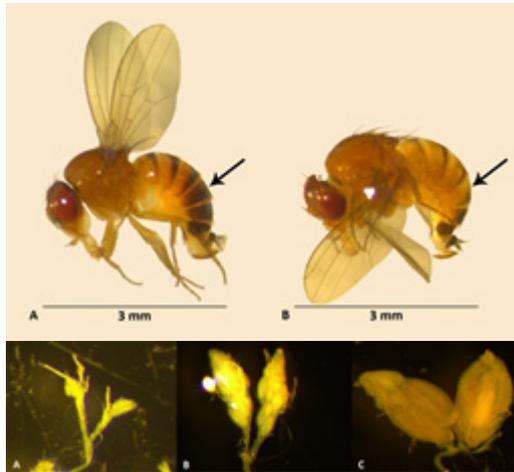


## Fundamentals of *Drosophila suzukii* biology in The Netherlands

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Research in *D. suzukii* biology has expanded considerably in the last years, but relatively little is known about the biology of this new pest species in the context of the temperate climate in the Netherlands. Knowledge on related *Drosophila* species may be of limited use for understanding why *D. suzukii* develops into a pest, since it occupies new niches. Therefore, there is a strong need to rapidly increase our understanding of the factors that control population growth, reproductive success and survival of *D. suzukii* in The Netherlands. With this knowledge, an Integrated Pest Management (IPM)

strategy can be developed to protect fruit crops from *D. suzukii* and to biologically control *D. suzukii* populations. The goal of this project is to investigate the key life history traits that govern *D. suzukii* establishment. This knowledge will be used to identify the pest's weaknesses and make informed decisions on control measures.

My research focuses on both the seasonal adaptation that allows *D. suzukii* to survive winter and to start reproducing in spring, and the rapid growth of *D. suzukii* populations. Previous research indicated that *D. suzukii* populations decline sharply during winter, and only start increasing in late spring. The 2 research axes that I currently address in my research are:

1. *D. suzukii* survival strategies in winter and early spring
2. *D. suzukii* population structure and seasonal movement patterns

Any motivated and serious student willing to develop a Master project based on these topics is welcome in our lab. I would be happy to further discuss the details with you.

### Methods:

- **Seasonal adaptations** (phenotypic plasticity assays; temperature-controlled arena)
- **Reproductive biology** (reproductive tract dissection; fluorescence microscopy, flow cytometry)
- **Chemical ecology** (oviposition choice and/or no-choice experiments; infochemical analysis)
- **Population genetics & dynamics** (counting flies; DNA extractions; microsatellite analysis)

**Starting date:** Spring 2019 or later