



Figure 1. Collection locations around Friedberg, Hessen, Germany.

Observations of Tachinidae (Diptera) in the surroundings of Friedberg (Hessen, Germany) with notes on some interesting species

by Jaakko Pohjoismäki

Department of Biology, University of Eastern Finland, P.O. Box 111, FI-80101 Joensuu, Finland.

E-mail: jaakko.pohjoismaki@uef.fi

In this essay I give a brief impression of the local tachinid fauna in the Friedberg region with an introduction to some interesting collecting locations. Besides a listing the tachinid species observed during the collecting seasons 2010–2012, I make an estimate of their abundances and highlight some interesting observations.

Collecting in and around Friedberg

Because of work reasons I lived in the village of Ockstadt in Friedberg of Hessen, Germany in 2010–2012. Friedberg is situated some 35 km north from Frankfurt am Main in the typical agricultural landscape of the Hessen highlands (140–600 m). Ockstadt (50.333°N 8.721°E) is a separate village some 3 km west from the town center of Friedberg. The surroundings of the vil-

lage are dominated by cherry orchards and flanked on its northern edge by the Taunus Nature Park. This park is characterized by hilly terrain with oak (*Quercus robur*) and beech (*Fagus sylvatica*) dominated woods with a network of small roads and hiking paths.

During my stay I had the opportunity to do some unsystematic collecting and observing of tachinids in and around Friedberg, mainly in the terrain surrounding Ockstadt itself but also in the nearby areas of the Taunus Nature Park and in some recreational parks in the neighboring Bad Nauheim (Fig. 1). The season typically started in the end of March with early spring species such as *Kirbya moerens* (Meigen) and continued until the end of October, with some *Phasia aurigera* (Egger) and *Blondelia nigripes* (Fallén) observed in the first week of November in 2011.

Ockstadt (Location A)

Despite the rather forcefully managed cherry plantations, there are numerous landstrips and roadsides with wild flora, bushes and meadows. One of the most interesting locations is a 200x500 m wide old building waste landfill area just a kilometer northwest of the village (Fig. 2). The area is enveloped by a *Fagus-Carpinus-Quercus* forest, has rolling sandy hills with low meadow vegetation as well as *Salix*, *Populus* and *Rosa* bushes. In places the ground water is seeping through and forming small ponds with reeds and sedges. In the northern edge of the area *Calluna*, *Cytisus scoparius* and *Juniperus* dominate the moor-like landscape (Fig. 3). Of the locally noteworthy insects, the blue-winged large grasshopper *Oedipoda caerulescens* (L.) is rather abundant in areas with open sand and the clearwing moth *Bembecia ichneumoniformis* (D. & S.) seems common and widespread throughout the area.



Figure 2. Parasite paradise: early August blossom at location A in Ockstadt. Meadows, bushes and forest margins support a diversity of insects.



Figure 3. *Calluna* and *Cytisus scoparius* dominated heath at the margins of location A.

Winterstein, Ober-Mörlen (Location B)

Winterstein is part of the Taunus Nature Park, typically oak and beech woods with small roads and paths. The contour is rather steep, with the highest peak at Winterstein around 600 m. At these higher elevations also some spruce (*Picea abies*) and scattered pine (*Pinus sylvestica*) trees are present. Despite managed forestry there are also plentiful of dead and decaying trees. Although the habitats are dominated by the rather cool forest margins, there is also a small old army training ground with disturbed soils, open low vegetation and dry meadows (Fig. 4). The area has a rich butterfly and moth fauna, including *Saturnia pavonia* (L.), *Aglia tau* (L.), *Limenitis camilla* (L.), *Nymphalis polychloros* (L.) and *Araschnia levana* (L.) to name but a few. The grasshopper *Oedipoda caerulescens* is also present in the open areas, but is not as numerous as in the landfill area in Ockstadt.



Figure 4. Former army training grounds at Winterstein surrounded by beech and oak forests.

Waldteich and others, Bad Nauheim (eg. Location C)

My collecting in the locations in Bad Nauheim was opportunistic and mostly restricted to some of the bigger parks, which with their ponds and semi-managed surroundings are also popular picnic locations. As expected, the tachinid fauna in these locations is not too impressive. However, the early spring species *Kirbya moerens* was very abundant in the parks, often observed sunning on the oak leaf litter. Characteristically these places are shady during the summer. Of the other insects, the old trees with hollow trunks seem to support impressive beetles such as *Lucanus cervus* (L.) and a number of xylophagous syrphids like the large *Temnostoma* spp.

Notes on the Tachinid fauna

During the three collecting seasons I was able to record 109 species (Table 1). Intensified collecting effort and use of Malaise traps would perhaps have doubled the number of species. I give in the table also my personal impression of the abundance of the different species:

- 1 = single specimen observed
- 2 = 2–4 specimens observed. Many of these as well as most species recorded only once include small species that are not easily

collected by net. Therefore the number should not be taken as an indicator of rarity.

3 = not rare but rather locally distributed

4 = common and abundant but seasonal

5 = common and abundant throughout most of the season

Apart from some peculiarities the tachinid fauna around Friedberg is obviously rather similar to the Finnish fauna, with which I have the most experience. As expected, many species uncommon in the north are more abundant in central Europe, and the contrary is true for some of the mainly boreomontane taxa such as *Eurithia*, which seem to be widely replaced by ecologically similar *Linnaemya* species in central Europe. The following records deserve special mention.

***Phorocera grandis* (Rondani)**

I collected two male specimens on 30 April 2012 from the Winterstein region that I assign to this species based on the characters mentioned in the central European key (Tschorsnig & Herting 1994) and by comparison with specimens kindly donated to me by Dr. Tschorsnig. During 2011–2012 the Friedberg region witnessed an outbreak of the oak processionary moth (*Thaumetopoea processionea* (L.)) and it is likely that my *P. grandis*

(a known parasitoid of the caterpillars of this moth, see Tschorsnig & Wagenhoff 2012) observations were related to this outbreak. *Phorocera grandis* cannot be separated in the field from the highly abundant *P. assimilis* (Fallén). Although the latter species flies earlier than *P. grandis*, the flight periods of both species overlap at the end of April. As I did not collect all large *Phorocera* that I saw, it may well be that *P. grandis* was more common in the region in spring 2012. Coincidentally, the nun moth (*Lymantria dispar* (L.)) was also very numerous in the Winterstein area in 2011–2012 and I was able to collect several specimens of its parasitoids *Parasetigena silvestris* (R.-D.) and *Blepharipa pratensis* (Meigen). All the species mentioned above were observed mainly when sitting on oak leaves, sometimes quite high on the trees.

***Meigenia majuscula* (Rondani)**

This *Meigenia* species with hairy eyes was listed as a mainly southern European species in Tschorsnig and Herting (1994). One male was caught sitting on ground vegetation on a roadside in Winterstein on 18 May 2012.

***Acemya rufitibia* (von Roser)**

Two males and one female were collected on 10 June 2012 by sweeping low grass on bare sand on an old military training ground. *Acemya* species are rare, warm loving parasitoids of grasshoppers and the habitat in Winterstein seems more than adequate for such species. Interestingly *A. rufitibia* is mainly present in bogs in Finland (Pohjoismäki 2011). It will be interesting to compare the DNA barcodes from these specimens (see my other article in this same issue of this newsletter).

***Tachina nupta* (Rondani)**

One male and two uncertain females were collected on 17 May 2012 from flowers of *Ribes* in an overgrown clearing in a forest in Winterstein. The specimens are similar to *Tachina magnicornis* (Zetterstedt), but differ by the characters given in Tschorsnig and Herting (1994). The lone *Ribes* bush was also highly attractive to *Tachina lurida* (Fab.), *Phasia hemiptera* (Fab.) and a number of syrphids.

***Eulabidogaster setifacies* (Rondani)**

One male was collected on 14 August 2011 by sweeping Apiaceae in the cherry orchards in Ockstadt. This was considered as a southern spe-

cies and not recorded from Hessen in Tschorsnig and Herting (1994).

***Leucostoma meridianum* (Rondani)**

This species is easily distinguishable from the other European *Leucostoma* by its hairy parafacials. Two specimens were caught from flowers of Apiaceae in meadows in Winterstein and Ockstadt in mid-August 2011 and 2012. This mainly southern European species was not yet recorded from Germany in Tschorsnig and Herting (1994), but recently was also collected in Baden-Württemberg (in 2008 and 2010, pers. comm. H.-P. Tschorsnig, D. Doczkal).

***Cylindromyia bicolor* (Olivier)**

This is another mainly southern European species that has been extending its range towards the north in Germany for about three decades (pers. comm. H.-P. Tschorsnig). It seems locally common in Ockstadt orchards, with one specimen collected in 2011 and two from the same location in 2012. It is likely that these, as well as the other observed southern species, are part of the increasing trend of many insects to expand their range northwards as a result of the ongoing global warming.

Acknowledgements

I am grateful to Dr. H.-P. Tschorsnig for information on the central European fauna as well as for critically reviewing the manuscript and making some helpful suggestions to improve the content.

References

- Pohjoismäki, J.L.O. (2011) Preliminary comparison of tachinid species assemblages in three different open habitats in south-central Finland. *The Tachinid Times*, 24, 3–7.
- Tschorsnig, H.-P. & Herting, B. (1994) Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. *Stuttgarter Beiträge zur Naturkunde. Serie A (Biologie)*, 506, 170 pp.
- Tschorsnig, H.-P. & Wagenhoff, E. (2012) On the oviposition of *Phorocera grandis* (Tachinidae). *The Tachinid Times*, 25, 3–7.

Table 1. List of tachinid species collected during three collecting seasons 2010–2012 in the Friedberg region of Hessen, Germany.

Subfamily and species	Ockstadt	Ober-Mörlen	Bad Nauheim
EXORISTINAE			
<i>Acemya rufitibia</i> (von Roser)		2	
<i>Admontia grandicornis</i> (Zetterstedt)		1	
<i>Aplomya confinis</i> (Fallén)	3	3	
<i>Bessa selecta</i> (Meigen)	1		
<i>Blepharipa pratensis</i> (Meigen)		3	
<i>Blondelia nigripes</i> (Fallén)	5	5	5
<i>Carcelia lucorum</i> (Meigen)		3	
<i>Clemelis pullata</i> (Meigen)		1	
<i>Cyzenis jucunda</i> (Meigen)		1	
<i>Drino vicina</i> (Zetterstedt)	1		
<i>Epicampocera succincta</i> (Meigen)	4		
<i>Eumea linearicornis</i> (Zetterstedt)	1	2	
<i>Exorista larvarum</i> (Linnaeus)	3		
<i>Exorista rustica</i> (Fallén)	3	3	
<i>Gastrolepta anthracina</i> (Meigen)	2	1	
<i>Hebia flavipes</i> Robineau-Desvoidy	1		
<i>Hubneria affinis</i> (Fallén)		2	
<i>Leiophora innoxia</i> (Meigen)	2	1	
<i>Lydella grisescens</i> Robineau-Desvoidy	4		
<i>Medina collaris</i> (Fallén)	3	3	
<i>Meigenia dorsalis</i> (Meigen)	4	3	1
<i>Meigenia majuscula</i> (Rondani)		1	
<i>Meigenia mutabilis</i> (Fallén)	3	2	1
<i>Myxexoristops blondeli</i> (Robineau-Desvoidy)		2	
<i>Ocytata pallipes</i> (Fallén)	4	3	
<i>Pales pavidata</i> (Meigen)	2		
<i>Paracraspedothrix montivaga</i> (Villeneuve)	2		
<i>Parasetigena silvestris</i> (Robineau-Desvoidy)		2	
<i>Phebellia nigripalpis</i> (Robineau-Desvoidy)		1	
<i>Phorocera assimilis</i> (Fallén)		4	1
<i>Phorocera grandis</i> (Rondani)		2	
<i>Phorocera obscura</i> (Fallén)	4	4	4
<i>Phryno vetula</i> (Meigen)		3	
<i>Phryxe heraclei</i> (Meigen)		3	
<i>Phryxe vulgaris</i> (Fallén)	5	5	5
<i>Platymya fimbriata</i> (Meigen)	1	1	
<i>Winthemia quadripustulata</i> (Fabricius)	1		

Subfamily and species	Ockstadt	Ober-Mörlen	Bad Nauheim
TACHININAE			
<i>Actia lamia</i> (Meigen)	4	4	1
<i>Dexiosoma caninum</i> (Fabricius)	3		
<i>Gymnocheta viridis</i> (Fallén)		4	
<i>Leskia aurea</i> (Fallén)	1		
<i>Linnaemya picta</i> (Meigen)	4	4	
<i>Linnaemya tessellans</i> (Robineau-Desvoidy)	4	4	
<i>Loewia pheoptera</i> (Meigen)	1		
<i>Lydina aenea</i> (Meigen)	1	1	
<i>Lypha dubia</i> (Fallén)	3	4	
<i>Macquartia tenebricosa</i> (Meigen)	2	1	
<i>Mintho rufiventris</i> (Fallén)	3		
<i>Panzeria puparum</i> (Fabricius)		2	
<i>Panzeria rudis</i> (Fallén)		4	
<i>Peribaea tibialis</i> (Robineau-Desvoidy)	2	2	
<i>Phytomyptera cingulata</i> (Robineau-Desvoidy)	2		
<i>Phytomyptera minutissima</i> (Zetterstedt)	2		
<i>Siphona confusa</i> Mesnil	1		
<i>Siphona cristata</i> (Fabricius)	3	3	
<i>Siphona flavifrons</i> Staeger		2	
<i>Siphona geniculata</i> (De Geer)	4	4	4
<i>Solieria pacifica</i> (Meigen)	4	4	4
<i>Synactia parvula</i> (Rondani)	2		
<i>Tachina fera</i> (Linnaeus)	5	5	5
<i>Tachina lurida</i> (Fabricius)		4	
<i>Tachina magnicornis</i> (Zetterstedt)	4	4	4
<i>Tachina nupta</i> (Rondani)		2	
<i>Triarthria setipennis</i> (Fallén)		3	
<i>Zophomyia temula</i> (Scopoli)	2		
DEXIINAE			
<i>Athrycia trepida</i> (Meigen)		2	
<i>Billaea triangulifera</i> (Zetterstedt)		2	
<i>Campylocheta praecox</i> (Meigen)		2	
<i>Cyrtophloeoba ruricola</i> (Meigen)		2	
<i>Dinera carinifrons</i> (Fallén)	1	4	
<i>Dinera ferina</i> (Fallén)	2	4	
<i>Dinera grisescens</i> (Fallén)	4		
<i>Eriothrix rufomaculata</i> (De Geer)	4	4	4
<i>Kirbya moerens</i> (Meigen)	4	2	4
<i>Microsoma exiguum</i> (Meigen)	3		1
<i>Phyllomya volvulus</i> (Fabricius)		1	
<i>Prosenia siberita</i> (Fabricius)	1		

Subfamily and species	Ockstadt	Ober-Mörlen	Bad Nauheim
<i>Ramonda spathulata</i> (Fallén)		2	
<i>Trixa caerulescens</i> Meigen	1		
<i>Trixa conspersa</i> (Harris)	3	3	
<i>Voria ruralis</i> (Fallén)	4	4	4
PHASIINAE			
<i>Cistogaster globosa</i> (Fabricius)	4	4	3
<i>Clairvillia biguttata</i> (Meigen)	1		
<i>Cylindromyia auriceps</i> (Meigen)	2	3	
<i>Cylindromyia bicolor</i> (Olivier)	2		
<i>Cylindromyia brassicaria</i> (Fabricius)		1	
<i>Cylindromyia interrupta</i> (Meigen)		2	
<i>Ectophasia crassipennis</i> (Fabricius)	4	4	3
<i>Eulabidogaster setifacies</i> (Rondani)	1		
<i>Gymnosoma clavatum</i> (Rohdendorf)	3	4	
<i>Gymnosoma dolycoridis</i> Dupuis		2	
<i>Gymnosoma nudifrons</i> Herting	3	3	3
<i>Gymnosoma rotundatum</i> (Linnaeus)	1		
<i>Hemyda obscuripennis</i> (Meigen)		1	
<i>Hemyda vittata</i> (Meigen)	1		
<i>Labigastera forcipata</i> (Meigen)	3	3	
<i>Leucostoma meridianum</i> (Rondani)	1	1	
<i>Leucostoma simplex</i> (Fallén)	3	3	
<i>Lophosia fasciata</i> Meigen	2		
<i>Opesia descendens</i> Herting		2	
<i>Phania funesta</i> (Meigen)	4	4	4
<i>Phasia aurigera</i> (Egger)	4	4	3
<i>Phasia aurulans</i> Meigen	3	2	
<i>Phasia barbifrons</i> (Girschner)	4	4	4
<i>Phasia hemiptera</i> (Fabricius)	5	5	5
<i>Phasia mesnili</i> (Draber-Mońko)		2	
<i>Phasia obesa</i> (Fabricius)	3	3	
<i>Phasia pusilla</i> Meigen	2		
<i>Subclytia rotundiventris</i> (Fallén)	2	1	