spruce bark beetle





## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



- 10 days evaluation period
- 3 evaluation levels



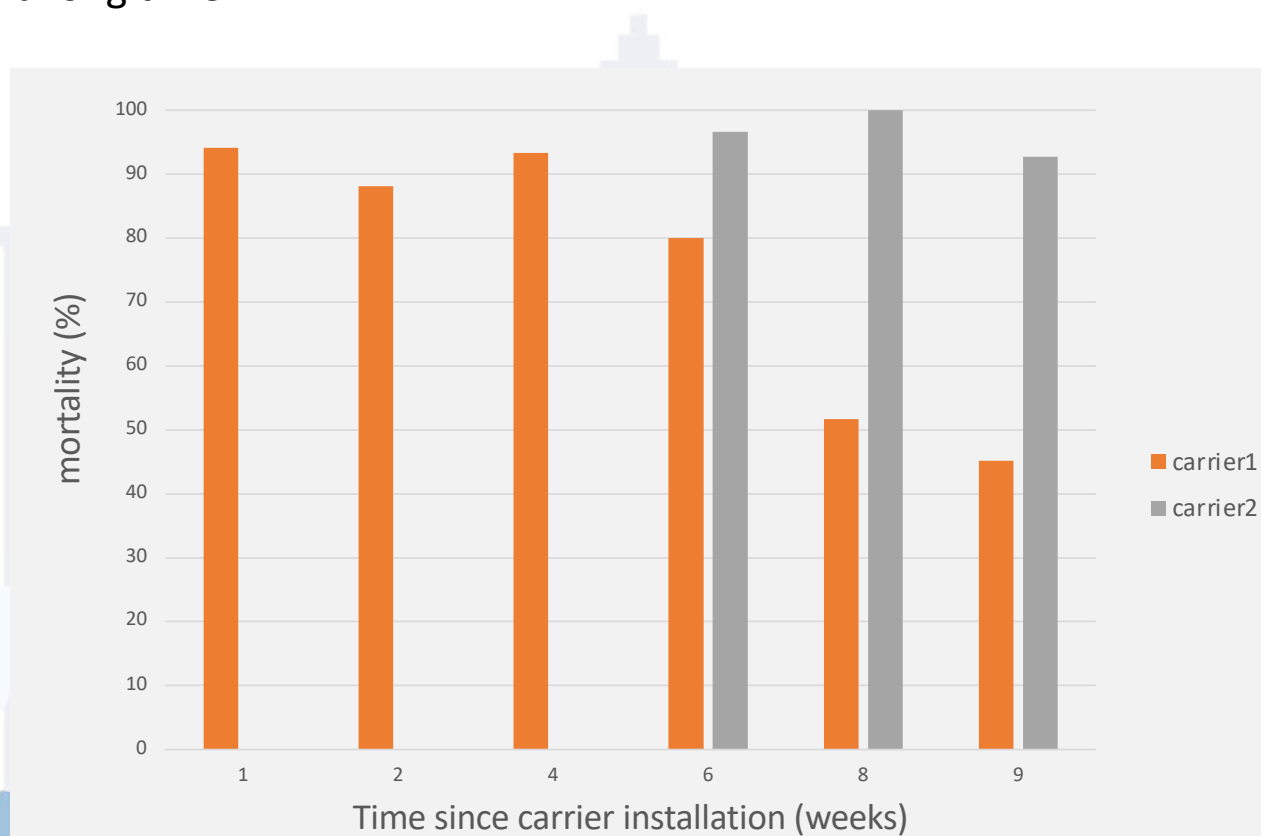
## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



- Killing the beetle takes 5 days on average
- High virulence for a long time





## *Spruce logs colonized by infected bark beetles*

- Logs were left for infestation for 24 hours
- One month under the canopy for self-development





## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



- Infected parental generation
- Mortality 52%
- No signs of infection in control log

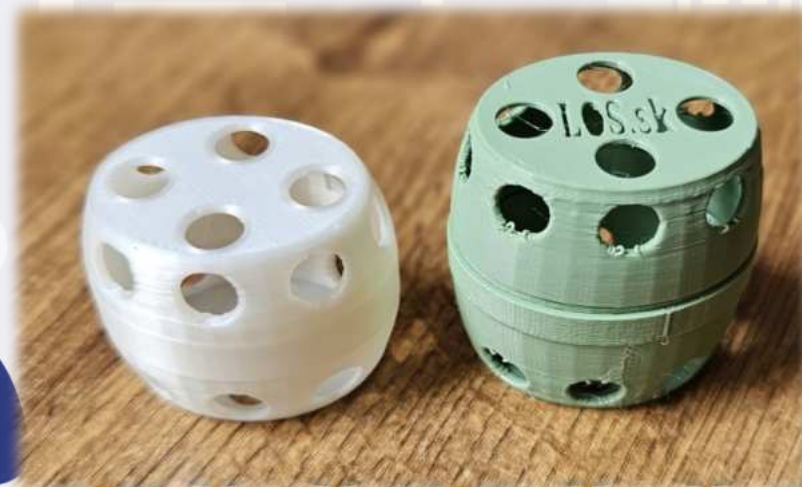




## Hylobius abietis the large pine weevil



- Several experiments
- Risk to non target species



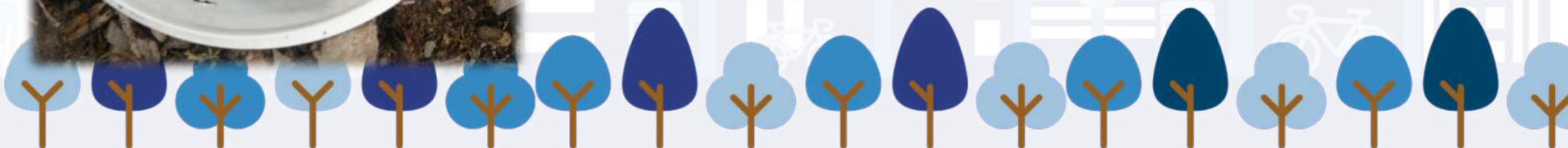
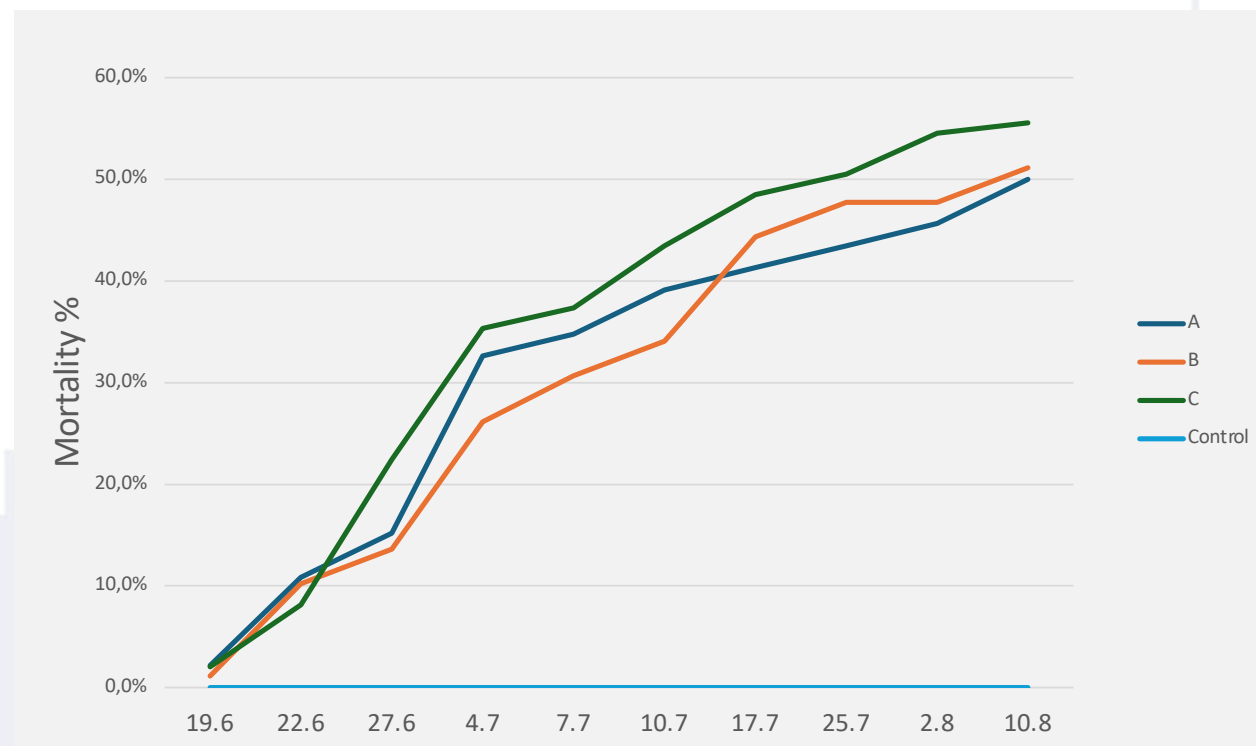
## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



- Several experiments to test carrier





# Acknowledgment

- APVV-21-0131
- APVV-22-0545
- APVV-22-0399

Forest Research Institute, Forest Protection Service



## THE ROLE OF INVASIVE SPECIES IN URBAN FOREST PLANNING

Skopje, North Macedonia

4-6 June 2024



### Thank You

