# Opportunistic surveys of "bristle flies" (Tachinidae) in West Virginia, USA

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*West Virginia* is one of the least densely populated states of the eastern United States, a somewhat surprising fact given its proximity to the nation's capital, Washington D.C. This landlocked state is located at about 38–39°N latitude, east of Virginia and Maryland, south of Pennsylvania and Ohio, and northwest of Kentucky (Fig. 1a). It stands out among U.S. states as among the most forested (79%, Vogt & Smith 2017) and most mountainous (lowest total area of level ground). In terms of physiogeography, the state is in the Central Appalachian Region characterized by the Appalachian Mountains (east) and Appalachian Plateau (west). The Appalachian Mountains are an extensive, ancient (480 myo) mountain range, primarily characterized by low, densely forested ridges and narrow valleys (Fig. 1b). The central and southern Appalachian region is considered one of the most biodiverse areas in North America, hosting a diverse temperate flora and fauna. The region is undoubtedly home to a diverse tachinid fauna, and this fauna is expected to be relatively well known given its proximity to major population centers of the U.S. East Coast. However, there have been few reported surveys of tachinids in the Appalachian region and there are few published species lists of tachinids for any region of the U.S. (though see, e.g., O'Hara & Stireman 2016, Stireman *et al*. 2018, 2020).

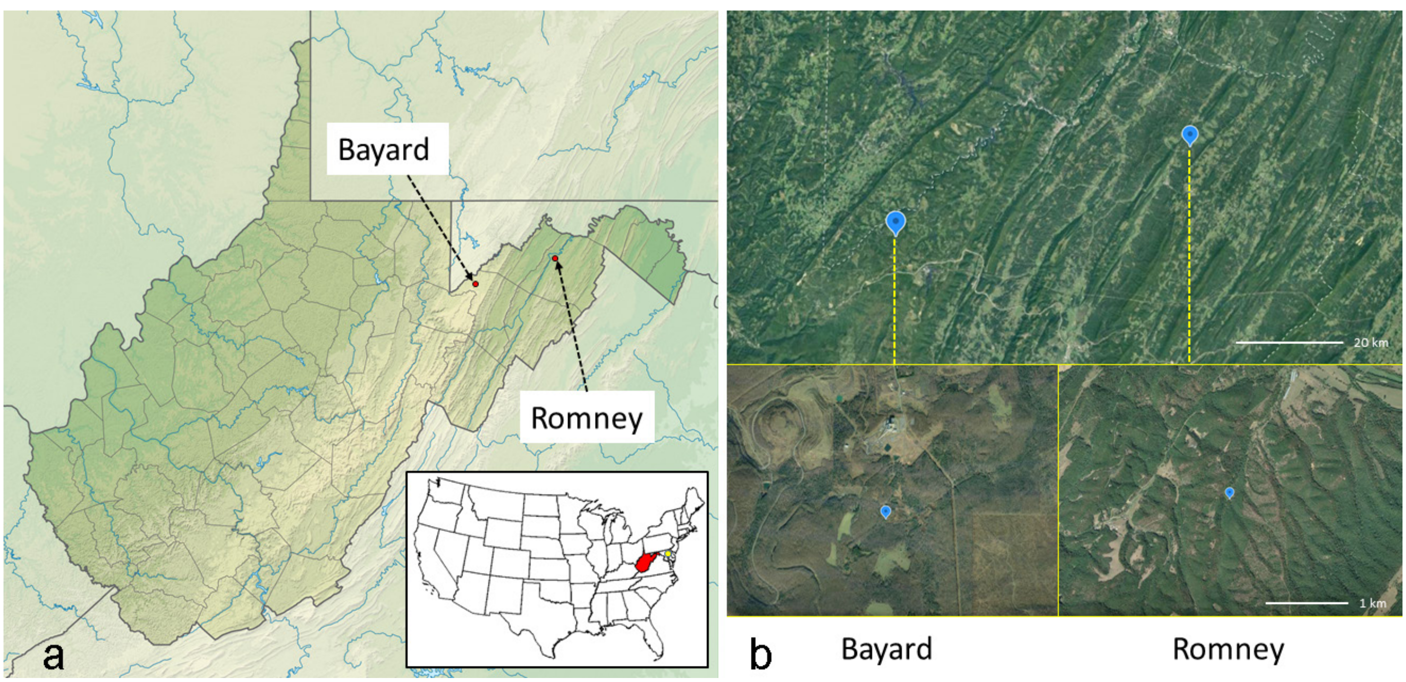


**Figure 1. a.** Geographic locations of the collecting sites in the eastern panhandle of the state of West Virginia, USA (in red on inset map). Washington D.C. is indicated by the yellow circle in the inset map. **b**. Satellite views of the two collecting sites and their surroundings from Google Earth©. The top image shows the proximity of the two sites (blue markers) among the longitudinal ridges and valleys of the Central Appalachian Mountains. Below are zoomed in views of each site. Collecting occurred within ca. 1 km of the blue markers.

Over the past two years (2020 and 2021), when opportunities for travel were limited due to the COVID-19 pandemic, we were able to visit two neighboring sites in the eastern panhandle of West Virginia and engage in some opportunistic collecting of tachinid flies. Both sites were located on private land owned by (different) friends and our visits were not specifically intended for research, but rather short weekend getaways to socialize, spend time outside, and, of course, do some "biologizing". However, we took advantage of the opportunities to collect tachinid flies over a few days and characterize the local fauna.

The two sites we surveyed are located relatively close to one another (<60 km apart; Fig. 1b) with similar floristic communities comprised primarily of oak-hickory, and oak-hickory-pine forests. The sites differ somewhat in elevation (~700m) and one ("Bayard") was visited in early September 2020 while the other ("Romney") was visited in mid-June 2021. At both sites, most of the collecting was conducted by hand and took place over 2–3 days. At neither site did we collect on prominent hilltops. We also erected a 6m Malaise trap for 1–2 days at each site with limited success. Here we provide a summary of the species and their numbers collected at each of these sites in West Virginia and briefly examine their taxonomic composition.

## *Collecting Sites*

### Bayard

Specimens were labelled with the following data, with "\" indicating a line break:
USA: WV: Grant Co. Bayard\ 39.2529, -79.3314\ 4-6.ix.2020, 900 m\ JO Stireman III

On 4 September, 2020, JOS spent several days at a private cabin near the town of Bayard, WV. The area was a mix of open wetland habitats and mature forest (oak, maple, hickory, pine with some scattered red spruce, *Picea rubens*, on higher north facing ridges). The first day was mostly cold and rainy, and most collecting occurred on June 5 and 6. Collecting was conducted primarily in the mid-morning hours along forest edges near the cabin and along roadsides of small gravel roads. "Fly juice" – a mix of water, cola, and honey – was sprayed on sunlit leaves to attract tachinids. Tachinids were very abundant at this site, with flies present in virtually every patch of sunlit leaves at the forest edge during the mid-morning hours. A Malaise trap erected near the cabin collected very few tachinids, and it was subsequently moved to an open marshy area for a day, where it performed somewhat better.

### Romney

Specimens were labelled with the following data, with "\" indicating a line break:
USA: WV: Hampshire Co.\ 39.3998, -78.7048\ (1 mi. S. of S. branch of Potomac R.)\ 14-16 June 2021, 225m\ JO Stireman III & JM Perilla López

In mid-June (14–16) 2021, both authors visited the cabin of a friend and colleague, Harold Greeney, located near the South Branch of the Potomac River, between the towns of Romney and Springfield. This area was mostly forested with some open areas along the dirt access road and banks of a small intermittent stream. However, some of the surrounding area had been selectively logged in recent decades, leading to a more open savanna-like forest. The forest was primarily of the oak-hickory type, which is the dominant deciduous forest ecosystem of the region, with pines occurring on hill tops and ridges. Most of our collecting was along a dirt access road and a small intermittent stream, but we also spent a few hours collecting along forest edges next to the South Branch of the

Potomac River. We experienced heavy rain on one afternoon, but generally the weather was sunny and warm. Most of our collecting activity was concentrated in the mid-morning and early afternoon, and again, we used fly juice to aid in attracting tachinids to sunlit leaves. A Malaise trap was erected near the intermittent stream for two days, with moderate success. Tachinid flies were abundant at this site, especially on sunlit leaves beside the intermittent stream and access road, although not to the same degree as the Bayard site in September.

### *Specimen Identification*

We identified the tachinid flies that we collected using Wood (1987), species keys to various genera, and by comparison with specimens in the JOSC collection at Wright State University (Dayton, OH). No specimens were compared directly to types and many specimens were identified third hand (i.e., with reference to specimens identified based on "reliably" identified specimens in the CNC or USNM, which were possibly compared to types) or purely using keys, species descriptions, and morphological clues. Thus, many identifications should be regarded as tentative. Identification was further complicated by the presence of intraspecific variation not encompassed by species descriptions and the likely presence of multiple undescribed species. As has been noted previously, nearly every genus of Tachinidae in North America is in need of revision and many new species await description, even in this well-studied area.

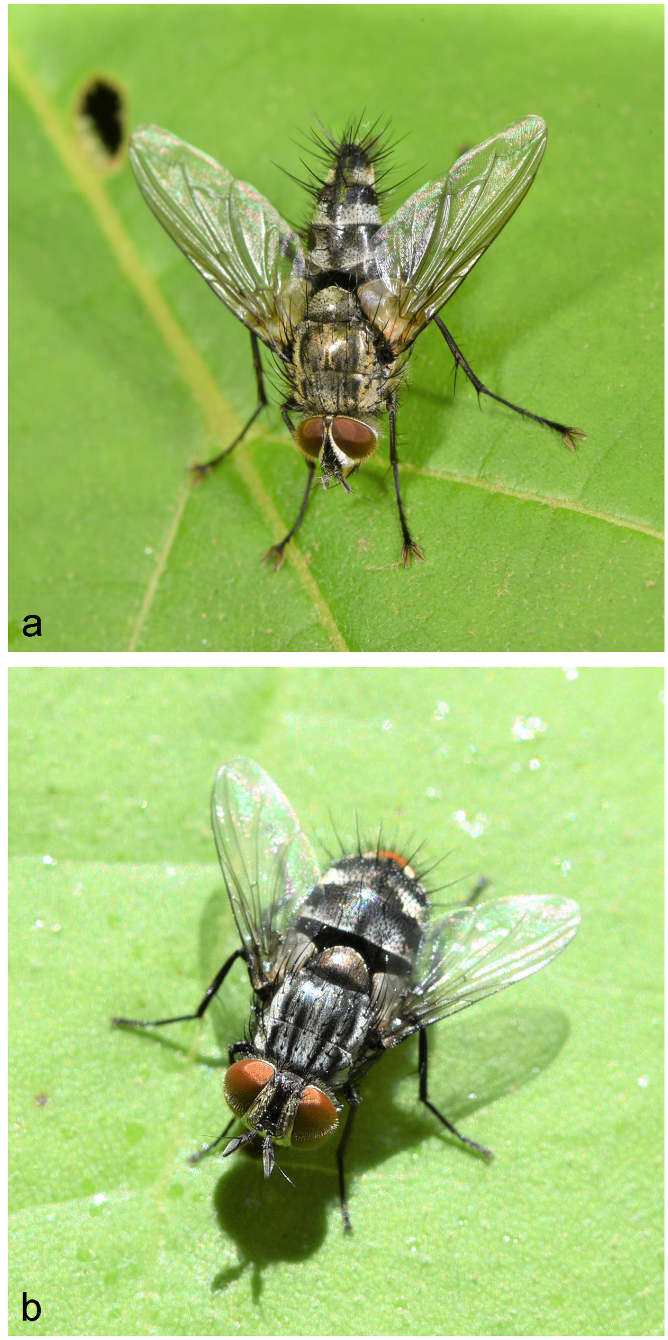


**Figure 2.** Two representative tachinids from the Romney site that were attracted to "fly juice" solution sprayed on leaves. **a**. *Uramya* sp. **b**. *Winthemia* sp.

## *Results and Discussion*

We collected 636 individual tachinids belonging to approximately 137 species from these two sites over a few days each (Tables 1, 2; Figs. 2, 4). Seventy-six species were collected at the Bayard site (N=252), and 87 were collected at the Romney site (N=384). These estimates of species numbers are conservative. A number of forms that could represent distinct species were lumped together (e.g., *Uramya pristis*) and males and females were often lumped together as a species despite differences in morphology and uncertainty that they were conspecifics. On the other hand, we may have artificially divided some variable species. Species overlap between these neighboring sites was relatively low with only 26 species (19%) being collected from both sites.

The vast majority of species were collected by hand, and therefore our collections were biased towards larger and more apparent tachinids. Several of the smaller bodied taxa (e.g., *Siphona*, *Genea*), were mostly or only collected with the Malaise traps. Although 6m Malaise traps were erected at both sites, they did not collect many species or individuals, accounting for less than 10% of both of these totals. This is likely due to non-ideal placement of the traps, which was limited by the availability of sunlit areas with appropriately spaced, accessible tree trunks to support the trap.

**Table 1**. Summary of the number of species (spp.) and individuals (N), and their sex, collected in West Virginia from the two survey sites.

| Site | Tot spp. | Unique spp. | Males | Females | Ratio | Tot. N |
|---|---|---|---|---|---|---|
| Romney (June) | 87 | 61 | 275 | 109 | 2.52 | 252 |
| Bayard (September) | 76 | 50 | 78 | 174 | 0.45 | 384 |
| Combined | 137 | | 353 | 283 | 1.25 | 636 |

Overall, we collected more males than females (Table 1), as is often the case due to males being more conspicuous with their activity often focused around prominent habitat features (e.g., prominent trees or shrubs, sunlit gaps, hilltops, etc.). However, sex ratios differed dramatically between the sites/collecting periods: in June (Romney) there were more than 2.5X as many males as females, but in September there were more than 2X as many females as males (Table 1). It is likely that these represent real differences in the relative abundance of males and females as collecting methods were largely the same across sites.

Over one-third of species were represented by a single individual (46 spp.) and over half by only one or two specimens (Table 2, Fig. 3). This high proportion of singletons and doubletons suggests that these communities are likely far richer than our list of species would suggest, a frequent conclusion of surveys of tachinid diversity (e.g., Stireman *et al*. 2020, Burington *et al*. 2020).

The composition of the fauna in terms of subfamilies and tribes was relatively similar among collecting events, and therefore we discuss these in sum, while noting some of the differences in the finer scale taxonomic composition in our discussion below. Overall, the community was dominated by Exoristinae both in terms of species (65%) and number of individuals (72.5%), with Tachininae, Dexiinae, and Phasiinae comprising a decreasing fraction of taxa (Fig. 5). Phasiinae, in particular, were underrepresented, with only 15 individuals representing six species collected. Within the Exoristinae, the diverse tribes Blondeliini, Goniini, and Eryciini made up most of the species diversity and abundance (Fig. 5). This taxonomic composition is similar to that found by Stireman *et al*. (2020), in their collections from the midwestern state of Missouri, where Exoristinae accounted for about 60% of species, with the same three tribes dominating the diversity. This observed dominance of Exoristinae is consistent with, albeit somewhat more exaggerated, the taxonomic composition of a tachinid community in temperate China (Pei *et al*. 2021).

The taxonomic composition of our collections probably reflects to some degree the relative diversities of the subfamilies and tribes present in these areas, but it may also reflect bias in our collecting methods and the habitats we focused on. As mentioned above, hand collecting tends to be biased towards larger, more conspicuous taxa, such that smaller bodied clades such as Siphonini, Graphogastrini, and perhaps some phasiine and blondeliine taxa are underrepresented. Nearly all of our hand collecting was direct netting of observed flies rather than "blind" sweeping of foliage, which likely accentuates this bias. Furthermore, we primarily collected flies that were walking or resting on leaves, many of which were likely attracted to natural or artificial honeydew. This may bias our collecting against taxa that are more regular or obligate flower visitors (e.g., many Phasiinae, Tachinini, Phasiini, Leskiini). Finally, most of our collecting was focused on forest edges from ground level to a bit over 2m. We did little collecting in more open herbaceous areas (although some collecting was done in wet meadows at the Bayard site), possibly biasing our catch against taxa associated with these habitats (e.g., Phasiinae), and we have little idea what species and in what numbers might be occurring in the forest canopy and treetops.

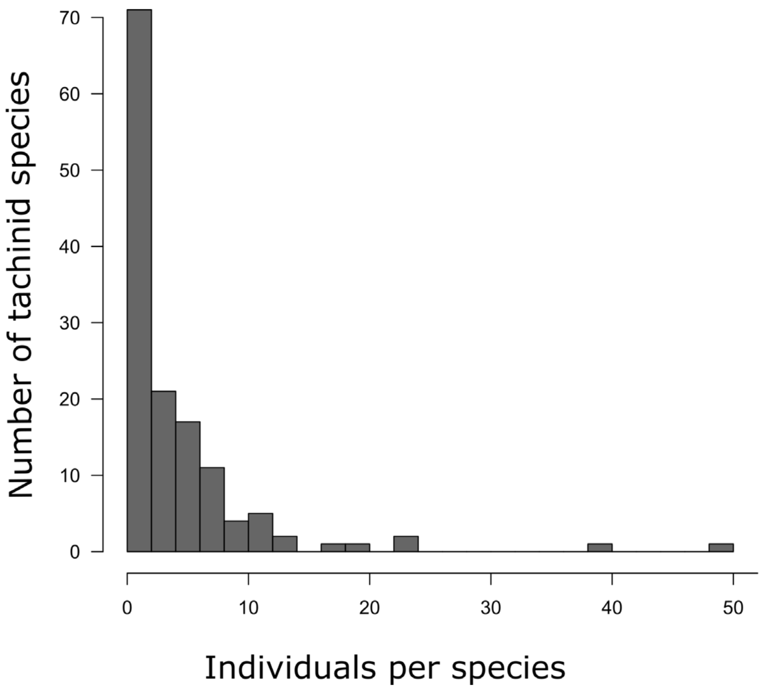


**Figure 3.** The frequency distribution of tachinid species abundances collected in this study.

There are three primary factors that may explain the low (~20%) overlap in tachinid species among sites. First, despite their proximity, the sites might differ in species composition due to the availability of different habitats, possibly related to their differing elevation. As mentioned above, there were some habitat differences between sites such as the presence of open, wet meadows at the Bayard site and savanna-like conditions at the Romney site, and plant composition likely differed between the sites. Second, the difference in collecting date, June versus September, is likely a major factor explaining differences in composition and sex ratio. Tachinid species and communities are well documented to vary over time within a site (Stireman 2008, Inclan & Stireman 2011, Pei *et al*. 2021), which is expected as the availability of hosts varies with the season. The bias towards males in June and females in September likely reflects earlier emergence and shorter lifespans of males and phenological matching of female activity to periods of greatest host availability. Finally, given the large number of species represented by only one or a few individuals, low overlap among sites is expected just due to sampling error (i.e., chance). At the extreme, the maximum possible overlap between sites based on our collections is 2/3 because 1/3 of the species are represented by just a single individual. The limited surveys we conducted do not allow us to assess the relative contribution of these three factors, but we suspect that seasonality and chance play important roles.

A few taxa stood out at the Romney site either in their occurrence and/or abundance (Table 2). Interestingly, the most abundant tachinid in our collections at this site was *Neomintho celeris* (Fig. 4d), a species with no known host, that probably parasitizes Orthoptera. Most of these specimens were male. The goniines *Belvosia unifasciata* and *Hyphantrophaga blanda* were also quite abundant at this site. The abundance of the former is likely underestimated because they were relatively easily recognized both visually and due to their buzzing sound, and after collecting many, we subsequently avoided them. The latter species, *H. blanda*, was one of the few that were found at

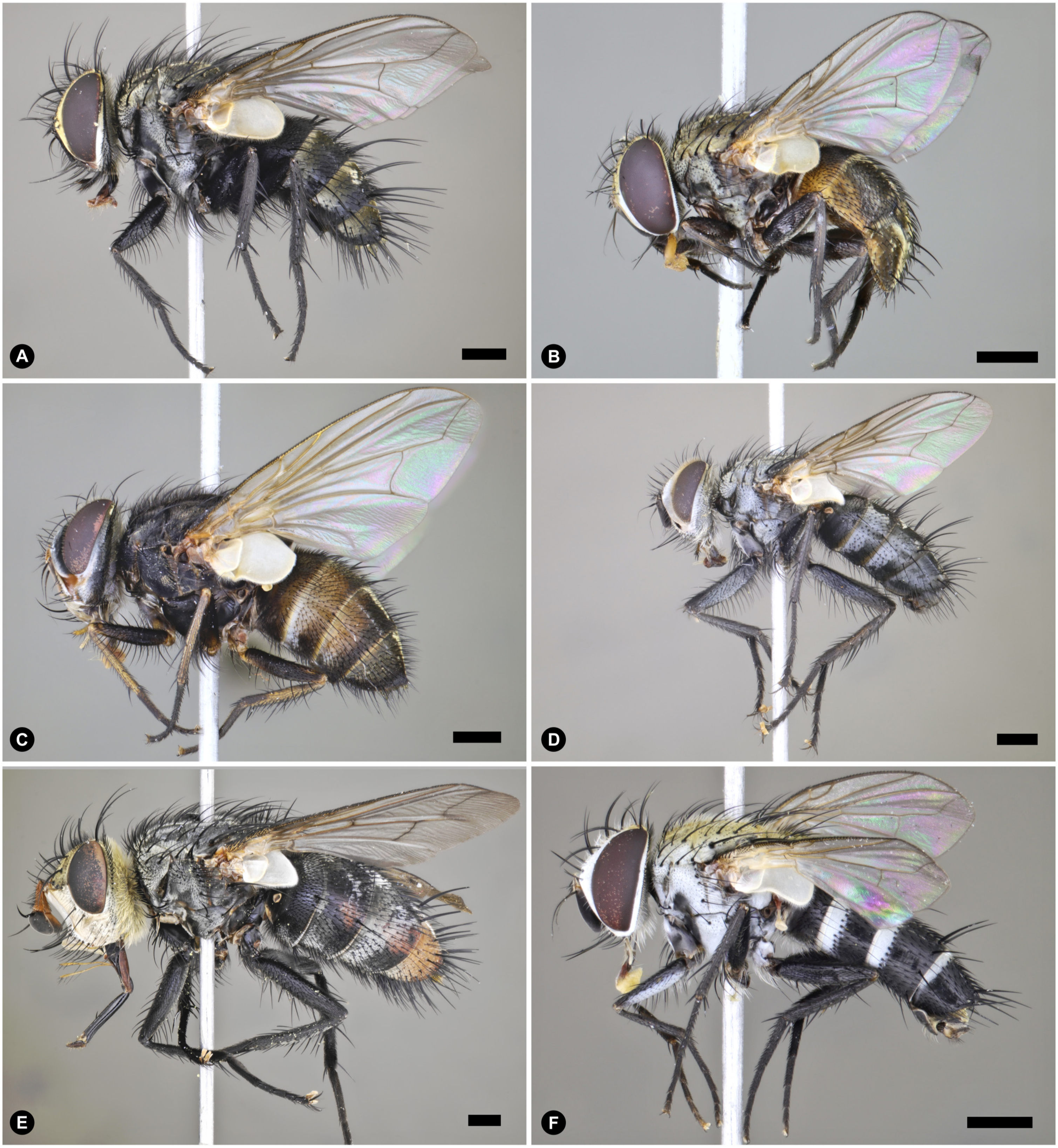


**Figure 4.** Representative tachinids collected in West Virginia (Romney site). **a**. *Anoxynops aldrichi* (Curran) (Exoristinae: Blondeliini). **b**. *Hypertrophomma opacum* Townsend (Exoristinae: Goniini). **c**. *Myiopharus canadensis* Reinhard (Exoristinae: Blondeliini). **d**. *Neomintho celeris* (Townsend) (Exoristinae: Euthelairini). **e**. *Peleteria* cf. *anaxias* (Walker) (Tachininae: Tachinini). **f**. *Spathidexia cerussata* Reinhard (Dexiinae: Voriini). Scale bars = 1.0mm.

appreciable frequencies at both sites (2nd and 3rd most abundant at Romney and Bayard, respectively), suggesting it is likely multivoltine. *Aplomya theclarum* was the most abundant eryciine at either site, as well as in Stireman *et al*.'s (2020) collections from Missouri in June. *Uramya pristis s.l.* (Fig. 2a) rounds out the top five most abundant tachinids at Romney. The same or similar species was also present in Bayard, and it appears to either display considerable intraspecific variation or consist of a species complex (note: varieties 2–4 in Table 2 were lumped as *U. pristis* for analysis and species counts). An attractive and relatively abundant tachinid of note at the Romney site was *Spathidexia cerussata* (Fig. 4f), however, we only collected males of this species. Finally, we note the collection of a female of *Chrysotachina infrequens*, a species previously known only from three specimens from Wyoming, North Carolina, and Virginia (O'Hara 2002).

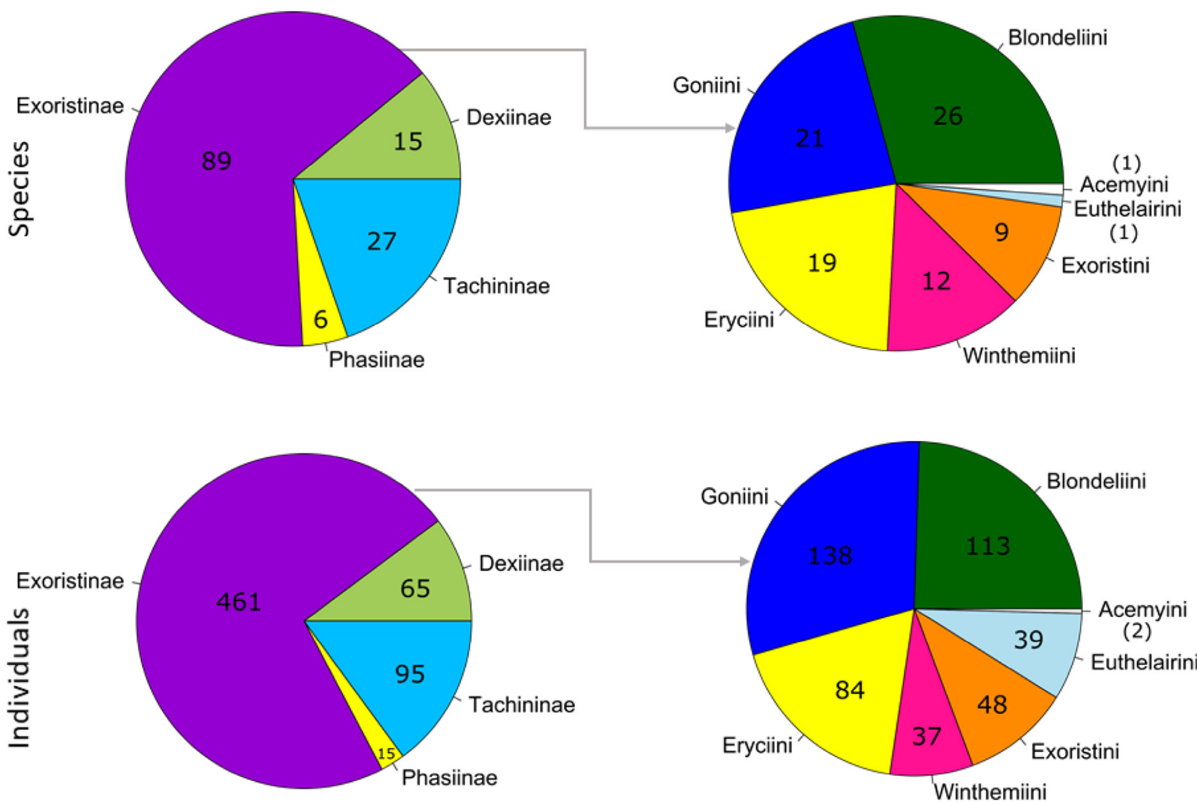


**Figure 5.** Pie charts illustrating the relative abundance of species (top) and individuals (bottom) among tachinid subfamilies (left) and tribes within Exoristinae (right).

The Bayard site differed substantially from Romney in the relative abundance of genera and species and the occurrence of some notable species. The most abundant tachinid at the Bayard site was *Calolydella lathami*, the only member of this genus north of Mexico. Interestingly, this most abundant species, with collections consisting almost entirely of females, was absent at the Romney site (and vice versa). Its relative abundance is likely underestimated as this species was so common that at some point we stopped collecting them. The exoristine *Austrophorocera einaris*, a parasitoid of Limacodidae (Gates *et al*. 2012), was the second most abundant species at Bayard, and several additional *Austrophorocera* species appeared to be present as well (although females were difficult to place). This contrasts with the dominant exoristine taxon in June at the Romney site, *Tachinomyia variata*, parasitoids of Lasiocampidae, Erebidae, and Noctuidae (Arnaud 1978, Strazanac *et al*. 2001). The ernestiine, *Panzeria platycarina*, was found in appreciable numbers (females) at Bayard, but was absent in June at Romney. Members of the tachinine genus *Archytas* were present at both sites in a variety of forms. Even though this genus was revised relatively "recently" (Ravlin & Stehr 1984), species can be difficult to identify and closely related species complexes may exist. This is particularly evident in the *A. aterrimus* complex where three or four morphologically distinct groups are evident. *Hystricia abrupta* (Polideini) and *Jurinia pompalis* (Tachinini) were two other notable tachinines found at Bayard. Although they are not rare, the authors had not collected them previously in the region.

We hope to be able to visit these and other sites in West Virginia in the future to more fully document the species and patterns of diversity in these rich forests. Ideally, we would conduct parallel studies at both of these sites across seasons and years to tease apart the effects of habitat, phenology, local dynamics, and chance in shaping the abundance, diversity, and taxonomic composition of these communities. Alas, we have neither the funding nor the time for such a project. Still, at the very least, we plan to continue to report the findings of our casual and systematic surveys of "bristle flies" in *The Tachinid Times* and elsewhere, adding what we can to the accumulated knowledge of tachinid biodiversity.

## Acknowledgements

We would like to thank Chris and Carolyn Bailey and Harold Greeney for inviting us to visit their properties in West Virginia, housing us in their cabins, and allowing us to collect flies on their land. We would also like to thank Jim O'Hara for comments and editing, and for his continued efforts to compile and *The Tachinid Times*.

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**Table 2.** List of species of Tachinidae collected from the two survey sites in West Virginia with numbers of males and females and notes on selected taxa.

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| **DEXIINAE** | | | | | |
| **Dexiini** | | | | | |
| *Billaea* cf. *interrupta* (Curran) | 1 | | 1 | Romney (June) | |
| *Billaea* cf. *trivittata* (Curran) | 3 | 2 | 5 | Romney (June) | |
| *Ptilodexia rufipennis* (Macquart) | 4 | 1 | 5 | Bayard (Sept.) | Possibly multiple species |
| *Cordyligaster septentrionalis* Townsend | 1 | 1 | 2 | Romney (June) | |
| **Uramyini (Voriini)** | | | | | |
| *Uramya limacodis* (Townsend) | 3 | | 3 | Romney (June) | |
| *Uramya* n. sp. | | 1 | 1 | Romney (June) | |
| *Uramya pristis* (Walker) complex | 13 | 4 | 17 | Romney (June) | (Not separated into varieties) |
| *Uramya* nr. *pristis* (Walker) var. 1 | | 2 | 2 | Bayard (Sept.) | Gold dusting on abdomen/thorax |
| *Uramya* nr. *pristis* (Walker) var. 2 | | 1 | 1 | Bayard (Sept.) | 3 katepisternals |
| *Uramya* nr. *pristis* (Walker) var. 3 | | 1 | 1 | Bayard (Sept.) | Bronzy face |
| *Uramya* nr. *pristis* (Walker) var. 4 | | 4 | 4 | Bayard (Sept.) | Gray abdomen |
| **Voriini** | | | | | |
| *Athrycia cinerea* (Coquillett) | | 1 | 1 | Bayard (Sept.) | |
| *Campylocheta eudryae* (Smith) | | 1 | 1 | Bayard (Sept.) | |
| *Campylocheta plathypenae* Sabrosky | 1 | | 1 | Romney (June) | |
| *Spathidexia cerussata* Reinhard | 11 | | 11 | Romney (June) | |
| *Spathidexia dunningii* (Coquillett) | 1 | 3 | 4 | Bayard (Sept.) | |
| *Thelaira americana* Brooks | 1 | 1 | 2 | Bayard (Sept.) | |
| | 1 | 0 | 1 | Romney (June) | |
| *Voria aurifrons* (Fallén) | | 2 | 2 | Romney (June) | |
| **EXORISTINAE** | | | | | |
| **Acemyini** | | | | | |
| *Ceracia dentata* (Coquillett) | 1 | 1 | 2 | Romney (June) | |
| **Blondeliini** | | | | | |
| *Anoxynops aldrichi* (Curran) | 7 | | 7 | Romney (June) | |
| *Blondelia hyphantriae* (Tothill) | | 4 | 4 | Bayard (Sept.) | |
| | 4 | 2 | 6 | Romney (June) | |
| *Blondelia* sp. 2 | 2 | 2 | 4 | Romney (June) | |
| *Calolydella lathami* (Curran) | 1 | 17 | 18 | Bayard (Sept.) | |
| *Compsilura concinnata* (Meigen) | 4 | 2 | 6 | Bayard (Sept.) | |
| | 1 | | 1 | Romney (June) | |
| *Eucelatoria auriceps* (Aldrich) | 2 | | 2 | Romney (June) | |
| *Eucelatoria* n.sp. Burington | | 1 | 1 | Bayard (Sept.) | |

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| *Eucelatoria dimmocki* (Aldrich) | | 2 | 2 | Romney (June) | |
| *Lixophaga* cf. *unicolor* Townsend | | 1 | 1 | Bayard (Sept.) | |
| *Lixophaga* nr. *diatraeae* (Townsend) | 4 | 3 | 7 | Bayard (Sept.) | |
| *Lixophaga* nr. *diatraeae* (Townsend) sp. 2 | | 4 | 4 | Bayard (Sept.) | |
| *Lixophaga parva* (Smith) | 1 | | 1 | Bayard (Sept.) | |
| *Lixophaga* sp. 1 | | 1 | 1 | Romney (June) | Doesn't seem to match Bayard (Sept.) specimens |
| *Medina barbata* (Coquillett)? | | 1 | 1 | Romney (June) | |
| *Myiopharus americanus* (Bigot) 2 | 2 | | 2 | Bayard (Sept.) | |
| *Myiopharus canadensis* Reinhard | 1 | | 1 | Bayard (Sept.) | |
| | 1 | | 1 | Romney (June) | |
| *Myiopharus* nr. *aberrans* (Townsend) | 1 | | 1 | Bayard (Sept.) | |
| *Myiopharus sedulus* (or nr.) (Reinhard) | | 2 | 2 | Bayard (Sept.) | |
| | 1 | | 1 | Romney (June) | |
| *Opsomeigenia* cf. *pusilla* (Coquillett) | 1 | 1 | 2 | Bayard (Sept.) | |
| | | 2 | 2 | Romney (June) | |
| *Oswaldia aurifrons* (Townsend) | | 1 | 1 | Bayard (Sept.) | |
| *Oswaldia* cf. *conica* (Reinhard) | | 3 | 3 | Bayard (Sept.) | |
| | 7 | 3 | 10 | Romney (June) | Unsure if females are same sp., could be >1 sp. of males too |
| *Oswaldia* cf. *valida* (Curran) | | 3 | 3 | Bayard (Sept.) | Could be variants of *O. anorbitalis* (Brooks) |
| | 1 | 1 | 2 | Romney (June) | Male and female could be different species |
| *Thelairodoria setinervis* (Coquillett) | 2 | 1 | 3 | Bayard (Sept.) | |
| | 5 | | 5 | Romney (June) | |
| *Vibrissina* cf. *leibyi* (Townsend) | 1 | 1 | 2 | Romney (June) | |
| *Vibrissina spinigera* (Townsend) | 4 | 1 | 5 | Romney (June) | |
| *Zaira* cf. *nocturnalis* (Reinhard) | 1 | | 1 | Bayard (Sept.) | |
| **Eryciini** | | | | | |
| *Aplomya theclarum* (Scudder) | 16 | 3 | 19 | Romney (June) | |
| *Carcelia amplexa* (Coquillett) | 5 | | 5 | Bayard (Sept.) | |
| *Carcelia diacrisae* (Sellers) | 10 | 1 | 11 | Romney (June) | |
| *Carcelia* sp. nr. *flavirostris* (Wulp) | 1 | 1 | 2 | Romney (June) | |
| *Carcelia formosa* (Aldrich & Webber) | 5 | 1 | 6 | Romney (June) | |
| *Carcelia inflatipalpus* (Aldrich & Webber) | 3 | 1 | 4 | Romney (June) | |
| *Carcelia olenensis* (Sellers) | 1 | | 1 | Romney (June) | |
| *Carcelia* cf. *perplexa* Sellers | 1 | | 1 | Bayard (Sept.) | |
| *Drino* cf. *bakeri* (Coquillett) | | 1 | 1 | Romney (June) | |
| *Drino rhoeo* (Walker) | | 1 | 1 | Bayard (Sept.) | |

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| *Lespesia anisotae* (Webber) | 2 | 1 | 3 | Romney (June) | |
| *Lespesia* cf. *schizurae* (Townsend) | | 1 | 1 | Romney (June) | |
| *Lespesia stonei* Sabrosky | | 1 | 1 | Bayard (Sept.) | |
| | 10 | | 10 | Romney (June) | |
| *Nilea* cf. *valens* (Aldrich & Webber) | | 5 | 5 | Bayard (Sept.) | |
| | 4 | | 4 | Romney (June) | |
| *Nilea sternalis* (Coquillett) | | 1 | 1 | Bayard (Sept.) | |
| *Phebellia helvina* (Coquillett) | | 2 | 2 | Bayard (Sept.) | |
| *Phebellia* cf. *trichiosomae* (Sellers) | 2 | 1 | 3 | Bayard (Sept.) | |
| *Phryxe pecosensis* (Townsend) | | 1 | 1 | Bayard (Sept.) | |
| *Prooppia* cf. *nigripalpis* (Rob.-Des.) | 1 | 1 | 2 | Bayard (Sept.) | |
| **Euthelarini** | | | | | |
| *Neomintho celeris* (Townsend) | 34 | 5 | 39 | Romney (June) | |
| **Exoristini** | | | | | |
| *Austrophorocera einaris* (Smith) | 11 | 2 | 13 | Bayard (Sept.) | |
| *Austrophorocera stolida* (Reinhard) | 3 | | 3 | Bayard (Sept.) | |
| *Austrophorocera* n. sp.? | 1 | | 1 | Bayard (Sept.) | |
| *Austrophorocera* sp. *2* | | 3 | 3 | Bayard (Sept.) | = females of above? |
| *Austrophorocera* sp. 4 | | 1 | 1 | Bayard (Sept.) | = females of above? |
| *Austrophorocera* sp.? | | 5 | 5 | Bayard (Sept.) | = females of above? |
| *Exorista dydas* (Walker) | | 1 | 1 | Bayard (Sept.) | |
| *Exorista mella* (Walker) | 3 | 1 | 4 | Bayard (Sept.) | |
| | 1 | 1 | 2 | Romney (June) | |
| *Chetogena subnitens* (Aldrich & Webber) | 2 | 1 | 3 | Romney (June) | |
| *Tachinomyia variata* Curran | 8 | 4 | 12 | Romney (June) | |
| **Goniini** | | | | | |
| *Allophorocera* sp. | | 5 | 5 | Bayard (Sept.) | Possibly *Euceromasia* sp. |
| *Belvosia unifasciata* (Rob.-Des.) | 19 | 5 | 24 | Romney (June) | |
| *Chaetogaedia analis* (Wulp) | | 1 | 1 | Bayard (Sept.) | |
| | 1 | 1 | 2 | Romney (June) | |
| *Distichona autumnalis* (Townsend) | 2 | 3 | 5 | Bayard (Sept.) | |
| *Euceromasia* sp. 1 | | 2 | 2 | Romney (June) | |
| *Euexorista rebaptizata* Gosseries | | 1 | 1 | Bayard (Sept.) | |
| *Eumea* sp. nr. *caesar* (Aldrich) | 2 | | 2 | Romney (June) | |
| *Houghia* cf. *coccidella* (Townsend) | | 1 | 1 | Bayard (Sept.) | |
| | | 4 | 4 | Romney (June) | |
| *Houghia* sp. nr. *setipennis* Coquillett | 1 | 1 | 2 | Romney (June) | |
| *Hypertrophomma opacum* Townsend | | 2 | 2 | Romney (June) | |

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| *Hyphantrophaga blanda* (Osten Sacken) | 4 | 8 | 12 | Bayard (Sept.) | |
| | 22 | 16 | 38 | Romney (June) | Could be multiple spp., lots of variation |
| *Hyphantrophaga blandita* (Coquillett) | | 8 | 8 | Bayard (Sept.) | |
| *Hyphantrophaga* cf. *euchaetiae* (Sellers) | 1 | | 1 | Romney (June) | |
| *Hyphantrophaga* sp. nr. *sellersi* (Sabrosky) | 1 | 1 | 2 | Romney (June) | Close to *H. blanda* but legs all yellow, could be *H. sellersi*, but antennae not yellow |
| *Hyphantrophaga virilis* Aldrich & Webber | | 2 | 2 | Bayard (Sept.) | |
| | | 4 | 4 | Romney (June) | |
| *Leschenaultia* n. sp.? (*reinhardi* Toma & Guimarães?) | 2 | 3 | 5 | Bayard (Sept.) | |
| | | 1 | 1 | Romney (June) | |
| *Mystacella chrysoprocta* (Wiedemann) | | 1 | 1 | Bayard (Sept.) | |
| *Patelloa* cf. *leucaniae* (Coquillett) | | 4 | 4 | Bayard (Sept.) | |
| *Pseudochaeta* cf. *frontalis* Reinhard | | 1 | 1 | Romney (June) | |
| *Pseudochaeta pyralidis* Coquillett | | 1 | 1 | Bayard (Sept.) | |
| | 4 | 1 | 5 | Romney (June) | |
| *Pseudochaeta siminina* Reinhard | 1 | 1 | 2 | Bayard (Sept.) | |
| **Winthemiini** | | | | | |
| *Hemisturmia* n. sp.? | 2 | | 2 | Romney (June) | |
| *Hemisturmia parva* (Bigot) | 1 | | 1 | Romney (June) | |
| *Winthemia* cf. *abdominalis* (Townsend) | 1 | | 1 | Romney (June) | |
| *Winthemia* cf. *aurifrons* Guimarães | 4 | 2 | 6 | Bayard (Sept.) | possibly *W. datanae* variants |
| *Winthemia* sp. nr. *borealis* Reinhard | 1 | | 1 | Romney (June) | Smallish, bristles on hind tibia widely spaced, with marginals on T3 |
| *Winthemia datanae* (Townsend) | | 8 | 8 | Bayard (Sept.) | could be multiple spp. |
| *Winthemia* nr. *datanae* | | 1 | 1 | Bayard (Sept.) | |
| *Winthemia* cf. *occidentis* Reinhard | 1 | 1 | 2 | Romney (June) | |
| *Winthemia* cf. *rufonotata* (Bigot) | | 1 | 1 | Bayard (Sept.) | |
| *Winthemia rufopicta* (Bigot) | 2 | 6 | 8 | Bayard (Sept.) | |
| | 1 | | 1 | Romney (June) | |
| *Winthemia* cf. *sinuata* Reinhard | 1 | | 1 | Romney (June) | |
| *Winthemia quadripustulata* (Fabricius) form C | 4 | | 4 | Romney (June) | |
| **PHASIINAE** | | | | | |
| **Cylindromyiini** | | | | | |
| *Cylindromyia fumipennis* (Bigot) | 1 | 1 | 2 | Romney (June) | |
| *Cylindromyia interrupta* (Meigen)? | 1 | 2 | 3 | Bayard (Sept.) | |
| **Gymnosomatini** | | | | | |
| *Gymnoclytia occidua* (Walker) | 1 | | 1 | Bayard (Sept.) | |
| | 4 | 1 | 5 | Romney (June) | |

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| *Gymnosoma par* (Walker) | 1 | | 1 | Bayard (Sept.) | |
| | 1 | | 1 | Romney (June) | |
| *Trichopoda pennipes* (Fabricius) | | 1 | 1 | Romney (June) | |
| **Strongygastrini** | | | | | |
| *Strongygaster triangulifera* (Loew) | | 1 | 1 | Romney (June) | |
| **TACHININAE** | | | | | |
| **Ernestiini** | | | | | |
| *Linnaemya comta* (Fallén) | 1 | | 1 | Romney (June) | |
| *Panzeria nigripalpis* (Tothill) | 1 | | 1 | Bayard (Sept.) | |
| *Panzeria platycarina* (Tothill) | 1 | 10 | 11 | Bayard (Sept.) | |
| **Graphogastrini** | | | | | |
| *Phytomyptera* sp. | 1 | | 1 | Bayard (Sept.) | |
| **Leskiini** | | | | | |
| *Clausicella turmalis* (Reinhard) | | 1 | 1 | Romney (June) | |
| *Genea* cf. *pavonacea* (Reinhard) | 1 | | 1 | Bayard (Sept.) | |
| | 7 | | 7 | Romney (June) | Seems like *G. cinerea* (James), are these synonyms? |
| *Genea* sp. nr. *texensis* (Townsend) | 1 | | 1 | Bayard (Sept.) | |
| *Leskia* cf. *depilis* (Coquillett) | | 1 | 1 | Bayard (Sept.) | |
| **Minthoini** | | | | | |
| *Paradidyma* cf. *petiolata* Reinhard | 2 | 1 | 3 | Romney (June) | |
| *Paradidyma* sp. nr. *petiolata* Reinhard | | 1 | 1 | Romney (June) | No M-petiole, smaller, but possibly weird petiolata |
| *Paradidyma* nr. *singularis* (Townsend) | | 2 | 2 | Romney (June) | |
| **Polideini** | | | | | |
| *Chrysotachina infrequens* O'Hara | | 1 | 1 | Romney (June) | |
| *Chrysotachina slossonae* (Coquillett) | 1 | | 1 | Romney (June) | |
| *Mauromyia brevi*s (Coquillett) | 1 | | 1 | Romney (June) | |
| **Siphonini** | | | | | |
| *Ceromya balli* O'Hara / *oriens* O'Hara | | 3 | 3 | Bayard (Sept.) | |
| *Siphona illinoensis* (Townsend) | 2 | | 2 | Bayard (Sept.) | |
| | 2 | 4 | 6 | Romney (June) | |
| **Tachinini** | | | | | |
| *Archytas aterrimus* (Rob.-Des.) | 3 | 2 | 5 | Romney (June) | |
| *Archytas* sp. nr. *aterrimus* (Rob.-Des.) | | 8 | 8 | Bayard (Sept.) | Thorax with bronze shiny reflections |
| *Archytas* sp. nr. *aterrimus* / *instabilis* (Curran) | | 4 | 4 | Bayard (Sept.) | Thorax shiny bluish reflections, but small |
| | 1 | 1 | 2 | Romney (June) | Male and female may be different spp. |
| *Archytas lateralis* (Macquart) | 2 | | 2 | Bayard (Sept.) | Small in size, dark |
| | 2 | | 2 | Romney (June) | |

| Species | M | F | Total | Locality | Notes |
|---|---|---|---|---|---|
| *Archytas* cf. *nivalis* Curran | 1 | 1 | 2 | Romney (June) | Doesn't quite match externally, but male genitalia good match. Unclear if female is different (has different coloration). |
| *Copecrypta ruficauda* (Wulp) | 6 | 1 | 7 | Romney (June) | |
| *Deopalpus contiguus* (Reinhard) | 1 | | 1 | Romney (June) | |
| *Deopalpus* cf. *hirsutus* Townsend | 9 | | 9 | Romney (June) | In key tegula red, but black in spp. Identity unclear from descriptions |
| *Hystricia abrupta* (Wiedemann) | | 3 | 3 | Bayard (Sept.) | |
| *Jurinia pompalis* (Reinhard) | | 2 | 2 | Bayard (Sept.) | |
| *Peleteria anaxias* (Walker) | 1 | 2 | 3 | Romney (June) | Large for *P. anaxias*, but genitalia seem to match |