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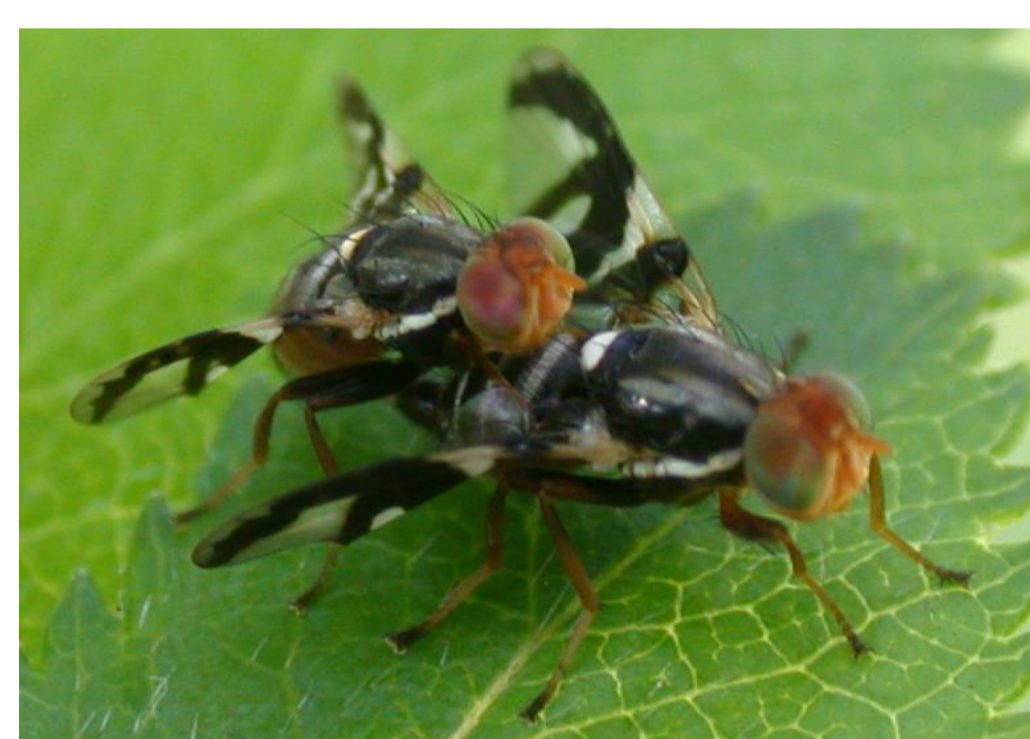
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## Introduction and objective

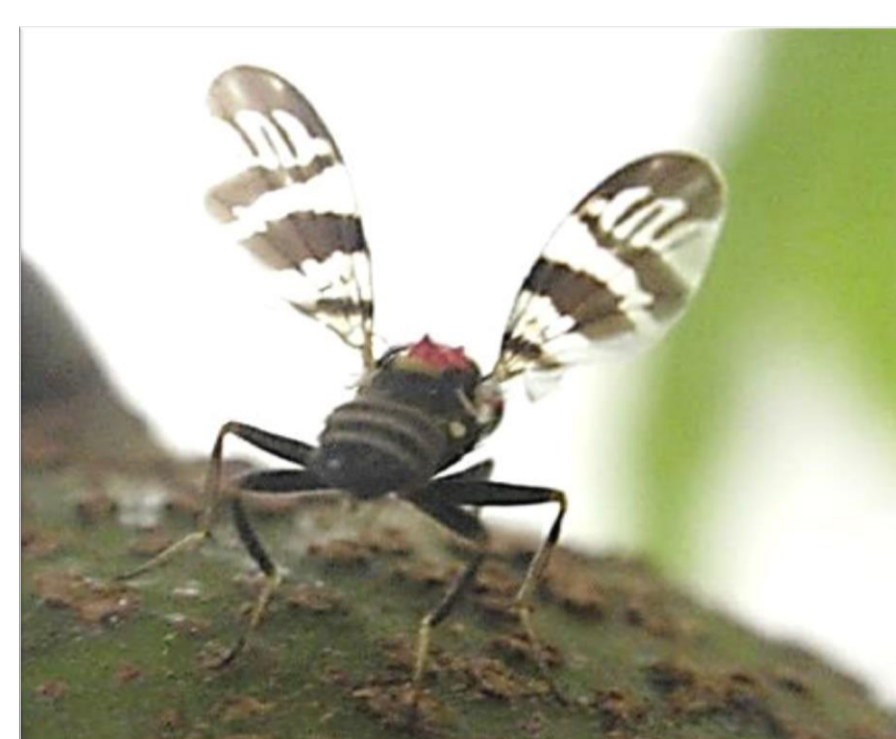
Dormancy has been studied for species of economic importance in the genus *Rhagoletis* in temperate areas of North America and Europe. Much less is known on life history regulation for species inhabiting the subtropics. Host plant phenology has been found to play a key role in generating allochronic isolation among sibling species and host races of *Rhagoletis*, and has important implications for pest management.

We compared the effect of winter length on survival and dormancy duration among four species of *Rhagoletis* exploiting hosts with different fruiting phenology in Mexico.

## Methods



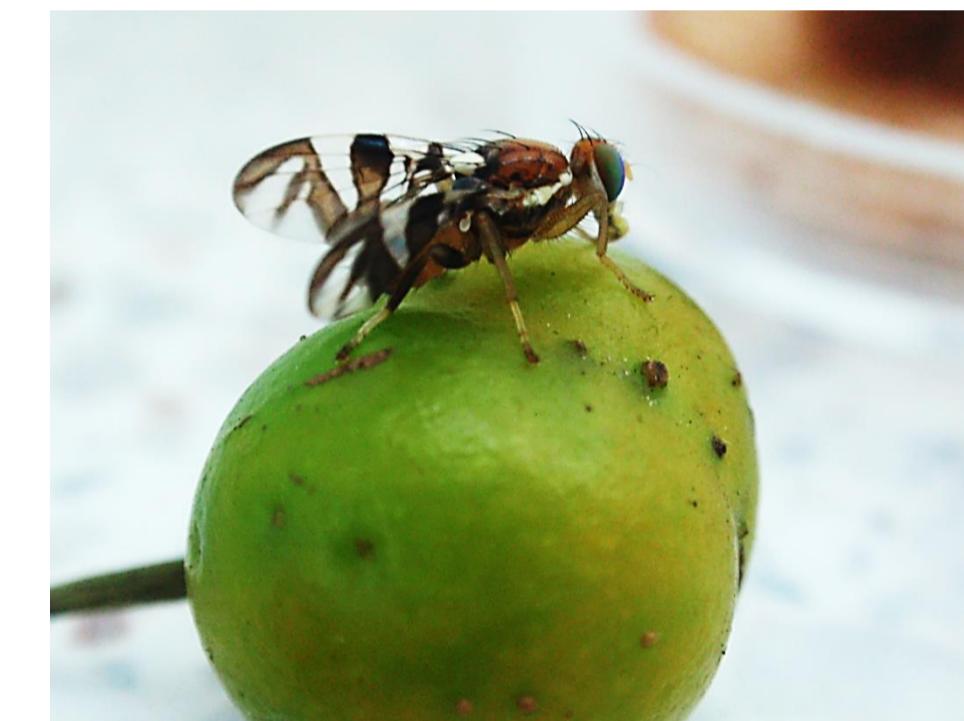
*R. pomonella*



*R. zoqui*



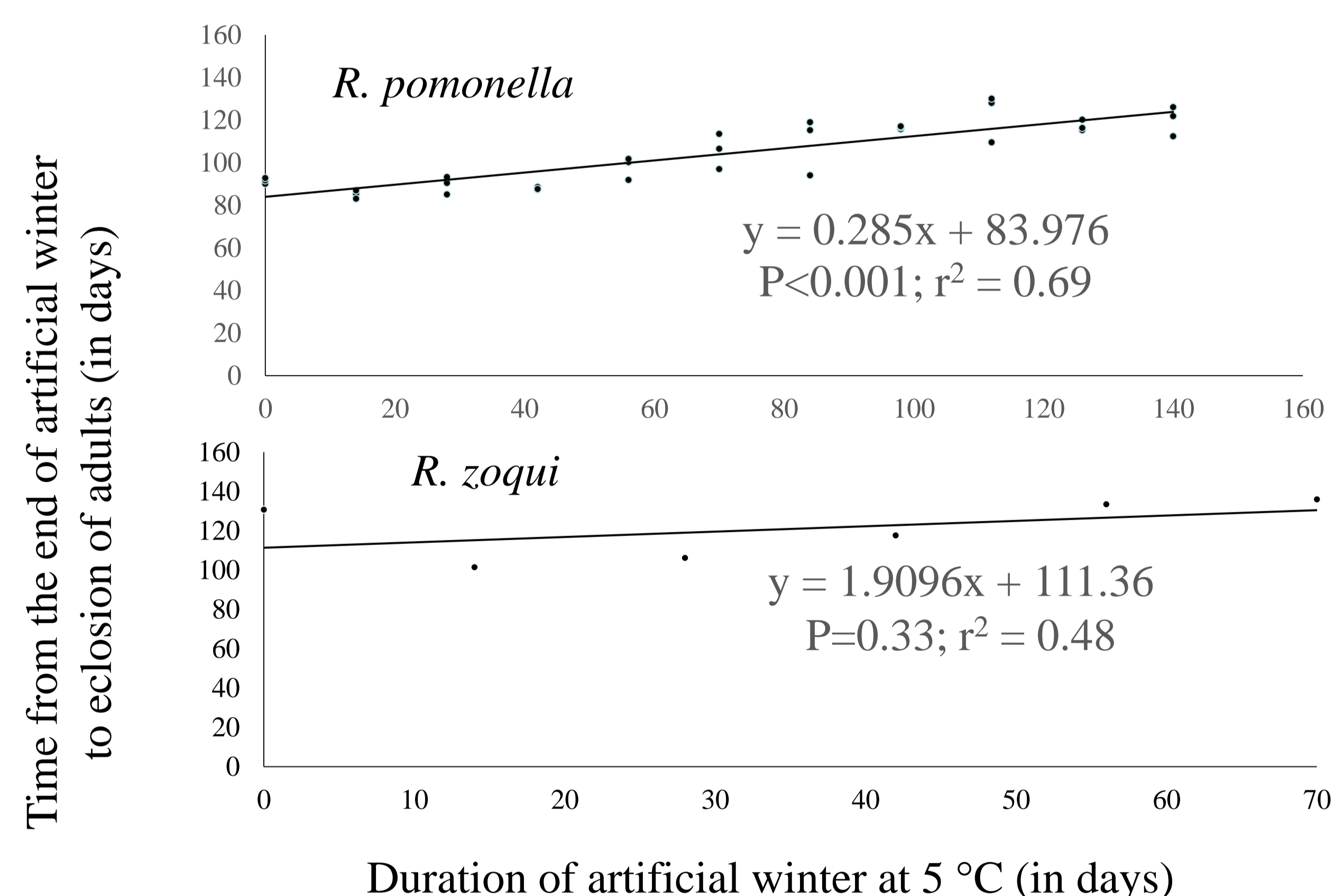
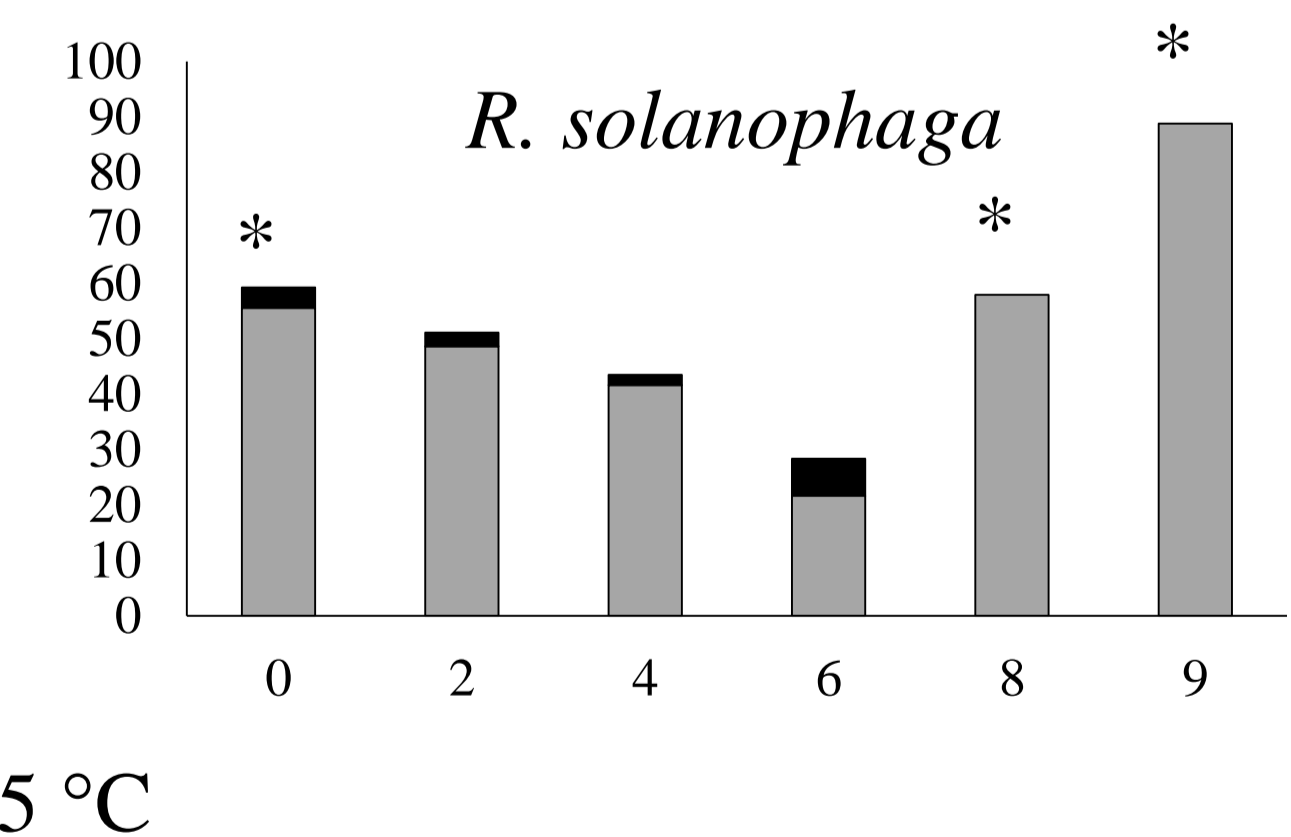
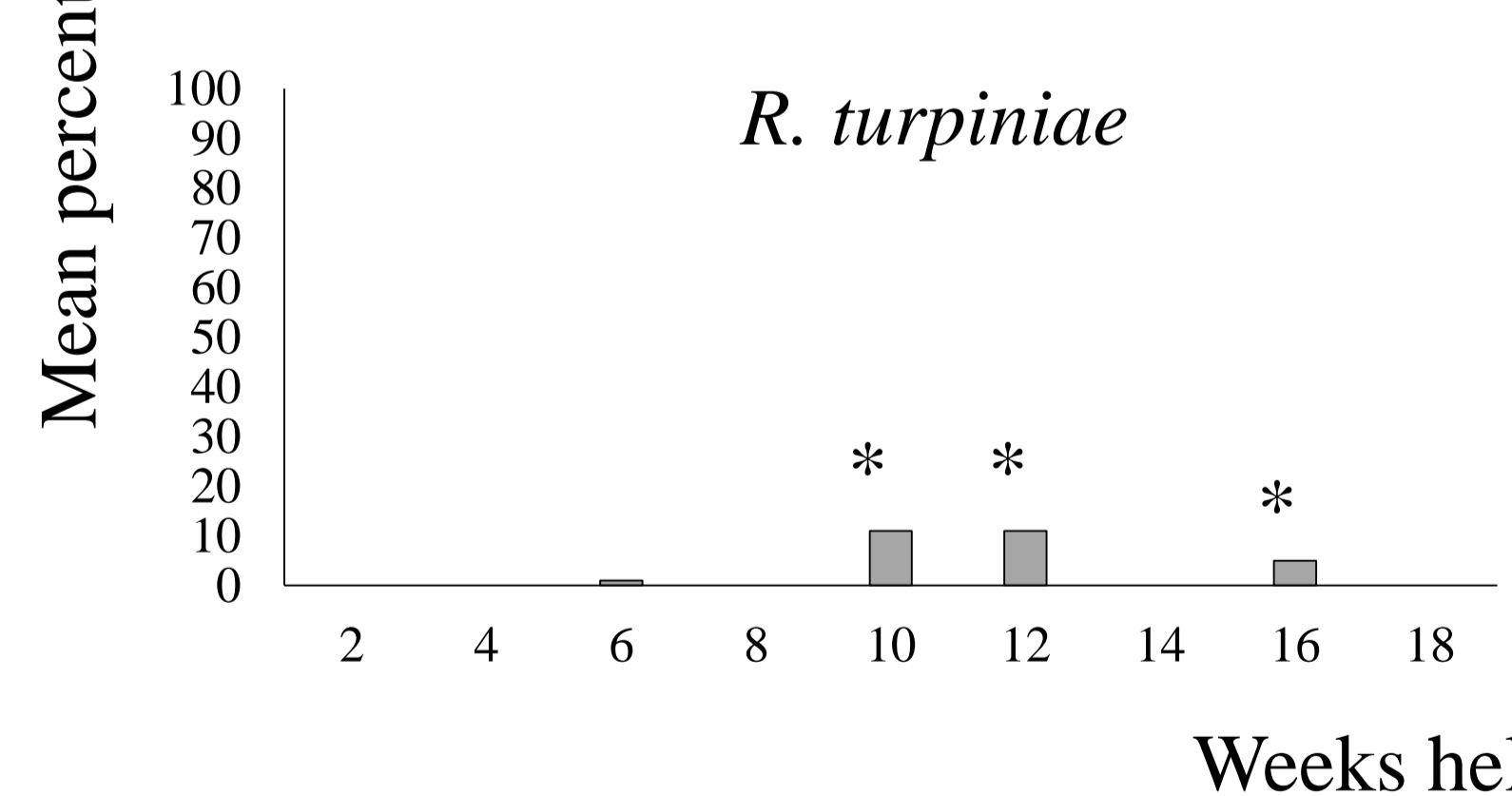
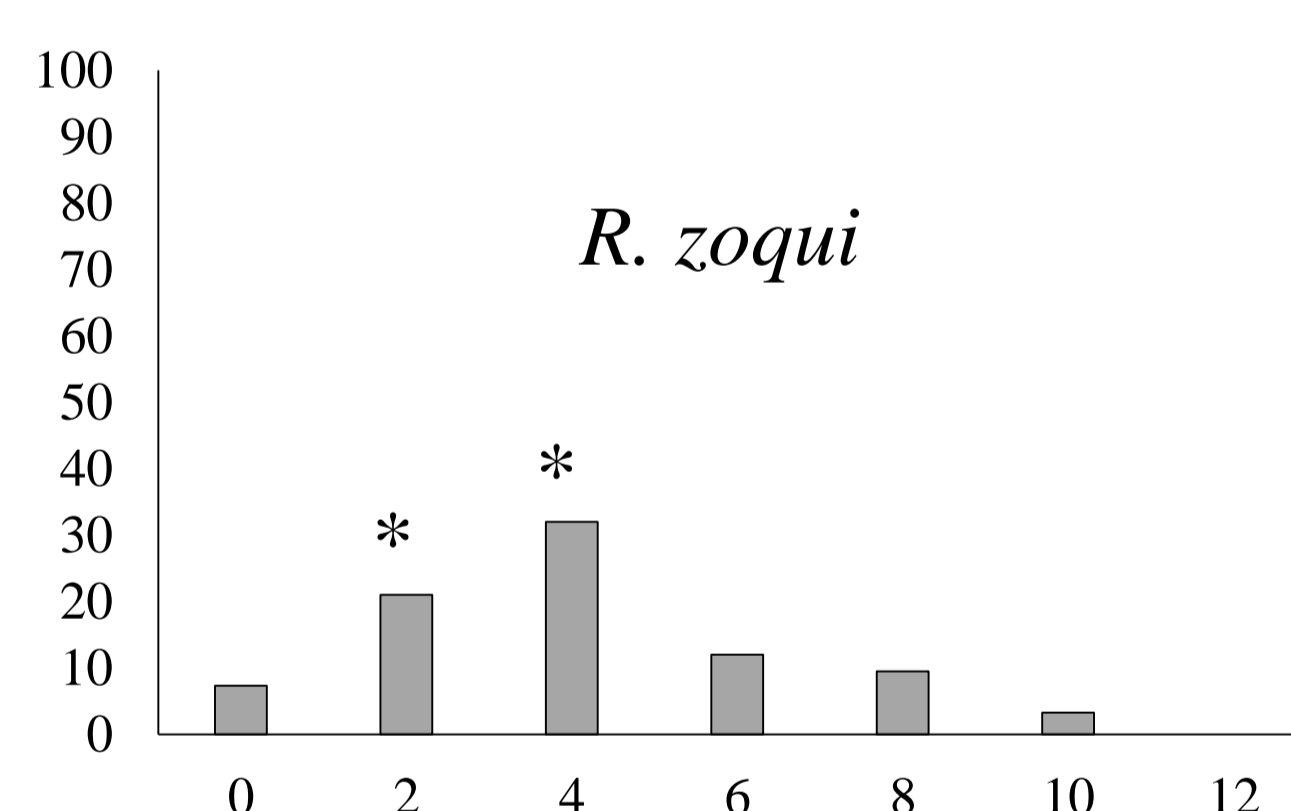
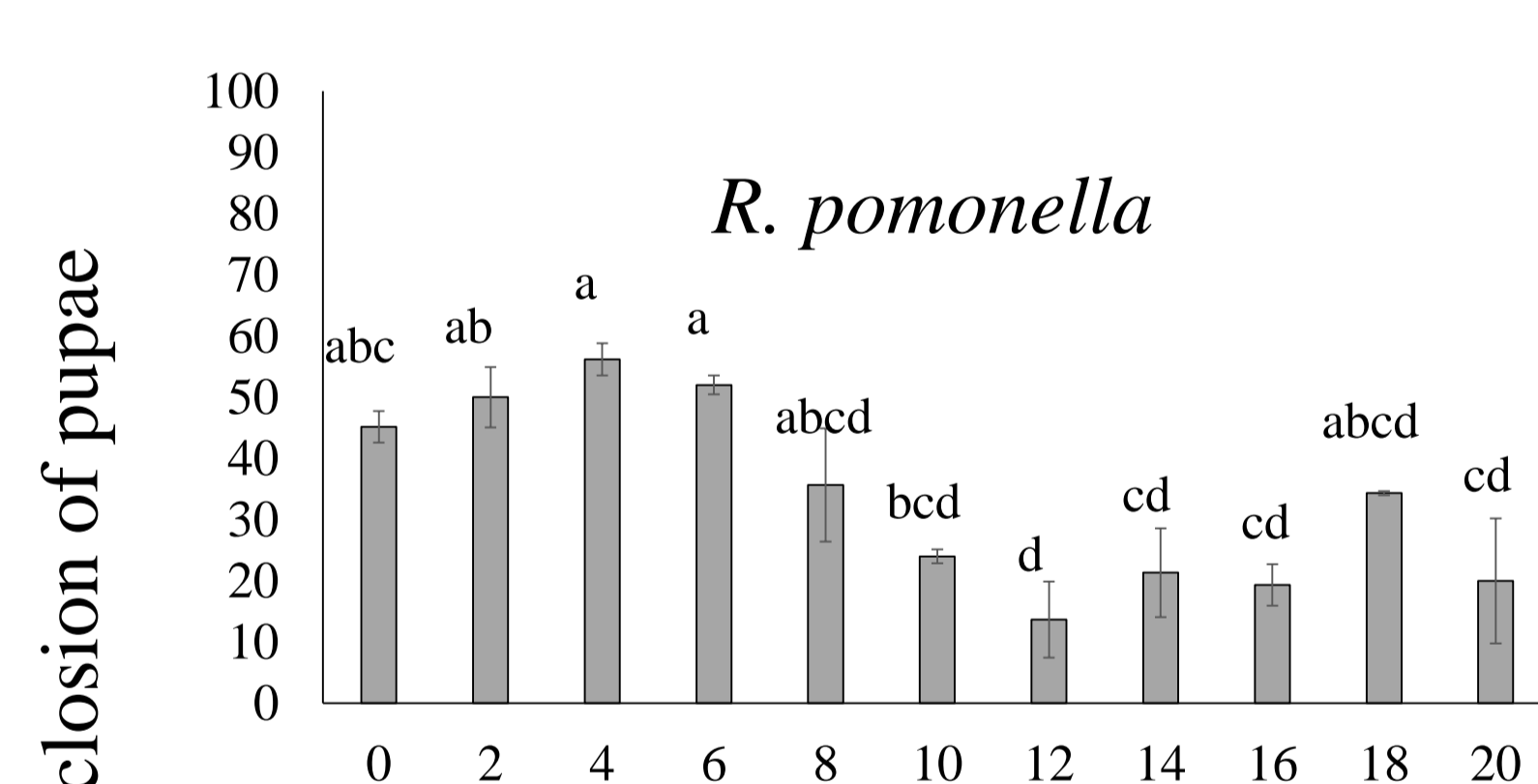
*R. turpiniae*



*R. solanophaga*

Pupae were recovered from field infested fruit, separated into 100 lots, and subjected to artificial winters (5 °C) of different duration (0-2-4-6.....18-20 weeks). Pupae were returned to constant warm conditions (24 °C) and postwinter percent adult emergence and time to eclosion in days recorded.

## Results



## Conclusions

Mild winters in highland subtropical areas appear to select for *R. pomonella* better able to withstand longer periods of warm temperature than flies inhabiting northern latitudes. In the case of *R. turpiniae* and *R. zoqui* environmental cues such as humidity and/or different temperature thresholds (>5°C) may play a more important role than winter length in life history regulation. Continuous host availability for *R. solanophaga* selected for non-diapausing flies. Our results suggest that non-diapausing strains of flies and parasitoids may be selected for SIT and biological control programs.