

Vrestovia fidenas, a potential parasitoid of *Drosophila suzukii* in its invaded areas

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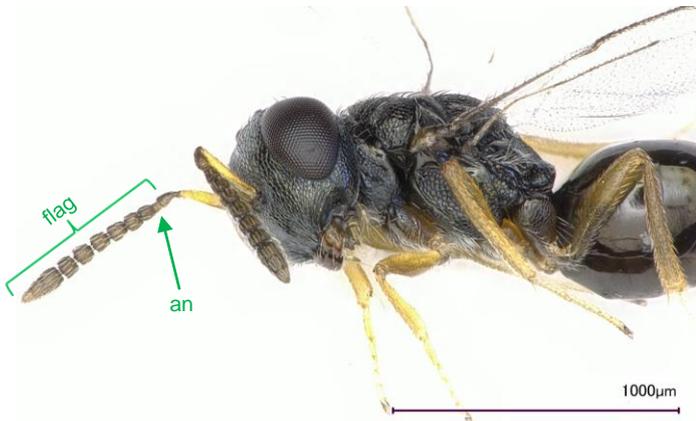


Figure 1: Morphological details of *Vrestovia fidenas*: antenna with 11 flagellomeres (flag), including two anelli (an).

Methods

Couples of newly hatched *V. fidenas* were daily offered 20 pupae of either *D. suzukii* or *D. subobscura* until death to assess fecundity and life span ($n=9-10$). Development time and sex of offspring as well as proportion of emerged flies were recorded ($n=72-610$).

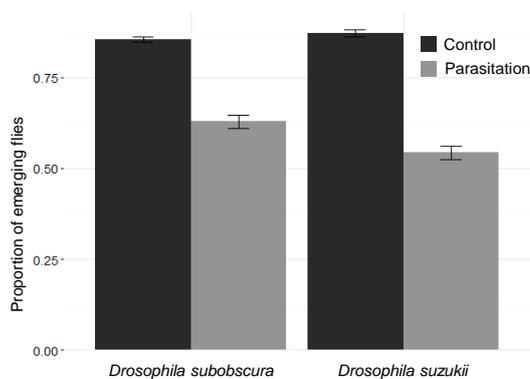


Figure 2: Mean proportion (\pm SE) of *Drosophila* emerging during the first 14 days of parasitization.

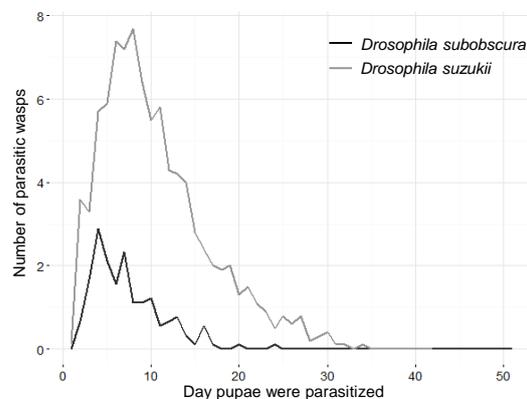


Figure 3: Mean number of parasitic wasps emerging from *Drosophila* pupae parasitized during 24 hours.

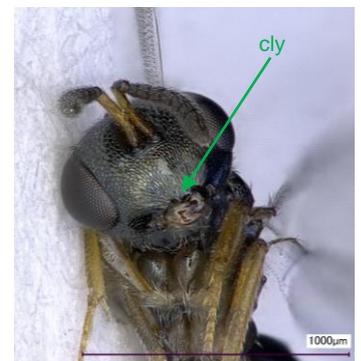


Figure 4: Head of *V. fidenas* with clypeus (cly).

Results

- Number of offspring, parasitization rate and female ratio are larger with *D. suzukii* as host (Tbl. 1, Fig. 3).
- Development time of offspring is similar on both hosts (Tbl. 1).
- Emergence of *D. suzukii* is reduced by 46 % after parasitization (Fig. 2).

Table 1: Life table parameters (mean \pm SE) of *V. fidenas* on two different hosts.

Host	<i>Drosophila suzukii</i>	<i>Drosophila subobscura</i>
	parasitoid females	
mean longevity [d]	26.4 \pm 2.50	29.5 \pm 3.50
lifetime fecundity [no]	90.9 \pm 13.31	18 \pm 3.99
development time [d]	20.7 \pm 0.07	20.74 \pm 0.16
female offspring [%]	67.11	55.56
	parasitoid males	
longevity [d]	28.78 \pm 4.73	30.56 \pm 4.19
development time [d]	18.31 \pm 0.08	18.61 \pm 0.17

Conclusions

Major characteristics to identify the parasitic wasp *V. fidenas* are the form of the clypeus and the number of anelli. It is able to develop on different *Drosophila* species, including the invasive *D. suzukii*. Its performance is even better on *D. suzukii* than on the native *D. subobscura*.

Reference: Bouček, Z., 1961, Beiträge zur Kenntnis der Pteromaliden-Fauna von Mitteleuropa, mit Beschreibungen neuer Arten und Gattungen (Hymenoptera), *Acta entomologica Musei Nationalis Pragae*, **34**, 55-95.