

The hoverfly species richness in and around the renaturalised clay quarry Eriwis in the Jurapark Aargau, Switzerland

The results of 97 field surveys conducted between 2019 and 2025



Merodon nigritarsis (♀), Jurapark Aargau, Switzerland, 09.06.2025

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Summary

Hoverfly (Diptera, Syrphidae) species richness in and around the renaturalised clay quarry Eriwis, located in Jurapark Aargau, Switzerland, was assessed through 97 field surveys conducted between 2019 and 2025. Within the former clay quarry nature park, a total of 124 hoverfly species were recorded. Across the broader survey area, which includes the quarry as well as the surrounding forests and meadows, 169 species were documented over the seven-year survey period.

The species list includes 11 hoverfly species that are on the European Red List of Hoverflies by being Endangered (EN), Vulnerable (VU), or Near Threatened (NT) on a European scale. Among these are *Callicera rufa* (VU) and *Temnostoma meridionale* (NT), that were both recorded for the first time in Switzerland. Also noteworthy are records of the endangered (EN) species pair *Brachyopa bimaculosa/silviae*, the rare *Chalcosyrphus femoratus* (VU), and the first record of *Callicera spinolae* (VU) for northern Switzerland. In addition, the data-deficient (DD) *Psilota exilistyla* was observed once, as well as the rare *Eristalis alpina*, which had last been recorded in Switzerland in 1990.

The first part of this report (pp. 3–19) describes the study area, survey methods, and results. The results section presents the recorded hoverfly species richness in relation to annual survey effort, as well as patterns of seasonal flight activity and general resource preferences of the species. The findings are discussed within a regional biogeographical context (Jura Mountains and surroundings), based on the results of hoverfly field surveys conducted by Georg Artmann-Graf between 1982 and 2018. The results of my own surveys carried out between 2019 and 2023 on the Lägern ridge in the canton of Zurich, the easternmost extension of the Jura Mountains, are presented as well. Using rarefaction analysis and regional species occurrence data, the total species richness of the study area is estimated.

The second part of the report (pp. 20–129) contains the accounts of 174 species recorded in the survey area and in Lägern. For each species, all records in the survey period of 2019–2025 are listed by using internet links to the records in the citizen science database www.observation.org. In addition, two field photographs and notes on abundance, detectability, habitat and resource preferences, flight time and identification are provided for each species.

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1 Introduction

1.1 Background and context of the study

The renaturalised clay quarry Eriwis and its surrounding areas host a remarkable richness of hoverfly species. This conclusion is based on nearly 100 visits I have made to the site since 2019. My interest in insects began two years earlier, in 2017, when I started observing dragonflies and butterflies. On 28 September 2018, I visited the clay quarry for the first time, in search for the scarce Spotted Fritillary (*Melitaea didyma*) that occurs in nearby fields. My fascination with hoverflies began in 2019 with the publication of the first edition of the *Hoverfly Field Guide* by Sander Bot and Frank Van de Meutter, an excellent and clearly structured photographic overview of European Syrphidae. This guide makes hoverfly identification from field photos accessible, removing the necessity to collect specimens for most species.

After two insect visits to the clay quarry in summer 2019, observations intensified in spring 2020 with four visits that produced some remarkable hoverfly records, including the first Swiss record of *Temnostoma meridionale* (Fisler et al. 2023). In the following years, my enthusiasm to find scarce and rare hoverflies in the area led to 22 visits in 2021 and 18 visits in 2022. In 2023 and 2024, my efforts shifted to other hoverfly survey projects in Canton Zurich (Bisschop & Sedivy 2024) and Graubünden (Bisschop et al. 2025), resulting in fewer visits to clay quarry (9 and 10, respectively). In 2025, the idea of compiling a comprehensive survey report motivated me to make more visits there, with a particular focus on finding small, previously undetected species. This led to 32 additional surveys with an average duration of almost 3 hours. With my workplace nearby, I was able to make spontaneous visits to the area depending on temporary weather conditions. In early spring (March–April), sunny intervals can appear suddenly and last only briefly, yet they are crucial for finding early-spring hoverflies species.

The clay quarry Eriwis near Schinznach Dorf was operated from 1932 to 1998 for brick production. Renaturalisation began in 2006, and in 2015 the area was designated a protected nature reserve of approximately 14 ha (Hill et al. 2025). Since then, intensive and ongoing management has aimed to enhance its ecological value for plants, birds, amphibians, and insects, particularly dragonflies. The quarry lies within Jurapark Aargau and is surrounded by orchards, extensively managed pastures, wildflower fallows, and large forested areas. Several factors likely explain the high hoverfly species richness recorded at the site. The quarry supports a wide diversity of vegetation and flowering plants, meeting the resource requirements of many species. Its woodland- and meadow-rich surroundings are especially important, as many hoverflies are woodland or meadow species. In addition, the quarry's location at the edge of the Jura Mountains, a biogeographical zone richer in species than lowland areas, further enhances the chance of finding scarce hoverflies. Exposed clay surfaces and muddy forest streams, may be also a contributing factor, as hoverflies (like butterflies) engage in "mud-puddling" to obtain dissolved nutrients.

1.2 Methodology and importance of hoverfly surveys

Hoverflies are important pollinators and, like bees and butterflies, fulfil a key ecological functions as imagos. Their larvae are also ecologically significant, acting as aphid predators (terrestrial larvae), filter feeders (aquatic larvae), or as prey for other insects and birds. A total of 495 hoverfly species have been recorded in Switzerland (Fisler 2024), many of which have highly specific habitat requirements. As a result, hoverflies are widely used as indicators of habitat quality (e.g. Fisler et al. 2019; Speight 2020). Declines in hoverfly species richness or abundance can signal deteriorating habitats and may themselves contribute to further ecosystem degradation. In areas across Europe, hoverfly abundance and species richness have declined over the past 50 years (Powney et al. 2019; Gatter et al. 2020; Barendregt et al. 2022; Haris et al. 2025), due to habitat loss, pollution, and/or climate change. Long-term monitoring is therefore essential to understand population trends and assess conservation status of species.

Determining population trends in hoverflies is challenging because their detectability is generally low. Hoverflies are small, mobile insects and are therefore less easily detected than larger insect groups such as butterflies, dragonflies and grasshoppers. In addition, many hoverfly species are naturally scarce, restricted to specific habitats, or have short and specific flight periods. For some species, detectability may be so low that they are not recorded every year, regardless of the sampling method used. As a

consequence, hoverfly surveys are highly sensitive to sampling effort, and species may easily be missed if the number of traps or field hours is limited. Unlike bird surveys, which often aim to be deterministic and complete (e.g. total counts of breeding or wintering birds), hoverfly surveys are inherently probabilistic. This probabilistic nature can be reduced by applying highly standardized and repeatable methods, such as Malaise traps at fixed locations or a fixed number of net sweeps conducted at the same sites and times each year. Such approaches allow the assessment of relative trends in common species that are consistently detected. In contrast, scarce and rare species or species with strongly fluctuating, weather-related abundances, remain difficult to assess, with variability increasing as sampling effort decreases.

One approach to addressing the difficulty of assessing population trends in scarce and rare hoverfly species is by the use of rarefaction analysis. In hoverfly surveys, the probability of detecting scarce or rare species is strongly dependent on sampling effort, measured for example as field hours or number of traps. With limited effort, only common species and a few scarce species may be detected, whereas increasing effort progressively reveals additional rare and very rare species. The observed species richness for a given sampling effort, including common, scarce, rare, and very rare species, forms the basis of rarefaction analysis. By standardising species richness to comparable levels of sampling effort, rarefaction curves allow meaningful comparisons between surveys or years, despite differences in effort. Given the high species richness of hoverflies in Switzerland and the large proportion of species occurring at low abundances, rarefaction curves provide an indicator of overall hoverfly community status (see Bisschop et al. 2025).

The study presented in this report was not designed as a structured or standardised survey. The visits were unevenly distributed across months and years, and no fixed routes or sampling protocols were applied. This limits the use of the gathered data as a baseline reference for future monitoring. Nevertheless, given the inherently probabilistic nature of hoverfly detection, the survey results remain highly informative. Hoverflies were recorded using field macrophotography, and visit duration was determined from the timestamps of the first and last photographs taken during each survey. As a result, survey effort, expressed as total field hours, was precisely quantified in this study.

1.3 Report contents

The aim of this report is to highlight the beauty and species richness of hoverflies in the study area and to demonstrate that this family is readily accessible through field photography, like it is for other insect families such as butterflies and dragonflies. The main part of the report (pp. 20–129) presents accounts of the 174 species recorded in the survey area and Lägern (ZH). For each species, two quality field photographs are provided, together with brief remarks on status, detectability, flight period, habitat, and resource preferences. Notes on the identification and references to more detailed identification sources are included as well. For each species, all records in the survey period of 2019–2025 are listed by using internet links to the records in the citizen science database www.observation.org. These online records provide many more field photographs and the precise observation spots in the area. The species accounts are intended to show how, where, and when hoverflies can be found and identified in the survey area, and to facilitate the repetition of the surveys by others in the future.

The first part of the report (pp. 3–19) describes and discusses the survey area, methodologies, and overall results. The results relate annual species richness to survey effort (field hours per year) and these indicate that not all species occurring in the area were detected during the seven survey years. The cumulative species list includes numerous scarce and rare species, including 11 species listed on the European Red-List. Species richness is evaluated in a regional biogeographical context using survey data from Georg Artmann-Graf between 1982 and 2018. These records are included in the info fauna distribution maps (Info Fauna 2026); links to the respective maps are provided in each species account. This comparison of survey results also yields a list of species that may occur in the reserve but have so far not been detected. The results from my visits to the Lägern ridge (ZH) are also presented.

The overall survey results are presented in a way that may serve as a baseline reference for future surveys. The surveys were not conducted with a high repeatability in mind: routes varied between visits, the number of surveys per year differed substantially, survey effort was unevenly distributed across the insect season, and precise abundance data were not recorded. However, survey effort (field hours) and

species richness were well documented. These data allow the construction of a rarefaction(-like) curve, which provide a statistical index for the overall state of the hoverfly community, as will be explained later. Such rarefaction curve could be remeasured in 10 or 20 years, thereby enabling the detection of long-term trends in the hoverfly community within the survey area.

During the hoverfly surveys, other insect species were also recorded consistently across the study period (2019–2025). These records mainly comprised members of the following Diptera families: soldier flies (Stratiomyidae), robber flies (Asilidae), thick-headed flies (Conopidae) and bee flies (Bombyliidae). In addition, butterflies, dragonflies, and solitary bees were recorded less consistently. All these records will be included as appendices to the report at a later stage.

2 Survey area and methods

2.1 Survey area

The survey area is located in northern Switzerland, about 15 km south of the German border, within the Jurapark Aargau (Fig. 1), at the northeastern end of the Jura Mountains. The Jurapark's boundaries correspond to the combined territory of participating municipalities within the Jurapark Aargau association. It includes diverse landscape types such as the hilly Jura region, pine and beech forests, dry meadows, and traditional orchards of ecological value. However, forested and natural areas are highly fragmented, and the park does not form a coherent natural landscape. Consequently, the selected survey area is not necessarily representative of the entire park. The survey area lies within the biogeographical Jura Mountains zone. Although it is not high-alpine in character, it supports some alpine hoverfly species as well as many species that are (mostly) absent from natural areas and forests of the Swiss Plateau.

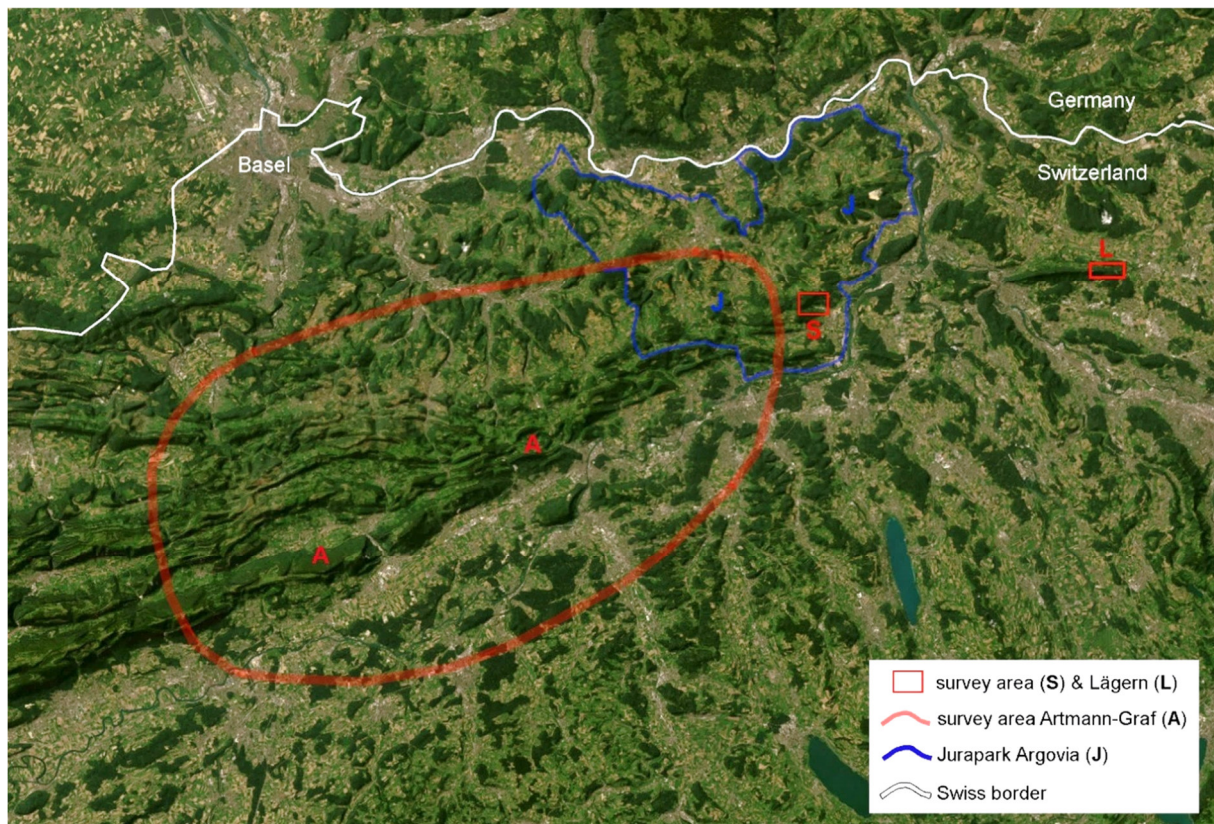


Fig. 1: The regional setting of the survey area. The survey area (**S**) is indicated by a red rectangular and is located in the Jurapark Aargau (**J**) and in the close proximity of the large Artmann-Graf survey area (**A**). The observation area on the Lägern ridge (**L**) in the canton of Zürich is also shown.

Figure 1 illustrates the proximity of the survey area to the larger study region surveyed by Georg Artmann-Graf (Artmann-Graf 2024a), where he collected numerous hoverfly records between 1982 and 2018 (see section 5.1 for a more detailed description of his work and area). His data are included in the info fauna database (Info Fauna 2026). For all species recorded in the present survey area, regional occurrences can therefore be assessed, primarily based on Artmann-Graf's records, but also on additional records from the wider region. Links to the respective info fauna distribution maps are provided in the species accounts (Chapter 5). This report also includes my hoverfly records from the Lägern ridge in the canton of Zürich (Figs. 1 and 6), a ridge remotely connected to the Jura Mountains and that can perhaps be considered to be part of the same biogeographical zone.

A detailed satellite image of the survey area is shown in Figure 2. The area (blue outline) was not predefined but comprises all visited sites and hoverfly records, covering 142 ha. The clay quarry lies entirely within it (red outline; 12 ha). The landscape consists mainly of woodland (about two thirds), alongside the quarry, meadows, agricultural fields, and a railway line. Most records originate from the clay quarry and from sites along the marked forest roads, while other forest tracks were visited only occasionally. The exact or approximate locations of all hoverfly records ($n = 1150$) are accessible via the links provided in the species accounts.

Although the forest appears continuous, species distribution therein is not homogeneous. Distinct microhabitats occur, including patches with more deciduous or less mature trees, higher proportions of pine, forest clearings, dense undergrowth (blackberry, ferns or wild garlic), and moist areas with streams and puddles. The elevation ranges from 400 to 700 m a.s.l., and has a modest effect on hoverfly activity: In March to May the lower parts of the area are most productive, whereas in June and July, higher elevations are good, particularly along forest tracks with flowering white umbellifers (Apiaceae). In August, flowering plants in the clay quarry attract many hoverflies again, whereas from mid-September activity declines sharply in both the quarry and forests, concentrating mainly on ivy-covered trees (e.g. at spot indicated in Fig. 2).

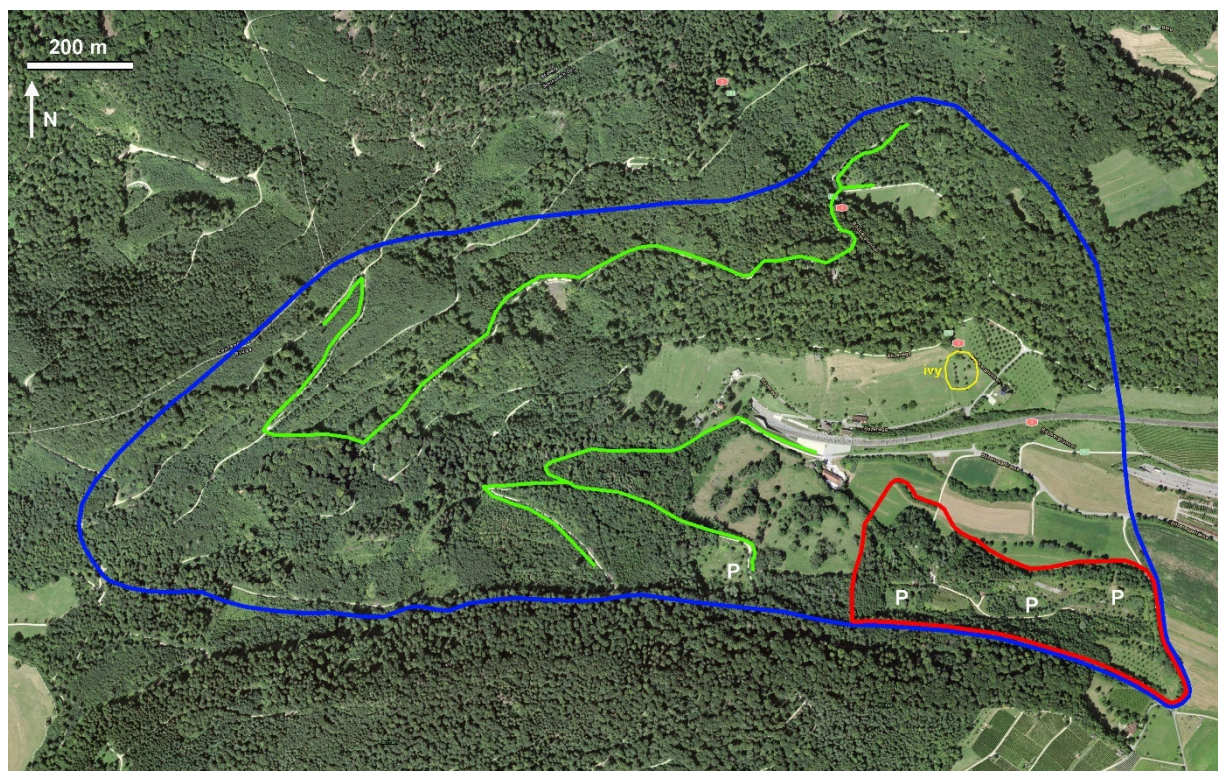


Fig. 2: The outer perimeter of the survey area (blue line) encloses an area of 142 hectares. The renaturalised clay quarry is encircled by a red line and covers about 12 hectares. In the clay quarry 124 hoverfly species were recorded, which is 73% of the 169 species recorded in the entire survey area. The commonly followed forest tracks are green-marked. The 4 locations with marshy ponds are indicated with a white "p". A cluster of ivy-covered trees (flowering in Sept./Oct.) is yellow-encircled.

The Eriwis clay quarry near Schinznach Dorf was operated for brick production from 1932 to 1998. Renaturalisation began in 2006, and in 2015 the site was designated a protected nature reserve of approximately 14 ha (Hill et al. 2025). Since then, ongoing management has aimed to enhance habitat quality for plants, birds, amphibians, and insects, particularly dragonflies. The quarry, located within Jurapark Aargau and surrounded by orchards, extensively managed pastures, wildflower fallows, and forest, covers about 12 ha within the survey area. It comprises a mosaic of open and wooded habitats. An impression of the clay quarry looks can be obtained by the photos in some publications (Fäs 2018; Hill et al. 2025). Four pond areas have developed from former excavations. As these are recent and not historical wetlands, the few (pioneering) marshland hoverfly species occurring here must have colonised the site within the past two decades. There are no extensive marshlands in the vicinity of the clay quarry, and it is unclear where (visiting) marshland species come from and if further colonisation of marshland species are to be expected.

A high diversity of habitats and flowering resources is essential for supporting rich hoverfly assemblages. However, recording many species is not simply a matter of covering large areas or visiting numerous habitats. Many species are not strictly confined to their preferred habitats and may occur some distance away from them. Rather than searching extensively for specific microhabitats, it is often more effective to wait at activity "hotspots". Hoverfly species may concentrate at the same flowering trees, sunny forest clearings, muddy streams, or stretches of forest road with abundant umbellifers. The key to documenting high species richness is identifying these temporary hotspots and remaining there for extended periods (often an hour or more). Locating such sites requires exploration and experience. Once found, they often remain productive for a number of days or longer (see Methods, next section).

2.2 Survey methods

Sampling and identification

The majority of hoverflies recorded during the surveys were photographed in the field using a digital camera (Canon EOS 7D Mark II) equipped with a macro lens (Sigma or Irix 150 mm f/2.8 Macro). The effort invested in obtaining high-quality field photographs depended on both the rarity of the species and the difficulty of identification. For common and easily identifiable species, only one or a few photographs were taken to document their presence and compile the survey record list later. For species that were more difficult to identify, an effort was made to obtain high-resolution images to allow for identification at home. In general, smaller species are harder to photograph and often to identify. During the initial years of this study, there was a bias towards recording larger species. In later years, especially in 2025, greater effort was made to locate and identify the smallest species.

The majority of hoverfly species possess characteristic macroscopic features, such as abdominal patterns, which allow reliable identification based on field photographs. Photographs and descriptions in the field guide by Bot & Van de Meutter (edition 2019) served as primary references, as well as expert-validated photo galleries on citizen science platforms. In some cases, specialists were consulted by posting photographs in a dedicated Facebook group *Hoverflies of the World (Syrphidae)*. All records were uploaded to the citizen science website www.observation.org. In many cases, the best field photographs were attached to the records, after which the observations can reviewed and validated by the expert admins (so-called validators). Internet links to all 1150 records included in this study are provided in this report, of which 610 records (53%) are documented with photographs. Additional records from the Lägern area are also included, many of them likewise supported by photographs.

In order to obtain a more complete list of occurring species, in 2025 there was a focus on finding and recording small species. Since some species cannot or a very hard to identify from field photographs, a number of hoverflies were collected and photographed in a glass box and released afterwards (see e.g. <https://observation.org/observation/344448979/>). In cases where a microscopic ID was necessary (based on e.g. genitals), flies were collected and send to an expert (Lisa Fisler) for a microscopic identification. One individual of each of the following 12 species (of a total of 1150 records) was collected and microscopically identified: *Cheilosia carbonaria*; *Cheilosia fraterna*; *Eumerus ornatus*; *Eumerus strigatus*; *Melanogaster nuda*; *Neocnemodon latitarsis*; *Orthonevra atlantica*; *Paragus testaceus*; *Platycheirus immaculatus*; *Psilota exilistyla*; *Sphaerophoria batava*; and *Sphaerophoria taeniata*.

Surveys and strategy

The primary aim of the surveys was to find scarce and rare species and record a high species richness. Accordingly, survey strategies were designed to maximise species detection rather than to implement a highly standardised and repeatable monitoring scheme. The number of surveys conducted per year, their duration, and their temporal distribution throughout the insect season varied considerably among years, depending on available time and motivation. Survey routes were selected haphazardly, and in many cases surveys consisted of remaining at a single location (a "hotspot") for 1–2 hours rather than following a fixed transect. Survey statistics are presented in Section 3.1 as part of the results. The average duration of the 97 surveys conducted in this study was 2.4 hours.

Locating scarce and rare hoverfly species requires, first and foremost, a substantial investment of field time in order to increase the likelihood of detection of scarce and rare species. Secondly, thorough familiarity with the survey area and understanding where, when, and how to search are essential. The species accounts include notes on detectability, flight period, behaviour, preferred habitats, and key resources, all of which facilitate targeted searches. In addition, many records on www.observation.org provide precise observation locations, often down to the specific tree or bush. General guidance on the most promising parts of the survey area, height level, and optimal survey times is provided in Section 2.1 as well.

It may be tempting to cover as many habitats and as much area as possible to maximise species richness detection, but this approach is often ineffective. Hoverflies can move over large distances and may temporarily leave their typical habitats. Rather than extensive coverage, it is more productive to locate "hotspots" where hoverflies are attracted to and activity is concentrated. Such hotspots may include a specific flowering tree, a sunny forest edge bordering a meadow, a sunny forest clearing with muddy puddles or streams, or a stretch of forest road with abundant white umbellifers. These sites can remain productive for several days or even a week or more. It is often more effective to remain at a hotspot for 1–2 hours than to keep moving. As a rule of thumb, as long as new species continue to appear on the spot, it is worth staying. Identifying these hotspots requires familiarity with the survey area, initially gained through exploratory surveys. Interestingly, many hotspots are not repeated in subsequent years, for example due to forest management activities or varying meteorological conditions and related vegetation.

Data analyses

The data collected in this study consist of survey species lists uploaded to the citizen science platform www.observation.org. In some cases, these lists include all observed species; in others, common species were not consistently recorded. In general, no additional effort was made in the field to find common species for the purpose to complete survey species lists. Survey duration was accurately recorded based on the time of the first and last photograph taken, however the incomplete survey species list make it impossible to carry out a sample-based rarefaction analysis (with one sample being one survey). Nevertheless, when multiple surveys are combined, species lists become more complete. Cumulative monthly or annual species records and survey hours provide a reasonable basis for making a rarefaction analysis. This analysis was conducted to assess potential changes in the overall hoverfly community size between 2022 and 2025 and to establish a baseline reference for long-term monitoring. Estimating the total species richness of the survey area by extrapolating rarefaction curves would be possible; however, this approach was not applied in the present study due to variability of the surveys and sampling effort.

In addition to the quantitative rarefaction analysis, a more qualitative evaluation of the data was conducted, focusing on overall flight periods of hoverflies in the survey area and their resource preferences. These results are presented in the form of diagrams and tables in the next chapter.

3 Results

3.1 Data overview - surveys and species

In total, 97 surveys were conducted over a seven-year period, accumulating 230 field hours (see Table 1). Survey duration was determined using the timestamps of the first and last photographs taken during each survey (see Table 7.1 in the Appendix). The mean survey duration was 2.4 hours, with the shortest survey lasting c. 0.5 hours and the longest c. 6 hours. The highest average survey duration was achieved in 2025 with 2.9 hrs/survey. The temporal distribution of surveys varied markedly throughout the insect season (March to October), as illustrated in Figure 3. The highest number of surveys was conducted in May (n = 27).

The uneven distribution of surveys throughout the season resulted in a corresponding uneven distribution of species detections and records (see Table 1 and Figure 3). The seasonal pattern of species occurrence is influenced both by species-specific flight periods and by variation in sampling effort (i.e., field hours). These aspects are examined in detail in Sections 3.2 and 3.3. The present section focuses on the composition of the cumulative species list.

Table 1: The survey statistics for each year and the cumulative totals.

year	surveys	total time [hrs]	av. survey duration [hrs/survey]	species	records
2019	2	4	2.0	4	4
2020	4	6	1.5	27	27
2021	22	53	2.4	102	256
2022	18	32	1.8	79	164
2023	9	17	1.8	59	64
2024	10	25	2.5	70	103
2025	32	93	2.9	141	530
total	97	230	average = 2.4	169	1150

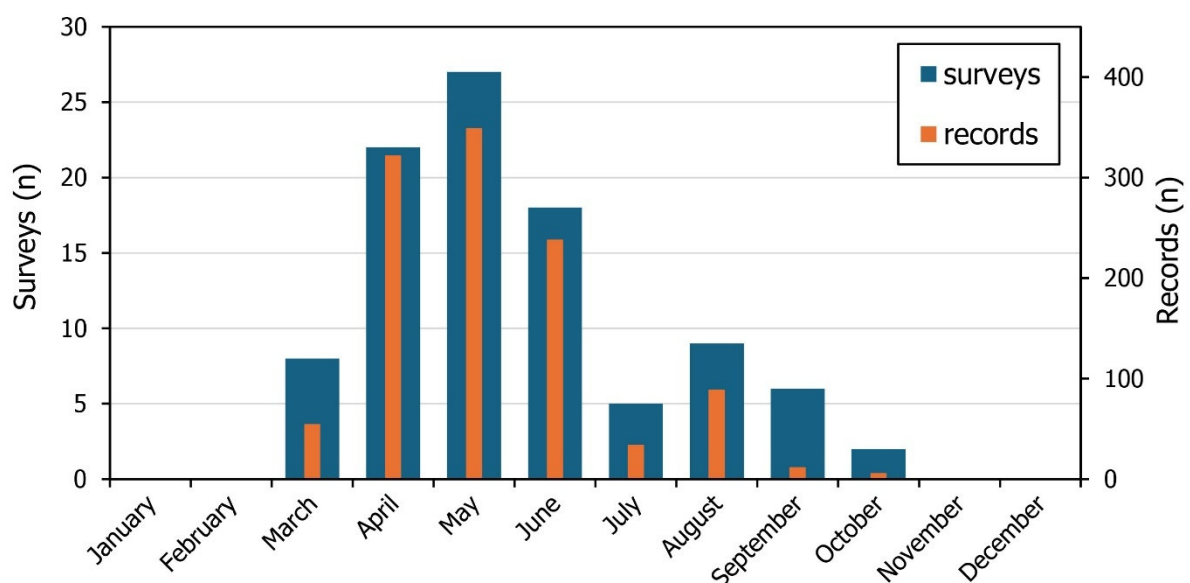


Fig. 3: The cumulative number of surveys and records per month for the years 2019 to 2025.

A total of 1150 records comprising 169 species from the survey area have been uploaded to www.observation.org. These include six taxa that could only be identified to species-pair level: *Brachyopa bimaculosa/silviae*, *Cheilosia albitarsis/ranunculi*, *Melanogaster aerea/parumplicata*, *Microdon mutabilis/myrmicae*, *Pipiza notata/noctiluca*, and *Parhelophilus frutetorum/versicolor*. In addition, one taxon was identified only to genus level (*Pipizella* sp.). Within the renaturalised clay quarry, 124 species have been recorded. In comparison, a total of 495 species are currently known from Switzerland (Fisler 2024). Thus, approximately one third of all Swiss species have been documented in the survey area, and one quarter within the clay quarry itself.

All recorded species are listed and described in detail in the species accounts presented in Chapter 5. Several noteworthy and rare species are highlighted here. *Temnostoma meridionale* was first discovered in the survey area on 7 May 2020, representing the first national record for Switzerland (Fisler et al. 2023). After no observations in 2021, the species was rediscovered in 2022 at a different location within the survey area, where it was subsequently also recorded in 2024 and 2025. On 10 May 2025, no fewer than six territorial males were observed within a relatively small area. This observation may indicate that the species has increased locally over the past five years. In addition, the species was recorded in the canton of Geneva in 2023 (Pétremand et al. 2025) and the canton of Vaud in 2023 (<https://observation.org/observation/275975893/>), suggesting a broader establishment in Switzerland.

Another first or possibly second national record concerns *Callicera rufa*, observed on 20 May 2021. The species was apparently collected once previously in the canton of Ticino; however, that specimen was lost and the record could not be verified (pers. comm. Lisa Fisler). Other rare species recorded during the survey, each with five or fewer records in Switzerland according to the info fauna distribution maps, include *Brachyopa bimaculosa/silviae*, *Chalcosyrphus femoratus*, and *Psilota exilistyla*. It should be noted that the info fauna database may be incomplete for certain species, as records from museum collections, private datasets, and other citizen science platforms may not yet be fully incorporated. The record of *Eristalis alpina* is also noteworthy. The species was last documented in Switzerland 35 years ago, in 1990 near Lausanne (VD). Finally, the occurrence of *Callicera spinolae* in the survey area deserves mention. Although the species has been recorded from only five additional locations in Switzerland, it is not necessarily genuinely rare. Rather, it may be under-recorded due to its late-season activity and its association with (high) flowering ivy, which likely results in low detectability.

Table 2: The hoverfly species recorded in the survey area that are on the European Red-List (Vujić et al 2022) by being Endangered, Vulnerable, Near-Threatened or Data Deficient

species	EU Red-List status
<i>Brachyopa bimaculosa</i> & <i>Brachyopa silviae</i>	Endangered (both species)
<i>Chalcosyrphus eunotus</i> (Loew, 1873)	Vulnerable
<i>Chalcosyrphus femoratus</i> (Loew, 1854)	Vulnerable
<i>Callicera aurata</i> (Rossi, 1790)	Vulnerable
<i>Callicera rufa</i> Schummel, 1842	Vulnerable
<i>Callicera spinolae</i> Rondani, 1844	Vulnerable
<i>Microdon mutabilis</i> & <i>Microdon myrmicae</i>	Vulnerable (both species)
<i>Brachyopa vittata</i> (Zetterstedt, 1843)	Near-Threatened
<i>Chrysotoxum elegans</i> Loew, 1841	Near-Threatened
<i>Microdon analis</i> (Macquart, 1842)	Near-Threatened
<i>Temnostoma meridionale</i> (Krivosheina & Mamayev, 1962)	Near-Threatened
<i>Psilota exilistyla</i> Smit & Vujic, 2008	Data Deficient

A total of 11 species recorded during the survey are listed in *The European Red List of Hoverflies* (Vujić et al. 2022) as being Endangered, Vulnerable, or Near Threatened on a European scale (see Table 2). These include the three *Callicera*-species as well as several of the other rare taxa mentioned above, which are represented by only a few records from the survey area and/or from Switzerland. The Red List status of these species reflects documented declines in other parts of Europe and does not necessarily indicate a comparable situation in Switzerland. *Temnostoma meridionale*, currently assessed as Near-Threatened at the European level, appears to be expanding in parts of its range, with recent discoveries in additional countries and regions (de Bree & Kompier 2022; Pétremand et al. 2025). Its conservation status may therefore change in the future. *Chalcosyrphus eunotus*, classified as Vulnerable in Europe, was found to be relatively common within the survey area. This species is typically associated with forest streams but was also observed in muddy puddles along forest tracks in various parts of the survey area. Its consistent presence suggests that the survey area provides ample microhabitats required by this species. In the Lägern area (ZH), two European Red List species were recorded between 2021 and 2023: the Vulnerable *Callicera aenea* and the Near Threatened *Microdon analis*.

3.2 Seasonal flight activity and resource preferences

In the species accounts presented in Chapter 5, the observation months (i.e. flight periods) are provided for each species individually. The cumulative number of species recorded per month between 2019 and 2025 is illustrated in Figure 4a. The monthly pattern in species richness closely mirrors the survey effort: the highest number of species (117) was recorded in May, which also had the greatest sampling effort (27 surveys; see Fig. 3). In May, it is thus possible to observe 70% of the 169 species recorded in the survey area. The extent to which these patterns reflect true seasonal variation versus sampling bias remains unclear. A substantial proportion of the recorded species are scarce, and the probability of detecting such species increases with survey effort. Therefore, the observed monthly distribution of species richness is likely influenced by variation in sampling intensity.

To obtain a clearer view of the distribution of species' flight periods, Figure 4b presents the number of species recorded exclusively within each two-month interval. For example, 50 species were recorded only in April and May and were not observed in any other months during the period 2019–2025. Although the observed pattern may still be influenced by variation in sampling effort among months, it can be stated with some confidence that April–June represents the period of highest species richness. This peak is likely closely associated with the main flowering period of many plant species in the study area.

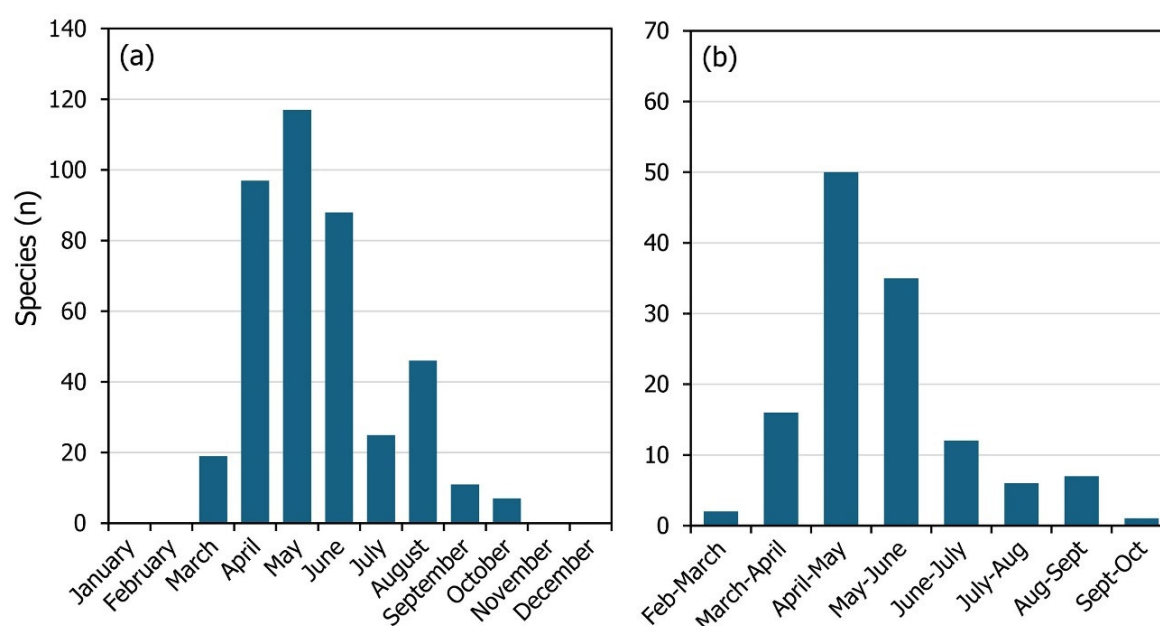


Fig. 4: (a) The cumulative number of hoverfly species recorded in the survey area for each month during the years 2019 to 2025; (b) The number of species recorded only within a given two-month period and not observed in any other months. For example, 50 species were only record in the months April and May, and not in any other months during the years 2019-2025.

Notably, some species exhibited very restricted flight periods. *Cheilosia grossa* and *Melangyna pavlovskyi* were recorded only in March, while *Callicera spinolae* was observed exclusively between mid-September and mid-October. In contrast, several species showed extended flight periods of at least eight months, including *Episyrphus balteatus*, *Eristalis pertinax*, and *Eristalis tenax*. In addition, seven species were recorded over a span of six to seven months.

For many hoverfly species, flight period is closely linked to habitat requirement and the availability of floral resources. Knowledge of habitat and flowering plants that attract large numbers of hoverflies can greatly facilitate the detection of scarce/rare hoverfly species. In the species accounts presented in Chapter 5, information is provided on the habitats and preferred flowering plants of individual species. A more general view is provided by Table 3 that lists 10 flowering plant species or plant groups that were found to be particularly attractive to hoverflies, including to scarce or rare species. The taxa are ranked based on my general impression rather than on quantitative estimates.

Table 3: Top 10 flowering plant species attracting (scarce) hoverflies in the survey area.

	flower / bush / tree	months
1	flowering white umbellifers (<i>Apiaceae</i>)	May - July
2	flowering hawthorn (<i>Crataegus</i> sp.)	April - May
3	flowering <i>Prunus</i> sp.	March - April
4	flowering wild parsnip (<i>Pastinaca sativa</i>)	August
5	wild garlic undergrowth (especially before it flowers)	April
6	flowering ivy (<i>Hedera helix</i>)	September-October
7	flowering spindletree (<i>Euonymus</i> sp.)	May - June
8	flowering dogwood (<i>Cornus sanguinea</i>)	May - June
9	flowering distle and other high stemm purple flowers	July - August
10	buttercup flowers (<i>Ranunculus</i> sp.)	April

In addition to the flowering resources mentioned above, hoverflies are frequently attracted to muddy and rocky forest streams, as well as to muddy puddles within woodland habitats (see Fig. 5). Although there is no specific literature explaining why hoverflies visit forest streams with wet rocks and muddy areas, this behaviour closely resembles the well-documented phenomenon of mud-puddling in butterflies (e.g. Beck et al. 1999). One possible explanation is simple water intake. However, wet soil, stream margins, and puddles also contain dissolved minerals and organic compounds that may be difficult to obtain from other sources. As pollinators, hoverflies primarily feed on nectar and pollen, which are rich in sugars but relatively poor in essential minerals such as sodium and nitrogen. Mud-puddling likely enables them to supplement these nutrients by feeding on dissolved substances in moist substrates. For similar reasons, hoverflies are sometimes observed feeding on human perspiration, from which they can obtain salts.

Within the survey area, there are several excellent locations, primarily small forest streams, where hoverflies can be observed feeding on the ground. April is a particularly favourable time for such observations, as the forest canopy is not yet fully developed. Sunlight reaching the streams facilitate the attraction of hoverflies to such spots. Many scarce and rare species have been recorded by systematically checking sunny forest streams during this early spring period. It is plausible that the muddy streams near the former clay quarry are comparatively rich in dissolved minerals, representing an additional attractant for hoverflies in the survey area.



Fig. 5: Hoverflies attracted to muddy or rocky forest streams or muddy puddles to feed on dissolved nutrients. (a) *Meligramma cingulata*, 12.04.2025; (b) *Parasyrphus punctulatus*, 12.04.2025; (c) *Epistrophe eligans*, 22.04.2020; (d) *Cheilosia fasciata* (left) and *Fagisyrphus cinctus* (right) 12.04.2025.

3.3 Survey effort and recorded species richness

The number of recorded species per year is plotted against annual survey hours in Figure 6. In addition, three further data points were included by combining the species lists of two years, three years, and all survey years, respectively. The resulting curve represents a relatively smooth rarefaction diagram, illustrating recorded species richness as a function of sampling effort (see Bisschop et al. 2025). With increasing survey hours, the curve gradually approaches a plateau but does not level off completely, even after 230 hours of observation. This suggests that additional species are likely to be discovered in the survey area if survey effort is further increased. In principle, rarefaction and extrapolation models (e.g. Chao et al., 2014) could be used to estimate the asymptotic or ultimate species richness based on the survey data. However, this approach was not applied here because the dataset spans multiple years and the survey effort was unevenly distributed across them. Instead, the potential maximum species richness is estimated in the discussion (Section 4.2) based on regional species occurrence data.

A second type of rarefaction analysis that can be conducted with these data involves comparing two years based on equivalent subsets of surveys that accumulate to the same total sampling effort. Because statistical robustness increases with both higher survey intensity and broader seasonal coverage, this comparison was restricted to the years 2021 and 2025, which comprised 22 and 32 surveys, respectively. For comparability, equivalent subsets of surveys conducted between May and July were selected, yielding a total of 34 survey hours in each year (Table 4). In 2021, 86 species were recorded during these 34 hours, whereas 84 species were recorded in 2025 for the same sampling effort. Considerable variation exists among surveys conducted within the same months in different years, which limits the interpretative strength of this analysis. Nonetheless, the results do not indicate a major decline in the hoverfly community size and species richness in the survey area between 2021 and 2025.

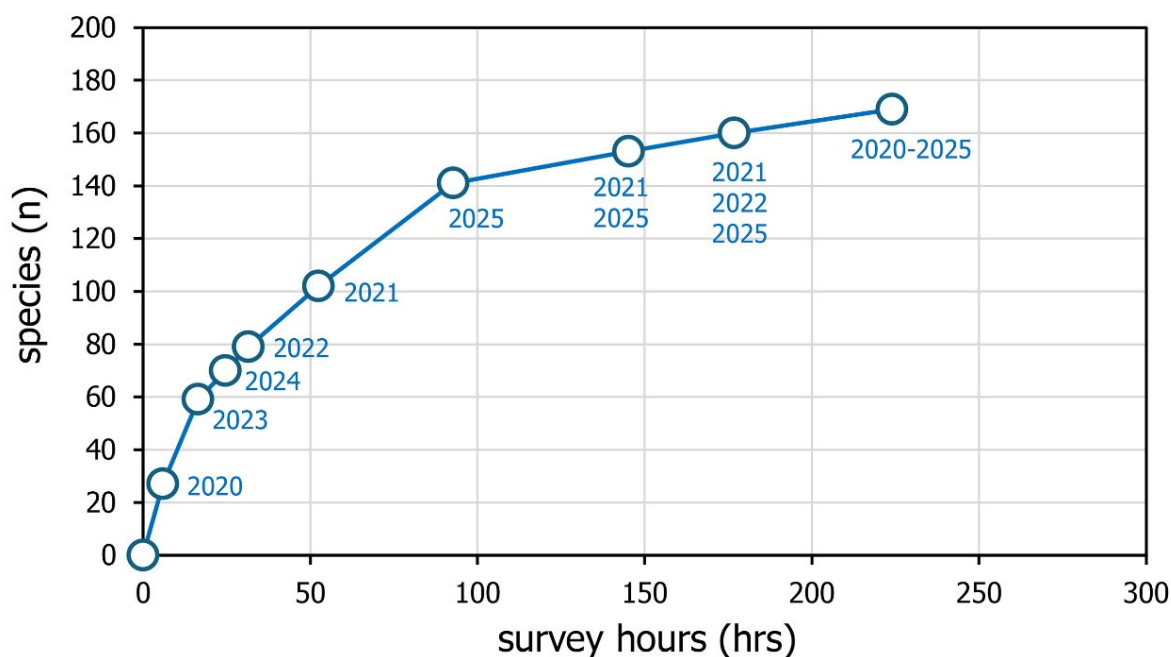


Fig. 6: The number of recorded hoverfly species versus the survey effort (in hours) for the years 2020-2025, and 3 more points obtained by combining the species list of 2, 3 or 6 survey years.

Table 4: An equivalent selection of surveys for the years 2021 and 2025 that are totalling to 34 survey hours. In both years 86 and 84 species, resp., were found for a cumulative survey effort of 34 hours.

month	2021				2025			
	date	time [min]		species	date	time [min]		species
May	08.05	207	984	25	10.05	244	859	26
	14.05	197		24	15.05	117		16
	20.05	131		13	18.05	93		11
	23.05	206		19	23.05	100		8
	28.05	243		23	24.05	305		31
June	01.06	189	651	17	14.06	259	873	14
	08.06	148		16	21.06	203		23
	22.06	155		17	22.06	259		11
	25.06	159		10	25.06	152		8
July	02.07	207	396	12	05.07	122	313	6
	09.07	189		5	13.07	191		4
total:		2031 min		86 species	total:		2045 min	84 species

3.4 Records from the Lägern (ZH) area

A total of 20 visits were made to the Lägern area in the canton of Zurich between 2019 and 2023. The area encompassing all visited locations is shown in Figure 7. Within this perimeter, 59 species were recorded, including five species not detected in the survey area around the clay quarry: *Blera fallax*, *Callicera aenea*, *Cheilosia caerulea*, *Pipiza quadrimaculata*, and *Platycheirus parvulus*. These visits were primarily exploratory and conducted unsystematically and many common species were either not encountered or not recorded on www.observation.org. For example, no species of the genus *Brachyopa* was observed at all. Given the exploratory nature of the visits and the limited temporal coverage, the true species richness of the Lägern area is likely to be much higher than 59 species. More systematic and seasonally comprehensive surveys would probably make this clear.

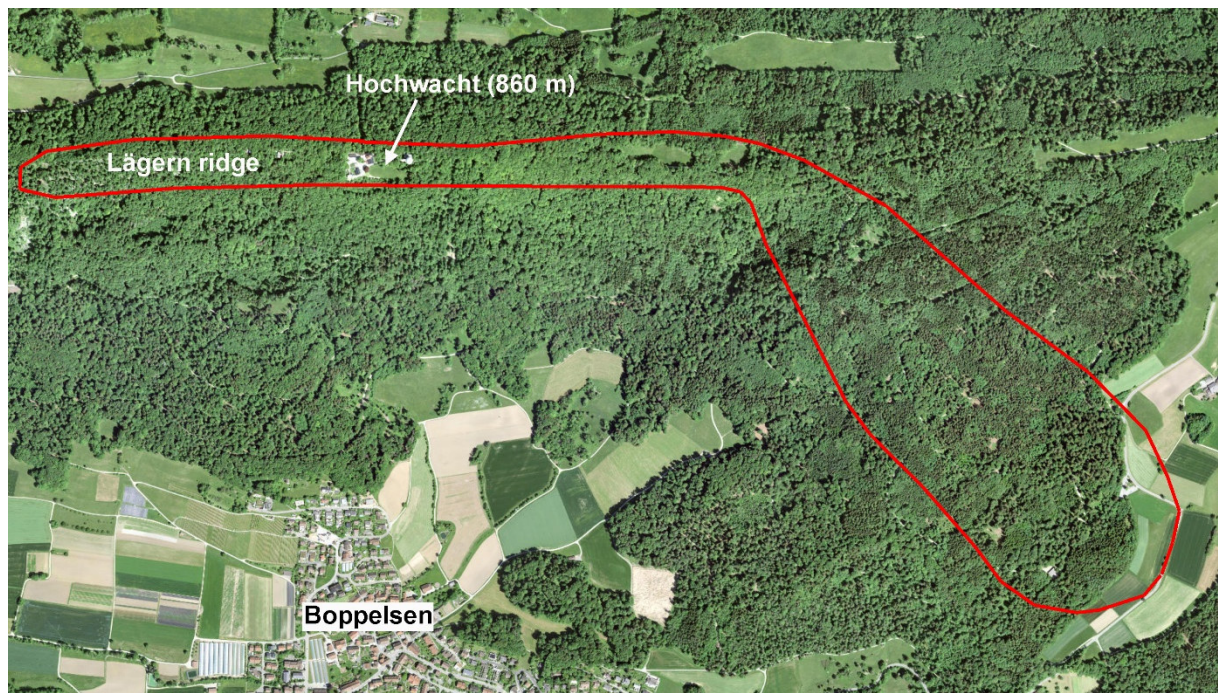


Fig. 7: The outer perimeter of the Lägern ZH area is shown by red line where 59 hoverfly species were recorded between 2019 and 2023.

4 Discussion

4.1 Geographical context of survey results

Georg Artmann-Graf compiled an invaluable database of hoverfly records from the central part of Northwestern Switzerland covering the period 1982–2018 (Artmann-Graf 2024a). His systematic insect surveys were conducted at 1875 observation sites, all of which can be viewed on his website (Artmann-Graf 2024b). All records are also incorporated into the info fauna distribution maps (Info Fauna 2026), but these maps do not display the detailed locations of individual observations. Approximately two thirds of the survey sites were situated in the Jura Mountains and along their southern foothills, with the remaining third located in the adjacent lowlands. The hoverfly dataset is structured into four observation periods: 1982–1991 (>1751 survey hours), 1992–2001 (6401 hours), 2002–2011 (8370 hours), and 2012–2018 (4557 hours). In total, approximately 21'000 survey hours were accumulated between 1982 and 2018. During this time, not only hoverflies but also numerous other insect families were recorded.

The published database of Artmann-Graf for the central part of Northwestern Switzerland comprises more than 250 hoverfly species (Artmann-Graf 2024a). However, several taxonomic updates may require consideration. For example, *Baccha obscuripennis* is currently regarded as a dark form of *Baccha elongata* (Bot & Van de Meutter 2023), and *Chrysotoxum fasciatum* is treated as a synonym of *Chrysotoxum arcuatum*. In addition, four species listed in the database are confined to the Alps and are not included in the info fauna distribution maps: *Orthonevra tristis* (possibly a synonym of *Orthonevra onytes*), *Paragus punctulatus*, *Spilomyia diophthalma*, and *Xylota triangularis*. According to info fauna, the record of *Spilomyia diophthalma* originates from the canton of Valais (VS) in 1996, suggesting that its appearance in the Northwestern Switzerland dataset is most likely due to an administrative error. After accounting for these taxonomic and administrative issues, the total number of hoverfly species recorded in the Artmann-Graf surveys would be 249.

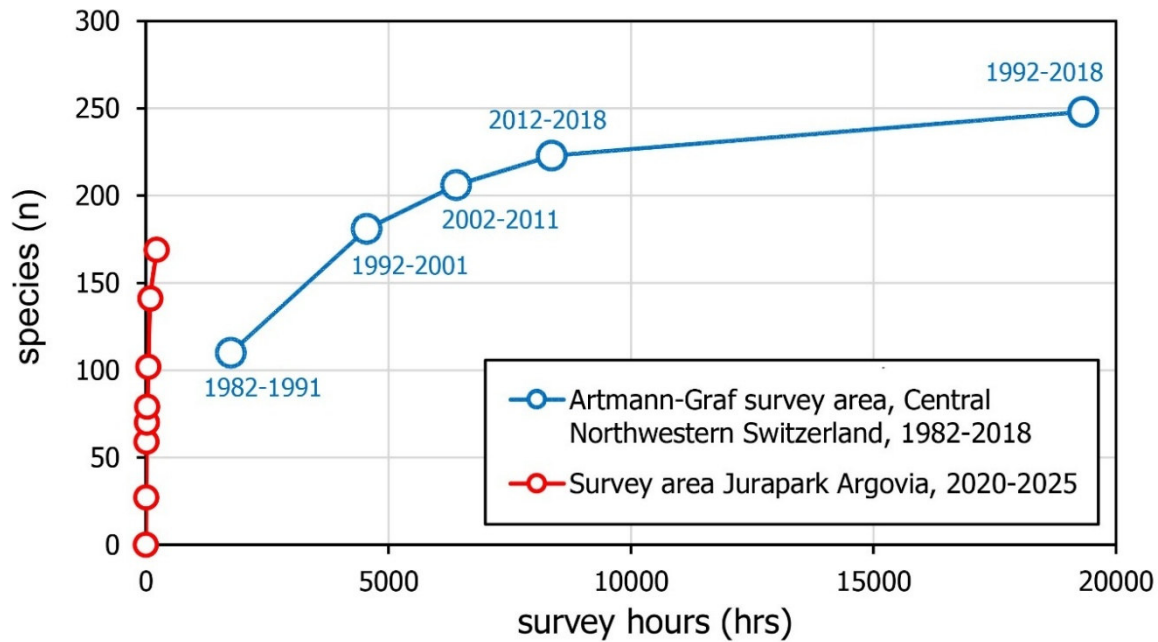


Fig. 8: The rarefaction curve for the Artmann-Graf surveys between 1982-2018 (Artmann-Graf 2024a) and a comparison to the rarefaction curve in Figure 6. See text for explanations.

The total number of species recorded within the Artmann-Graf survey area is plotted against survey effort (in hours) for the four observation periods in Figure 8. In addition, the cumulative number of species recorded between 1992 and 2018 is included as a separate data point. Only a single species, *Neocnemodon fulvimanus*, was recorded exclusively during the first observation period (in 1991) and not thereafter. Consequently, the total number of species documented for the period 1992–2018 amounts to 248, based on 19'328 survey hours. This relationship can be interpreted as a rarefaction-type curve, provided that (i) the proportion of survey time dedicated specifically to hoverfly detection remained comparable across the three later survey periods; (ii) the same areas were equally frequented in the 3 periods; and (iii) no major decline in hoverfly populations occurred between 1992 and 2018. As for the case of the survey area rarefaction curve in Figure 6, the Artmann-Graf curve gradually approaches an asymptote. However, even after 36 years of surveys, the maximum species richness does not seem to have been reached.

Also shown in Figure 8 is the "rarefaction curve" of the survey area (see Fig. 6). A striking difference between the two datasets lies in the total survey effort: the present study (2020–2025) comprises 226 field hours, whereas the Artmann-Graf surveys (1992–2018) total 19'328 hours, an approximately 85 times greater sampling effort. It should be noted, however, that the Artmann-Graf surveys did not focus exclusively on hoverflies but also targeted numerous other insect families (see Artmann-Graf 2024b). The proportion of survey time specifically dedicated to hoverfly detection is unknown. If only the effective hoverfly survey time were considered, the time axis for the Artmann-Graf dataset would likely be substantially reduced. Beyond total field effort, additional methodological differences complicate direct comparison of the rarefaction curves. These include differences in survey technique (field photography in the present study versus presumably hand-net collection in the Artmann-Graf surveys) and the sizes of the surveyed area and habitat diversity (see Fig. 1).

A comparison of the species lists from the two studies is particularly revealing. In the present study, 25 species were recorded that do not appear in the Artmann-Graf dataset (see Table 5). Conversely, Artmann-Graf documented 249 – (169 – 25) = 105 species that were not recorded in the present survey area. Given that the two study areas are in the same region of Switzerland and belong to the same biogeographical region of Switzerland (the Jura Mountains), this discrepancy is noteworthy. It indicates that a substantial number of species may still remain undetected in both areas. This difference between the species lists also helps explaining why the rarefaction curves in both studies have not yet reached a clear asymptote, even after 7 and 36 years of survey effort, respectively.

Table 5: The 25 species that were recorded in the survey area in 2020-2025, but not by Georg Artmann-Graf in his surveys in the neighbouring region between 1982 and 2018 (see Artmann-Graf 2024a).

<i>Brachyopa bicolor</i>	<i>Cheilosia grossa</i>	<i>Merodon armipes</i>	<i>Syrphus nitidifrons</i>
<i>B. bimaculosa/silviae</i>	<i>Mallota fuciformis</i>	<i>Merodon nigritarsis</i>	<i>Platycheirus</i>
<i>Brachyopa panzeri</i>	<i>Melangyna pavlovskyi</i>	<i>Orthonevra atlantica</i>	<i>immaculatus</i>
<i>Callicera rufa</i>	<i>Melang. umbellatarum</i>	<i>Paragus testaceus</i>	<i>Temnost. meridionale</i>
<i>Callicera spinolae</i>	<i>Melanogaster</i>	<i>Parasyrphus malinellus</i>	<i>Xanthogramma dives</i>
<i>Chalcosyrphus eunotus</i>	<i>aerosa/parumplicata</i>	<i>Pipiza festiva</i>	<i>Xanthogramma</i>
<i>Eristalis alpina</i>	<i>Meligramma cingulata</i>	<i>Psilota exilistyla</i>	<i>stackelbergi</i>

4.2 Estimation of total species richness in survey area

An important question is what the current "true" hoverfly species richness is in the survey area, and in the renaturalised clay quarry. After six survey years, the rarefaction curve shown in Figure 6 has begun to level off, but did not reach the horizontal plateau. This means that additional species are likely to be detected with continued sampling effort. In principle, species richness can be estimated by extrapolating rarefaction curves (e.g. Chao et al. 2014). However, the curve presented in Figure 6 does not represent a strict sample-based rarefaction curve. The surveys were conducted over multiple years, and sampling effort was unevenly distributed among years. Consequently, the assumptions required for formal extrapolation are not fully met, and a quantitative prediction of total species richness based on this curve would not be statistically robust.

An alternative approach to estimating potential species richness is to consider the pool of species known from the Artmann-Graf survey area or from the wider region (northwestern Switzerland). Georg Artmann-Graf documented 249 species within his study area, and the present study added 25 additional species, resulting in a combined total of 274 species for both studies. The info fauna distribution maps contains further species recorded in the region by other observers, including some historical records from before 1980. Additional records could exist in museum collections or other databases that have not been integrated in the info fauna database yet. Depending on how broadly the surrounding region is defined, the total hoverfly fauna of this part of Switzerland could conceivably exceed 300 species. At the same time, it must be considered that some species may have declined or disappeared locally. Thus, the historical "all-time" regional species richness may not accurately reflect the present-day status. The assumption that 274 or even 300 species represent the upper limit for the survey area, achievable with an extremely high sampling effort, is therefore likely unrealistic. Moreover, the habitat diversity within the survey area is limited, which further constrains the maximum attainable species richness in the survey area.

Here, an approximate estimate of the potential species richness in the survey area is proposed by identifying species that have a reasonable likelihood of occurring but have not yet been recorded. The selection is based on: (i) the specific habitat characteristics of the area, (ii) the regional occurrence of species, particularly within the Artmann-Graf survey area, and (iii) my personal experience with hoverfly assemblages in comparable sites. These candidate species are listed in Table 5 and include 27 potentially resident (reproducing) species and 11 potentially visiting species. Because three species could plausibly occur either as residents or as visitors, the total number of additional potential species is estimated at 35. The visiting species are predominantly larger taxa that may exhibit migratory behaviour or weather-related dispersal, for example from higher elevations within Switzerland, particularly in late summer or early autumn (September–October).

Table 6: Residential or visiting species with a reasonable likelihood to be recorded in the survey area, based on e.g. regional occurrence and habitat presence.

residential (reproducing) species		visiting species
<i>Blera fallax</i>	<i>Microdon devius</i>	<i>Didea alneti</i>
<i>Callicera aenea</i>	<i>Neocnemodon</i> sp. (+1 species)	<i>Eriozona syrphoides</i>
<i>Cheilosia bergenstammi</i>	<i>Paragus albifrons</i>	<i>Eristalis horticola</i>
<i>Cheilosia flavipes</i>	<i>Pipiza quadrimaculata</i>	<i>Eristalis jugorum</i>
<i>Cheilosia nigripes</i>	<i>Pipizella</i> sp. (+1 species)	<i>Eristalis rupium</i>
<i>Didea alneti</i>	<i>Platycheirus manicatus</i>	<i>Scaeva dignota</i>
<i>Didea intermedia</i>	<i>Platycheirus parvatus</i>	<i>Sericomyia bombiformis</i>
<i>Eumerus</i> sp. (+2 species)	<i>Platycheirus peltatus</i>	<i>Sericomyia silentis</i>
<i>Eupeodes nielsenii</i>	<i>Sphaerophoria rueppellii</i>	<i>Sericomyia superbians</i>
<i>Eupeodes nitens</i>	<i>Sphegina</i> sp. (+1 species)	<i>Sphaerophoria rueppellii</i>
<i>Melangyna quadrimaculata</i>	<i>Spilomyia manicata</i>	<i>Xylota jakutorum</i>
<i>Melanogaster hirtella</i>	<i>Xylota jakutorum</i>	
<i>Merodon</i> sp. (+1 species)	<i>Xylota xanthocnema</i>	total = 27 + 8 = 35

Adding these 35 potential species to the 169 species already recorded suggests that approximately 200 species either occur, are likely to occur, or may occasionally visit the survey area. Although it would be possible to extrapolate the rarefaction curve to estimate the survey field hours effort required to reach 200 species and follow that prediction, it might also be worth it to try other strategies to increase the recorded species richness. For example, by applying different survey methodologies (e.g. Malaise traps), involving new surveyors with other search strategies and field experiences, or conducting targeted searches for specific, previously undetected species.

4.3 Survey data as baseline reference for future surveys

Across various parts of Europe, hoverfly abundance and species richness have declined over the past 50 years (Powney et al. 2019; Gatter et al. 2020; Barendregt et al. 2022; Haris et al. 2025), as a consequence of habitat loss, habitat degradation, pollution, and climate change. Establishing long-term trends in hoverfly populations within a particular area requires systematic surveys conducted using standardized and repeatable methodologies, enabling replication after defined intervals (e.g., 10, 20, or 50 years). Although the present study was not designed to be fully reproducible in this manner, the database compiled here may nonetheless serve, to some extent, as a baseline reference for future surveys, as discussed below.

The effects of habitat degradation and climate change are likely to affect certain hoverfly species or genera more strongly than others. For example, Zeegers et al. (2024) showed that, in the Netherlands, extinction rates differed between species with zoophagous or phytophagous larvae and those with aquatic saprophagous or saproxylic larvae. These differences are likely linked to changes in the availability and quality of larval microhabitats. From this perspective, monitoring population dynamics at the species level is generally necessary. However, assessing the population status of naturally scarce or rare species, or species with low detectability, can be challenging without a disproportionate investment of field hours or extensive use of Malaise traps. As shown in the present study and in the Artmann-Graff survey, hundreds of field hours spread over multiple years were required to detect certain scarce or rare species in this region of Switzerland. Consequently, when such species are not recorded during a single annual survey campaign, it is generally more likely that they remained undetected than that they have disappeared entirely from the survey area.

One way to address the low detectability of scarce and rare hoverfly species in surveys is to record, in addition to the number of individuals per species, the sampled species richness in relation to a precisely quantified sampling effort. Sampling effort may be expressed as the number of field hours invested or as the number of traps deployed and the duration of their operation. Species richness standardized by sampling effort can serve as a statistical index for the overall population size of the hoverfly community

(i.e., across all species) within a given area. This approach is particularly informative in species-rich communities, when detectability varies substantially among species, and when a considerable proportion of species occurs close to the detection threshold of the annual survey period. Being close to the detection threshold means that a species is sufficiently rare that, for a given sampling effort and survey window (e.g., 15 April to 15 June), it is not recorded every year purely for probabilistic reasons.

Rather than compiling a single cumulative species list for the total survey effort within a given year, it is preferable to construct a complete rarefaction curve for each survey year (see e.g. Barendregt et al. 2022). This can be achieved by recording species lists together with the corresponding field hours for each survey event (Bisschop et al. 2025), or by applying rarefaction approaches based on multiple traps or comparable sampling units (e.g. Nielsen et al. 2011). In the present study, it was not possible to generate annual rarefaction curves because the species lists for individual survey events were generally incomplete. Instead, a single rarefaction curve was constructed for the entire survey period (2020–2025), using one data point per year (see Fig. 6). This curve should be interpreted with caution as explained before, but the relatively smooth shape of the curve, without pronounced interannual fluctuations suggests an overall validity of being a rarefaction curve.

It would be valuable to construct a new rarefaction curve in 10 years (e.g. for the period 2030–2035) or in 20 years (2040–2045). Alternatively, one or two reference points of the diagram in Figure 6 could be reassessed by conducting surveys over one to two years with a total sampling effort of approximately 53 hours (as in 2022) or 93 hours (as in 2025). If the recorded species richness values of 102 species (2022) and 141 species (2025) cannot be reproduced under comparable sampling effort, this would point to a decline in overall population sizes and/or species richness. It is essential, however, to maintain comparable survey intensity and observer experience in order to avoid confounding effects of methodology or surveyor experience on recorded species richness. A recent survey in the Bergün area (Canton of Graubünden) demonstrated that, among experienced syrphidologists, sampled species richness was highly comparable irrespective of field strategy or specific methodology applied (see Bisschop et al. 2025).

A population decline in very common species such as *Eristalis tenax* and *Episyrphus balteatus* will likely have little effect on rarefaction curves, as these species typically remain well above the annual detection threshold. Even if their populations were to decline by, for example, 50%, they would probably still be recorded reliably within a survey effort of 53 or 93 field hours. In contrast, this is not the case for scarce and rare species. A population decline of 50% could cause such species to fall below the annual detection threshold, meaning they would no longer be recorded consistently within the same sampling effort. This would immediately influence the rarefaction curve, as fewer species would be detected for a given level of effort. Consequently, rarefaction analysis may be more sensitive to population declines in scarce and rare species than in common species. This potentially introduces a bias toward detecting population changes primarily among the scarce and rare species of the hoverfly community.

5 Species accounts

This section presents a checklist of all species recorded in the Jurapark survey area, supplemented with additional records from Lägern (ZH). For each species, the following information is provided: (i) a table listing all records; (ii) the species' status within the survey area; (iii) the preferred (micro-)habitat; (iv) the flight period; (v) identification remarks; and (vi) a link to the info fauna distribution map. In addition, two high-quality photographs of each species are included. All these photographs were taken by me in the survey area or in Lägern (ZH). Additional photographs are available via the provided record links indicated with a green dot (●). For the majority of the 1150 records field photographs exist in my digital archive, but because of time limitations photographs were only added to 610 records (= 53%) of the records in www.observation.org.

The status of a species is intended to describe its relative commonness or rarity within the survey area. Assessing the relative abundance of hoverfly species is challenging, because recorded abundance is influenced not only by their population density but also by their detectability. This issue is particularly pronounced when using non-standardized survey methods, such as the variable route sampling method applied in this study, and the focussed search for scarce and rare species.

In general, hoverflies occur at relatively low abundances compared to many other insect families. Large aggregations or swarms, which can occasionally be observed in other fly families (e.g. mosquitoes), as well as in (bumble)bees, grasshoppers, or dragonflies, are not typical for hoverflies. On an absolute scale, hoverflies can therefore be considered being a comparatively scarce insect family, in the sense that only a few individuals of most species are usually observed during a survey. As a result, recorded counts typically involve small numbers (e.g. three or five individuals) rather than hundreds or thousands. Moreover, hoverflies are generally small in size, which further reduces their detectability.

As mentioned, recorded abundance is influenced by species detectability and by the specific (and potentially biased) survey effort devoted to finding species. A hoverfly species may be relatively common in an area yet remain largely undetected because it occurs in dense vegetation (e.g. grass) or high in the tree canopy. In addition, some hoverfly species may go unrecorded because they are difficult to identify. Their detection may require the collection or photographic documentation of many individuals, as they cannot be reliably identified in the field and require close inspection using a microscope or macrophotography.

Flight period is another important factor. Some species have short flight times and may easily be missed due to limited survey opportunities, particularly in early spring (March or April), when suitable sunny days or moments are scarce. Ultimately, detection is strongly influenced by observer motivation and targeted search effort. When a survey focuses on locating a particular species (e.g. species A), attention may be reduced for other species (e.g. species B), and such focus may shift between surveys.

To keep the assessment straightforward, species status is described using four categories: (i) common; (ii) relatively common; (iii) scarce; and (iv) rare. In some cases no decision about the status could not be made and the status is then "scarce/rare". Detectability is classified separately as either being high or low, with the reasons for low detectability explicitly stated where applicable. The status classification is not based solely on the number of records within the survey area, but also incorporates the observer's personal field experience from other areas and information on regional abundance derived from the info fauna distribution maps

The identification remarks provided in the species account are intentionally concise and are made in the context of similar looking species occurring within the survey area. For more general guidance on hoverfly identification, reference is made to the excellent field guide by Bot & van de Meutter (2023), as well as the recently published *Fotogids Zweefvliegen van NW-Europa* by André Schulten, which will also become available in English and German editions in 2026. However, neither of these field guides covers all species occurring in Switzerland, and both are particularly incomplete with regard to the Alpine region. At present, there is no comprehensive identification key that includes all Swiss hoverfly species. Consequently, reliable identification of hoverflies in Switzerland requires consultation of multiple literature sources, for example scientific papers dedicated to the identification of species in a particular genera.

Baccha elongata (Fabricius, 1775)

Status: relatively common; easily detectable when sitting on leaves.

Habitat / preferences: in undergrowth of deciduous or mixed woodlands.

Flight time: April – August

ID remarks: unmistakable; distinguished from *Sphegina*-species by its non-thickened hind femur.

Info fauna map: <https://lepus.infofauna.ch/carto/41054>



Baccha elongata (♂), 19.04.2025



Baccha elongata (♂), 13.04.2022

2025-04-19	c. 30	https://observation.org/observation/345568543/	
2025-04-12	5	https://observation.org/observation/344477168/	
2025-04-08	3	https://observation.org/observation/343894218/	●
2025-04-05	1	https://observation.org/observation/343493458/	
2022-04-14	1	https://observation.org/observation/237700300/	
2022-04-13	1♂	https://observation.org/observation/237620813/	●
2021-05-23	1	https://observation.org/observation/214626068/	
2021-05-08	1	https://observation.org/observation/213002053/	
2021-05-03	c. 20	https://observation.org/observation/212635034/	

Lägern (ZH):

2022-08-24	2	https://observation.org/observation/253194069/	
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Blera fallax (Linnaeus, 1758)

Status: not recorded in the survey area; scarce in Lägern (ZH); easily detectable when sitting on leaves; hard to see when moving around in dense forest undergrowth or sitting on cut wood stumps.

Habitat / preferences: conifer forest species; the species is called Pine Hoverfly in English; pine forest clearings with cut tree stumps; often at ground level in dense blackberry bushes or on cut wood.



Blera fallax (♂), Lägern (ZH), 10.06.2021



Blera fallax (♂), Lägern (ZH), 14.05.2022

Flight time: May – June

ID remarks: unmistakable

Info fauna map: <https://lepus.infofauna.ch/carto/40765>

Lägern (ZH):

2023-05-27	3	https://observation.org/observation/273672090/	
2022-05-14	5	https://observation.org/observation/241474694/	●
2021-06-13	1♂	https://observation.org/observation/216907417/	
2021-06-10	10	https://observation.org/observation/216584637/	●
2020-06-06	6	https://observation.org/observation/193371135/	●
2020-05-10	1♂	https://observation.org/observation/191028095/	●

Brachyopa bicolor (Fallén, 1817)

Status: scarce und localized; in the survey area all records are from trees in a 50x50m area; does not perch on leaves as often as other *Brachyopa*-species do and is therefore harder to detect.

Habitat / preferences: interior deciduous woodland species; predominantly perching on tree trunks at eye level height.

Flight time: April – May

ID remarks: like *Brachyopa pilosa* but with bicoloured scutellum; see Bot & van de Meutter 2023 for additional features.

Info fauna map: <https://lepus.infofauna.ch/carto/40768>



Brachyopa bicolor (♂), 22.04.2022

2025-05-10	1♂	https://observation.org/observation/349691574/	
2025-04-29	2	https://observation.org/observation/347410783/	
2025-04-28	3	https://observation.org/observation/347240555/	
2025-04-19	c. 10	https://observation.org/observation/345564736/	
2025-04-12	c. 10	https://observation.org/observation/344477498/	
2024-05-10	1♂	https://observation.org/observation/308810884/	●
2022-04-22	2♂♂	https://observation.org/observation/238656273/	●

***Brachyopa bimaculosa / silviae* Doczkal & Dziöck, 2004 Endangered**

Status: rare or very low detectability.

Habitat / preferences: woodland species; the two records in the survey area concern females at the edge of a small pond and on the ground in a muddy forest stream.

Flight time: April

ID remarks: Small *Brachyopa*-species with bicoloured scutellum, almost completely pale legs and 2 black spots on thorax; in *Brachyopa bimaculosa* the thorax spots should be roundish and in *Brachyopa silviae* more triangular shaped (see Doczkal & Dziöck, 2004); however the shape variation of the spots is not really known for these species; the shape of the thorax spots in the two recorded females cannot be well judged from the photos and other features visible on the photographs are also not conclusive.

Info fauna map: *Brachyopa bimaculosa*: <https://lepus.infofauna.ch/carto/40750> (see Fisler et al 2023)
Brachyopa silviae: no maps since the species has never been recorded in Switzerland



Brachyopa bimaculosa/silviae, (♀), 12.04.25



Brachyopa bimaculosa/silviae (♀), 05.04.25

2025-04-12	1♀	https://observation.org/observation/344483032/	●
2025-04-05	1♀	https://observation.org/observation/343487137/	●

***Brachyopa dorsata* Zetterstedt, 1837**

Status: scarce; easily detectable by being a larger *Brachyopa*-species and mostly found sitting on leaves and branches.

Habitat / preferences: interior woodland species; mostly sitting on leaves and branches at ground level up to c. 1 m height and near streams or puddles; occasionally perching on vertical tree trunks.

Flight time: April – May

ID remarks: larger *Brachyopa*-species with grey-coloured thorax upperside; distinguished from *Brachyopa panzeri* by having small bristles on scutellum, clear wings and smaller sensory pits.



Brachyopa dorsata (♂), 19.04.2025



Brachyopa dorsata (♂), 20.04.2022

Info fauna map: <https://lepus.infofauna.ch/carto/40769>

2025-04-19	3♂♂	https://observation.org/observation/345565448/	●
2025-04-12	1♂	https://observation.org/observation/344480962/	
2025-04-11	1♂?	https://observation.org/observation/344295388/	●
2022-05-10	1♂	https://observation.org/observation/241001255/	●
2022-04-21	1♂	https://observation.org/observation/238524196/	●
2022-04-20	1♂	https://observation.org/observation/238436995/	●
2021-05-08	1♀	https://observation.org/observation/213448496/	●
2021-05-08	1♂	https://observation.org/observation/213001150/	●

***Brachyopa panzeri* Goffe, 1945**

Status: scarce/rare (scarcity possibly varying from year to year); high detectability.

Habitat / preferences: woodland species that unlike *Brachyopa dorsata* was also be found in smaller woodland patches in the clay quarry on two occasions; found sitting on leaves and vertical tree trunks and in a pine tree.

Flight time: April – May

ID remarks: larger *Brachyopa*-species with grey-coloured thorax upperside; distinguished from *Brachyopa dorsata* by having a hairless scutellum, darkened central wing vein, darkened wing tip, and larger sensory pits.

Info fauna map: <https://lepus.infofauna.ch/carto/40771>



Brachyopa panzeri (♂), 03.05.2021



Brachyopa panzeri (♂), 19.04.2025

2025-04-19	1♂?	https://observation.org/observation/345967273/	●
2025-04-19	1♂	https://observation.org/observation/345565371/	●
2025-04-12	1♂	https://observation.org/observation/344479020/	
2025-04-04	1♂	https://observation.org/observation/343300373/	●
2021-05-03	1♂	https://observation.org/observation/212635083/	●

***Brachyopa pilosa* Collin, 1939**

Status: relatively common; easily detectable.

Habitat / preferences: woodland species; sitting on leaves (often wild garlic) at the base of tree trunks at ground level up to c. 1 m height; hovering in front of tree trunks and shortly perching on it; often in small groups and mixed with *Brachyopa scutellaris*.

Flight time: April – May

ID remarks: small *Brachyopa*-species with completely grey-coloured thorax; like *Brachyopa scutellaris* but with grey shoulder knobs and smaller sensory pits.

Info fauna map: <https://lepus.infofauna.ch/carto/40772>



Brachyopa pilosa (♂), 08.05.2021



Brachyopa pilosa (♂), 22.04.2022

2025-05-17	1♂	https://observation.org/observation/351005798/	
2025-04-19	1♂	https://observation.org/observation/345566130/	
2025-04-12	3♂♂	https://observation.org/observation/344477783/	
2025-04-08	1♂, 1♀	https://observation.org/observation/343892930/	
2025-04-04	1♂	https://observation.org/observation/343300455/	
2024-05-10	2	https://observation.org/observation/308810563/	
2022-05-10	1♂	https://observation.org/observation/261923379/	●
2022-04-22	1♂	https://observation.org/observation/238656309/	●
2022-04-19	5♂♂	https://observation.org/observation/238357364/	●
2022-04-14	1♂	https://observation.org/observation/237700284/	●
2021-05-14	2	https://observation.org/observation/213683452/	
2021-05-14	1♂	https://observation.org/observation/213683417/	●
2021-05-08	1♂	https://observation.org/observation/213001137/	●
2020-04-22	1♂	https://observation.org/observation/189391033/	●

Brachyopa scutellaris Robineau-Desvoidy, 1844

Status: relatively common; high detectability.

Habitat / preferences: woodland species; sitting on leaves (often wild garlic) at the base of tree trunks at ground level up to c. 1 m height; hovering in front of tree trunks and shortly perching on it; often in small groups and mixed with *Brachyopa pilosa*; also found feeding on flowering hawthorn and later in the season on white umbellifers.

Flight time: April – June

ID remarks: small *Brachyopa*-species with completely grey-coloured thorax; like *Brachyopa pilosa* but with brownish shoulder knobs and larger sensory pits.

Info fauna map: <https://lepus.infofauna.ch/carto/40774>



Brachyopa scutellaris (♂), 23.05.2021



Brachyopa scutellaris (♀), 14.05.2021

2025-06-09	1♀	https://observation.org/observation/356020894/	
2025-04-19	1♂	https://observation.org/observation/345565533/	
2025-04-12	1♀	https://observation.org/observation/344483298/	
2025-04-11	2	https://observation.org/observation/344295570/	
2025-04-08	1♂	https://observation.org/observation/382136650/	
2022-04-19	2♂♂	https://observation.org/observation/238357335/	●
2021-05-23	1♂	https://observation.org/observation/214626043/	●
2021-05-14	1♀	https://observation.org/observation/213683994/	●
2020-04-22	c. 10	https://observation.org/observation/189391006/	●

***Brachyopa testacea* (Fallén, 1817)**

Status: scarce/rare; a *Brachyopa*-species that is relatively hard to find because of small size and by sitting prolonged on vertical tree trunks (not perching on leaves).

Habitat / preferences: deciduous or mixed woodland.

Flight time: April – May

ID remarks: looks like *Brachyopa vittata* but much smaller and with much less protruded face; distinguished from the other *Brachyopa*-species in the survey area by overall brown colouration and long hairs on arista.

Info fauna map: <https://lepus.infofauna.ch/carto/40775>



Brachyopa testacea (♂), 20.04.2022



Brachyopa testacea (♂), 20.04.2022

2024-05-10	1♂	https://observation.org/observation/308810313/	●
2022-04-20	1♂	https://observation.org/observation/238437015/	●
2021-05-14	1♂	https://observation.org/observation/213683558/	●

***Brachyopa vittata* (Zetterstedt, 1843) Near-Threatened**

Status: scarce/rare; easily detectable because of their large size and mostly sitting on leaves.

Habitat / preferences: interior deciduous or mixed woodland; all records in the survey area are from the same 30x30m area next to a forest stream.

Flight time: April

ID remarks: the largest and brownest *Brachyopa*-species in the survey area, and obviously larger than the *Brachyopa*-species with all-grey thorax (e.g. *Brachyopa pilosa*) as can be seen on the second photograph.

Info fauna map: <https://lepus.infofauna.ch/carto/40776>

2025-04-12	1♂	https://observation.org/observation/344484335/	●
2022-04-21	1♂	https://observation.org/observation/238524190/	●
2022-04-20	2♂♂	https://observation.org/observation/238436875/	●



Brachyopa vittata (♂), 21.04.2022



B. vittata (♂) and *B. pilosa* (♀), 21.04.2024

Brachypalpoides lentus (Meigen, 1822)

Status: relatively common/scarce; high detectability.

Habitat / preferences: deciduous woodland in undergrowth bushes (e.g. blackberry) and occasionally feeding on white umbellifers.

Flight time: April – June

ID remarks: unmistakable; looks like *Chalcosyrphus piger* which is mostly confined to the Alps in Switzerland and has no or much less black at the abdomen tip.

Info fauna map: <https://lepus.infofauna.ch/carto/40777>



Brachypalpoides lentus (♂), 18.05.2025



Brachypalpoides lentus (♂), 10.06.2023

2025-05-24	1♂	https://observation.org/observation/352434701/	
2025-05-18	1♂	https://observation.org/observation/351274803/	●
2025-05-10	1♂	https://observation.org/observation/349692367/	
2025-04-29	1	https://observation.org/observation/347410664/	
2025-04-19	1	https://observation.org/observation/345565593/	
2023-06-10	1♂	https://observation.org/observation/275797689/	●
2021-06-25	1♂	https://observation.org/observation/218144986/	●

Brachypalpus laphriformis (Fallén, 1816)

Status: scarce; hard to detect when not feeding in flowering trees/bushes; in the survey area found once on the ground and twice on tree trunks.

Habitat / preferences: deciduous woodland; on (decaying) wood logs or on tree trunks; in other areas found feeding on flowering hawthorn.

Flight time: April – May



Brachypalpus laphriformis (♂), 21.04.2022



Brachypalpus laphriformis (♂), 25.05.2023

ID remarks: looks like *Brachypalpus valgus* and *Chalcosyrphus eunotus*; distinguished from *Brachypalpus valgus* by dark instead of pale arista, and from *Chalcosyrphus eunotus* by the lack of clear striping on upperside thorax and lack of grey spots on tergite 2.

Info fauna map: <https://lepus.infofauna.ch/carto/40779>

2023-05-25	1♂	https://observation.org/observation/273515785/	●
2022-04-21	1♂	https://observation.org/observation/262053747/	●
2020-05-20	1♂	https://observation.org/observation/191911230/	●

Lägern (ZH):

2020-05-27	1♀	https://observation.org/observation/192591144/	●
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***Brachypalpus valgus* (Panzer, 1798)**

Status: relatively common; low detectability: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees).

Habitat / preferences: in/near deciduous woodland; predominantly found in flowering *Prunus* sp. or on early spring flowers on forest floors or at forest edges.

Flight time: March – April (one May record in Lägern ZH)

ID remarks: looks like *Brachypalpus laphriformis* and *Chalcosyrphus eunotus*; distinguished from *Brachypalpus laphriformis* by pale instead of dark arista, and from *Chalcosyrphus eunotus* by the lack of clear striping on upperside thorax and lack of grey spots on tergite 2.

Info fauna map: <https://lepus.infofauna.ch/carto/40780>



Brachypalpus valgus (♂), 22.03.2022



Brachypalpus valgus (♀), 09.04.2021

2025-04-05	1	https://observation.org/observation/343493107/	
2025-04-05	1♂	https://observation.org/observation/343492938/	
2025-04-02	1♂	https://observation.org/observation/343049234/	

2025-03-24	1♂	https://observation.org/observation/342129669/	●
2024-03-14	1♂	https://observation.org/observation/300943133/	●
2022-04-12	2	https://observation.org/observation/237490547/	●
2022-03-29	1	https://observation.org/observation/236497071/	●
2022-03-22	1♂	https://observation.org/observation/235919233/	●
2021-04-09	1♀	https://observation.org/observation/210360190/	●
2021-03-30	1♀	https://observation.org/observation/209677657/	●
2021-03-29	1	https://observation.org/observation/209604462/	

Lägern (ZH):

2022-05-14	1♀	https://observation.org/observation/262125537/	●
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Caliprobola speciosa (Rossi, 1790)

Status: relatively common; easily detectable because of large size and conspicuous looks and often displaying on leaves.

Habitat / preferences: mostly an interior deciduous woodland species (in undergrowth), but also found in an open part of the clay quarry feeding on flowering hawthorn.

Flight time: April – June

ID remarks: unmistakable.

Info fauna map: <https://lepus.infofauna.ch/carto/40781>



Caliprobola speciosa (♀), 26.05.2024



Caliprobola speciosa (♂), 10.05.2024

2025-05-15	1	https://observation.org/observation/350649005/	
2025-05-10	1	https://observation.org/observation/349692671/	
2025-05-10	1♀	https://observation.org/observation/349692062/	●
2024-06-08	1♀	https://observation.org/observation/313827514/	●
2024-05-26	1♀	https://observation.org/observation/311653495/	●
2024-05-20	1♂	https://observation.org/observation/310711583/	●
2024-05-10	1♂	https://observation.org/observation/308800803/	●
2022-05-15	1♂	https://observation.org/observation/241609879/	●
2022-04-21	1♂	https://observation.org/observation/238524254/	●
2022-04-20	1♂	https://observation.org/observation/238434450/	●
2021-05-20	1♂	https://observation.org/observation/214391931/	●
2020-04-22	1♂	https://observation.org/observation/189390824/	●

Callicera aenea (Fabricius, 1781) **Vulnerable**

Status: not recorded in the survey area despite dedicated search efforts at hill tops in the peak flying time; Lägern (ZH): rare or very local; high detectability when you know where and when to look for it.

Habitat / preferences: at the top of the Lägern (ZH) ridge in deciduous woodland; prolonged hovering above the forest road at 1-2 m height and rarely settling on the road, nearby trees or people.

Flight time: May

ID remarks: easily assignable to the genus *Callicera* by the long and white-tipped antennae; species identification by the length ratio of antenna segments and tarsus colour, among other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40782>



Callicera aenea (♂), 27.05.2023



Callicera aenea (♂), 27.05.2023

Lägern (ZH):

2023-05-27	3♂♂	https://observation.org/observation/273671830/	●
2022-05-14	2♂♂	https://bserve.org/observation/241474620/	●

***Callicera aurata* (Rossi, 1790) Vulnerable**

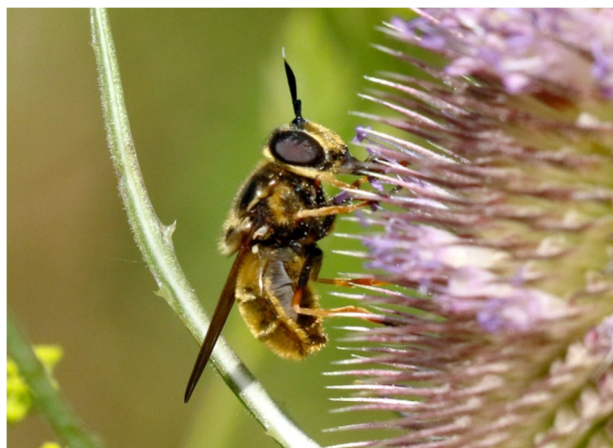
Status: scarce/rare; high detectability when feeding on thistle: large species and hovering in front of thistles.

Habitat / preferences: found feeding on thistle in the clay quarry in August (twice) or high up in a tree on ivy in late September (once).

Flight time: August – September

ID remarks: easily assignable to the genus *Callicera* by the long and white-tipped antennae; species identification by length ratio of antenna segments and tarsus colour, among other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40783>



Callicera aurata (♀), 09.08.2025



Callicera aurata (♀), 09.08.2025

2025-08-09	1♀	https://observation.org/observation/367701832/	●
2023-09-17	1♀	https://observation.org/observation/288222165/	●
2021-08-14	1♀	https://observation.org/observation/222993675/	●

Callicera rufa Schummel, 1842 **Vulnerable**

Status: extremely rare; the observed individual was briefly hovering in front of me and around a flowering hawthorn; it did not settle on the hawthorn and only one unfocused flight shot could be obtained, showing a rufous-coloured *Callicera*-species lacking white tips of the antennae.

Habitat / preferences: ancient conifer woods (with e.g. *Pinus sylvestris*, *Pinus pinaster*, *Abies alba*); larvae develop in deep, water-filled rot-holes in old living conifer trees; it is unclear if the habitat requirements of this species are fulfilled somewhere in the Jurapark Aargau or surrounding regions.

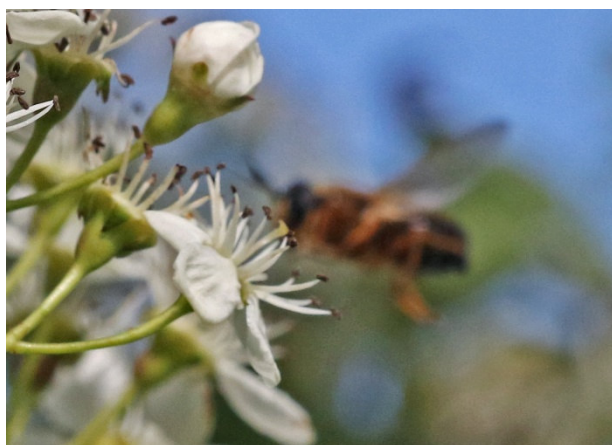
Flight time: May; record statistics in Europe: <https://observation.org/species/7792/statistics/>

ID remarks: easily assignable as a member of the genus *Callicera* by the long and broad antennae; species identification by overall rufous colour and lack of white tips of the antennae, among other features (that would be visible on high quality photographs).

Info fauna map: no map. There are no other documented records in Switzerland; one was once collected in Ticino, but that specimen got lost and the record did not get verified (pers. comm. Lisa Fisler).



Callicera rufa, 20.05.2021



Callicera rufa, 20.05.2021

2021-05-20	1	https://observation.org/observation/214391970/	●
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Callicera spinolae Rondani, 1844 **Vulnerable**

Status: scarce or rare; low detectability when feeding on ivy despite its rather large size; often high up in trees in the survey area and then only visible by the aid of binoculars or a telescope.

Habitat / preferences: exclusively on ivy in autumn, often high up in trees, when ivy reaches the top of trees; in bushes and hedges with ivy at lower height, like the individual on the photographs from nearby Wildegg (AG): <https://observation.org/observation/288915663/>

Flight time: September – October



Callicera spinolae (♀), 25.09.2023



Callicera spinolae (♀), 25.09.2023

ID remarks: easily assignable to the genus *Callicera* by the long and white-tipped antennae; species identification by length ratio of antenna segments and other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40752>

2023-09-17	1♀	https://observation.org/observation/288221671/	●
2022-10-07	1♂	https://observation.org/observation/256388675/	●
2022-10-06	1♂	https://observation.org/observation/256325787/	●

***Ceriana conopsoides* (Linnaeus, 1758)**

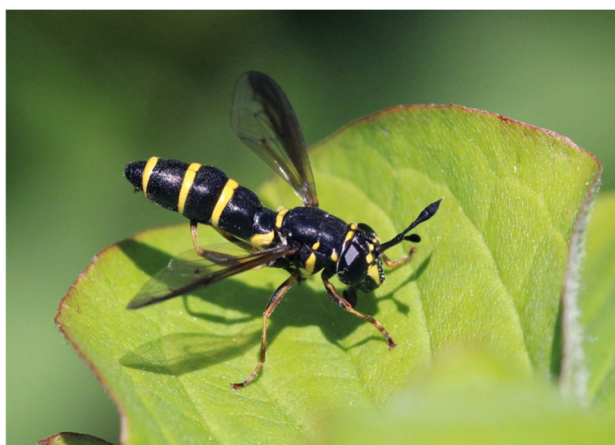
Status: scarce; high detectability.

Habitat / preferences: all records are from open terrain with flowering bushes in the clay quarry; found in flowering Hawthorn and *Euonymus* sp. in spring and on wild parsnip (*Pastinaca sativa*) in August.

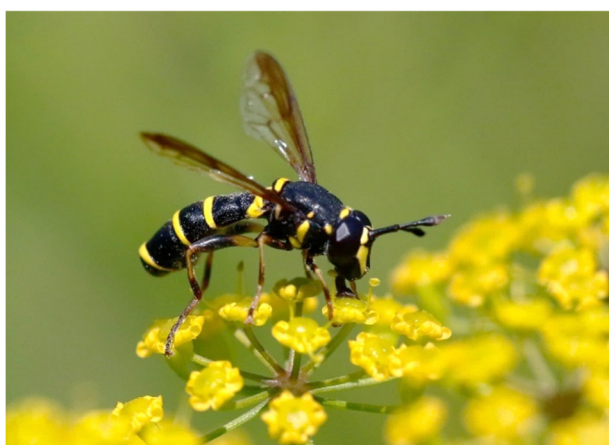
Flight time: April – August

ID remarks: looks like *Sphiximorpha subsessilis* that could potentially occur in the Jurapark Aargau (<https://lepus.infofauna.ch/carto/41026>); among other features, the single versus split base of the antennae separates the two species; also looks like members of the Diptera family Conopidae.

Info fauna map: <https://lepus.infofauna.ch/carto/40784>



Ceriana conopsoides (♀), 29.04.2025



Ceriana conopsoides (♂), 09.08.2025

2025-08-09	1♂	https://observation.org/observation/367702305/	●
2025-05-10	1♂	https://observation.org/observation/349690943/	
2025-04-29	1♀	https://observation.org/observation/347405981/	●
2021-06-03	1♂	https://observation.org/observation/215859609/	●
2021-06-01	3	https://observation.org/observation/215593341/	
2021-05-28	1♀	https://observation.org/observation/215104179/	●

***Chalcosyrphus eunotus* (Loew, 1873) Vulnerable**

Status: relatively common but local (confined to forest streams); easily detectable as it often sits on rocks in forest streams and on nearby leaves.

Habitat / preferences: interior deciduous woodland species; restricted to forest streams and nearby puddles.

Flight time: April – May

ID remarks: looks like *Brachypalpus valgus* and *Brachypalpus laphriformis*, distinguished from both species by having clear striping on upperside thorax and grey patches on tergite 2.

Info fauna map: <https://lepus.infofauna.ch/carto/40786>



Chalcosyrphus eunotus (♂), 21.04.2022



Chalcosyrphus eunotus (♀), 18.04.2024

2025-05-18	2	https://observation.org/observation/351274984/	
2025-05-10	1♀	https://observation.org/observation/349691181/	
2025-04-12	1♂	https://observation.org/observation/344477577/	
2025-04-11	2♂♂	https://observation.org/observation/344295807/	
2025-04-10	1	https://observation.org/observation/344142606/	
2025-04-04	1♀	https://observation.org/observation/343300862/	●
2024-05-18	1♀	https://observation.org/observation/310364564/	●
2022-04-22	1♀	https://observation.org/observation/238656280/	●
2022-04-21	2♂♂	https://observation.org/observation/238523696/	●
2022-04-20	1♂	https://observation.org/observation/238437141/	●

***Chalcosyrphus femoratus* (Loew, 1854) Vulnerable**

Status: extremely rare; found only once sitting on the ground in a forest stream and then briefly perching on nearby leaves before flying away high into the trees.

Habitat / preferences: interior deciduous woodland species; unclear if this species has very low population density or occurs high up in trees or specific habitats in the survey area or in the Jurapark Aargau.

Flight time: May

ID remarks: large conspicuous species that only looks like *Chalcosyrphus valgus* which also has mostly red femur but differs by a number of features (see Bot & van de Meutter 2023); *Chalcosyrphus valgus* seems to be mostly confined to the Alps in Switzerland (see: <https://lepus.infofauna.ch/carto/40790>).

Info fauna map: <https://lepus.infofauna.ch/carto/40787>



Chalcosyrphus femoratus (♂), 18.05.2025



Chalcosyrphus femoratus (♂), 18.05.2025

2025-05-18	1♂	https://observation.org/observation/351230357/	●
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Chalcosyrphus nemorum (Fabricius, 1805)

Status: scarce; relatively low detectability because of its small size and being confined to ground level in forests.

Habitat / preferences: deciduous woodland and nearby areas, including marshland; found on decaying wood in forest streams and on flowers in forest interiors, but also found near a pond in the clay quarry.

Flight time: April – May

ID remarks: can be confused with a number of *Xylota*-species that have a dark abdomen with yellow/pale markings (see Bot & van de Meutter 2023), none of which have however been recorded in the survey area so far (but could potentially occur there).

Info fauna map: <https://lepus.infofauna.ch/carto/40788>



Chalcosyrphus nemorum (♂), 17.05.2025



Chalcosyrphus nemorum (♂), 17.05.2025

2025-05-24	2	https://observation.org/observation/352433774/	
2025-05-23	2	https://observation.org/observation/352146000/	
2025-05-17	2♂♂	https://observation.org/observation/351003788/	
2022-05-15	1♀	https://observation.org/observation/241609855/	●
2022-04-22	1♂	https://observation.org/observation/238656212/	●

Cheilosia aerea Dufour, 1948

Status: scarce/rare; low detectability because of being (very) similar to other *Cheilosia*-species that are much more common in the survey area; hard to identify in the field and from field photographs.

Habitat / preferences: found feeding on white umbellifers along tracks in the interior of deciduous woodland.



Cheilosia aerea (♂), 22.06.2025



Cheilosia aerea (♂), 22.06.2025

Flight time: June

ID remarks: identification from other *Cheilosia*-species based on a combination of features (see Bot & van de Meutter 2023); of all *Cheilosia*-species in the survey area, it looks most like *Cheilosia proxima*, but has a pale lower antennal segment and a coarser punctuation of the thorax, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/40792>

2025-06-22	1♂	https://observation.org/observation/358307768/	●
2025-06-21	1♂	https://observation.org/observation/358057121/	●

Cheilosia albipila Meigen, 1838

Status: scarce; low detectability when feeding in flowering *Prunus* sp.: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees).

Habitat / preferences: females have been found in the undergrowth of deciduous woodland; males found on flowering *Prunus* sp., and hovering at c. 2 m height above grass field near a forest edge.

Flight time: April

ID remarks: a distinctive *Cheilosia*-species that looks like *Cheilosia grossa*, but differs from this species by the bright orange lower (3rd) antennal segment, and in females by the completely pale femur.

Info fauna map: <https://lepus.infofauna.ch/carto/40794>



Cheilosia albipila (♂), 12.04.2022



Cheilosia albipila (♀), 09.04.2021

2025-04-15	1♀	https://observation.org/observation/344977437/	
2022-04-12	2♂♂	https://observation.org/observation/237490577/	●
2022-04-11	1♂	https://observation.org/observation/237383086/	
2021-04-09	1♀	https://observation.org/observation/210360645/	●
2020-04-22	1	https://observation.org/observation/189390951/	

Cheilosia albitarsis / *ranunculi*

Status: (relatively) common; easily detectable when feeding on buttercup flowers (*Ranunculus* sp.).

Habitat / preferences: meadows and open terrain with grassy patches; feeding predominantly on buttercup flowers (*Ranunculus* sp.).

Flight time: April – May

ID remarks: relative large, bulky and black *Cheilosia*-species with contrasting yellow wing base, and front tarsi with yellow segments that contrasts with the black outer segment; distinction *C. albitarsis* and *C. ranunculi* on basis of a number of microscopic features (see Bot & van de Meutter 2023).

Info fauna map: *Cheilosia albitarsis*: <https://lepus.infofauna.ch/carto/40795>

Cheilosia ranunculi: <https://lepus.infofauna.ch/carto/41210>



Cheilosia albitarsis/ranunculi (♂), 08.04.2024 (left) and (♀) 09.05.2023 (right)

2025-05-17	c. 10	https://observation.org/observation/350996996/	●
2025-05-10	1♀	https://observation.org/observation/349692731/	
2025-04-29	1♀	https://observation.org/observation/382856295/	●
2025-04-19	5	https://observation.org/observation/345562255/	
2025-04-15	2	https://observation.org/observation/344978167/	
2025-04-08	1♂	https://observation.org/observation/343891713/	●
2024-04-08	1♂	https://observation.org/observation/372501099/	●
2023-05-09	1♀	https://observation.org/observation/372424135/	●
2022-04-12	1♂	https://observation.org/observation/237490715/	●

***Cheilosia barbata* Loew, 1857**

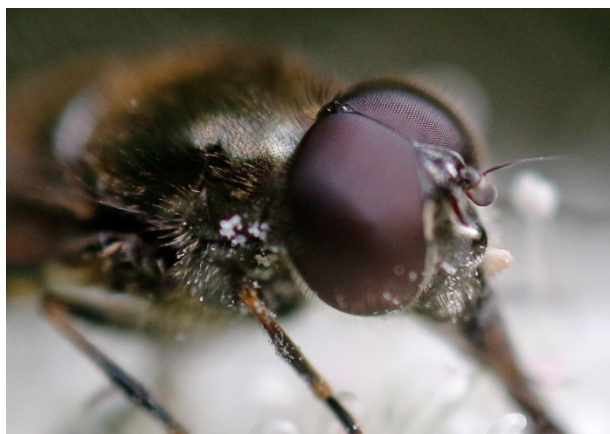
Status: relatively common; easily detectable when feeding on white umbellifers, but (very) similar to other *Cheilosia*-species and hard to recognize without close inspection (or high-resolution field photos).

Habitat / preferences: found feeding on white umbellifers along tracks in the interior of deciduous woodland.

Flight time: June

ID remarks: occurs alongside *Cheilosia mutabilis*, *Cheilosia pagana* and *Cheilosia ruffipes*, and the rare, but more similar-looking *Cheilosia proxima* and *Cheilosia aerea* on white umbellifers along forest tracks; separated from these species by the long hairs on the face, among other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40800>



Cheilosia barbata (♂), 14.06.2025

Cheilosia barbata (♂), 14.06.2025

2025-06-25	1♂	https://observation.org/observation/358958250/	
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2025-06-14	1♂	https://observation.org/observation/356573978/	●
2025-06-14	1♂	https://observation.org/observation/356571336/	●
2025-06-09	1♂, 1♀	https://observation.org/observation/354369588/	
2023-06-03	1♀	https://observation.org/observation/274722134/	

***Cheilosia caerulescens* (Meigen, 1822)**

Status: not record in the survey area, but is expected to occasionally occur there; Lägern (ZH): scarce (1 record only).

Habitat / preferences: this species, that originally was an alpine species, has become a widespread garden species in the lowlands and may occasionally wander into nearby woodlands.

Flight time: June

ID remarks: a rather distinctive and large *Cheilosia*-species, with a strongly protruded face, mostly bright-coloured legs, hairless eyes, white thorax hairs and a black dot in the wings.

Info fauna map: <https://lepus.infofauna.ch/carto/40807>



Cheilosia caerulescens (♀), 10.06.2021



Cheilosia caerulescens (♀), 10.06.2021

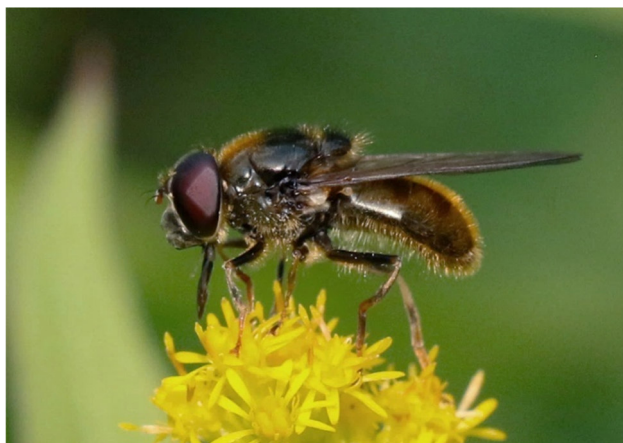
Lägern (ZH):

2021-06-10	1♀	https://observation.org/observation/216585253/	●
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***Cheilosia canicularis* (Panzer, 1801)**

Status: relatively common; high detectability; this probably is the most common *Cheilosia*-species in the Alps in August-September; population density in the lowlands is lower.

Habitat / preferences: meadows and open terrain with flowers; found on thistle and other late-summer (yellow) flowers.



Cheilosia canicularis (♂), 16.08.2025



Cheilosia canicularis (♀), 13.09.2019

Flight time: August – September

ID remarks: together with *Cheilosia himantopus* the largest *Cheilosia*-species in the survey area; especially females can be very large and approach the size of *Eristalis tenax*; apart from a number of features, like the overall colouration brownish vs. blackish, they have separated flying times that do not overlap in the survey area.

Info fauna map: <https://lepus.infofauna.ch/carto/40808>

2025-08-31	5	https://observation.org/observation/371184887/	
2025-08-24	3♂♂	https://observation.org/observation/370119690/	
2025-08-16	1♂	https://observation.org/observation/368907696/	●
2019-09-13	1♀	https://observation.org/observation/179619509/	●

***Cheilosia carbonaria* Egger, 1860**

Status: rare; high detectability when feeding on flowers, but field identification is tricky.

Habitat / preferences: found on yellow flowers along track in a mixed forest (1 record only).

Flight time: June

ID remarks: an all-black *Cheilosia*-species with brownish wings the large size, elongated shape, an protruded face makes it look very similar to *Cheilosia variabilis*, but it differs by the trapezium-shaped abdomen and the hairless face, among other subtle features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40809>



Cheilosia carbonaria (♀), 14.06.2025



Cheilosia carbonaria (♀), 14.06.2025

2025-06-14	1♀	https://observation.org/observation/356535657/	●
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***Cheilosia chloris* (Meigen, 1822)**

Status: relatively common; high detectability.

Habitat / preferences: in and outside of deciduous woodland, often at ground level sitting on leaves or feeding on low flowers in early spring (males and females); females also found in late spring, egg-depositing in forest undergrowth.

Flight time: March – May

ID remarks: a larger, brown-haired *Cheilosia*-species with long hairs on eyes and pale lower (3rd) antennal segment; diagnostic is the pale base of the arista that can (just) be seen on high resolution field photographs.

Info fauna map: <https://lepus.infofauna.ch/carto/40810>



Cheilosia chloris (♀), 24.05.2025 (pale arista base)

Cheilosia chloris (♂), 21.04.2022

2025-05-24	3♀♀	https://observation.org/observation/352437142/	●
2022-04-21	1♂	https://observation.org/observation/238705957/	●
2022-04-20	1♂	https://observation.org/observation/238434675/	●
2022-03-29	1♂	https://observation.org/observation/372087863/	
2021-05-23	1♀	https://observation.org/observation/214626569/	●
2021-03-29	2♀♀	https://observation.org/observation/209604820/	●

Cheilosia chrysocoma (Meigen, 1822)

Status: scarce; high detectability.

Habitat / preferences: found in and outside deciduous woodland; found in wild garlic forest undergrowth, in a muddy forest stream, and in a grassy patch in the clay quarry.

Flight time: April – May

ID remarks: an unmistakable *Cheilosia*-species that can be confused with the bee species *Andrena fulva* in the field.

Info fauna map: <https://lepus.infofauna.ch/carto/40811>



Cheilosia chrysocoma (♀), 23.05.2021

Cheilosia chrysocoma (♂), 11.04.2025

2025-04-11	1♂	https://observation.org/observation/344295867/	●
2022-04-20	1♂	https://observation.org/observation/238436960/	●
2021-05-23	1♀	https://observation.org/observation/214626415/	●

Cheilosia fasciata Schiner & Egger, 1853

Status: relatively common; low detectability in flowering *Prunus* sp.; high detectability when perched on (wild garlic) leaves.

Habitat / preferences: in forest undergrowth of wild garlic in deciduous woodland; and found feeding in flowering *Prunus* sp. in open terrain in early spring.

Flight time: March – April

ID remarks: looks somewhat like *Portevinia maculata* with who it shares the same habitat (forest undergrowth with wild garlic); both species have no or only little overlap in flight time in the survey area.

Info fauna map: <https://lepus.infofauna.ch/carto/40817>



Cheilosia fasciata (♂), 29.03.2021



Cheilosia fasciata (♀), 20.04.2022

2025-04-12	1♀	https://observation.org/observation/346257091/	●
2025-04-10	2	https://observation.org/observation/344143017/	
2025-04-08	2	https://observation.org/observation/343891419/	
2025-04-05	1♀	https://observation.org/observation/343575197/	
2025-04-04	1♀	https://observation.org/observation/343301393/	
2022-04-20	2	https://observation.org/observation/238432969/	●
2022-04-12	5	https://observation.org/observation/237490736/	
2022-03-29	1♀	https://observation.org/observation/236498313/	●
2022-03-22	1♂	https://observation.org/observation/235919313/	●
2021-05-03	1♀	https://observation.org/observation/212634927/	●
2021-04-09	1♀	https://observation.org/observation/371236792/	
2021-03-29	c. 30	https://observation.org/observation/209604844/	●
2020-04-22	3♀♀	https://observation.org/observation/189390953/	●

Cheilosia fraterna (Meigen, 1830)

Status: presumed to be scarce (not rare); easily detectable when sitting on leaves, but field identification is tricky.

Habitat / preferences: found in undergrowth vegetation in the outer parts of a deciduous forest.

Flight time: April

ID remarks: relatively large *Cheilosia*-species that looks like *Cheilosia chloris* and to a lesser extent like other *Cheilosia*-species (see Bot & van de Meutter 2023); characteristic feature are the completely pale hint tibia; the recorded male was microscopically confirmed.

Info fauna map: <https://lepus.infofauna.ch/carto/40820>

2025-04-29	1♂	https://observation.org/observation/347408533/	●
2025-04-28	1♀	https://observation.org/observation/347240337/	●

Cheilosia grossa (Fallén, 1817)

Status: scarce/rare; low detectability: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees).

Habitat / preferences: often feeding on willow catkins in early spring; in the survey area only found on flowering *Prunus* sp.

Flight time: March

ID remarks: a rufous *Cheilosia*-species that looks like *Cheilosia albipila*, but differs from this species by the dark lower (3rd) antennal segment, and in females by the dark femur, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/40826>



Cheilosia grossa (♀), 29.03.2021



Cheilosia grossa (♀), 22.03.2023

2023-03-22	1♀	https://observation.org/observation/265787281/	●
2021-03-29	1♀	https://observation.org/observation/209604226/	●

Cheilosia himantopus (Panzer, 1798)

Status: relatively common; easily detectable due to its large size, often sitting on leaves, and by getting extensively covered by pollen from feeding on yellow spring flowers.

Habitat / preferences: mostly in or near deciduous woodland; feeding on yellow spring flowers.

Flight time: April – June

ID remarks: together with *Cheilosia canicularis* the largest *Cheilosia*-species in the survey area; especially the females can be very large and approach the size of *Eristalis tenax*; apart from a number of distinguishing features, like the overall colouration blackish vs. brownish, they have separated flying times that do not overlap in the survey area.

Info fauna map: <https://lepus.infofauna.ch/carto/41208>



Cheilosia himantopus (♀), 03.05.2021



Cheilosia himantopus (♀), 10.05.2025

2025-05-10	1	https://observation.org/observation/349692659/	
2025-05-10	1♂	https://observation.org/observation/349690808/	
2025-05-10	1♀	https://observation.org/observation/349690786/	●
2023-06-03	1♂	https://observation.org/observation/274722656/	
2022-05-10	1♂	https://observation.org/observation/371780388/	
2021-05-28	2♂♂	https://observation.org/observation/215103925/	●
2021-05-08	1♀	https://observation.org/observation/213001168/	●
2021-05-03	1♀	https://observation.org/observation/212634969/	●

Cheilosia illustrata (Harris, 1780)

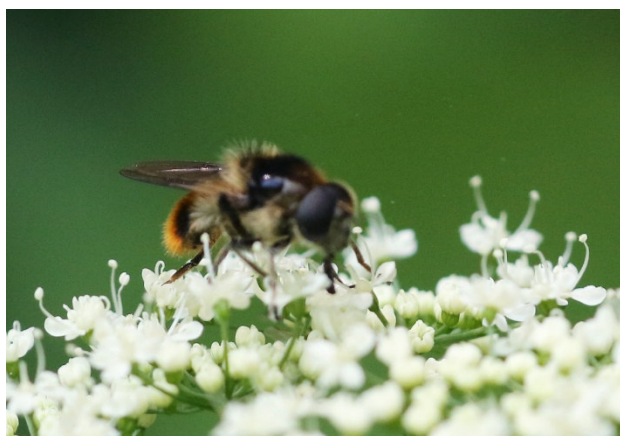
Status: rare in survey area (1 record only); high detectability by being a conspicuously looking *Cheilosia*-species and feeding on white umbellifers.

Habitat / preferences: found feeding on white umbellifers in deciduous woodland.

Flight time: June

ID remarks: distinct multi-coloured *Cheilosia*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/40829>



Cheilosia illustrata (♂), 10.06.2023



Cheilosia illustrata (♂), 10.06.2023

2023-06-10	1♂	https://observation.org/observation/275795144/	●
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Cheilosia impressa Loew, 1840

Status: (relatively) common; easily detectable.

Habitat / preferences: on flowers and leaves in and outside of woodland.

Flight time: April – September



Cheilosia impressa (♀), 10.05.2022



Cheilosia impressa (♂), 10.05.2024

ID remarks: a small all-black *Cheilosia*-species with distinct yellow wing base (especially in females); recalls *Cheilosia albitarsis* by its yellow wing-base, but smaller and with all-black front tarsi.

Info fauna map: <https://lepus.infofauna.ch/carto/40831>

2025-08-16	c. 10	https://observation.org/observation/368908889/	
2025-08-09	c. 20	https://observation.org/observation/367702457/	
2025-06-21	1♀	https://observation.org/observation/358057756/	
2025-06-09	3	https://observation.org/observation/356012832/	●
2025-06-03	1♂	https://observation.org/observation/354369661/	
2025-05-24	2♂♂	https://observation.org/observation/352437050/	
2025-04-29	5	https://observation.org/observation/347411511/	
2025-04-28	2	https://observation.org/observation/347240796/	
2024-06-16	1♂	https://observation.org/observation/314797110/	
2024-05-18	c. 20	https://observation.org/observation/310429456/	
2024-05-10	4♂♂	https://observation.org/observation/308811110/	●
2023-06-10	1♂	https://observation.org/observation/372200849/	
2023-06-03	2	https://observation.org/observation/274722236/	
2022-05-10	1♀	https://observation.org/observation/240999814/	
2021-09-30	1	https://observation.org/observation/226738765/	●
2021-05-23	1♀	https://observation.org/observation/371079930/	
2021-05-14	1♀	https://observation.org/observation/371208681/	

***Cheilosia mutabilis* (Fallén, 1817)**

Status: scarce; despite small size well-detectable when feeding on white umbellifers; occurs alongside other more common *Cheilosia*-species on umbellifers (*C. pagana* and *C. ruffipes*) and is then easily overseen.

Habitat / preferences: exclusively found feeding on white umbellifers along forest tracks in deciduous woodland.

Flight time: June – July

ID remarks: a (very) small and dark *Cheilosia*-species with very slender abdomen; characteristic front tarsi patterning as in *Cheilosia albitarsis*: yellow base contrasting with the black outer segment.

Info fauna map: <https://lepus.infofauna.ch/carto/40847>



Cheilosia mutabilis (♂), 05.07.2025



Cheilosia mutabilis (♂), 03.06.2023

2025-07-05	1♂	https://observation.org/observation/361080789/	●
2025-06-25	1♂	https://observation.org/observation/358958470/	●
2023-06-03	1♂	https://observation.org/observation/274721357/	●
2021-06-18	1♂	https://observation.org/observation/371023326/	●

Cheilosia pagana (Meigen, 1822)

Status: (relatively) common; small dark *Cheilosia*-species and therefore not quickly recognizable in the field.

Habitat / preferences: has a long flying time and therefore feeds on a variety of flowers in a variety of habitats in and outside of woodland; commonly found feeding on white umbellifers and later in the summer on wild parsnip (*Pastinaca sativa*).

Flight time: April – September

ID remarks: a small and dark *Cheilosia*-species with conspicuously orange lower (3rd) antennal segment, proportionally very large in females; could be confused with *Cheilosia ruffipes*, but smaller and has a number of other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40852>



Cheilosia pagana (♂), 03.08.2025



Cheilosia pagana (♀), 03.08.2025

2025-08-03	3	https://observation.org/observation/366668066/	●
2025-06-25	1♂	https://observation.org/observation/358958323/	
2025-06-22	1♀	https://observation.org/observation/382575162/	●
2025-06-14	1♂	https://observation.org/observation/356574055/	
2025-06-14	1♀	https://observation.org/observation/356575538/	
2025-06-09	1♂	https://observation.org/observation/356024789/	
2025-05-15	1♀	https://observation.org/observation/350649652/	●
2024-04-08	2	https://observation.org/observation/304295681/	●
2023-09-13	1♂	https://observation.org/observation/179814991/	●

Cheilosia proxima (Zetterstedt, 1843)

Status: scarce; well-detectable when feeding on white umbellifers or on wild parsnip, but occurs alongside other more common *Cheilosia*-species (*C. pagana* and *C. ruffipes*) and is then easily overseen.

Habitat / preferences: found on white umbellifers along tracks in deciduous woodland; later in season found feeding on wild parsnip (*Pastinaca sativa*) in the clay quarry.

Flight time: June – August

ID remarks: a compact *Cheilosia*-species identifiable by a combination of features (see Bot & van de Meutter 2023): hairy eyes, glossy face, and dark (3rd) antennal segment; leg colour variable, but mostly all-dark.

Info fauna map: <https://lepus.infofauna.ch/carto/40861>

2025-08-09	2♂♂	https://observation.org/observation/367702041/	●
2025-07-05	1♂	https://observation.org/observation/361080849/	●
2023-06-03	1♂	https://observation.org/observation/274723054/	●



Cheilosia proxima (♂), 09.08.2025



Cheilosia proxima (♂), 05.07.2025

Cheilosia ruffipes (Preyssler, 1793)

Status: common; high detectability.

Habitat / preferences: commonly found feeding on white umbellifers and wild parsnip (*Pastinaca sativa*) in and outside deciduous woodland.

Flight time: May – August

ID remarks: a medium-sized *Cheilosia*-species with bright legs and bright orange 3rd antennal segment and large (broad) "nose knob"; females with orange tip of scutellum.

Info fauna map: <https://lepus.infofauna.ch/carto/40869> (under old name *Cheilosia soror*)



Cheilosia ruffipes (♀), 22.06.2025



Cheilosia ruffipes (♂), 03.08.2025

2025-08-16	3	https://observation.org/observation/368908755/	
2025-08-03	4	https://observation.org/observation/366668301/	●
2025-07-05	1♂	https://observation.org/observation/361080705/	
2025-06-25	2♂♂	https://observation.org/observation/358958400/	
2025-06-22	1♀	https://observation.org/observation/382968626/	●
2025-06-21	c. 10	https://observation.org/observation/358056884/	
2024-06-08	5	https://observation.org/observation/313826423/	
2024-05-26	1♀	https://observation.org/observation/372510935/	
2023-06-03	1♀	https://observation.org/observation/355613969/	
2021-06-24	1♀	https://observation.org/observation/370954861/	
2021-06-18	1♀	https://observation.org/observation/371023438/	
2021-05-28	1♀	https://observation.org/observation/371069255/	

Lägern (ZH):

2022-08-07	1♀	https://observation.org/observation/382977130/	●
2020-06-06	1♀	https://observation.org/observation/193592853/	●

Cheilosia scutellata (Fallén, 1817)

Status: scarce/rare; well-detectable when feeding on wild parsnip, but occurs along side other more common *Cheilosia*-species (*C. pagana* and *C. ruffipes*) and is then easily overseen.

Habitat / preferences: found feeding on wild parsnip (*Pastinaca sativa*) in the clay quarry.

Flight time: June – August

ID remarks: looks much like *Cheilosia ruffipes* by having a large "nose knob", but with dark 3rd antennal segment and other subtle differences (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40872>



Cheilosia scutellata (♂), 16.08.2025



Cheilosia scutellata (♂), 16.08.2025

2025-08-16	1♂	https://observation.org/observation/368908722/	•
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Lägern (ZH):

2021-06-13	1♂	https://observation.org/observation/216906775/	•
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Cheilosia urbana (Meigen, 1822)

Status: relatively common; low detectability because of (very) small size and resulting difficulty to identify in the field.

Habitat / preferences: in an outside of deciduous woodland; often on leaves or rocks in/near forest streams, but also found in grasslands and in flowering *Prunus* sp.

Flight time: April – May

ID remarks: a (very) small *Cheilosia*-species with orange-black-segmented legs, and black 3rd antennal segment; very similar to *Cheilosia psilophthalma* (see Bot & van de Meutter 2023) that might possibly occur in the Jurapark Aargau (<https://lepus.infofauna.ch/carto/40862>).

Info fauna map: <https://lepus.infofauna.ch/carto/40860>



Cheilosia urbana (♂), 13.04.2022



Cheilosia urbana (♂) & (♀), 13.04.2022

2025-05-10	1♂	https://observation.org/observation/349692838/	
2025-04-28	5	https://observation.org/observation/347240612/	
2025-04-19	2	https://observation.org/observation/345569101/	
2025-04-12	2♂♂	https://observation.org/observation/344478223/	●
2025-04-10	1	https://observation.org/observation/344142998/	
2025-04-02	1♂	https://observation.org/observation/343049177/	
2022-04-13	2	https://observation.org/observation/237620788/	●
2022-04-12	1♀	https://observation.org/observation/237490383/	●
2022-04-12	1	https://observation.org/observation/237490753/	
2022-04-11	1♂	https://observation.org/observation/237382882/	●

Cheilosia variabilis (Panzer, 1798)

Status: relatively common; males are easily detectable because of their large size and wing-spreading posture when perched on leaves, showing its elongated abdomen with faint greyish areas.

Habitat / preferences: mainly in deciduous woodland at ground level.

Flight time: April – June

ID remarks: A large, all-dark wing-spreading *Cheilosia*-species with darkish wings and pale-haired eyes; looks like *Cheilosia carbonaria* but has a hairy face and white-haired eyes, among other distinguishing features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40878>



Cheilosia variabilis (♂), 16.06.2024



Cheilosia variabilis (♂), 10.05.2025

2025-06-22	1♀	https://observation.org/observation/382575096/	●
2025-06-14	1♂	https://observation.org/observation/356571386/	
2025-05-24	2	https://observation.org/observation/352438486/	
2025-05-10	1♂	https://observation.org/observation/349691062/	●
2025-04-29	3♂♂	https://observation.org/observation/347411714/	
2025-04-28	1♂	https://observation.org/observation/347240479/	●
2024-06-16	1♂	https://observation.org/observation/314797504/	●
2024-05-10	1♂	https://observation.org/observation/372510071/	
2021-05-14	1♂	https://observation.org/observation/371206158/	
2021-05-08	2	https://observation.org/observation/213001002/	
2021-05-03	1♂	https://observation.org/observation/213335735/	●

Cheilosia vernalis (Fallén, 1817)

Status: relatively common or scarce; well-detectable when feeding on (yellow) flowers; some females can be very small and are then hard to detect in meadows.

Habitat / preferences: mostly an open terrain species, including gardens; only found in open terrain in or near the clay quarry.

Flight time: August (in the survey area).

ID remarks: a small to medium-sized *Cheilosia*-species with hairy eyes (see Bot & van der Meutter, 2023); males glossy black; leg colour variable.

Info fauna map: <https://lepus.infofauna.ch/carto/40882>



Cheilosia vernalis (♂), 16.08.2025



Cheilosia vernalis (♀), 10.08.2025

2025-08-16	1♂	https://observation.org/observation/368909625/	●
2025-08-16	1♀	https://observation.org/observation/368907601/	●
2025-08-10	1♀	https://observation.org/observation/367901751/	●

***Chrysogaster solstitialis* (Fallén, 1817)**

Status: relatively common; high detectability.

Habitat / preferences: deciduous or mixed woodlands; exclusively found feeding on white umbellifers.

Flight time: June – August

ID remarks: a small black hoverfly with conspicuously large red eyes; in appearance similar to *Melanogaster*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/40887>



Chrysogaster solstitialis (♂), 06.06.2020



Chrysogaster solstitialis (♀), 22.06.2025

2025-08-16	3	https://observation.org/observation/368908565/	
2025-06-25	1♀	https://observation.org/observation/382688108/	●
2025-06-22	1♀	https://observation.org/observation/382575072/	●
2025-06-09	1♂	https://observation.org/observation/356021375/	●
2024-06-08	3	https://observation.org/observation/313826690/	
2021-06-24	1♂	https://observation.org/observation/218144936/	●

Lägern (ZH):

2022-07-06	1♂	https://observation.org/observation/248179812/	
2020-06-06	2♂♂	https://observation.org/observation/193445024/	●

Chrysotoxum arcuatum (Linnaeus, 1758)

Status: rare in the survey area (only one record); this probably ist the most common *Chrysotoxum*-species in the Swiss Alps (see Bisschop et al. 2025) and is often recorded from the Jura mountains as well (<https://lepus.infofauna.ch/carto/41056>).

Habitat / preferences: common in alpine habitats; undergrowth of coniferous or mixed woodland and meadows.

Flight time: May (sole record in the survey area)

ID remarks: a *Chrysotoxum*-species with roundish and hairy abdomen; the segmented structure of the antennae is like in *Chrysotoxum lessonae* and *Chrysotoxum cautum*; *Chrysotoxum lessonae* has a mostly hairless abdomen and dark wing tips; *Chrysotoxum cautum* has a more uniform abdomen patterning.

Info fauna map: <https://lepus.infofauna.ch/carto/41056>



Chrysotoxum arcuatum (♂), 20.05.2024



Chrysotoxum arcuatum (♂), 20.05.2024

2024-05-20	1♂	https://observation.org/observation/310710567/	●
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Chrysotoxum bicinctum (Linnaeus, 1758)

Status: (relatively) common; high detectability.

Habitat / preferences: in undergrowth and bushes in or near deciduous or mixed woodland; later in season commonly found feeding on white umbellifers and wild parsnip (*Pastinaca sativa*).



Chrysotoxum bicinctum (♂), 02.07.2021



Chrysotoxum bicinctum (♀), 26.05.2024

Flight time: May – August

ID remark: unmistakable.

Info fauna map: <https://lepus.infofauna.ch/carto/41057>

2025-08-31	1	https://observation.org/observation/371184962/	
2025-08-24	3	https://observation.org/observation/370119005/	
2025-08-16	5	https://observation.org/observation/368908958/	
2025-08-10	2	https://observation.org/observation/367902543/	
2025-08-09	2	https://observation.org/observation/367732013/	
2025-08-03	5	https://observation.org/observation/366668270/	
2024-06-16	1♂	https://observation.org/observation/314797942/	
2024-05-26	1♀	https://observation.org/observation/311653810/	●
2023-06-10	2	https://observation.org/observation/275795358/	
2022-08-01	1♀	https://observation.org/observation/371666762/	
2021-07-02	2	https://observation.org/observation/218920733/	●
2021-06-25	1♂	https://observation.org/observation/218144960/	●
2019-08-09	1♀	https://observation.org/observation/177752243/	●

Lägern (ZH):

2022-08-07	1	https://observation.org/observation/251685878/	
2022-07-06	2	https://observation.org/observation/248180210/	

***Chrysotoxum cautum* (Harris, 1776)**

Status: relatively common; high detectability.

Habitat / preferences: in trees, bushes and undergrowth in and outside of deciduous woodland.

Flight time: April – July

ID remarks: a *Chrysotoxum*-species with a uniform abdomen pattern, unlike *Chrysotoxum arcuatum* and *Chrysotoxum lessonae* that have the same proportionality of the antennal segments; males have very large genitals that are asymmetrically positioned at the abdomen end (underside).

Info fauna map: <https://lepus.infofauna.ch/carto/41058>



Chrysotoxum cautum (♂), 26.05.2024



Chrysotoxum cautum (♀), 24.06.2021

2025-05-24	1♂	https://observation.org/observation/352439204/	●
2025-04-29	1♂	https://observation.org/observation/347415350/	
2024-05-26	4	https://observation.org/observation/311653745/	●
2024-05-18	1♂	https://observation.org/observation/310363706/	●
2023-05-25	1	https://observation.org/observation/273671231/	
2021-07-02	1♂	https://observation.org/observation/230264358/	●
2021-06-25	1♀	https://observation.org/observation/231122096/	●

2021-06-24	2♀♀	https://observation.org/observation/218053263/	●
2021-06-22	5	https://observation.org/observation/217862674/	●
2021-06-07	1♀	https://observation.org/observation/216280309/	●
2021-05-28	1♂	https://observation.org/observation/215103371/	●
2021-05-23	2	https://observation.org/observation/214625394/	
2021-05-14	1♂	https://observation.org/observation/213727557/	●

Chrysotoxum elegans Loew, 1841 **Near-Threatened**

Status: scarce; high detectability.

Habitat / preferences: in flowering trees (e.g. *Euonymus* sp.; *Cornus sanguinea*) and on white umbellifers in open terrain.

Flight time: May – June

ID remarks: the trio *C. festivum*, *C. vernale*, *C. elegans* looks much alike and has the same segmented structure of the antennae differing from the other *Chrysotoxum*-species occurring in the survey area; only in *C. elegans* the yellow markings reach the edge of the abdomen.

Info fauna map: <https://lepus.infofauna.ch/carto/41059>



Chrysotoxum elegans (♂), 10.06.2023



Chrysotoxum elegans (♀), 03.06.2021

2024-05-26	1♀	https://observation.org/observation/311653567/	●
2023-06-10	1♂	https://observation.org/observation/275775843/	●
2021-06-08	1♂	https://observation.org/observation/216388750/	●
2021-06-08	1♂	https://observation.org/observation/230745413/	●
2021-06-03	1♀	https://observation.org/observation/215929146/	●
2021-06-01	1	https://observation.org/observation/215592939/	●
2021-05-28	1♂	https://observation.org/observation/215103322/	●

Chrysotoxum fasciolatum (De Geer, 1776)

Status: scarce; low detectability because of secretive behaviour in dense undergrowth, and easily overlooked because of its wasp-like appearance and behaviour.

Habitat / preferences: interior deciduous woodland species in the survey area; both females were found flying around in dense blackberry bushes (not settling on leaves or flowers).

Flight time: May – June

ID remarks: very large *Chrysotoxum*-species and the only one with spaced yellow spots on the thorax upperside.

Info fauna map: <https://lepus.infofauna.ch/carto/41061>

2025-06-09	1♀	https://observation.org/observation/355646014/	●
2025-05-17	1♂	https://observation.org/observation/351005989/	●
2024-06-16	1♀	https://observation.org/observation/314791400/	●



Chrysotoxum fasciolatum (♂), 17.05.2025



Chrysotoxum fasciolatum (♀), 09.06.25

Chrysotoxum festivum (Linnaeus, 1758)

Status: relatively common; high detectability.

Habitat / preferences: on flowers in deciduous forest, in meadows and in open terrain with scarce vegetation.

Flight time: May – August; *C. festivum* starts to fly in May, whereas *C. vernale* already flies in April; both species overlap in the months May-July; *C. festivum* is the only one still flying in August.

ID remarks: the trio *C. festivum*, *C. vernale*, *C. elegans* looks much alike and has the same segmented structure of the antennae differing from the other *Chrysotoxum*-species occurring in the survey area; only in *C. elegans* the yellow markings reach the edge of the abdomen; *C. festivum* and *C. vernale* differ by the colouration of the front femur: with clear black base in *C. vernale* and completely pale in *C. festivum*.

Info fauna map: <https://lepus.infofauna.ch/carto/41233>



Chrysotoxum festivum (♂), 24.06.2024



Chrysotoxum festivum (♀), 24.05.2025

2025-08-16	1	https://observation.org/observation/368915906/	
2025-08-03	1♀	https://observation.org/observation/366667925/	
2025-05-24	1♂	https://observation.org/observation/352434915/	●
2024-05-20	1	https://observation.org/observation/310711732/	●
2023-06-03	1♂	https://observation.org/observation/274721748/	
2021-08-16	1♀	https://observation.org/observation/223196873/	●
2021-07-02	1♀	https://observation.org/observation/230264392/	●
2021-06-24	1♂	https://observation.org/observation/218053308/	●
2021-06-24	1♂	https://observation.org/observation/230796829/	●
2021-06-18	1♂	https://observation.org/observation/217453323/	●
2021-06-01	3	https://observation.org/observation/215593420/	
2021-05-28	1♂	https://observation.org/observation/215103562/	●

2020-05-07	1	https://observation.org/observation/190734540/	●
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Lägern (ZH):

2021-06-13	1♀	https://observation.org/observation/216907375/	●
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Chrysotoxum lessonae Giglio-Tos, 1890

Status: (relatively) common; high detectability.

Habitat / preferences: often in deciduous forest, but also found regularly in the clay quarry bushes.

Flight time: April – October

ID remarks: a *Chrysotoxum*-species with the front part of wings very dark (blackish in the outer wing part); *Chrysotoxum fasciolatum* has also darkened front wing but less strong, and this species is larger and has a larger spaces between the yellow spots on the thorax upperside.

Info fauna map: <https://lepus.infofauna.ch/carto/40753> (splitt from *Chrysotoxum intermedium*)



Chrysotoxum lessonae (♂), 22.05.2021



Chrysotoxum lessonae (♀), 12.04.2022

2025-08-24	1♀	https://observation.org/observation/370120262/	
2025-06-09	1	https://observation.org/observation/356012247/	
2025-05-24	3	https://observation.org/observation/352436782/	
2025-05-17	1♀	https://observation.org/observation/351002229/	
2025-05-10	2	https://observation.org/observation/349692285/	
2024-06-16	2	https://observation.org/observation/314796660/	
2024-05-20	1♀	https://observation.org/observation/310710646/	
2023-06-10	1♂	https://observation.org/observation/275776044/	
2022-10-07	1	https://observation.org/observation/256388589/	
2022-04-22	1♂	https://observation.org/observation/371781300/	
2022-04-21	1♂	https://observation.org/observation/371787349/	
2022-04-20	c. 10	https://observation.org/observation/238434376/	
2022-04-19	1	https://observation.org/observation/238357936/	
2022-04-12	1♀	https://observation.org/observation/237490432/	●
2021-06-24	1	https://observation.org/observation/218053237/	●
2021-06-08	1	https://observation.org/observation/216388481/	
2021-06-07	1	https://observation.org/observation/216280111/	
2021-06-01	1	https://observation.org/observation/215593460/	
2021-05-28	1	https://observation.org/observation/215103345/	
2021-05-22	1	https://observation.org/observation/214625331/	●
2021-05-08	1♂	https://observation.org/observation/213000995/	●
2020-04-22	2	https://observation.org/observation/189390919/	●

Lägern (ZH):

2022-05-14	10	https://observation.org/observation/241474835/	
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2020-06-06	2	https://observation.org/observation/193371426/	●
2020-05-10	30	https://observation.org/observation/191042256/	●

***Chrysotoxum vernale* Loew, 1841**

Status: (relatively) common; high detectability.

Habitat / preferences: various habitats; commonly found in the clay quarry bushes; can be found on flowering *Prunus* sp. in April.

Flight time: April – July

ID remarks: the trio *C. festivum*, *C. vernale*, *C. elegans* looks much alike and has the same segmented structure of the antennae differing from the other *Chrysotoxum*-species occurring in the survey area; only in *C. elegans* the yellow markings reach the edge of the abdomen; *C. festivum* and *C. vernale* differ by the colour of the front femur: with clear black base in *C. vernale* and completely pale in *C. festivum*.

Info fauna map: <https://lepus.infofauna.ch/carto/41064>



Chrysotoxum vernale (♂), 22.04.2020



Chrysotoxum vernale (♂), 08.05.2021

2025-05-17	1♀	https://observation.org/observation/351000443/	
2025-05-10	1♀	https://observation.org/observation/349692748/	
2025-04-29	2	https://observation.org/observation/347406290/	
2025-04-29	1♀	https://observation.org/observation/347415518/	
2025-04-28	2	https://observation.org/observation/347241422/	
2025-04-19	2	https://observation.org/observation/345563104/	●
2025-04-15	1♀	https://observation.org/observation/344978034/	
2024-05-26	1	https://observation.org/observation/311653863/	
2023-06-10	1♂	https://observation.org/observation/275776025/	
2023-06-10	1♂	https://observation.org/observation/372196622/	
2022-04-19	2	https://observation.org/observation/238357965/	●
2022-04-12	1♂	https://observation.org/observation/237490493/	●
2021-07-09	1	https://observation.org/observation/219476494/	●
2021-07-02	1♂	https://observation.org/observation/230264410/	●
2021-06-24	1♂	https://observation.org/observation/230796998/	●
2021-06-22	3	https://observation.org/observation/217862692/	●
2021-06-08	1♂	https://observation.org/observation/230745370/	●
2021-06-01	2	https://observation.org/observation/215593448/	
2021-05-28	1	https://observation.org/observation/215103594/	●
2021-05-23	c. 5	https://observation.org/observation/214625420/	
2021-05-20	1♀	https://observation.org/observation/214392478/	
2021-05-14	1	https://observation.org/observation/213727523/	
2021-05-08	1♀	https://observation.org/observation/213000986/	●
2020-05-18	1♀	https://observation.org/observation/191941645/	●
2020-04-22	1	https://observation.org/observation/189390935/	●

Criorhina asilica (Fallén, 1816)

Status: relatively common; high detectability.

Habitat / preferences: mostly found in the undergrowth of deciduous woodland; often sitting on leaves; also found feeding in flowering hawthorn in the clay quarry.

Flight time: April – June

ID remarks: can be mistaken by a bee species, especially in flight; looks superficially like *Brachypalpus valgus* and *Brachypalpus laphriformis* but differs by the shape of the face and antennae and the thinner femur, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/40888>



Criorhina asilica (♂) & (♀), 20.04.2022



Criorhina asilica (♂), 17.05.2025

2025-06-09	1	https://observation.org/observation/356016851/	
2025-05-23	3	https://observation.org/observation/352145723/	
2025-05-17	1♂	https://observation.org/observation/351001955/	●
2025-04-28	1♀	https://observation.org/observation/347240500/	
2024-05-26	2♂♂	https://observation.org/observation/311653651/	●
2023-06-03	6	https://observation.org/observation/274722311/	
2022-04-20	3	https://observation.org/observation/238433067/	
2021-06-01	1	https://observation.org/observation/215593272/	
2021-05-28	4	https://observation.org/observation/215103674/	●
2021-05-23	1	https://observation.org/observation/214626052/	
2021-05-20	1	https://observation.org/observation/214392426/	●
2021-05-14	3	https://observation.org/observation/213683353/	
2021-05-08	1	https://observation.org/observation/213000968/	
2021-05-03	1♀	https://observation.org/observation/212634899/	●
2020-05-07	1	https://observation.org/observation/190715706/	●

Lägern (ZH):

2020-05-10	1♀	https://observation.org/observation/191029642/	●
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Matsumyia berberina (Fabricius, 1805)

Status: relatively common; high detectability.

Habitat / preferences: on flowering bushes and trees (e.g. *Euonymus* sp., *Cornus sanguinea*) and on white umbellifers in and around deciduous woodland.

Flight time: April – June

ID remarks: occurs in two colours forms: one with a partly black upper part of the thorax and one fulvous form (var. *oxyacanthae*); the fulvous form can be confused with *Criorhina floccosa*, but *M. berberina* has other jizz (smaller and more compact) and pale 3rd antennal segments.

Info fauna map: <https://lepus.infofauna.ch/carto/40766>



Criorhina berberina (♀), 06.06.2020



Criorhina berberina (♀), 18.05.2024

2025-06-25	1	https://observation.org/observation/358958614/	
2025-06-21	2	https://observation.org/observation/358054538/	
2025-06-09	3	https://observation.org/observation/356022287/	
2025-05-24	3	https://observation.org/observation/352439681/	
2025-05-23	2	https://observation.org/observation/352145750/	
2025-05-18	1♂	https://observation.org/observation/351277978/	
2025-05-15	1♀	https://observation.org/observation/350649045/	
2025-05-10	1♀	https://observation.org/observation/349692768/	
2025-04-29	2	https://observation.org/observation/347410865/	
2024-06-13	1♀	https://observation.org/observation/314388745/	
2024-05-28	1♀	https://observation.org/observation/372509484/	
2024-05-26	5	https://observation.org/observation/311654343/	
2024-05-20	2	https://observation.org/observation/310711536/	
2024-05-20	1	https://observation.org/observation/310712182/	
2024-05-18	3	https://observation.org/observation/310349868/	●
2023-06-03	3	https://observation.org/observation/274722740/	
2022-05-09	1♀	https://observation.org/observation/240920795/	●
2021-06-08	5	https://observation.org/observation/216388584/	●
2021-06-01	2	https://observation.org/observation/215593249/	
2021-05-28	1♂	https://observation.org/observation/215103704/	
2021-05-20	1	https://observation.org/observation/214392455/	
2020-05-18	1	https://observation.org/observation/191705072/	●

Lägern (ZH):

2022-05-14	1	https://observation.org/observation/241474798/	
2020-06-06	3	https://observation.org/observation/193371153/	●

Criorhina floccosa (Meigen, 1822)

Status: relatively common; high detectability.

Habitat / preferences: in and around deciduous forest; found at the base of trees with rot holes, or perching on tree trunks; also found feeding in flowering hawthorn.

Flight time: April – June

ID remarks: a large bright-coloured hoverfly that looks like the fulvous form of *Matsumyia berberina*, but is more elongated in shape, and has dark bands on the abdomen and dark 3rd antennal segments.

Info fauna map: <https://lepus.infofauna.ch/carto/40767>



Criorhina floccosa (♂), 28.04.2025



Criorhina floccosa (♀), 14.05.2021

2025-05-24	1	https://observation.org/observation/352433425/	
2025-05-23	1	https://observation.org/observation/352145950/	
2025-04-28	2	https://observation.org/observation/347240528/	
2025-04-19	1♂	https://observation.org/observation/345567818/	
2024-05-10	1	https://observation.org/observation/308809727/	
2022-05-09	2	https://observation.org/observation/240920606/	●
2022-04-22	1♂	https://observation.org/observation/238656322/	●
2022-04-20	1♂	https://observation.org/observation/238436978/	●
2021-06-08	1	https://observation.org/observation/216388631/	
2021-05-14	4	https://observation.org/observation/213681924/	●
2021-05-03	2	https://observation.org/observation/212634913/	●

Criorhina ranunculi (Panzer, 1804)

Status: relatively common; high detectability because of its large size, but can be overlooked in flowering *Prunus* sp. because of the presence of many similar-looking bumblebees in early spring.

Habitat / preferences: mostly found on flowering *Prunus* sp. in the clay quarry in March/April.

Flight time: March – May

ID remarks: occurs in 3-4 colours forms as shown by the provided photographs (see also Speight et al 2020 for Form A and C); large, bumblebee-like hoverfly with the males having very thick femur, unlike the other *Criorhina*-species occurring in the survey area.

Info fauna map: <https://lepus.infofauna.ch/carto/40889>

2025-04-19	1♀	https://observation.org/observation/345570985/	
2025-04-12	1♂	https://observation.org/observation/344484270/	●
2025-04-04	1	https://observation.org/observation/343301193/	
2025-04-02	5	https://observation.org/observation/343049051/	
2025-03-24	2♂♂	https://observation.org/observation/342129205/	●
2025-03-24	2♀♀	https://observation.org/observation/342129205/	●
2024-03-14	3	https://observation.org/observation/300942970/	●
2023-03-22	4	https://observation.org/observation/265787059/	●
2022-05-09	1♂	https://observation.org/observation/240920336/	●
2022-03-22	3	https://observation.org/observation/235919210/	●
2021-05-14	1	https://observation.org/observation/213681972/	
2021-05-08	1♀	https://observation.org/observation/213000962/	●
2021-04-09	1	https://observation.org/observation/210360092/	●
2021-03-30	5	https://observation.org/observation/209678292/	
2021-03-29	1	https://observation.org/observation/209604086/	●
2020-04-22	1	https://observation.org/observation/189391046/	●

Lägern (ZH):

2020-05-10	1♀	https://observation.org/observation/191029675/	●
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Criorhina ranunculi (♂), 29.03.2021 (**form A**)



Criorhina ranunculi (♀), 30.03.2021



Criorhina ranunculi (♂ & ♀), 24.03.2025



Criorhina ranunculi (♂), 12.04.2025 (**form C**)

Dasysyrphus albostriatus (Fallén, 1817)

Status: relatively common; high detectability.

Habitat / preferences: in various habitats on various flowers; later in season found feeding on wild parsnip (*Pastinaca sativa*).

Flight time: April – September



Dasysyrphus albostriatus (♂), 16.08.2025



Dasysyrphus albostriatus (♀), 25.05.2023

ID remarks: looks superficially like other hoverfly species, but the abdominal pattern in combination with the clear white streaks on the thorax upperside, makes this species readily identifiable.

Info fauna map: <https://lepus.infofauna.ch/carto/41066>

2025-08-16	1♂	https://observation.org/observation/368909919/	●
2023-05-25	1♀	https://observation.org/observation/372423660/	●
2022-09-07	c. 10	https://observation.org/observation/254356989/	
2022-04-22	1♂	https://observation.org/observation/238656191/	●
2022-04-21	1♂	https://observation.org/observation/238524233/	
2022-04-11	1	https://observation.org/observation/237382913/	
2021-05-23	2	https://observation.org/observation/214626476/	
2021-05-22	1♂	https://observation.org/observation/371071091/	●
2021-05-20	5	https://observation.org/observation/214392493/	●
2021-05-14	1	https://observation.org/observation/213684075/	

***Dasysyrphus tricinctus* (Fallén, 1817)**

Status: relatively common; high detectability.

Habitat / preferences: deciduous woodland species; in flowering trees (e.g. *Euonymus* sp.) and on flowers.

Flight time: April – August

ID remarks: unmistakable by characteristic abdominal patterning; looks somewhat like *Chrysotoxum bicinctum*, but no clear darkened patches in wings and no yellow thorax spots.

Info fauna map: <https://lepus.infofauna.ch/carto/41073>



Dasysyrphus tricinctus (♂), 14.05.2021



Dasysyrphus tricinctus (♀), 01.06.2021

2025-08-16	1♂	https://observation.org/observation/368906539/	
2023-05-03	1	https://observation.org/observation/270217846/	
2022-04-22	1	https://observation.org/observation/238656201/	
2022-04-20	2	https://observation.org/observation/238436925/	
2022-04-14	1♂	https://observation.org/observation/237700318/	●
2022-04-12	3	https://observation.org/observation/237490630/	●
2021-06-03	1♀	https://observation.org/observation/215860324/	
2021-06-01	1♀	https://observation.org/observation/215593485/	●
2021-05-28	1♀	https://observation.org/observation/215103629/	●
2021-05-14	3	https://observation.org/observation/213684037/	●

Lägern (ZH):

2023-05-27	2	https://observation.org/observation/273672374/	
2022-05-14	2	https://observation.org/observation/241488130/	

***Dasysyrphus venustus* (Meigen, 1822)**

Status: common; high detectability because often perching on leaves.

Habitat / preferences: in undergrowth of deciduous woodland; often found on ground in/near forest streams.

Flight time: April – June

ID remarks: looks like other hoverflies species with a black-yellow patterned abdomen, especially other *Dasysyrphus*-species that have not been recorded in the survey area, but could potentially occur there; for identification see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41074>



Dasysyrphus venustus (♂), 03.05.2021



Dasysyrphus venustus (♀), 08.05.2021

2025-06-21	1♀	https://observation.org/observation/358057351/	
2025-05-24	1♀	https://observation.org/observation/352435079/	
2025-05-24	1♀	https://observation.org/observation/352435898/	●
2025-05-17	1♂	https://observation.org/observation/351006088/	
2025-04-11	1♂	https://observation.org/observation/344295653/	
2025-04-10	1♂	https://observation.org/observation/344296284/	
2022-04-22	1♀	https://observation.org/observation/371781260/	
2022-04-20	2♂♂	https://observation.org/observation/238436940/	
2022-04-20	1♂	https://observation.org/observation/371788729/	
2022-04-20	1♀	https://observation.org/observation/371788729/	
2022-04-13	1♂	https://observation.org/observation/237700257/	
2022-04-12	1♂	https://observation.org/observation/237490612/	●
2021-06-03	1♀	https://observation.org/observation/370693555/	
2021-05-28	1	https://observation.org/observation/215103651/	
2021-05-23	1	https://observation.org/observation/214626162/	
2021-05-08	1♀	https://observation.org/observation/213001016/	●
2021-05-03	1♂	https://observation.org/observation/212642363/	●

Lägern (ZH):

2021-06-13	1♀	https://observation.org/observation/216907071/	●
2021-06-10	1♀	https://observation.org/observation/216585352/	●
2020-05-23	1♀	https://observation.org/observation/192184701/	●

***Didea fasciata* Macquart, 1834**

Status: scarce; high detectability when perching on leaves in forest undergrowth; hard to detect when feeding on ivy high up in trees in autumn.

Habitat / preferences: deciduous woodland species; in autumn on ivy.

Flight time: May – October

ID remarks: easily recognisable as a *Didea*-species by the characteristic abdominal patterning; looks much like *Didea intermedia* that is likely to occur in the Jurapark Aargau and potentially in the survey area (<https://lepus.infofauna.ch/carto/41079>).

Info fauna map: <https://lepus.infofauna.ch/carto/41078>



Didea fasciata (♀), 24.05.2025



Didea fasciata (♀), 24.05.2025

2025-05-24	1♀	https://observation.org/observation/352310314/	●
2023-09-24	1	https://observation.org/observation/288802504/	
2022-10-07	1	https://observation.org/observation/256388568/	●
2022-09-21	1	https://observation.org/observation/255233089/	●
2022-09-07	1	https://observation.org/observation/254356973/	

Lägern (ZH):

2022-08-24	1♀	https://observation.org/observation/253194059/	●
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***Epistrophe diaphana* (Zetterstedt, 1843)**

Status: scarce/rare; high detectability.

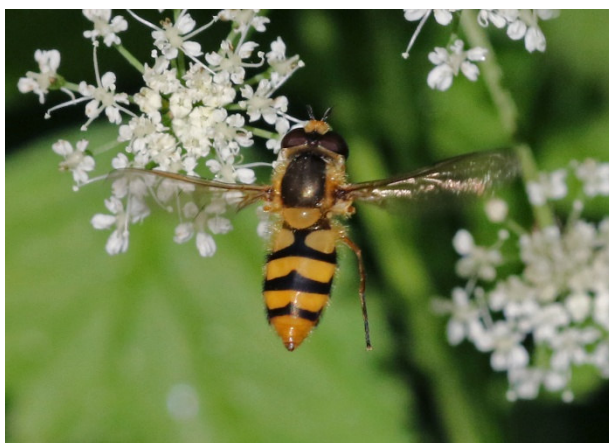
Habitat / preferences: exclusively found feeding on white umbellifers in and outside of deciduous woodland.

Flight time: June

ID remarks: *Epistrophe*-species look all much alike, but are well identifiable from field photos by subtle but characteristic features; *Epistrophe diaphana* and *Epistrophe grossulariae* are the only *Epistrophe*-species in the survey area with solid black 3rd antennal segments; *Epistrophe grossulariae* is a larger and thicker species and has two streaks on the thorax upperside and black abdomen bands with uniform thickness.



Epistrophe diaphana (♀), 03.06.2023



Epistrophe diaphana (♀), 03.06.2023

Info fauna map: <https://lepus.infofauna.ch/carto/41082>

2023-06-10	2	https://observation.org/observation/275775601/	
2023-06-03	1♀	https://observation.org/observation/274719930/	●
2021-06-24	1♀	https://observation.org/observation/218053216/	●

Epistrophe eligans (Harris, 1780)

Status: relatively common; high detectability.

Habitat / preferences: predominantly found in the clay quarry in flowering trees.

Flight time: April – May

ID remarks: a dark *Epistrophe*-species with abdomen tergites 3 and 4 mostly black; can perhaps be confused with *Dasysyrphus tricinctus*.

Info fauna map: <https://lepus.infofauna.ch/carto/41083>



Epistrophe eligans (♀), 22.04.2020



Epistrophe eligans (♂), 28.05.2024

2025-04-29	1♂	https://observation.org/observation/347409783/	
2025-04-19	2	https://observation.org/observation/345569903/	
2025-04-08	4	https://observation.org/observation/343893291/	
2025-04-05	2	https://observation.org/observation/343492989/	●
2024-05-28	1♂	https://observation.org/observation/372509497/	●
2023-05-09	1	https://observation.org/observation/372424047/	
2022-04-22	1♀	https://observation.org/observation/383098492/	●
2022-04-12	2	https://observation.org/observation/237490650/	
2022-04-11	1	https://observation.org/observation/237382826/	
2021-05-08	5	https://observation.org/observation/213002724/	
2020-04-22	1	https://observation.org/observation/189390998/	●

Epistrophe flava Doczkal & Schmid, 1994

Status: scarce; high detectability.

Habitat / preferences: predominantly found in the clay quarry perching on leaves or feeding in flowering trees.

Flight time: May – June

ID remarks: looks especially like *Epistrophe melanostoma*, but has 2 faint streaks on the thorax upperside; a distinctive triangular indent in the yellow band on tergite 4, and no black "chin".

Info fauna map: <https://lepus.infofauna.ch/carto/41085>



Epistrophe flava (♂), 20.05.2021



Epistrophe flava (♀), 10.05.2024

2024-05-10	2♀♀	https://observation.org/observation/308809941/	●
2024-05-10	1♀	https://observation.org/observation/308811860/	●
2023-05-03	1♂	https://observation.org/observation/270217779/	●
2021-06-07	1♀	https://observation.org/observation/216279692/	●
2021-06-01	2	https://observation.org/observation/215593321/	●
2021-05-23	1♀	https://observation.org/observation/214626659/	●
2021-05-20	2♂♂	https://observation.org/observation/214392656/	●

Epistrophe grossulariae (Meigen, 1822)

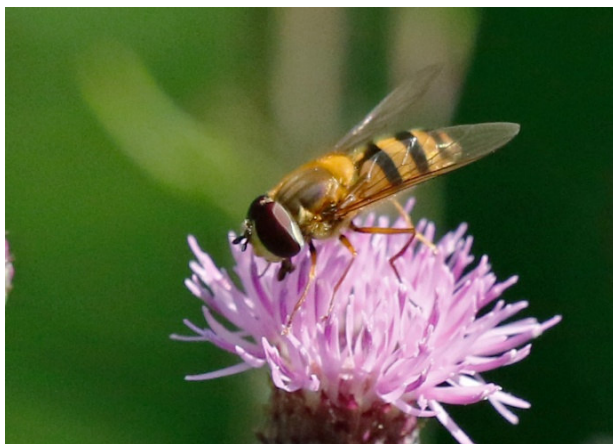
Status: scarce/rare; high detectability.

Habitat / preferences: in Lägern (ZH) found in forest undergrowth in August (females); in the survey area males were found on white umbellifers and thistle in deciduous forest.

Flight time: July – August

ID remarks: *Epistrophe diaphana* and *Epistrophe grossulariae* are the only *Epistrophe*-species in the survey area with solid black 3rd antennal segments; *Epistrophe grossulariae* is a larger and thicker species and has two streaks on the thorax upperside and black abdomen bands with uniform thickness.

Info fauna map: <https://lepus.infofauna.ch/carto/41086>



Epistrophe grossulariae (♂), 13.07.2025



Epistrophe grossulariae (♀), 07.08.2022

2025-07-13	1♂	https://observation.org/observation/362678051/	●
2021-07-02	1♂	https://observation.org/observation/370841234/	●

Lägern (ZH):

2022-08-07	4♀♀	https://observation.org/observation/251685271/	●
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Epistrophe melanostoma (Zetterstedt, 1843)

Status: common; high detectability.

Habitat / preferences: in deciduous woodland and in more open terrain (clay quarry bushes).

Flight time: April – June

ID remarks: looks like *Epistrophe flava* and *Epistrophe nitidicollis*, and other rare *Epistrophe*-species that have not been recorded in the survey area (yet); in side/front view the characteristic black "chin" can be visible and rules out other *Epistrophe*-species (see: <https://observation.org/photos/65487492/>).

Info fauna map: <https://lepus.infofauna.ch/carto/41088>



Epistrophe melanostoma (♂), 19.04.2025



Epistrophe melanostoma (♀), 03.05.21

2025-05-24	1♀	https://observation.org/observation/352434547/	
2025-05-10	1♀	https://observation.org/observation/349692676/	
2025-04-29	1♂	https://observation.org/observation/347414967/	
2025-04-28	1♀	https://observation.org/observation/347240752/	
2025-04-19	1♂	https://observation.org/observation/345569871/	●
2025-04-15	1♂	https://observation.org/observation/344975709/	
2025-04-15	1♀	https://observation.org/observation/344977638/	
2025-04-11	1♂	https://observation.org/observation/344296150/	
2025-04-05	1	https://observation.org/observation/343493289/	
2025-04-04	1♀	https://observation.org/observation/343338785/	●
2023-05-03	5	https://observation.org/observation/270217800/	●
2022-04-20	1♀	https://observation.org/observation/238434265/	
2022-04-13	1♂	https://observation.org/observation/237595750/	●
2022-04-11	1	https://observation.org/observation/237382757/	
2021-06-03	1♀	https://observation.org/observation/215861137/	
2021-05-28	1♀	https://observation.org/observation/215231822/	
2021-05-08	2	https://observation.org/observation/213001184/	
2021-05-03	1♀	https://observation.org/observation/212634996/	●

Lägern (ZH):

2021-06-13	1♀	https://observation.org/observation/216906434/	●
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Epistrophe nitidicollis (Meigen, 1822)

Status: common; high detectability.

Habitat / preferences: in deciduous woodland and in more open terrain (clay quarry bushes).

Flight time: April – June

ID remarks: looks like *Epistrophe flava* and *Epistrophe melanostoma*, and other rare *Epistrophe*-species that have not been recorded in the survey area (yet); has comparatively broad black bands on abdomen; for other distinguishing features see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41089>



Epistrophe nitidicollis (♂), 01.06.2021



Epistrophe nitidicollis (♀), 25.06.2021

2025-06-03	1♀	https://observation.org/observation/354369176/	
2025-05-17	1♀	https://observation.org/observation/351000049/	
2025-05-15	1♀	https://observation.org/observation/350649443/	
2025-05-10	1♀	https://observation.org/observation/349692701/	●
2025-04-29	1♂	https://observation.org/observation/347409713/	
2025-04-19	1♂	https://observation.org/observation/345569914/	
2025-04-08	1	https://observation.org/observation/343893260/	
2025-04-04	1♂	https://observation.org/observation/343338739/	●
2024-05-18	1	https://observation.org/observation/310364110/	
2023-05-09	1	https://observation.org/observation/374742719/	
2022-04-19	1♀	https://observation.org/observation/371986840/	
2021-06-25	1♀	https://observation.org/observation/231122085/	●
2021-06-24	1♀	https://observation.org/observation/230796805/	●
2021-06-22	2♀♀	https://observation.org/observation/217862314/	
2021-06-01	2	https://observation.org/observation/215593365/	●
2021-05-23	10	https://observation.org/observation/214626615/	●
2021-05-14	2♀♀	https://observation.org/observation/371208872/	
2021-05-03	1♀	https://observation.org/observation/212635012/	●

Epistrophella euchroma (Kowarz, 1885)

Status: relatively common; high detectability.

Habitat / preferences: found in and close to the clay quarry, in bushes and flowering trees.

Flight time: April – May



Epistrophella euchroma (♂), 03.05.2021



Epistrophella euchroma (♀), 03.05.2021

ID remarks: has a rather characteristic but varying abdomen patterning; may be confused with a number of species from other genera (for ID-features see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41084>

2025-04-11	1♂	https://observation.org/observation/344296000/	
2025-04-08	1♂	https://observation.org/observation/343893314/	
2022-04-21	1♂	https://observation.org/observation/238524385/	●
2022-04-19	1♂	https://observation.org/observation/238357594/	●
2021-05-23	2	https://observation.org/observation/214625456/	
2021-05-03	3	https://observation.org/observation/212635485/	●
2021-04-09	1♀	https://observation.org/observation/210359999/	●

Episyrphus balteatus (De Geer, 1776)

Status: common (record list incomplete); high detectability.

Habitat / preferences: widespread and in all kinds of habitats.

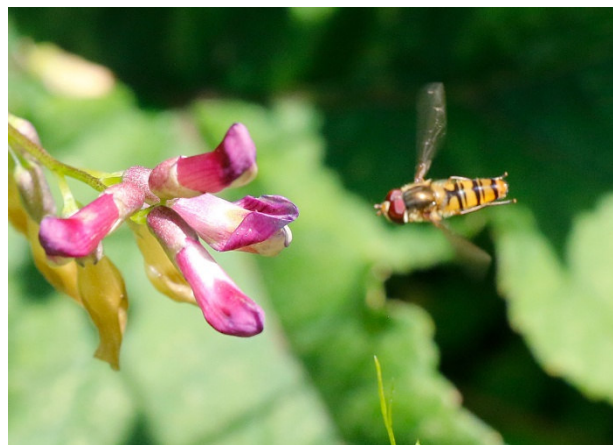
Flight time: March – October

ID remarks: characteristic abdominal pattern; easily recognized.

Info fauna map: <https://lepus.infofauna.ch/carto/41090>



Episyrphus balteatus (♂), 24.08.2025



Episyrphus balteatus (♂), 18.07.2025

2025-08-24	1♀	https://observation.org/observation/382928742/	●
2025-07-18	1♂	https://observation.org/observation/382916456/	●
2023-06-10	1♂	https://observation.org/observation/383006630/	●
2023-05-25	1	https://observation.org/observation/383219047/	●
2022-03-22	5	https://observation.org/observation/235919359/	
2021-06-17	1♂	https://observation.org/observation/383213755/	●
2021-05-03	1♂	https://observation.org/observation/383089335/	●

Eristalinus aeneus (Scopoli, 1763)

Status: scarce; low detectability: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees).

Habitat / preferences: common garden species; more records from gardens in nearby Wildeggen (AG).

Flight time: March – April

ID remarks: the two *Eristalinus*-species are easily recognized by their spectacled eyes; in *Eristalinus sepulchralis* the eyes are separated in both males and females; males of *Eristalinus aeneus* have touching eyes and are therefore easily recognisable; for females-ID see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40890>



Eristalinus aeneus (♂), 17.03.2023



Eristalinus aeneus (♂), 12.04.2022

2022-04-12	1♂	https://observation.org/observation/382947043/	●
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Schinznach-Dorf (AG):

2023-03-17	1♂	https://observation.org/observation/372425372/	●
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Eristalinus sepulchralis (Linnaeus, 1758)

Status: scarce; low detectability in meadows: the species is relatively small and the eye-spotting can be dense or covered by pollen, making the genus-identification sometimes a bit tricky.

Habitat / preferences: meadows and marshland; found in an outside of the clay quarry.

Flight time: April – August

ID remarks: unmistakable as an *Eristalinus*-species by having speckled eyes; for the distinction from *Eristalinus aeneus* see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40891>



Eristalinus sepulchralis (♂), 15.04.2025



Eristalinus sepulchralis (♂), 07.08.2022

2025-05-10	3	https://observation.org/observation/349690543/	
2025-04-19	2♂♂	https://observation.org/observation/345570771/	
2025-04-15	1♂	https://observation.org/observation/344978319/	●

Lägern (ZH):

2022-08-07	1	https://observation.org/observation/251685974/	●
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Eristalis alpina (Panzer, 1798)

Status: extremely rare; high detectability.

Habitat / preferences: found once on flowering *Cornus sanguinea* in May.

Flight time: May

ID remarks: looks like *Eristalis picea* and especially like *Eristalis rupium*; *Eristalis alpina* can be recognized by thickened rear femur, especially in males, and the dusted front half of the thorax upperside, among other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40892>



Eristalis alpina (♀), 18.05.2024



Eristalis alpina (♀), 18.05.2024

2024-05-18	1♀	https://observation.org/observation/310241668/	●
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Eristalis arbustorum (Linnaeus, 1758)

Status: relatively common; high detectability.

Habitat / preferences: in woodland and open terrain; later in season commonly found feeding on white umbellifers and wild parsnip (*Pastinaca sativa*).

Flight time: May – August

ID remarks: a small *Eristalis*-species with large yellow areas on tergite 2 and 3 in males; and a dust-patterning on the thorax upperside in females, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/40893>



Eristalis arbustorum (♂), 22.06.2025



Eristalis arbustorum (♀), 26.05.2024

2025-08-24	5	https://observation.org/observation/370119399/	
2025-08-03	1♀	https://observation.org/observation/366666382/	
2025-07-18	1♀	https://observation.org/observation/363672806/	●
2025-06-22	1♂	https://observation.org/observation/382575170/	●

2025-06-21	2♀♀	https://observation.org/observation/358057567/	●
2024-05-26	1♀	https://observation.org/observation/311653980/	●

Eristalis nemorum (Linnaeus, 1758)

Status: common; high detectability.

Habitat / preferences: in woodland and open terrain; early in season found on flowering *Prunus* sp. and hawthorn; later in season commonly found feeding on white umbellifers.

Flight time: April – September

ID remarks: distinguished from other *Eristalis*-species by a combination of features (see Bot & van de Meutter 2023); in the field quickly recognized when 1 or 2 males hover above a female in their typical manner.

Info fauna map: <https://lepus.infofauna.ch/carto/40896>



Eristalis nemorum (♂), 16.08.2025



Eristalis nemorum (♀), 22.06.2025

2025-08-24	5	https://observation.org/observation/370119312/	
2025-08-16	3	https://observation.org/observation/368909439/	●
2025-07-18	2	https://observation.org/observation/363672516/	
2025-06-22	1	https://observation.org/observation/382575180/	
2025-06-21	2	https://observation.org/observation/358057802/	●
2025-06-09	1♂	https://observation.org/observation/356031528/	
2022-04-20	1♀	https://observation.org/observation/383098400/	●
2022-04-20	1♂	https://observation.org/observation/238434334/	
2022-04-12	2	https://observation.org/observation/237490826/	
2021-09-30	1♂	https://observation.org/observation/370708032/	
2021-07-02	1♂	https://observation.org/observation/230264388/	●
2021-05-08	1	https://observation.org/observation/213351701/	●
2019-09-13	1♀	https://observation.org/observation/179855153/	●

Lägern (ZH):

2021-06-13	1♂	https://observation.org/observation/216906657/	●
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Eristalis pertinax (Scopoli, 1763)

Status: common (record list incomplete); high detectability.

Habitat / preferences: in woodland and open terrain; early in season found on flowering *Prunus* sp. and hawthorn; later in season commonly found feeding on white umbellifers.

Flight time: March – October

ID remarks: looks especially like *Eristalis similis*, but has yellow front tarsi unlike any other *Eristalis*-species occurring in the survey area.

Info fauna map: <https://lepus.infofauna.ch/carto/40899>



Eristalis pertinax (♀), 21.06.2025



Eristalis pertinax (♂), 24.03.2025

2025-06-21	4	https://observation.org/observation/358057478/	●
2025-06-09	1♀	https://observation.org/observation/356017956/	●
2025-05-18	1♂	https://observation.org/observation/351277643/	●
2025-05-10	1♀	https://observation.org/observation/349690704/	
2025-04-08	1♀	https://observation.org/observation/382819107/	●
2025-03-24	5♂♂	https://observation.org/observation/342129380/	●
2024-06-08	2	https://observation.org/observation/313826847/	
2023-03-22	2	https://observation.org/observation/265787143/	
2022-04-12	1	https://observation.org/observation/237490865/	
2022-03-29	1♂	https://observation.org/observation/236498257/	
2021-09-30	1♂	https://observation.org/observation/226738776/	
2021-03-29	10	https://observation.org/observation/209604582/	

Eristalis picea (Fallén, 1817)

Status: rare; high detectability.

Habitat / preferences: large marshlands and swampy forest species, habitats that are lacking in the survey area.

Flight time: May

ID remarks: looks like *Eristalis rupium* and *Eristalis alpina* by having dark patches in wings and a mostly black abdomen; differs from the species by a combination of features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40900>



Eristalis picea (♀), 07.05.2020



Eristalis picea (♀), 07.05.2020

2020-05-07	1♀	https://observation.org/observation/190755047/	●
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Eristalis similis (Fallén, 1817)

Status: scarce; high detectability; species with a migratory behaviour and irregular eruptions from the Mediterranean area that makes them more common in certain years.

Habitat / preferences: in woodland and open terrain; later in season commonly found feeding on white umbellifers.

Flight time: May – June

ID remarks: looks like the common *Eristalis pertinax* but with dark front tarsi, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/40901>



Eristalis similis (♀), 18.05.2025



Eristalis similis (♀), 20.05.2024

2025-05-24	1♂	https://observation.org/observation/352435562/	
2025-05-18	1♀	https://observation.org/observation/351277845/	●
2024-05-20	2	https://observation.org/observation/310711079/	●
2021-06-22	1♀	https://observation.org/observation/230663978/	●
2021-06-01	1♂	https://observation.org/observation/215595469/	

Eristalis tenax (Linnaeus, 1758)

Status: common (record list incomplete); high detectability.

Habitat / preferences: in a wide range of habitats on a variety of flower types and in flowering trees

Flight time: March – October

ID remarks: only *Eristalis*-species with completely dark legs and thickened hind tibia.

Info fauna map: <https://lepus.infofauna.ch/carto/40903>



Eristalis tenax (♂), 03.08.2025



Eristalis tenax (♀), 16.08.2025

2025-08-16	1♀	https://observation.org/observation/382926963/	●
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2025-08-03	c. 30	https://observation.org/observation/366666301/	●
2025-05-24	1	https://observation.org/observation/352433532/	
2025-05-15	2	https://observation.org/observation/350649133/	
2025-03-24	c. 5	https://observation.org/observation/342129404/	
2023-06-10	1♂	https://observation.org/observation/383006590/	●
2022-04-12	1♀	https://observation.org/observation/237490846/	
2022-03-22	c. 50	https://observation.org/observation/235919373/	
2021-03-29	c. 10	https://observation.org/observation/209604600/	

***Eumerus ornatus* Meigen, 1822**

Status: scarce; low detectability because of small size and occurring in forest undergrowth at ground level.

Habitat / preferences: in undergrowth in deciduous or mixed woodland.

Flight time: May – June

ID remarks: many *Eumerus*-species can not be identified from field photographs; *Eumerus ornatus* has a particular slender jizz that can point to its identification on field photos; the male on the photos was collected and microscopically confirmed.

Info fauna map: <https://lepus.infofauna.ch/carto/40912>



Eumerus ornatus (♂), 24.05.2025



Eumerus ornatus (♂), 24.05.2025

2025-06-21	3	https://observation.org/observation/358054484/	
2025-06-09	1♂	https://observation.org/observation/356012704/	
2025-05-24	1♂	https://observation.org/observation/352328003/	●

***Eumerus strigatus* (Fallén, 1817)**

Status: suspected to be relatively common; low detectability because hard to identify in field or from field photographs.

Habitat / preferences: mostly in open (bushy) terrain like the clay quarry; found feeding on wild parsnip (*Pastinaca sativa*) in August.

Flight time: found only in August in the survey area.

ID remarks: many *Eumerus*-species, including *Eumerus funeralis* and *Eumerus strigatus*, can generally not be identified from field photographs. See Speight et al (2021) and Bot & van de Meutter (2023) for identification of *Eumerus*-species.

Info fauna map: *Eumerus strigatus*: <https://lepus.infofauna.ch/carto/40917>

Eumerus funeralis: <https://lepus.infofauna.ch/carto/40920>

Eumerus strigatus:

2025-08-24	1♂	https://observation.org/observation/370837455/	●
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Eumerus funeralis/strigatus (♀♀), 03.08.2025 (left) and 10.08.2025 (right)

Eumerus funeralis/strigatus:

2025-08-24	1♀	https://observation.org/observation/370119080/	
2025-08-16	2	https://observation.org/observation/368908816/	●
2025-08-10	1	https://observation.org/observation/367902169/	●
2025-08-09	2	https://observation.org/observation/367737525/	●
2025-08-03	1♀	https://observation.org/observation/366668457/	
2022-08-24	1	https://observation.org/observation/382977366/	●

Eumerus tricolor (Fabricius, 1798)

Status: scarce; low detectability when not feeding on flowers.

Habitat / preferences: found on flowers in deciduous woodland and in the clay quarry (open terrain with bushes); often at ground level and sitting on ground.

Flight time: June

ID remarks: a larger *Eumerus*-species that can be identified from field photographs; there are a few other larger *Eumerus*-species in Switzerland that look like *Eumerus tricolor* but have other abdominal patterning and another colouration of the tarsi, amongst other features (see Speight et al, 2021).

Info fauna map: <https://lepus.infofauna.ch/carto/40919>



Eumerus tricolor (♂), 16.06.2024

Eumerus tricolor (♂), 16.06.2024

2025-06-09	1♂	https://observation.org/observation/356025990/	
2024-06-16	1♂	https://observation.org/observation/314796281/	●
2021-06-22	1♀	https://observation.org/observation/217862747/	●

Eupeodes bucculatus (Rondani, 1857)

Status: rare; low detectability because easily overlooked as being another, more common species.

Habitat / preferences: found once in interior deciduous woodland (on ground in a forest streams).

Flight time: April

ID remarks: the rarer *Eupeodes*-species like *Eupeodes bucculatus*, *Eupeodes goeldini* and *Eupeodes nitens* are usually identified microscopically using microscopic features and the pattern of black bands on the abdomen underside (tergites); the black-yellow pattern on the abdomen upperside and the colour of the leg base (black or not) are also pointing towards an identification.

Info fauna map: <https://lepus.infofauna.ch/carto/41097>



Eupeodes bucculatus (♀), 12.04.2025



Eupeodes bucculatus (♀), 12.04.2025

2025-04-12	1♀	https://observation.org/observation/344448979/	●
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Jurapark/Lägern (ZH) (*Eupeodes bucculatus* / *nitens*):

2025-04-05	1♂?	https://observation.org/observation/382135426/	●
2022-08-07	1♂?	https://observation.org/observation/251689863/	●

Eupeodes corollae (Fabricius, 1794)

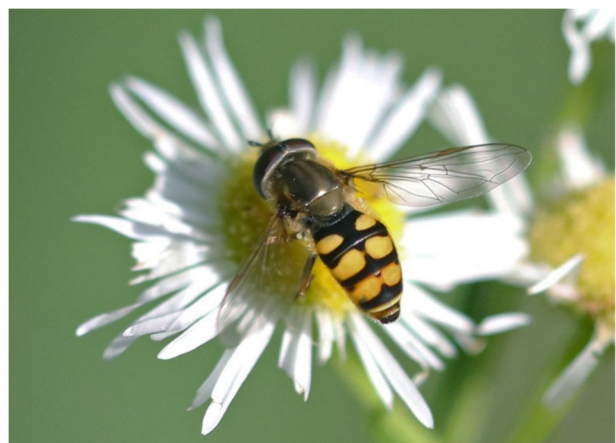
Status: relatively common; low detectability in meadows.

Habitat / preferences: mostly in (dry) open terrain with scarce vegetation or in meadows or gardens.

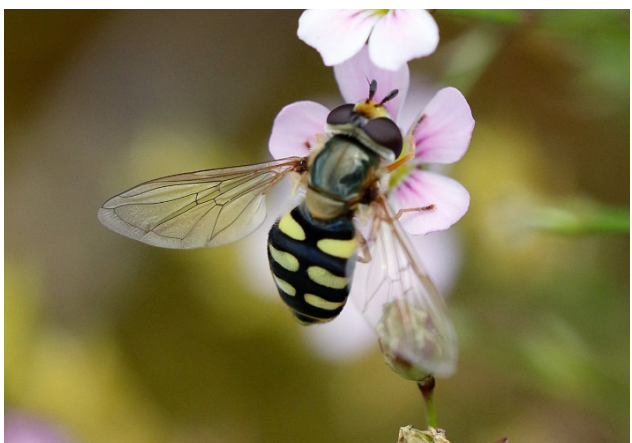
Flight time: June – August

ID remarks: The only *Eupeodes*-species in which the yellow areas on tergite 2-4 cross the abdomen edge - in early spring, darker individuals occur that may not show this feature.

Info fauna map: <https://lepus.infofauna.ch/carto/41093>



Eupeodes corollae (♂), 09.07.2021



Eupeodes corollae (♀), 03.08.2025

2025-08-03	2	https://observation.org/observation/366667578/	●
2025-06-09	1♀	https://observation.org/observation/356012920/	
2021-07-09	1♂	https://observation.org/observation/219664937/	●
2021-06-07	1♂	https://observation.org/observation/383213406/	●

Lägern (ZH):

2020-06-06	5	https://observation.org/observation/193444955/	
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Eupeodes latifasciatus (Macquart, 1829)

Status: relatively common; high detectability.

Habitat / preferences: often found in or near the clay quarry in (flowering) bushes or on flowers.

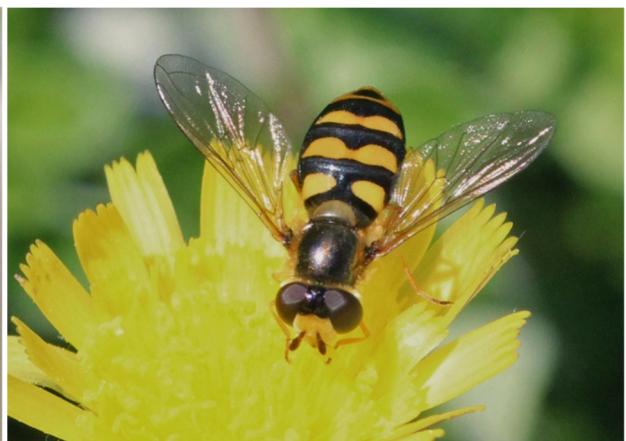
Flight time: March – June

ID remarks: well identifiable from field photographs by the straight upper line of the yellow patches on tergite 3 creating a sunglasses-pattern; females have a slightly concave curved frons edge, as opposed to many other *Eupeodes*-females that have a protruding frons.

Info fauna map: <https://lepus.infofauna.ch/carto/41096>



Eupeodes latifasciatus (♂), 11.04.2022



Eupeodes latifasciatus (♀), 17.05.2025

2025-05-17	1♀	https://observation.org/observation/350996361/	●
2025-04-19	1♀	https://observation.org/observation/345570789/	●
2025-04-08	1♂	https://observation.org/observation/343892585/	
2022-04-21	1♂	https://observation.org/observation/371787215/	
2022-04-20	2♀♀	https://observation.org/observation/238432883/	
2022-04-12	3	https://observation.org/observation/237490794/	
2022-04-11	1♂	https://observation.org/observation/372087295/	●
2022-03-29	1♀	https://observation.org/observation/236497442/	●
2022-03-22	1♀	https://observation.org/observation/235919288/	●
2021-06-08	2	https://observation.org/observation/216584244/	
2021-06-07	2♂♂	https://observation.org/observation/216279631/	●

Eupeodes luniger (Meigen, 1822)

Status: relatively common; generally well detectable, but difficult to spot in flowering *Prunus* sp.

Habitat / preferences: on flowers or in flowering trees in a variety of habitats; in early spring often found on flowering *Prunus* sp.

Flight time: March – July

ID remarks: looks like *Eupeodes corollae*, but with smaller yellow abdomen patches that never reach the abdomen edge; females with a characteristic Y-shaped protruding frons (see: <https://observation.org/photos/36702448/>).

Info fauna map: <https://lepus.infofauna.ch/carto/41098>



Eupeodes luniger (♂), 09.04.2021



Eupeodes luniger (♀), 09.04.2021

2025-04-04	1♂	https://observation.org/observation/343301081/	●
2024-05-10	1♀	https://observation.org/observation/372510167/	
2023-03-22	1♂	https://observation.org/observation/374742322/	
2022-04-21	1♂	https://observation.org/observation/238524344/	●
2021-07-09	1♂	https://observation.org/observation/219476462/	●
2021-06-22	1♂	https://observation.org/observation/217862765/	●
2021-05-28	2♂♂	https://observation.org/observation/215384592/	●
2021-05-08	1♀	https://observation.org/observation/213001213/	●
2021-04-09	2	https://observation.org/observation/210360047/	●
2021-03-30	1♂	https://observation.org/observation/209678079/	●
2020-05-20	1♀	https://observation.org/observation/192097767/	●

Lägern (ZH):

2020-05-17	1♀	https://observation.org/observation/192097588/	●
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Fagisyrphus cinctus (Fallén, 1817)

Status: relatively common; high detectability.

Habitat / preferences: mostly in undergrowth of deciduous or mixed woodland.

Flight time: April – June

ID remarks: males can be confused with *Meliscaeva cinctella*; females look somewhat like *Parasyrphus annulatus* or *Parasyrphus relictus*.

Info fauna map: <https://lepus.infofauna.ch/carto/41118>



Fagisyrphus cinctus (♂), 03.05.2021



Fagisyrphus cinctus (♀), 12.04.2025

2025-06-21	1♂	https://observation.org/observation/358056160/	
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2025-04-12	1♀	https://observation.org/observation/344501546/	●
2025-04-04	3	https://observation.org/observation/343301509/	
2022-04-13	1♂	https://observation.org/observation/237620835/	●
2022-04-11	1♀	https://observation.org/observation/382946368/	●
2021-05-14	1♂	https://observation.org/observation/371207006/	
2021-05-08	1♂	https://observation.org/observation/213001246/	●
2021-05-03	5	https://observation.org/observation/212634979/	●

Lägern (ZH):

2020-06-16	1♀	https://observation.org/observation/194539879/	●
2020-06-16	1♂	https://observation.org/observation/194539826/	●

Ferdinandea cuprea (Scopoli, 1763)

Status: relatively common; generally well detectable, but can sit on trunks high up in tree.

Habitat / preferences: in and outside of deciduous woodland on a variety of flowers and in flowering trees; perches often on tree trunks like *Brachyopa*-species.

Flight time: April – August

ID remarks: characteristic species with copper-coloured abdomen and striped thorax upperside; very similar to the rare *Ferdinandea ruficornis* (<https://lepus.infofauna.ch/carto/40922>) that might potentially occur in the Jurapark Aargau.

Info fauna map: <https://lepus.infofauna.ch/carto/40921>



Ferdinandea cuprea (♂), 18.05.2024



Ferdinandea cuprea (♀), 25.06.2021

2025-05-24	2	https://observation.org/observation/352435251/	
2025-05-10	1♂	https://observation.org/observation/349692720/	
2025-04-29	1♀	https://observation.org/observation/347410404/	
2025-04-11	1♀	https://observation.org/observation/344296100/	
2025-04-04	1	https://observation.org/observation/343301312/	
2025-04-02	1♂	https://observation.org/observation/343049026/	●
2024-05-26	1	https://observation.org/observation/311654137/	
2024-05-20	1	https://observation.org/observation/310710903/	
2024-05-18	2	https://observation.org/observation/310364332/	●
2022-04-22	1♂	https://observation.org/observation/238656832/	●
2021-06-25	1♀	https://observation.org/observation/218145414/	●

Lägern (ZH):

2022-05-14	1	https://observation.org/observation/241474898/	
2023-08-18	3	https://observation.org/observation/178190458/	●

Helophilus pendulus (Linnaeus, 1758)

Status: relatively common; high detectability.

Habitat / preferences: mostly in meadows and marshland, but also in undergrowth of deciduous woodland: commonly found in the clay quarry.

Flight time: April – June

ID remarks: readily identifiable as a *Helophilus*-species; distinguished from *Helophilus trivittatus* by the differing abdominal pattern and the yellow face.

Info fauna map: <https://lepus.infofauna.ch/carto/40927>



Helophilus pendulus, 09.06.2025



Helophilus pendulus, 24.05.2025

2025-06-09	1	https://observation.org/observation/356026378/	●
2025-06-09	1	https://observation.org/observation/356032080/	
2025-05-24	1	https://observation.org/observation/352436662/	●
2025-05-24	2	https://observation.org/observation/352439538/	
2025-04-29	1	https://observation.org/observation/347406175/	
2025-04-15	1	https://observation.org/observation/344978195/	
2025-04-08	1	https://observation.org/observation/343891925/	●
2021-06-08	1	https://observation.org/observation/370695790/	●
2021-05-14	1	https://observation.org/observation/383084914/	●
2021-05-13	1	https://observation.org/observation/383213240/	●
2021-05-08	2	https://observation.org/observation/213001116/	

Helophilus trivittatus (Fabricius, 1805)

Status: relatively common; high detectability.

Habitat / preferences: mostly in meadows and other open terrain with bushes; commonly found in the clay quarry on a variety of flowers.



Helophilus trivittatus, 10.08.2025



Helophilus trivittatus, 10.08.2025

Flight time: June – August

ID remarks: readily identifiable as a *Helophilus*-species; distinguished from *Helophilus pendulus* by the different abdominal pattern, larger size and the white face.

Info fauna map: <https://lepus.infofauna.ch/carto/40926>

2025-08-31	5	https://observation.org/observation/371185078/	
2025-08-24	3	https://observation.org/observation/370119191/	
2025-08-16	1	https://observation.org/observation/368908262/	
2025-08-10	1	https://observation.org/observation/367902712/	●
2023-06-10	1	https://observation.org/observation/372196131/	●

***Lapposyrphus lapponicus* (Zetterstedt 1838)**

Status: (relatively) common; high detectability.

Habitat / preferences: in an outside of deciduous or mixed woodland species; males are often found hovering along forest tracks at c. 1 m height.

Flight time: March – June

ID remarks: closely related to *Eupeodes*-species, but readily identifiable by the strongly curved wing vein nr. 3.

Info fauna map: <https://lepus.infofauna.ch/carto/41095>



Lapposyrphus lapponicus (♂), 22.06.2025



Lapposyrphus lapponicus (♀), 26.05.24

2025-06-22	1♂	https://observation.org/observation/382575033/	●
2025-06-14	1♂	https://observation.org/observation/356574251/	
2025-06-09	3♂♂	https://observation.org/observation/356015888/	
2025-06-09	1♂	https://observation.org/observation/356021660/	
2025-05-24	c. 10	https://observation.org/observation/352326779/	●
2025-05-17	2	https://observation.org/observation/351002072/	
2025-05-17	1♂	https://observation.org/observation/351005839/	
2025-05-15	1♂	https://observation.org/observation/350648953/	
2025-04-10	1♀	https://observation.org/observation/344142849/	
2024-06-16	1♂	https://observation.org/observation/314797372/	
2024-05-26	1♀	https://observation.org/observation/311664325/	●
2024-03-14	1♀	https://observation.org/observation/300943072/	●
2023-03-22	2♀	https://observation.org/observation/265787205/	
2023-03-17	1♀	https://observation.org/observation/265394240/	
2022-04-14	1♀	https://observation.org/observation/371991487/	
2022-05-15	1♀	https://observation.org/observation/241659216/	
2022-04-20	1♀	https://observation.org/observation/238432514/	
2022-04-14	1♀	https://observation.org/observation/371991487/	
2021-05-08	1♀	https://observation.org/observation/213001198/	●

Lägern (ZH):

2020-06-06	5	https://observation.org/observation/193444964/	
2020-05-27	1♀	https://observation.org/observation/192665958/	●
2020-05-23	1♀	https://observation.org/observation/192184855/	●

Leucozона lucorum (Linnaeus, 1758)

Status: scarce; high detectability.

Habitat / preferences: in undergrowth of deciduous or mixed woodland.

Flight time: April – August

ID remarks: characteristic hoverfly with partly white abdomen (sometimes all-dark abdomen in males); very similar to the very rare *Leucozона inopinata* (<https://lepus.infofauna.ch/carto/41216>) that has black instead of white hairs on the abdomen tip.

Info fauna map: <https://lepus.infofauna.ch/carto/41106>



Leucozона lucorum (♀), 18.05.2024



Leucozона lucorum (♀), 07.08.2022

2025-04-29	1	https://observation.org/observation/347239993/	
2024-05-18	1♀	https://observation.org/observation/310429324/	●
2024-05-10	1	https://observation.org/observation/308809143/	

Lägern (ZH):

2023-05-27	2	https://observation.org/observation/273671547/	
2022-08-07	1♀	https://observation.org/observation/251700773/	●
2021-06-13	1♂	https://observation.org/observation/216906962/	●
2020-06-11	1♀	https://observation.org/observation/193945820/	●

Leucozона glaucia (Linnaeus, 1758)

Status: scarce/rare; high detectability.

Habitat / preferences: interior deciduous or mixed woodland; only found feeding on white umbellifers along forest tracks.

Flight time: June

ID remarks: characteristic species that superficially looks similar to *Leucozона laternaria* that might potentially occur in the Jurapark Aargau as well (<https://lepus.infofauna.ch/carto/41105>).

Info fauna map: <https://lepus.infofauna.ch/carto/41104>

2025-06-22	1♂	https://observation.org/observation/382576119/	●
2025-06-21	1♂	https://observation.org/observation/358049267/	●



Leucozona glauca (♂), 21.06.2025



Leucozona glauca (♂), 21.06.2025

Mallota fuciformis (Fabricius, 1794)

Status: scarce; low detectability: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees); easily overlooked because of its similarity to bumblebee species and its restless behaviour in *Prunus* sp.

Habitat / preferences: in and outside deciduous woodland; in early spring on flowering *Prunus* sp. and later in spring on flowering hawthorn.

Flight time: March – May

ID remarks: unmistakable hoverfly species that looks like a bumblebee (e.g. *Bombus pratorum*).

Info fauna map: <https://lepus.infofauna.ch/carto/40936>



Mallota fuciformis, 02.04.2025



Mallota fuciformis, 02.04.2025

2025-04-05	1	https://observation.org/observation/343493244/	
2025-04-02	2	https://observation.org/observation/343048999/	●
2022-03-22	2	https://observation.org/observation/235919276/	●
2021-05-20	1	https://observation.org/observation/214392384/	●
2021-05-08	1	https://observation.org/observation/213001107/	●

Megasyrphus erraticus (Linnaeus, 1758)

Status: rare: this might be a declining species in the lowlands in NW-Switzerland (see info fauna map); high detectability.

Habitat / preferences: only found on two consecutive days in deciduous woodland interior, perching on leaves along a forest stream.

Flight time: April

ID remarks: superficially similar to other hoverfly species like members of the *Parasyrphus*-genus, but much larger and whit diagnostic bulging wing vein nr. 3.

Info fauna map: <https://lepus.infofauna.ch/carto/41077>



Megasyrphus erraticus (♀), 20.04.2022



Megasyrphus erraticus (♂), 21.04.2022

2022-04-21	1♂	https://observation.org/observation/238524214/	●
2022-04-20	1♀	https://observation.org/observation/238436827/	●

***Melangyna lasiophthalma* (Zetterstedt, 1843)**

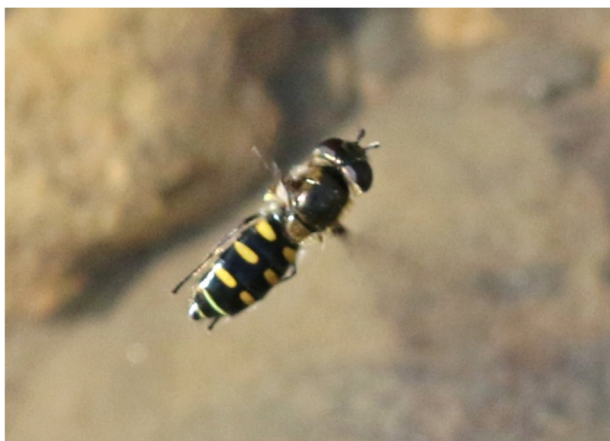
Status: scarce/rare; easily overlooked because of its similarity to other common species (e.g. *Parasyrphus punctulatus*).

Habitat / preferences: in undergrowth of deciduous or mixed woodland; also found on ground in a muddy forest stream.

Flight time: April

ID remarks: by abdomen-patterning identifiable as a *Melangyna*-species; female similar to *Melangyna umbellatarum* but with yellow instead of white abdomen spots; for identification of males see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41112>



Melangyna lasiophthalma (♀), 11.04.2025



Melangyna lasiophthalma (♀), 15.04.2025

2025-04-15	1♀	https://observation.org/observation/344977033/	●
2025-04-11	1♀	https://observation.org/observation/344295719/	●

Melangyna pavlovskyi (Violovitsh, 1956)

Status: scarce/rare; generally difficult to detect in flowering *Prunus* sp. or on the first small spring flowers on forest floors.

Habitat / preferences: in or outside of deciduous woodland; on ground on wood anemone (*Anemonoides nemorosa*) or speedwell (*Veronica persica*), or in flowering *Prunus* sp.

Flight time: March (earliest observation in canton Zürich on February, 18th).

ID remarks: by abdomen-patterning identifiable as a *Melangyna*-species; females identifiable by yellow rectangular-shaped abdomen patches and a row of long hair on the lower eye part; males look like *Melangyna quadrimaculata* (<https://lepus.infofauna.ch/carto/41121>) that might occur in the survey area and is a very early flyer as well.

Info fauna map: no map yet; see: Bisschop & Fisler 2022 and records in www.observation.org.



Melangyna pavlovskyi (♀), 29.03.2021



Melangyna pavlovskyi (♂), 14.03.2024

2024-03-14	1♂	https://observation.org/observation/300943023/	●
2022-03-29	1♀	https://observation.org/observation/236497054/	●
2021-03-29	2♀	https://observation.org/observation/209604178/	●

Melangyna umbellatarum (Fabricius, 1794)

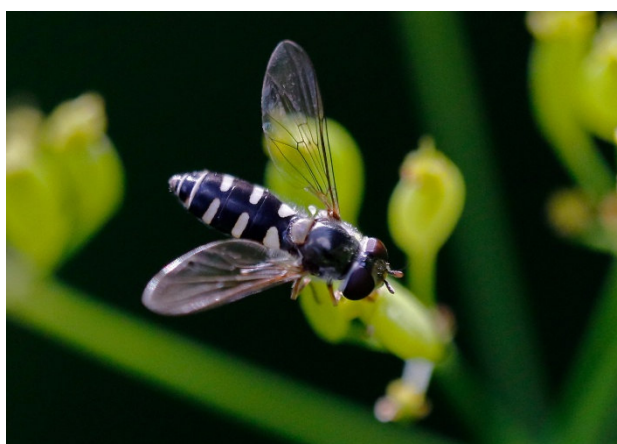
Status: scarce/rare; high detectability.

Habitat / preferences: in and outside deciduous woodland species; later in season found feeding on wild parsnip (*Pastinaca sativa*).

Flight time: June – August

ID remarks: females are characteristic with their white abdomen patches; in males the patches are yellow and the distinction from other *Melangyna*-species is more difficult (Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41113>



Melangyna umbellatarum (♀), 24.08.2025



Melangyna umbellatarum (♀), 10.06.2023

2025-08-24	1♀	https://observation.org/observation/370119846/	●
2023-06-10	1♀	https://observation.org/observation/275776494/	●

Melanogaster nuda (Macquart, 1829)

Status: scarce; low detectability.

Habitat / preferences: found in vegetation around the marshy ponds in the clay quarry.

Flight time: April – May

ID remarks: a small hoverfly-species that recalls a *Cheilosia*-species; similar to other *Melanogaster*-species that might potentially occur in the Jurapark; female with without hairs on thorax, unlike other species; male on picture was microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/40939>



Melanogaster nuda (♀), 17.05.2025



Melanogaster nuda (♂), 29.04.2025

2025-05-17	1♀	https://observation.org/observation/351000538/	●
2025-04-29	1♀	https://observation.org/observation/347407289/	●
2025-04-29	1♂	https://observation.org/observation/347407774/	●

Melanogaster aerea* / *parumplicata

Status: rare; low detectability because of small size, inconspicuous looks very similar to other (commoner) species from the genera *Cheilosia* and *Melanogaster*.

Habitat / preferences: found once feeding on white umbellifers in deciduous woodland.

Flight time: June

ID remarks: best microscopically identified (see Bot & van de Meutter 2023); erect black hairs on thorax upperside; proportionally smaller and less red eyes compared to e.g. *Melanogaster nuda*.



Melanogaster sp. (♂), 10.06.2023



Melanogaster sp. (♂), 10.06.2023

Info fauna maps: *Melanogaster aerea*: <https://lepus.infofauna.ch/carto/40937>
Melanogaster parumplicata: <https://lepus.infofauna.ch/carto/41213>

2023-06-10	1♂	https://observation.org/observation/372203353/	●
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Melanostoma mellinum (Linnaeus, 1758)

Status: relatively common and therefore often found, but tends to hang on underside leaves when perching and then hard to see.

Habitat / preferences: in and outside woodland, in undergrowth or in meadows.

Flight time: April – August

ID remarks: male like *Melanostoma scalare* but with broader abdomen and glossy face; females also like *Melanostoma scalare* but with glossy face.

Info fauna map: <https://lepus.infofauna.ch/carto/41115>



Melanostoma mellinum (♂), 16.08.2025



Melanostoma mellinum (♂), 20.04.2022

2025-08-16	1♂	https://observation.org/observation/368908235/	●
2025-08-03	1♂	https://observation.org/observation/366668732/	
2025-06-14	1♂	https://observation.org/observation/356570456/	●
2022-04-20	1♂	https://observation.org/observation/371788609/	●
2022-04-14	1♂	https://observation.org/observation/371991601/	

Melanostoma scalare (Fabricius, 1794)

Status: common (record list incomplete); often found, but tends to hang on underside of leaves when perching and then hard to see.



Melanostoma scalare (♂), 05.04.2025



Melanostoma scalare (♀), 09.04.2021

Habitat / preferences: in and outside woodland, in undergrowth or in meadows.

Flight time: April – August

ID remarks: male like *Melanostoma mellinum* male but with slender abdomen; females like *Melanostoma mellinum* but with dusty face and more often with (completely) pale hind femur.

Info fauna map: <https://lepus.infofauna.ch/carto/41117>

2025-08-03	1♂	https://observation.org/observation/366668732/	●
2025-06-25	1♂	https://observation.org/observation/358958548/	●
2025-06-09	2	https://observation.org/observation/356015410/	●
2025-05-15	1♀	https://observation.org/observation/350649092/	●
2025-04-19	1♂?	https://observation.org/observation/345563990/	●
2025-04-08	1♂	https://observation.org/observation/343891614/	●
2025-04-05	1♂	https://observation.org/observation/343575470/	●
2024-06-16	1♀	https://observation.org/observation/314796834/	
2024-04-08	2	https://observation.org/observation/372501192/	
2022-04-12	5♂♂	https://observation.org/observation/237490928/	
2021-04-09	2	https://observation.org/observation/210361278/	●

Lägern (ZH):

2020-06-06	1♂	https://observation.org/observation/193535949/	●
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***Meligramma cingulata* (Egger, 1860)**

Status: relatively common; low detectability.

Habitat / preferences: in undergrowth (e.g. wild garlic) of interior deciduous woodland; often found in/near forest streams.

Flight time: April – May

ID remarks: male looks like *Meligramma triangulifera* or *Platycheirus albimanus* with slender abdomen and small yellow patches, but the detailed shape of the patches is different; the dark scutellum also separates it from male *Meligramma triangulifera*; female with characteristic abdominal pattern.

Info fauna map: <https://lepus.infofauna.ch/carto/41119>



Meligramma cingulata (♂), 20.04.2022



Meligramma cingulata (♀), 19.04.2025

2025-04-28	1♀	https://observation.org/observation/347240977/	
2025-04-19	2♀♀	https://observation.org/observation/345569560/	●
2025-04-12	1♂	https://observation.org/observation/344449491/	●
2022-04-21	1♀	https://observation.org/observation/238524366/	●
2022-04-21	1♂	https://observation.org/observation/371787936/	●
2022-04-20	1♂	https://observation.org/observation/238435995/	●
2021-05-23	1♂	https://observation.org/observation/214625481/	●

2021-05-14	1♂	https://observation.org/observation/371206835/	
2021-05-08	1♀	https://observation.org/observation/213001023/	●

Lägern (ZH):

2020-05-27	1♀	https://observation.org/observation/192591067/	●
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Meligramma triangulifera (Zetterstedt, 1843)

Status: scarce; perhaps overlooked because of similarity to other species.

Habitat / preferences: only found in the clay quarry, in undergrowth and bushes.

Flight time: April – June

ID remarks: male looks like *Meligramma cingulata* but with pale(r) scutellum, more triangular-shaped patches and smaller patches on tergite 2; in females the abdominal patterning is similar to that of other species, but with small triangular patches on tergite 2.

Info fauna map: <https://lepus.infofauna.ch/carto/41122>



Meligramma triangulifera (♂), 08.04.2025



Meligramma triangulifera (♀), 03.06.21

2025-04-08	1♂	https://observation.org/observation/343894134/	●
2021-06-03	1♀	https://observation.org/observation/218640871/	●
2021-05-08	1♀	https://observation.org/observation/213001057/	●

Meliscaeva auricollis (Meigen, 1822)

Status: relatively common; high detectability.

Habitat / preferences: in a variety of habitats, on flowers on ground level or in flowering trees (e.g. *Prunus* sp.)

Flight time: March – June



Meliscaeva auricollis (♀), 08.06.2021



Meliscaeva auricollis (♂), 28.05.2024

ID remarks: the size of the yellow abdomen patches can vary, but they are mostly large (compared to similar-looking species) and the posterior edges are always strongly inclined (in males & females); females with conspicuously yellow scutellum and large dust patches on frons.

Info fauna map: <https://lepus.infofauna.ch/carto/41123>

2025-05-17	1♀	https://observation.org/observation/351002284/	
2025-04-05	1♂	https://observation.org/observation/343575906/	
2025-04-02	1	https://observation.org/observation/343049217/	
2025-03-24	1♀	https://observation.org/observation/342129132/	
2024-05-28	1♂	https://observation.org/observation/312256244/	●
2024-03-14	1	https://observation.org/observation/300943188/	●
2022-04-21	1♀	https://observation.org/observation/371787917/	●
2021-06-08	1♀	https://observation.org/observation/216388652/	●

Lägern (ZH):

2020-06-11	1♀	https://observation.org/observation/193946004/	●
2020-05-23	1♀	https://observation.org/observation/192184793/	●

Meliscaeva cinctella (Zetterstedt, 1843)

Status: (relatively) common; high detectability.

Habitat / preferences: on a variety of flowers and in flowering trees in deciduous or mixed woodland.

Flight time: April – August

ID remarks: male may be confused with *Fagisyrphus cinctus*; female with large squarish patches on tergite 2.

Info fauna map: <https://lepus.infofauna.ch/carto/41124>



Meliscaeva cinctella (♂), 11.04.2022



Meliscaeva cinctella (♀), 21.06.2025

2025-08-16	2	https://observation.org/observation/368907539/	
2025-07-18	1♀	https://observation.org/observation/382916845/	●
2025-06-21	1♀	https://observation.org/observation/358056564/	●
2025-06-21	1♂	https://observation.org/observation/358056763/	●
2025-04-19	1♀	https://observation.org/observation/345568781/	
2025-04-08	1♂	https://observation.org/observation/343892823/	
2025-04-05	1♂	https://observation.org/observation/343576971/	
2022-04-12	3	https://observation.org/observation/237491545/	
2022-04-11	3	https://observation.org/observation/237382976/	●
2021-05-28	1♀	https://observation.org/observation/215103850/	
2021-05-08	1♂	https://observation.org/observation/213001226/	●
2021-05-03	1♂	https://observation.org/observation/212641838/	●
2020-04-22	1	https://observation.org/observation/189390974/	●

***Merodon aberrans* Egger, 1860**

Status: scarce/rare; high detectability when feeding on white umbellifers.

Habitat / preferences: interior deciduous woodland; only found on white umbellifers.

Flight time: June – July

ID remarks: looks like *Merodon moenium* and *Merodon nigratarsis* but with no or smaller white bands on tergite 4 (in males); see Speight & Langlois (2020) for detailed descriptions of male *Merodon*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/40940>



Merodon aberrans (♂), 24.06.2021



Merodon aberrans (♂), 25.06.2021

2021-07-02	1♂	https://observation.org/observation/218920784/	●
2021-06-25	1♂	https://observation.org/observation/218145001/	●
2021-06-24	1♂	https://observation.org/observation/218053760/	●

***Merodon armipes* Rondani, 1843**

Status: scarce/rare; low detectability.

Habitat / preferences: Meadow species.

Flight time: April – May

ID remarks: very similar to *Merodon ruficornis* (<https://lepus.infofauna.ch/carto/40954>) that occurs in the nearby region; see Speight & Langlois, 2020 for separation of the males and Vujic et al (2012) and Bot & van de Meutter (2023) for separation of the females.

Info fauna map: <https://lepus.infofauna.ch/carto/40943>



Merodon armipes (♂), 09.05.2023



Merodon armipes (♀), 19.04.2025

2025-04-19	1♀	https://observation.org/observation/345558626/	●
2023-05-09	1♂	https://observation.org/observation/271064068/	●
2022-04-20	1♂	https://observation.org/observation/238432846/	●

Merodon equestris (Fabricius, 1794)

Status: scarce in the survey area; high detectability because of large size and often sitting on leaves.

Habitat / preferences: a species often found in urban gardens; often on or near the ground; in the survey area only found twice, in a meadow field and in woodland undergrowth.

Flight time: only found in May in the survey area.

ID remarks: a large and bulky *Merodon*-species that occurs in a number of colour morphs (see Bot & van de Meutter 2023)

Info fauna map: <https://lepus.infofauna.ch/carto/40950>



Merodon equestris (♀), 10.05.2024



Merodon equestris (♂), 15.05.2022

2024-05-10	1♀	https://observation.org/observation/372510036/	●
2022-05-15	1♂	https://observation.org/observation/241659248/	●

Lägern (ZH):

2020-05-17	1♀	https://observation.org/observation/192097623/	●
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Merodon moenium (Wiedemann, 1822)

Status: scarce; high detectability.

Habitat / preferences: in and outside deciduous and mixed woodland; also in open (dry) terrain; found feeding on white umbellifers and in flowering bushes (e.g. *Euonymus* sp.).

Flight time: May – June

ID remarks: looks like *Merodon nigratarsis* but has tarsi that are not (solid) black and in males a clearly interrupted white band on tergite 4; see Speight & Langlois (2020) for detailed descriptions of male *Merodon*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/41477>



Merodon moenium (♂), 20.05.2024



Merodon moenium (♂), 28.05.2021

2024-06-16	2	https://observation.org/observation/314797668/	
2024-06-16	1♂	https://observation.org/observation/314797982/	
2024-05-20	1♂	https://observation.org/observation/310709991/	●
2021-06-03	1♂	https://observation.org/observation/215860209/	●
2021-05-28	1♂	https://observation.org/observation/215104872/	●

Lägern (ZH):

2021-06-13	1♂	https://observation.org/observation/216906874/	●
2020-06-06	1♂	https://observation.org/observation/193371343/	●

Merodon nigratarsis Rondani, 1845

Status: scarce/rare; high detectability when feeding on flowers.

Habitat / preferences: interior deciduous woodland; found on umbellifers and blackberry flowers.

ID remarks: looks like *Merodon moenium* and but with solid black tarsi in males and females; and in males with an (almost) uninterrupted white band on tergite 4 and a strongly tapered abdomen shape.

Flight time: June – July

Info fauna map: <https://lepus.infofauna.ch/carto/40953>



Merodon nigratarsis (♂), 22.06.2021



Merodon nigratarsis (♀), 09.06.2025

2025-06-09	1♀	https://observation.org/observation/355941368/	●
2021-07-02	1♀	https://observation.org/observation/218920765/	●
2021-06-22	1♂	https://observation.org/observation/217862336/	●

Microdon analis (Macquart, 1842) **Near-Threatened**

Status: scarce; easily detectable when perching on leaves.



Microdon analis, 13.06.2021



Microdon analis, 14.05.2021

Habitat / preferences: in undergrowth of deciduous or mixed woodland and in forest clearing; found near ant nests in a decaying wood stump.

Flight time: May – June

ID remarks: similar to *Microdon devius* (<https://lepus.infofauna.ch/carto/40755>) that occurs in the nearby region but has pale tarsi; very similar to *Microdon devius*, a species that has not been recorded in Switzerland yet, but could possibly occur there.

Info fauna map: <https://lepus.infofauna.ch/carto/40756>

2025-06-14	1	https://observation.org/observation/356573272/	●
2025-05-17	1	https://observation.org/observation/351003174/	
2024-05-20	1	https://observation.org/observation/310712279/	●
2021-05-14	1	https://observation.org/observation/213684224/	●

Lägern (ZH):

2021-06-13	1	https://observation.org/observation/216906396/	●
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***Microdon mutabilis* / *myrmicae* Vulnerable**

Status: scarce; mostly found sitting on the ground and then not easily detected.

Habitat / preferences: found in the grass near the ponds in the clay quarry or in the undergrowth of woodland; the habitat preferences of their host ant species could determine the habitat preferences of *Microdon mutabilis* vs. *Microdon myrmicae* (e.g. woodland vs. marshland).

Flight time: May – June

ID remarks: the imago of *Microdon mutabilis* and *Microdon myrmicae* are identical; the species are separated by their pupa that is laid in/near nest of different host ant species.

Info fauna maps: *Microdon mutabilis*: <https://lepus.infofauna.ch/carto/40757>

Microdon myrmicae: <https://lepus.infofauna.ch/carto/41222>

2025-05-24	2	https://observation.org/observation/352325281/	●
2025-05-23	1	https://observation.org/observation/352144795/	●
2025-05-17	2	https://observation.org/observation/351000934/	●
2021-06-08	1	https://observation.org/observation/216388815/	●
2020-05-20	1	https://observation.org/observation/191911184/	●



Microdon mutabilis/myrmicae, 24.05.2025



Microdon mutabilis/myrmicae, 17.05.2025

***Myathropa florea* (Linnaeus, 1758)**

Status: common, and temporary abundant with e.g. 100 (rough estimate) on August, 9th (2025) in the clay quarry; high detectability.

Habitat / preferences: in a variety of habitats; on flowering trees like hawthorn and later in season commonly found feeding on white umbellifers, wild parsnip (*Pastinaca sativa*), and ivy.

Flight time: April – October

ID remarks: unmistakable; variation in the overall brightness/darkness.
Info fauna map: <https://lepus.infofauna.ch/carto/40959>



Myathropa florea (♀), 14.05.2021



Myathropa florea (♂), 19.04.2025

2025-08-09	c. 100	https://observation.org/observation/367702633/	
2025-06-09	3	https://observation.org/observation/356021898/	
2025-05-24	3	https://observation.org/observation/352437967/	
2025-05-17	2	https://observation.org/observation/351001798/	
2025-05-15	1	https://observation.org/observation/350649231/	
2025-05-10	1♂	https://observation.org/observation/349691106/	
2025-04-29	3	https://observation.org/observation/347406058/	
2025-04-28	2	https://observation.org/observation/347240731/	
2025-04-19	1♂	https://observation.org/observation/345564235/	●
2025-04-12	1♂	https://observation.org/observation/344478434/	
2024-05-18	10	https://observation.org/observation/310363840/	
2022-10-07	2	https://observation.org/observation/256388641/	
2022-04-12	2	https://observation.org/observation/237490524/	
2021-05-14	5	https://observation.org/observation/213925075/	●
2021-05-08	1♂	https://observation.org/observation/213611126/	●

Lägern (ZH):

2021-06-13	c. 10	https://observation.org/observation/216906692/	
2020-06-06	c. 20	https://observation.org/observation/193371181/	

Myolepta dubia (Fabricius, 1805)

Status: scarce; high detectability.



Myolepta dubia (♂), 21.06.2022



Myolepta dubia (♀), 10.06.2023

Habitat / preferences: in deciduous woodland along forest tracks on white umbellifers.

Flight time: June

ID remarks: looks somewhat like *Myolepta vara*, which has no orange on abdomen and in wing; there are no records of *Myolepta vara* from the northwestern region of Switzerland yet.

Info fauna map: <https://lepus.infofauna.ch/carto/40960>

2025-06-21	1♂	https://observation.org/observation/358049377/	●
2023-06-10	2♀♀	https://observation.org/observation/275775723/	●
2021-06-24	1♂	https://observation.org/observation/218053694/	●
2021-06-22	2♂♂	https://observation.org/observation/217862141/	●

Neoascia podagrica (Fabricius, 1775)

Status: scarce/rare; low detectability.

Habitat / preferences: found once in the undergrowth of deciduous woodland; marshland species.

Flight time: April

ID remarks: see Bot & van de Meutter 2023 for the identification of *Neoascia*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/40968>



Neoascia podagrica (♀), 29.04.2025



Neoascia podagrica (♀), 29.04.2025

2025-04-29	1♀	https://observation.org/observation/347413227/	●
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Neoascia tenur (Harris, 1780)

Status: scarce; hard to detect because its tiny size and occurring in (inaccessible) marshland.

Habitat / preferences: marshland species; found in the grass between two ponds in the clay quarry.



Neoascia tenur (♂), 19.04.2025



Neoascia tenur (♂), 19.04.2025

Flight time: April

ID remarks: see Bot & van de Meutter (2023) for the identification of *Neoascia*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/40969>

2025-04-19	4	https://observation.org/observation/345570878/	●
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Neocnemodon latitarsis (Egger, 1865)

Status: scarce; low detectability because of small size and inconspicuous looks.

Habitat / preferences: found along and in a forest stream in deciduous woodland.

Flight time: April

ID remarks: a *Neocnemodon*-species of which the males can be recognized by the thickening on tibia 2 (see inset on second photograph).

Info fauna map: <https://lepus.infofauna.ch/carto/40973>



Neocnemodon latitarsis (♂), 12.04.2025



Neocnemodon latitarsis (♂), 20.04.2022

2025-04-12	1♂	https://observation.org/observation/344479908/	●
2022-04-20	1♂	https://observation.org/observation/238436807/	●
2022-04-20	1♀	https://observation.org/observation/371788949/	●
2022-04-19	1♂	https://observation.org/observation/238358267/	●

Neocnemodon sp.:

2022-04-12	1♂	https://observation.org/observation/237489677/	●
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Orthonevra atlantica Żóralski & Van de Meutter, 2024

Status: scarce; low detectability because of small size and inconspicuous looks.



Orthonevra atlantica (♂), 19.04.2025



Orthonevra atlantica (♂), 19.04.2025

Habitat / preferences: found along and in a forest stream and in a muddy road puddle in deciduous woodland.

Flight time: April – May

ID remarks: a recently described species as a result of the splitting of *Orthonevra brevicornis* into two separate species (see Żóralski et al 2024); the male on the first photograph was collected and microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/40976> (under old name *Orthonevra brevicornis*)

2025-05-15	1♂	https://observation.org/observation/350649536/	●
2025-04-19	2♂♂	https://observation.org/observation/345567210/	●

Orthonevra nobilis (Fallén, 1817)

Status: scarce; low detectability because of small size and inconspicuous looks.

Habitat / preferences: exclusively found feeding on wild parsnip (*Pastinaca sativa*) in August in the clay quarry and nearby along the railway tracks; in other areas also found on white umbellifers earlier in the summer.

Flight time: August

ID remarks: for the identification of *Orthonevra*-species see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/40980>



Orthonevra nobilis (♀), 08.10.2025



Orthonevra nobilis (♂), 08.10.2025

2025-08-10	1♂	https://observation.org/observation/367902422/	●
2025-08-10	1♂, 1♀	https://observation.org/observation/367871995/	●

Paragus haemorrhous Meigen, 1822

Status: relatively common; hard to detect because of its very small size and occurrence at ground level.

Habitat / preferences: in open terrain with scarce vegetation or in meadows, and along vegetated forest tracks.

Flight time: May – August

ID remarks: a tiny hoverfly species; abdomen all black or black with a greenish tint (see second photo), and sometimes with a red patch on tergite 3; very similar to the rare *Paragus tibialis* (<https://lepus.infofauna.ch/carto/41136>) and *Paragus constrictus* that need to be identified microscopically (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41131>

2025-08-16	2	https://observation.org/observation/368906753/	
2025-08-10	1	https://observation.org/observation/367901252/	●
2025-08-03	3	https://observation.org/observation/366667186/	●
2025-06-09	1♂	https://observation.org/observation/356016450/	●

2025-05-17	3	https://observation.org/observation/351001105/	
2021-07-09	1♂	https://observation.org/observation/219665170/	●



Paragus haemorrhous (♂), 09.07.2021



Paragus haemorrhous (♂), 03.08.2025

Paragus pecchiolii Rondani, 1857

Status: relatively common; despite small size usually well detectable as it often sits on leaves, and often not at ground level.

Habitat / preferences: in and outside of woodland.

Flight time: April – August

ID remarks: identifiable from field photographs by the thin white abdominal bands.

Info fauna map: <https://lepus.infofauna.ch/carto/41345>

2025-08-10	1♂, 1♀	https://observation.org/observation/367901175/	●
2025-08-03	1♂	https://observation.org/observation/366668389/	
2025-06-22	1	https://observation.org/observation/382575147/	●
2025-05-24	1♂	https://observation.org/observation/352438343/	●
2025-05-15	1♀	https://observation.org/observation/350648968/	
2022-04-19	1♂	https://observation.org/observation/238358697/	●
2021-05-28	1	https://observation.org/observation/215231796/	
2020-04-22	1	https://observation.org/observation/189390949/	●

Lägern (ZH):

2023-05-27	1	https://observation.org/observation/273672414/	
2022-08-07	1♂	https://observation.org/observation/251689829/	●



Paragus pecchiolii (♂), 19.04.2022



Paragus pecchiolii (♂), 22.06.2025

***Paragus quadrifasciatus* Meigen, 1822**

Status: scarce; low detectability because of small size and restless behaviour (hovers a lot).

Habitat / preferences: in open and dry terrain with scarce vegetation; found feeding on wild parsnip (*Pastinaca sativa*) along the railway tracks crossing the survey area.

Flight time: August

ID remarks: a tiny hoverfly species; identifiable from field photographs by the thin white and yellow abdomen bands; abdomen sometimes extremely coloured: <https://observation.org/photos/75498751/>

Info fauna map: <https://lepus.infofauna.ch/carto/41134>



Paragus quadrifasciatus (♂), 16.08.2025



Paragus quadrifasciatus (♂), 10.08.2025

2025-08-16	1♂	https://observation.org/observation/368906717/	
2025-08-10	2♂♂	https://observation.org/observation/367901382/	●

***Paragus testaceus* Meigen, 1822**

Status: relatively common; low detectability because of small size and occurrence at ground level.

Habitat / preferences: in open and dry terrain with scarce vegetation, e.g. along gravel roads and railway tracks; later in season found feeding on wild parsnip (*Pastinaca sativa*) at the lowest branches.

Flight time: May – August

ID remarks: a tiny hoverfly species that looks very similar to *Paragus finitimus* that could possibly occur in the survey area or Jurapark Aargau (<https://lepus.infofauna.ch/carto/41129>) and should be identified microscopically (see Bot & van der Meutter, 2023); a male found on 17.05.2025 was collected and microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/41127> (under old name *Paragus bicolor*)



Paragus testaceus (♂), 17.05.2025



Paragus testaceus (♂), 03.08.2025

2025-08-16	1♂	https://observation.org/observation/368906804/	
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2025-08-10	2	https://observation.org/observation/367901505/	●
2025-08-10	1	https://observation.org/observation/367902123/	
2025-08-03	2	https://observation.org/observation/366667093/	●
2025-05-17	2♂	https://observation.org/observation/350996280/	●

Parasyrphus annulatus (Zetterstedt, 1838)

Status: scarce; well detectable, but perhaps easily overlooked by looking similar to other species.

Habitat / preferences: in deciduous and coniferous woodland; found in flowering trees (e.g. *Prunus* sp. and *Euonymus* sp.)

Flight time: April – June

ID remarks: for the identification of *Parasyrphus*-species see Bot & van de Meutter (2023); *Parasyrphus annulatus* is the only *Parasyrphus*-species with completely yellow front tarsi.

Info fauna map: <https://lepus.infofauna.ch/carto/41137>



Parasyrphus annulatus (♂), 11.04.2022



Parasyrphus annulatus (♀), 08.06.2021



2022-04-11	1♂	https://observation.org/observation/382946309/	●
2021-06-08	1♀	https://observation.org/observation/230745433/	●
2021-06-03	1♂	https://observation.org/observation/370693227/	
2021-05-28	1	https://observation.org/observation/215103906/	
2021-05-14	1♂	https://observation.org/observation/371206367/	
2021-05-08	1♂	https://observation.org/observation/213001093/	●

Lägern (ZH):

2020-06-16	1♀	https://observation.org/observation/383212808/	●
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Parasyrphus malinellus (Collin, 1952)

Status: rare; low detectability or overseen because of its looks similar to other species and hard to (directly) identify in field or from field photos.

Habitat / preferences: found only once in/near a stream in deciduous woodland interior.

Flight time: April

ID remarks: looks like *Parasyrphus relictus* but has a glossy thorax and a pale(r) base of the 3rd antennal segment, among other subtle features; for the identification of *Parasyrphus*-species see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41140>

2025-04-19	1♀	https://observation.org/observation/345566825/	●
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Parasyrphus malinellus (♀), 19.04.2025



Parasyrphus malinellus (♀), 19.04.2025

***Parasyrphus relictus* Zetterstedt, 1836**

Status: scarce/rare; high detectability.

Habitat / preferences: found only once feeding on white umbellifers along a track in deciduous woodland.

Flight time: July

ID remarks: For the identification of *Parasyrphus*-species see Bot & van de Meutter (2023); females *Parasyrphus relictus* look like *Parasyrphus annulatus* and *Parasyrphus malinellus* but with dark(ish) tarsi, slight undulating abdominal black bands and a non-glossy thorax.

Info fauna map: <https://lepus.infofauna.ch/carto/41144> (under old name *Parasyrphus vittiger*)



Parasyrphus relictus (♀), 05.07.2025



Parasyrphus relictus (♀), 05.07.2025

2025-07-05	1♀	https://observation.org/observation/361081066/	●
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***Parasyrphus punctulatus* (Verrall, 1873)**

Status: common (record list incomplete); high detectability.

Habitat / preferences: commonly found on flowering *Prunus* sp. in the clay quarry in early spring; later in spring mostly recorded inside deciduous woodland, especially in/near muddy forest streams.

Flight time: March – May

ID remarks: by far the most common *Parasyrphus*-species in the survey area with interrupted yellow bands, unlike *P. annulatus*, *P. malinellus* and *P. relictus*; looks very much like *Parasyrphus macularis* which could potentially occur in Jurapark Aargau (<https://lepus.infofauna.ch/carto/41139>); females of *P. punctulatus* can have an all-dark abdomen (<https://observation.org/observation/345569025/>).

Info fauna map: <https://lepus.infofauna.ch/carto/41142>



Parasyrphus punctulatus (♂), 29.03.2021



Parasyrphus punctulatus (♀), 24.03.2025

2025-05-15	1♂	https://observation.org/observation/350649311/	
2025-05-10	1♀	https://observation.org/observation/349692878/	
2025-04-29	5♀♀	https://observation.org/observation/347411647/	
2025-04-19	1♀	https://observation.org/observation/345568249/	●
2025-04-19	1♀	https://observation.org/observation/345569025/	●
2025-04-05	10	https://observation.org/observation/343493150/	
2025-03-24	3	https://observation.org/observation/342129390/	
2022-04-12	1♀	https://observation.org/observation/237491722/	
2021-05-23	2	https://observation.org/observation/371079628/	
2021-03-29	5	https://observation.org/observation/209604619/	●
2020-04-22	1♂	https://observation.org/observation/189390990/	●

Parhelophilus frutetorum / versicolor

Status: scarce/rare; high detectability.

Habitat / preferences: marshland species; the habitat requirements for these species are probably not fulfilled in the survey area.

Flight time: May

ID remarks: the *Parhelophilus*-genus is represented by three species in Switzerland. *P. frutetorum* and *P. versicolor* are hard to sperate from field photographs (see Bot & van de Meutter 2023); *Parhelophilus consimilis* is a peatland species that has never been recorded in the northwestern region of Switzerland.

Info fauna map: *Parhelophilus frutetorum*: <https://lepus.infofauna.ch/carto/40984>

Parhelophilus versicolor: <https://lepus.infofauna.ch/carto/40985>



Parhelophilus frutetorum/versicolor, 07.05.2020

2020-05-07	1	https://observation.org/observation/190715717/	●
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Pipiza festiva Meigen, 1822

Status: rare; high detectability.

Habitat / preferences: found in and near the clay quarry on flowering tress (hawthorn and *Cornus sanguinea*).

Flight time: April – May

ID remarks: Similar to *Pipiza notata/noctiluca* but with much larger yellow patches on tergite 2 and completely yellow tarsi.

Info fauna map: <https://lepus.infofauna.ch/carto/40993>



Pipiza festiva (♀), 18.05.2024



Pipiza festiva (♂), 29.04.2025

2025-04-29	1♂	https://observation.org/observation/347404824/	●
2024-05-18	1♀	https://observation.org/observation/310363614/	●

Pipiza notata / noctiluca

Status: relatively common; high detectability.

Habitat / preferences: in and outside deciduous woodland on ground level (undergrowth) and in (flowering) bushes.

Flight time: April – August

ID remarks: *Pipiza notata* and *Pipiza noctiluca* are extremely similar and can only be separated microscopically.

Info fauna map: *Pipiza notata*: <https://lepus.infofauna.ch/carto/40989>

Pipiza noctiluca: <https://lepus.infofauna.ch/carto/40996>



Pipiza notata/noctiluca (♂), 26.05.2024



Pipiza notata/noctiluca (♀), 26.05.2024

2025-08-09	2	https://observation.org/observation/367731867/	●
2025-07-13	1♂	https://observation.org/observation/362678690/	
2025-04-28	3	https://observation.org/observation/347240463/	

2025-04-19	5	https://observation.org/observation/345567383/	
2025-04-10	1♂	https://observation.org/observation/344142961/	
2024-05-26	1♀	https://observation.org/observation/311659277/	
2024-05-26	1♀	https://observation.org/observation/382970660/	●
2024-05-26	2♂♂	https://observation.org/observation/311664536/	●
2023-05-09	1♀	https://observation.org/observation/374742973/	
2021-05-14	1♂	https://observation.org/observation/371206563/	

***Pipiza quadrimaculata* (Panzer, 1804)**

Status: not recorded in the survey area; one record from Lägern (ZH); this is a common species in the Alps, easily detectable and identifiable in the field.

Habitat / preferences: in deciduous, mixed and coniferous woodland (in the Alps).

Flight time: June

ID remarks: a *Pipiza*-species with 4 yellow spots on tergite 2 and 3; in females the spots on tergite 3 can be faint, but note the broad, roundish abdomen shape.

Info fauna map: <https://lepus.infofauna.ch/carto/40997>



Pipiza quadrimaculata (♀), 16.06.2020



Pipiza quadrimaculata (♀), 16.06.2020

Lägern (ZH):

2020-06-16	1♀	https://observation.org/observation/194448222/	●
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***Pipizella* sp.**

Status: common (record list incomplete); generally low detectability because of very small size and occurrence in meadows at ground level, but common and therefore often found.



Pipizella sp. (♂), 19.04.2025



Pipizella sp. (♀), 19.04.2025

Habitat / preferences: meadows and other vegetated open terrains.

Flight time: April – June

ID remarks: *Pipizella*-species are small and look alike and are best identified microscopically (see Bot & van de Meutter 2023); expected to occur in the Jurapark Aargau are *Pipizella annulata*, *Pipizella viduata*, and *Pipizella virens*; according to the info fauna map, *Pipizella viduata* is by far the most common species in the region.

Info fauna map: <https://lepus.infofauna.ch/carto/41004> (*Pipizella viduata*)

2025-06-22	1♀	https://observation.org/observation/382911250/	●
2025-06-21	1♀	https://observation.org/observation/358057213/	
2025-06-14	5	https://observation.org/observation/356573530/	●
2025-05-17	1♂	https://observation.org/observation/382858994/	●
2025-04-28	3	https://observation.org/observation/347240452/	
2025-04-19	10	https://observation.org/observation/345562486/	●

***Platycheirus albimanus* (Fabricius, 1781)**

Status: relatively common; low detectability because of small size and mostly confined to ground level.

Habitat / preferences: mostly a woodland species (undergrowth); also found on flowering *Prunus* sp. in early spring.

Flight time: March – August

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species; *Platycheirus albimanus* males have characteristic front legs and small abdomen patches that make them identifiable from field photographs.

Info fauna map: <https://lepus.infofauna.ch/carto/41146>



Platycheirus albimanus (♂), 09.06.2025



Platycheirus albimanus (♀), 18.06.2021

2025-06-21	1♂	https://observation.org/observation/358058230/	
2025-06-09	1♂	https://observation.org/observation/356020471/	●
2025-05-17	2♀♀	https://observation.org/observation/351000102/	
2025-04-12	1♂	https://observation.org/observation/344501535/	
2025-04-08	1♂	https://observation.org/observation/343891529/	●
2024-06-16	1♂	https://observation.org/observation/314798058/	
2022-04-12	2	https://observation.org/observation/237490954/	
2022-03-29	1♀	https://observation.org/observation/372087789/	
2021-06-18	1♀	https://observation.org/observation/230758287/	●

Lägern (ZH):

2021-06-13	1	https://observation.org/observation/216906917/	
2019-08-18	1♂	https://observation.org/observation/178386643/	●

Platycheirus ambiguus (Fallén, 1817)

Status: relatively common; low detectability: patience is required to detect certain hoverfly species in flowering *Prunus* sp., because of the many other insects present (e.g. spring bees).

Habitat / preferences: only found in or near flowering *Prunus* sp. between March, 29th and April, 19th.

Flight time: March – April

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species; *Platycheirus ambiguus* males have a characteristic curled hair on their front femur and a grey-patched abdomen that makes them identifiable from (good) field photographs.

Info fauna map: <https://lepus.infofauna.ch/carto/41147>



Platycheirus ambiguus (♂), 29.03.2021



Platycheirus ambiguus (♀), 29.03.2021

2025-04-05	1♀	https://observation.org/observation/343576062/	
2025-04-02	1♂	https://observation.org/observation/343049147/	
2022-04-19	1♀?	https://observation.org/observation/383223245/	●
2022-04-12	1	https://observation.org/observation/237490966/	
2022-04-11	2	https://observation.org/observation/237382800/	
2022-03-29	1♂	https://observation.org/observation/236498079/	
2021-03-30	2♂♂	https://observation.org/observation/209678856/	
2021-03-29	2♂♂	https://observation.org/observation/209604205/	●
2021-03-29	2♀	https://observation.org/observation/209775221/	●

Platycheirus europaeus Goeldlin de Tiefenau, Maibach & Speight, 1990

Status: relatively common; low detectability because of inaccessibility of marsh ponds in the area.

Habitat / preferences: marsh species; hovering between the reed stems and resting on the upper- or underside of reed leaves or on vertical stems.

Flight time: April – May

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species; *Platycheirus europaeus* is very similar to other marshland *Platycheirus*-species, but females have small circular yellow patches on tergite 2, among other (subtle) features that helps to identify them from field photos.

Info fauna map: <https://lepus.infofauna.ch/carto/41154>

2025-05-17	1♀	https://observation.org/observation/350998585/	●
2025-04-29	1♀	https://observation.org/observation/347407440/	●
2025-04-28	1♂, 1♀	https://observation.org/observation/347241438/	●
2025-04-19	1♀	https://observation.org/observation/345570257/	●

Platycheirus sp.:

2025-05-15	1♀	https://observation.org/observation/350648245/	●
2025-04-28	1♂	https://observation.org/observation/381886452/	●



Platycheirus europaeus (♂), 28.04.2025



Platycheirus europaeus (♀), 17.05.2025

***Platycheirus immaculatus* Ôhara, 1980**

Status: scarce; low detectability because of small size and occurrence in small forest streams.

Habitat / preferences: interior deciduous forest species; only found on/near ground in small forest streams.

Flight time: April

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species; *Platycheirus immaculatus* has a very elongated/slender abdomen without any markings, unlike other *Platycheirus*-species; males have a characteristic curled hair on the front femur like in *Platycheirus ambiguus*.

Info fauna map: <https://lepus.infofauna.ch/carto/41157>



Platycheirus immaculatus (♂), 19.04.2025



Platycheirus immaculatus (♀), 21.04.2022

2025-04-19	3♂♂	https://observation.org/observation/345565651/	●
2025-04-12	1♂	https://observation.org/observation/344479223/	
2022-04-22	1♂	https://observation.org/observation/371780964/	●
2022-04-22	1♀	https://observation.org/observation/382953480/	●
2022-04-21	1♀	https://observation.org/observation/371787318/	●

***Platycheirus parmatus* (Rondani, 1857)**

Status: not recorded in the survey area; in Lägern (ZH): scarce/rare (local); high detectability when males are sitting on leaves or are hovering groupwise.

Habitat / preferences: interior forest species; hovering in groups above fern undergrowth.

Flight time: May

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species; males *Platycheirus parmatus* have an extremely broad base of the front tarsi.

Info fauna map: <https://lepus.infofauna.ch/carto/41163>



Platycheirus parmatus (♂), 14.05.2022



Platycheirus parmatus (♂), 14.05.2022

Lägern (ZH):

2023-05-27	3♂♂	https://observation.org/observation/273671527/	●
2022-05-14	c. 10	https://observation.org/observation/241474759/	●

Platycheirus scutatus (Meigen, 1822)

Status: relatively common; low detectability because of small size and similarity to other species.

Habitat / preferences: in undergrowth in forest; often found along forest tracks.

Flight time: May – August

ID remarks: see Bot & van de Meutter (2023) for the identification of *Platycheirus*-species. *Platycheirus scutatus* is part of an aggregate of closely related but rare species (*Platycheirus scutatus* aggr.) that require to be identified microscopically.

Info fauna map: <https://lepus.infofauna.ch/carto/41168>



Platycheirus scutatus (♂), 25.06.2021



Platycheirus scutatus (♂), 06.06.2020

2025-08-24	1♂	https://observation.org/observation/370120406/	
2025-08-10	1♂	https://observation.org/observation/367945947/	
2024-05-28	1♂	https://observation.org/observation/312256447/	
2021-06-25	1♂	https://observation.org/observation/218145377/	●
2021-05-23	1♂	https://observation.org/observation/371076204/	
2021-05-20	1♂	https://observation.org/observation/214409484/	●

Lägern (ZH):

2020-06-06	1♂	https://observation.org/observation/193371219/	●
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***Portevinia maculata* (Fallén, 1817)**

Status: relatively common; high detectability.

Habitat / preferences: interior woodland species in forest with a wild garlic undergrowth; mostly on leaves at ground level.

Flight time: April – June

ID remarks: looks like *Cheilosia fasciata* with who it shares the same habitat (forest undergrowth with wild garlic); however, both species have no or only little overlap in flight time in the survey area: *Cheilosia fasciata* comes first, *Portevinia maculata* follows.

Info fauna map: <https://lepus.infofauna.ch/carto/41007>



Portevinia maculata (♂), 28.05.2021



Portevinia maculata (♀), 24.05.2025

2025-05-24	1♀	https://observation.org/observation/352326131/	●
2025-05-17	3	https://observation.org/observation/351004361/	
2025-05-10	2♂	https://observation.org/observation/349691729/	
2024-05-10	3	https://observation.org/observation/308811257/	
2023-06-03	1	https://observation.org/observation/274722145/	
2022-05-15	1♂	https://observation.org/observation/241609908/	●
2022-04-19	2	https://observation.org/observation/238357754/	
2021-06-08	1♂	https://observation.org/observation/216584211/	●
2021-06-01	2	https://observation.org/observation/215592908/	●
2021-05-28	2♂♂	https://observation.org/observation/215103785/	●
2020-05-20	1♀	https://observation.org/observation/192097742/	●
2020-05-18	10	https://observation.org/observation/191705058/	●

***Psilota exilistyla* Smit & Vujic, 2008 Data Deficient**

Status: rare; low detectability because of inconspicuous looks (hoverfly-unlike).

Habitat / preferences: found hovering at ground level in a deciduous forest with wild garlic undergrowth; an unidentified *Psilota*-species was observed in a flowering tree.

Flight time: April – May

ID remarks: could be overlooked as being a hoverfly - looks like species from other Diptera families (e.g. Lonchaeidae); the three *Psilota*-species of in Switzerland (*P. anthracina*, *P. atra*, *P. exilistyla*) look all alike and are best microscopically identified; the male on the first photograph was microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/41234>

2025-04-19	1♂	https://observation.org/observation/345565769/	●
2021-05-20	1	https://observation.org/observation/230440525/	●



Psilota exilistyla (♂), 19.04.2025



Psilota sp., 20.05.2021

Pyrophæna rosarum (Fabricius, 1787)

Status: relatively common; low detectability because of inaccessibility of its habitat.

Habitat / preferences: mostly a marshland species.

Flight time: April – August

ID remarks: looks like a *Platycheirus*-species when perched on plants; the characteristic abdominal pattern is visible in flight.

Info fauna map: <https://lepus.infofauna.ch/carto/41172>

2025-08-24	3	https://observation.org/observation/370118905/	
2025-08-16	2	https://observation.org/observation/368907000/	
2025-08-09	1♀	https://observation.org/observation/367731671/	●
2025-06-14	1♂	https://observation.org/observation/356573210/	
2025-06-09	1♂	https://observation.org/observation/356031264/	●
2025-04-29	1♂	https://observation.org/observation/347409409/	
2024-06-13	1♀	https://observation.org/observation/314360777/	●



Pyrophæna rosarum (♀), 13.06.2024



Pyrophæna rosarum (♀), 09.08.2025

Rhingia campestris Meigen, 1822

Status: (relatively) common; high detectability.

Habitat / preferences: commonly seen at forest edges in grass fields with red clover and related flower species.

Flight time: April – June

ID remarks: unmistakable as *Rhingia*-species; distinguished from *Rhingia rostrata* by dark-edged abdomen and dark femur, among other features; *Rhingia borealis* might potentially occur in the Jurapark Aargau and differs by the much smaller snout and other features (see Bot & van de Meutter 2023).



Rhingia campestris (♂), 10.05.2020



Rhingia campestris (♀), 22.05.2021

Info fauna map: <https://lepus.infofauna.ch/carto/41011>

2025-04-19	1	https://observation.org/observation/345563193/	
2025-04-19	1	https://observation.org/observation/345569718/	
2025-04-15	2	https://observation.org/observation/344977516/	
2025-04-11	3	https://observation.org/observation/344448630/	
2025-04-04	2	https://observation.org/observation/343338793/	
2024-04-08	1♂	https://observation.org/observation/374644400/	
2022-04-21	1♀	https://observation.org/observation/371787222/	
2022-04-19	2♂	https://observation.org/observation/371986554/	
2022-04-12	3	https://observation.org/observation/237491182/	
2022-04-11	2	https://observation.org/observation/237382776/	
2021-06-25	1♀	https://observation.org/observation/370954190/	
2021-06-22	1♀	https://observation.org/observation/371019370/	
2021-05-22	1♀	https://observation.org/observation/230522536/	•
2021-05-08	10	https://observation.org/observation/213001076/	•

Lägern (ZH):

2021-06-13	3	https://observation.org/observation/216906825/	•
2020-05-10	2♂♂	https://observation.org/observation/191227549/	•

Rhingia rostrata (Linnaeus, 1758)

Status: scarce; high detectability.

Habitat / preferences: in or near deciduous woodland; found on a variety of flowers at ground level.

Flight time: April – August



Rhingia rostrata (♀), 03.05.2021



Rhingia rostrata (♂), 14.05.2021

ID remarks: unmistakable as *Rhingia*-species; distinguished from *Rhingia campestris* by unedged bright orange abdomen, orange femur and scutellum; females look much like *Rhingia borealis*, that might potentially occur in the Jurapark Aargau.

Info fauna map: <https://lepus.infofauna.ch/carto/41012>

2025-08-16	1♀	https://observation.org/observation/368907650/	
2025-05-17	1♀	https://observation.org/observation/351003886/	
2025-04-28	1?	https://observation.org/observation/347241382/	●
2022-04-12	1	https://observation.org/observation/237491005/	●
2021-05-14	1♂	https://observation.org/observation/213727482/	●
2021-05-03	5	https://observation.org/observation/212641855/	●

Lägern (ZH):

2020-05-17	1♀	https://observation.org/observation/191631273/	●
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Scaeva pyrastris (Linnaeus, 1758)

Status: relatively common; high detectability.

Habitat / preferences: on a variety of flower types in a variety of habitats (e.g. white umbellifers in woodland); often in rich meadows, but also in dry fields with scarce vegetation.

Flight time: April – August

ID remarks: unmistakable, large species.

Info fauna map: <https://lepus.infofauna.ch/carto/41177>



Scaeva pyrastris (♂), 22.06.2021



Scaeva pyrastris (♀), 13.06.2021

2025-08-03	2	https://observation.org/observation/366667422/	●
2025-07-13	1♀	https://observation.org/observation/362678864/	
2025-04-19	1	https://observation.org/observation/345562562/	
2021-06-22	1♂	https://observation.org/observation/217862782/	●
2021-06-08	2	https://observation.org/observation/216388563/	●
2021-05-28	2	https://observation.org/observation/215103810/	

Lägern (ZH):

2022-08-24	1♀	https://observation.org/observation/382977345/	●
2021-06-13	1♀	https://observation.org/observation/216907322/	●
2021-06-11	1	https://observation.org/observation/216833998/	

Scaeva selenitica (Meigen, 1822)

Status: relatively common; high detectability.

Habitat / preferences: most records concern females on flowering *Prunus* sp. in March and April, often high up in trees; later in season on a variety of flower types in a variety of habitats.

Flight time: March – June

ID remarks: large species with distinctive abdominal pattern, but very similar to *Scaeva dignota* that might occur as a wandering guest in the Jurapark Aargau or the survey area; see Bot & van de Muetter (2023) for ID-features.

Info fauna map: <https://lepus.infofauna.ch/carto/41178>



Scaeva selenitica (♀), 06.06.2020



Scaeva selenitica (♀), 23.05.2025

2025-05-23	1♀	https://observation.org/observation/352145922/	●
2025-04-08	1♀	https://observation.org/observation/343893140/	●
2024-03-14	1♀	https://observation.org/observation/374644978/	
2023-03-17	2	https://observation.org/observation/265394187/	
2023-03-17	1	https://observation.org/observation/265394224/	
2023-03-17	3	https://observation.org/observation/265394266/	
2022-10-07	1	https://observation.org/observation/256388620/	
2022-04-12	3	https://observation.org/observation/237490771/	
2022-03-22	10	https://observation.org/observation/235919343/	

Lägern (ZH):

2020-06-06	1♀	https://observation.org/observation/193444941/	●
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Sphaerophoria batava Goeldlin de Tiefenau, 1974

Status: scarce/rare; in field detectable as being a *Sphaerophoria*-species other than *S. scripta*; collection may be required for an identification.

Habitat / preferences: dry habitats with sandy soils, in and outside woodland.

Flight time: May



Sphaerophoria batava (♂), 24.05.2025



Sphaerophoria batava (♂), 24.05.2025

ID remarks: males are best identified microscopically by genitals (see Bot & van de Meutter 2023); unclear if females can be identified, perhaps only in a specific context or with advanced methods; the male on photographs was collected and microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/41180>

2025-05-24	1♂	https://observation.org/observation/352328384/	●
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Sphaerophoria scripta (Linnaeus, 1758)

Status: common (record list incomplete); high detectability.

Habitat / preferences: meadows and marshland.

Flight time: April – August

ID remarks: males are easily recognized by their long abdomen that extends clearly beyond the wing tips; females are not easily separated from other *Sphaerophoria*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/41191>



Sphaerophoria scripta (♂), 16.08.2025



Sphaerophoria scripta (♀), 14.06.2025

2025-08-16	1♂	https://observation.org/observation/382646094/	●
2025-08-10	1♂	https://observation.org/observation/382646183/	●
2025-08-03	50	https://observation.org/observation/366666355/	
2025-06-14	1♀	https://observation.org/observation/382904941/	●
2025-06-09	10	https://observation.org/observation/356031165/	
2025-05-23	1♂	https://observation.org/observation/352144934/	
2025-05-17	2	https://observation.org/observation/350999944/	
2025-04-15	3	https://observation.org/observation/344978233/	

Lägern (ZH):

2021-06-13	2	https://observation.org/observation/216907656/	
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Sphaerophoria taeniata (Meigen, 1822)

Status: scarce/rare; in field detectable as being a *Sphaerophoria*-species other than *S. scripta*; collection may be required for an identification.

Habitat / preferences: meadows and marshland.

Flight time: June

ID remarks: males are best identified microscopically by genitals (see Bot & van de Meutter 2023); unclear if females can be identified, perhaps only in a specific context or with advanced methods; the male on photographs was collected and microscopically identified.

Info fauna map: <https://lepus.infofauna.ch/carto/41193>

2025-06-14	1♂	https://observation.org/observation/356536059/	●
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Sphaerophoria taeniata (♂), 14.06.2025



Sphaerophoria taeniata (♂), 14.06.2025

***Sphegina sibirica* Stackelberg, 1953**

Status: relatively common; low detectability because of small size.

Habitat / preferences: at ground level in deciduous or coniferous woodland; found feeding on white umbellifers and wild parsnip (*Pastinaca sativa*), and other flower types.

Flight time: May – August

ID remarks: similar to other *Sphegina*-species that might occur in the survey area (see Bot & van de Meutter 2023 for ID-features); the fulvous form "flavescens" of *Sphegina sibirica* is characteristic.

Info fauna map: <https://lepus.infofauna.ch/carto/41023>



Sphegina sibirica (♀), 01.06.2021



Sphegina sibirica, 06.06.2021, form *flavescens*

2025-08-24	1♀	https://observation.org/observation/370119973/	
2025-06-21	1♀	https://observation.org/observation/358057852/	●
2025-05-17	1♀	https://observation.org/observation/351005298/	●
2025-05-15	1♀	https://observation.org/observation/350649608/	
2023-06-10	1♀	https://observation.org/observation/374741284/	
2021-06-01	1♀	https://observation.org/observation/215594803/	●
<i>Sphegina</i> sp.			
2025-06-14	2	https://observation.org/observation/356574120/	
2025-05-10	1♀	https://observation.org/observation/349691160/	

Lägern (ZH):

2021-06-06	1♀	https://observation.org/observation/216158521/	●
2020-06-08	1♂	https://observation.org/observation/193653115/	●

Sphegina clunipes (Fallén, 1816)

Status: scarce/rare; low detectability because of small size and similarity to other *Sphegina*-species.

Habitat / preferences: (interior) deciduous woodland species; found once on wild garlic leaves along a forest stream.

Flight time: April

ID remarks: similar to *Sphegina sibirica* and other *Sphegina*-species that might potentially occur in the survey area; see Bot & van de Meutter (2023) for identification of *Sphegina*-species.

Info fauna map: <https://lepus.infofauna.ch/carto/41017>



Sphegina clunipes (♂), 19.04.2025



Sphegina clunipes (♂), 19.04.2025

2025-04-19	1♂	https://observation.org/observation/345565574/	●
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Syritta pipiens (Linnaeus, 1758)

Status: relatively common; low detectability because of small size and in low vegetation at ground level; restless behaviour and hovers a lot.

Habitat / preferences: in meadows, gardens, and other vegetated open terrains.

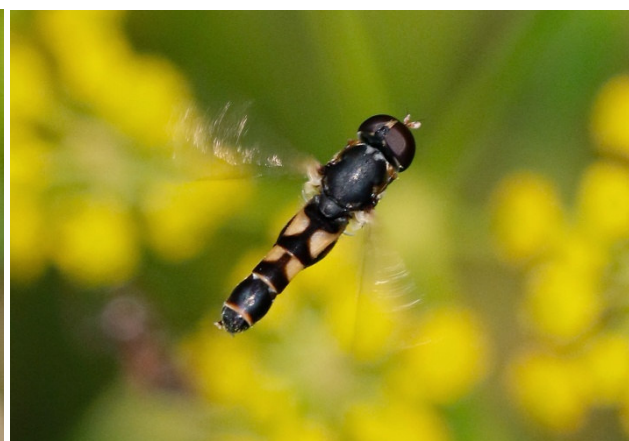
Flight time: May – August

ID remarks: unmistakable.

Info fauna map: <https://lepus.infofauna.ch/carto/41031>



Syritta pipiens (♀), 09.08.2025



Syritta pipiens (♂), 16.08.2025

2025-08-24	1	https://observation.org/observation/382608163/	
2025-08-16	1	https://observation.org/observation/382646794/	●
2025-08-09	1	https://observation.org/observation/382646747/	●
2025-08-03	15	https://observation.org/observation/366668005/	

2025-06-03	1	https://observation.org/observation/354369102/	●
2025-05-17	1	https://observation.org/observation/351006437/	
2025-05-10	1♀	https://observation.org/observation/349690653/	

Syrphus nitidifrons Becker, 1921

Status: scarce; well detectable when feeding in flowering bushes or small trees.

Habitat / preferences: in/near woodland in flowering bushes/trees (e.g. *Prunus* sp., *Euonymus* sp., *Cornus sanguinea*).

Flight time: April – May

ID remarks: looks like being a member of the *Parasyrphus*-genus, but it has a unique combination of features (see Bot & van de Meutter 2023) that make them well identifiable from field photos.

Info fauna map: <https://lepus.infofauna.ch/carto/41198>



Syrphus nitidifrons (♂), 11.04.2022



Syrphus nitidifrons (♀), 23.05.2021

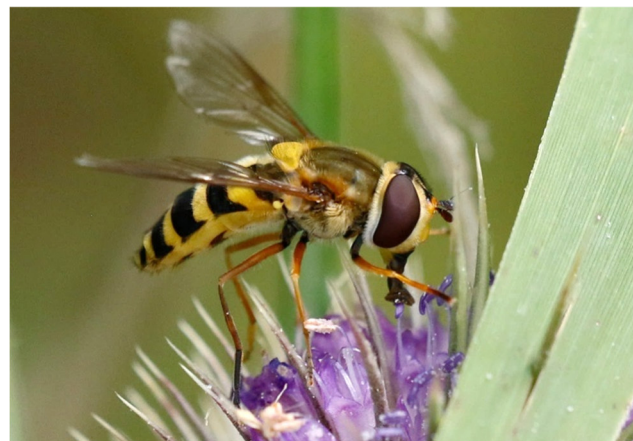
2025-04-29	1♀	https://observation.org/observation/347410963/	
2024-05-26	1♀	https://observation.org/observation/311653438/	●
2022-04-11	1♂	https://observation.org/observation/237382951/	●
2021-05-23	1♀	https://observation.org/observation/214626529/	●

Syrphus ribesii (Linnaeus, 1758)

Status: common (record list incomplete); females are easily identified and therefore more easily found/detected than the males that require close-up field photographs.

Habitat / preferences: on flowers or in flowering trees in a variety of habitats.

Flight time: May – August



Syrphus ribesii (♀), 03.08.2025



Syrphus ribesii (♀), 03.08.2025

ID remarks: like *Syrphus torvus* and *Syrphus vitripennis*, but females with completely yellow rear femur; both sexes without hairs on eyes; see Bot & van de Meutter (2023) for further distinguishing features.

Info fauna map: <https://lepus.infofauna.ch/carto/41200>

2025-08-03	1♀	https://observation.org/observation/366668522/	●
2025-05-17	1♀	https://observation.org/observation/351000779/	●
2024-06-16	1♀	https://observation.org/observation/314797876/	
2023-06-10	1♀	https://observation.org/observation/372196067/	
2021-07-02	1♀	https://observation.org/observation/370842356/	

Lägern (ZH):

2021-06-13	1♀	https://observation.org/observation/216907025/	
2023-08-18	1♀	https://observation.org/observation/178235271/	●

Syrphus torvus Osten Sacken, 1875

Status: (relatively) common; easily detectable, but identification requires good photographs.

Habitat / preferences: on flowers or in flowering trees in a variety of habitats (mostly in/near woodland).

Flight time: March – June

ID remarks: like *Syrphus ribesii* and *Syrphus vitripennis*, but both sexes with hairs on eyes; see Bot & van de Meutter (2023) for further ID-features.

Info fauna map: <https://lepus.infofauna.ch/carto/41201>

2025-06-09	1♂	https://observation.org/observation/356020651/	
2025-04-19	1♀	https://observation.org/observation/345569840/	●
2025-04-08	1♀	https://observation.org/observation/382819024/	●
2025-04-04	1♂	https://observation.org/observation/382138074/	●
2025-03-24	1♂	https://observation.org/observation/342129456/	●

Lägern (ZH):

2021-06-10	1♂	https://observation.org/observation/216585206/	●
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Syrphus torvus (♂), 24.03.2025



Syrphus torvus (♀), 19.04.2025

Syrphus vitripennis Meigen, 1822

Status: relatively common; low detectability because identification requires good photographs.

Habitat / preferences: on flowers or in flowering trees in a variety of habitats.

Flight time: March – August

ID remarks: looks like *Syrphus ribesii* and *Syrphus torvus*; the hairless eyes excludes *Syrphus torvus*; in females the mostly dark hind femur excludes *Syrphus ribesii*; for the separation of males *Syrphus vitripennis* and *Syrphus ribesii* see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41202>



Syrphus vitripennis (♂), 28.05.2021



Syrphus vitripennis (♀), 12.04.2022

2025-08-16	1♀	https://observation.org/observation/368910391/	
2025-06-21	1♂	https://observation.org/observation/358057932/	
2025-04-29	1♀	https://observation.org/observation/347411114/	
2025-04-19	1♀	https://observation.org/observation/345570966/	
2025-04-05	1♂	https://observation.org/observation/343575680/	
2024-06-16	1♀	https://observation.org/observation/314797589/	
2022-04-19	2	https://observation.org/observation/371987509/	
2022-04-12	1♀	https://observation.org/observation/237490056/	●
2022-03-22	2♂♂	https://observation.org/observation/235919327/	●
2021-05-28	1♂	https://observation.org/observation/215103754/	●
2021-05-28	1♂	https://observation.org/observation/230440491/	●
2021-05-22	1♂	https://observation.org/observation/371070469/	
2021-05-03	1♂?	https://observation.org/observation/383089070/	●

Temnostoma bombylans (Fabricius, 1805)

Status: relatively common; large conspicuous species, but often in dense undergrowth and then hard to detect.

Habitat / preferences: in (dense) undergrowth of deciduous, coniferous, or mixed woodland.



Temnostoma bombylans (♂), 10.05.2025



Temnostoma bombylans (♂), 20.05.2024

Flight time: May – June

ID remarks: unmistakable.

Info fauna map: <https://lepus.infofauna.ch/carto/41033>

2025-06-21	1♂	https://observation.org/observation/358057304/	
2025-06-09	1♂	https://observation.org/observation/356012518/	●
2025-05-17	2	https://observation.org/observation/351004436/	
2025-05-17	1	https://observation.org/observation/351004507/	
2025-05-10	1♂	https://observation.org/observation/349692426/	●
2024-05-20	1♀	https://observation.org/observation/310710701/	
2024-05-20	1♂	https://observation.org/observation/310712214/	●
2023-06-10	3	https://observation.org/observation/275775929/	
2023-06-03	1♂	https://observation.org/observation/274722869/	
2022-05-15	1♂	https://observation.org/observation/241609715/	●
2021-06-22	2♂♂	https://observation.org/observation/217862195/	●

Temnostoma meridionale (Krivosheina & Mamayev, 1962) **Near-Threatened**

Status: scarce; high detectability but easily overlooked due to its resemblance to a wasp.

Habitat / preferences: interior deciduous woodland, near forest streams; males perch on vertical tree trunks up to 3-4 m height or sit on decaying wood logs; no females found yet.

Flight time: April – May

ID remarks: like *Temnostoma vespiforme* but with another pattern of the yellow spots on the thorax.

Info fauna map: no map yet.



Temnostoma meridionale (♂), 15.05.2022



Temnostoma meridionale (♂), 10.05.2022

2025-05-10	6♂♂	https://observation.org/observation/349691506/	
2025-04-29	1♂	https://observation.org/observation/347410496/	
2025-04-28	2♂♂	https://observation.org/observation/347240494/	
2024-05-10	3♂♂	https://observation.org/observation/308809356/	●
2022-05-15	2♂♂	https://observation.org/observation/241609501/	●
2022-05-10	1♂	https://observation.org/observation/240999721/	●
2022-05-09	2♂♂	https://observation.org/observation/240920317/	●
2020-05-07	1♂	https://observation.org/observation/190715733/	●

Temnostoma vespiforme (Linnaeus, 1758)

Status: relatively common; high detectability but easily overlooked due to its resemblance to a wasp.

Habitat / preferences: in/near deciduous woodland; in undergrowth with decaying wood logs and feeding on a variety of flowers and flowering trees.

Flight time: May – June

ID remarks: like *Temnostoma meridionale* but with another pattern of the yellow spots on the thorax.

Info fauna map: <https://lepus.infofauna.ch/carto/41034>



Temnostoma vespiforme (♂), 24.05.2025



Temnostoma vespiforme (♀), 08.06.2021

2025-05-24	2	https://observation.org/observation/352437660/	●
2025-05-18	3	https://observation.org/observation/351275192/	●
2025-05-17	1♂	https://observation.org/observation/351003703/	●
2024-05-10	1♂	https://observation.org/observation/308809572/	●
2023-06-10	1	https://observation.org/observation/275775889/	
2023-06-03	1♂	https://observation.org/observation/274722796/	
2021-06-08	1♀	https://observation.org/observation/216388526/	●
2021-06-01	1♂	https://observation.org/observation/215593224/	●

Trichopsomyia joratensis Goeldlin de Tiefenau, 1997

Status: scarce/rare; low detectability because of small size and inconspicuous looks.

Habitat / preferences: found once in flowering tree in mixed forest interior.

Flight time: May

ID remarks: closely related to members of the *Pipiza* and *Neocnemodon* genera and other species (see Bot & van de Meutter 2023); in *Trichopsomyia joratensis* females the eyes are far apart, and the antenna base is yellowish.

Info fauna map: <https://lepus.infofauna.ch/carto/41036>



Trichopsomyia joratensis (♀), 20.05.2024



Trichopsomyia joratensis (♀), 20.05.2024

2024-05-20	1♀	https://observation.org/observation/311325181/	●
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Volucella bombylans (Linnaeus, 1758)

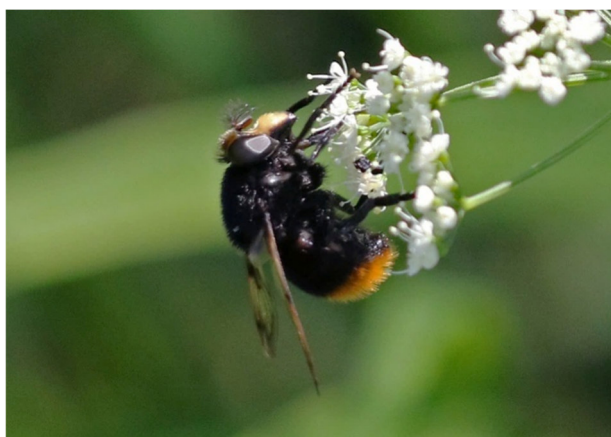
Status: scarce; high detectability

Habitat / preferences: in undergrowth and bushes in/near deciduous woodland; higher up in flowering trees for feeding; found feeding on white umbellifers.

Flight time: May – June

ID remarks: *Volucella bombylans* exists in various colour forms like *Criorhina ranunculi* and *Merodon equestris* and can perhaps be confused with these similar-sized species; differs from these species by the hairy arista and wing colouration, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/41040>



Volucella bombylans (♀), 10.06.2023



Volucella bombylans (♀), 18.05.2024

2024-05-18	2	https://observation.org/observation/310363981/	●
2023-06-10	2	https://observation.org/observation/275775792/	●
2022-05-09	1	https://observation.org/observation/240920806/	

Volucella inanis (Linnaeus, 1758)

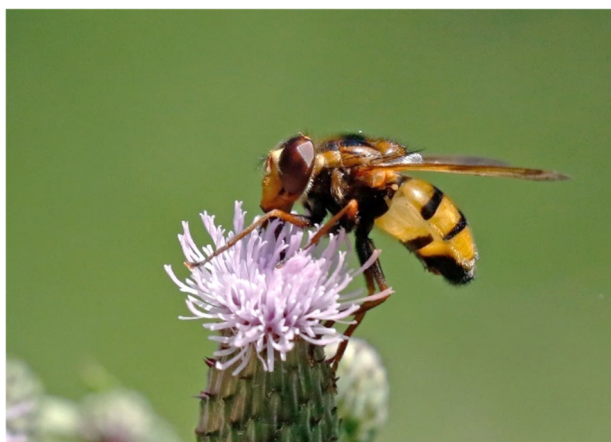
Status: relatively common; high detectability.

Habitat / preferences: in or near deciduous woodland feeding on a variety of flower types.

Flight time: June – August

ID remarks: unmistakable; very large species.

Info fauna map: <https://lepus.infofauna.ch/carto/41041>



Volucella inanis (♂), 05.07.2025



Volucella inanis (♀), 07.08.2022

2025-08-24	1	https://observation.org/observation/370119541/	
2025-08-16	1	https://observation.org/observation/368908493/	
2025-07-18	2	https://observation.org/observation/363672102/	

2025-07-18	1	https://observation.org/observation/363672141/	
2025-07-18	1	https://observation.org/observation/363672201/	
2025-07-05	1♂	https://observation.org/observation/361080268/	●
2021-06-22	1	https://observation.org/observation/217862207/	●

Lägern (ZH):

2022-08-07	1♀	https://observation.org/observation/251685491/	●
2022-08-07	2	https://observation.org/observation/251686076/	
2021-08-02	1	https://observation.org/observation/221816909/	
2019-08-18	1♀	https://observation.org/observation/178386670/	●

Volucella inflata (Fabricius, 1794)

Status: (relatively) common; high detectability.

Habitat / preferences: found in a variety of habitats but mostly in deciduous woodland along forest tracks feeding on a variety of flower types (e.g. umbellifers, *Euonymus* sp., *Cornus sanguinea*).

Flight time: May – June

ID remarks: unmistakable.

Info fauna map: <https://lepus.infofauna.ch/carto/41042>



Volucella inflata (♂), 26.05.2024



Volucella inflata (♀), 01.06.2021

2025-06-21	1	https://observation.org/observation/358056308/	●
2025-06-09	3	https://observation.org/observation/356022643/	●
2025-06-03	4	https://observation.org/observation/354369434/	
2025-05-24	3	https://observation.org/observation/352438110/	●
2025-05-18	1♂	https://observation.org/observation/351275669/	
2025-05-17	1♀	https://observation.org/observation/351003994/	
2024-06-16	1	https://observation.org/observation/314797349/	
2024-06-13	1	https://observation.org/observation/314388824/	
2024-06-08	1	https://observation.org/observation/313827634/	
2024-05-26	3	https://observation.org/observation/311653932/	●
2024-05-20	2	https://observation.org/observation/310711010/	
2024-05-20	1♀	https://observation.org/observation/310712164/	
2024-05-18	1	https://observation.org/observation/310349723/	●
2023-06-10	2	https://observation.org/observation/275775980/	
2023-06-03	3	https://observation.org/observation/274722335/	
2021-06-08	1	https://observation.org/observation/230745425/	●
2021-06-01	1♀	https://observation.org/observation/215593294/	●

Lägern (ZH):

2022-05-14	1	https://observation.org/observation/241488067/	
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2022-05-14	1	https://observation.org/observation/262125561/	●
2021-06-10	1♂	https://observation.org/observation/216585367/	●
2020-06-06	2	https://observation.org/observation/193371369/	●

Volucella pellucens (Linnaeus, 1758)

Status: common (record list incomplete); high detectability.

Habitat / preferences: found in a variety of habitats, feeding on a variety of flower types; often seen hovering high above/near forest tracks.

Flight time: May – August

ID remarks: unmistakable; large species.

Info fauna map: <https://lepus.infofauna.ch/carto/41043>



Volucella pellucens (♂), 20.05.2021



Volucella pellucens (♂), 20.05.2021

2025-08-24	1	https://observation.org/observation/370119603/	
2025-08-16	3	https://observation.org/observation/368908352/	
2025-07-18	2	https://observation.org/observation/363672423/	
2025-06-21	1	https://observation.org/observation/358056359/	
2025-05-24	3	https://observation.org/observation/352438047/	
2025-05-23	3	https://observation.org/observation/352145813/	●
2025-05-15	1	https://observation.org/observation/350649663/	
2024-05-26	3	https://observation.org/observation/311654289/	●
2024-05-20	1	https://observation.org/observation/310710862/	
2023-06-03	3	https://observation.org/observation/274722361/	
2021-06-22	1	https://observation.org/observation/371018776/	
2021-06-08	10	https://observation.org/observation/216388503/	●
2021-05-20	1♂	https://observation.org/observation/214392573/	●

Lägern (ZH):

2020-06-06	1♂	https://observation.org/observation/193371387/	●
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Volucella zonaria (Poda, 1761)

Status: relatively common; high detectability.

Habitat / preferences: variety of habitats and gardens; feeding on a variety of flower types.

Flight time: June – August

ID remarks: unmistakable; very large species.

Info fauna map: <https://lepus.infofauna.ch/carto/41044>



Volucella zonaria (♀), 13.07.2025



Volucella zonaria (♀), 22.06.2021

2025-08-16	3	https://observation.org/observation/368908421/	
2025-07-18	2	https://observation.org/observation/363672046/	
2025-07-13	5	https://observation.org/observation/362678333/	●
2025-07-05	1	https://observation.org/observation/361084148/	
2025-06-25	1♀	https://observation.org/observation/358958790/	
2025-06-21	2	https://observation.org/observation/358056280/	●
2024-06-16	1	https://observation.org/observation/314797442/	
2021-07-02	1	https://observation.org/observation/370840639/	
2021-06-22	1♀	https://observation.org/observation/217862222/	●
2021-06-08	1♀	https://observation.org/observation/216388542/	●

Xanthandrus comtus (Harris, 1780)

Status: once record in the survey area; scarce in Lägern (ZH); generally low detectability when moving around in dense undergrowth in forest interiors; also seen hovering at 10 m height above a forest road (<https://observation.org/observation/262125556/>).

Habitat / preferences: in (dense) undergrowth of deciduous and coniferous woodland.

Flight time: May – August

ID remarks: with typical abdomen-patterning, but individuals with darkened abdomen occur.

Info fauna map: <https://lepus.infofauna.ch/carto/41203>



Xanthandrus comtus (♀), 03.06.2023



Xanthandrus comtus (♀), 09.08.2022

2023-06-03	1♀	https://observation.org/observation/274723003/	●
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Lägern (ZH):

2022-08-09	1♀	https://observation.org/observation/251874673/	●
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2022-08-07	1♀	https://observation.org/observation/251685285/	●
2022-05-14	1♂	https://observation.org/observation/262125556/	●

Xanthogramma citrofasciatum (De Geer, 1776)

Status: rare, possibly because of early and short flying time; high detectability.

Habitat / preferences: found once on the entrance road to the clay quarry; in other areas found feeding on flowering *Prunus* sp.

Flight time: April

ID remarks: similar to other *Xanthogramma*-species but larger and with brownish wings, among other features.

Info fauna map: <https://lepus.infofauna.ch/carto/41205>



Xanthogramma citrofasciatum (♀), 13.04.2022



Xanthogramma citrofasciatum (♀), 13.04.2022

2022-04-13	1♀	https://observation.org/observation/237595600/	●
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Xanthogramma dives (Rondani, 1857)

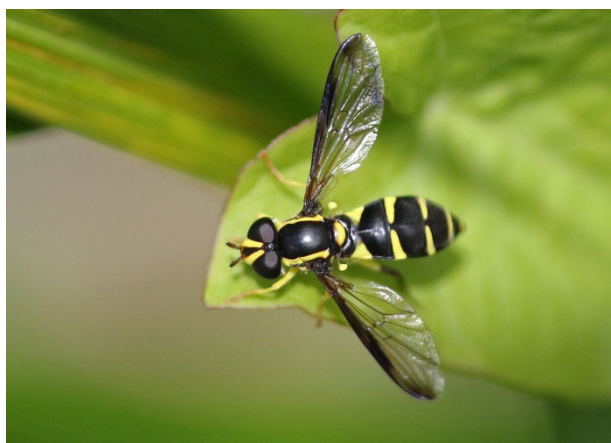
Status: scarce; high detectability when sitting on leaves.

Habitat / preferences: in undergrowth vegetation or bushes in/near woodland.

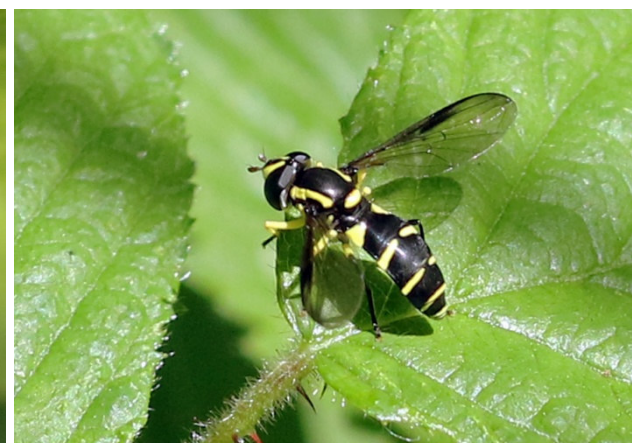
Flight time: May – June

ID remarks: looks similar to *Xanthogramma pedissequum* and *Xanthogramma stackelbergi* but with darkened wing tips; for other features see Bot & van de Meutter (2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41204>



Xanthogramma dives (♀), 16.06.2024



Xanthogramma dives (♀), 14.05.2021

2025-05-24	1♀	https://observation.org/observation/352434289/	
2024-06-16	1♀	https://observation.org/observation/314797262/	
2024-06-16	1♀	https://observation.org/observation/314798192/	●
2024-06-08	1♀	https://observation.org/observation/313826234/	
2024-05-28	1♀	https://observation.org/observation/312256055/	●
2021-05-14	1♀	https://observation.org/observation/230440612/	●

Xanthogramma laetum (Fabricius, 1794)

Status: relatively common; conspicuous species but often flying through undergrowth (e.g. wild garlic) away from forest tracks and then hard to detect.

Habitat / preferences: interior forest species; especially in woodland with flowering wild garlic undergrowth.

Flight time: April – June

ID remarks: looks like other *Xanthogramma*-species but without a black pterostigma and in females with continuous (non-interrupted) abdominal bands.

Info fauna map: <https://lepus.infofauna.ch/carto/41206>



Xanthogramma laetum (♂), 28.05.2021



Xanthogramma laetum (♀), 10.05.2025

2025-06-09	1♀	https://observation.org/observation/356016249/	
2025-06-09	1♀	https://observation.org/observation/356022842/	
2025-05-24	1♂	https://observation.org/observation/352433968/	
2025-05-18	1♀	https://observation.org/observation/351278004/	
2025-05-17	5	https://observation.org/observation/351004241/	
2025-05-10	1♀	https://observation.org/observation/349692398/	
2025-05-10	1♀	https://observation.org/observation/349692817/	●
2025-04-29	2	https://observation.org/observation/347410896/	
2025-04-28	2♀	https://observation.org/observation/347240807/	
2023-06-03	1	https://observation.org/observation/274810748/	
2021-06-01	1♂	https://observation.org/observation/215593078/	
2021-05-28	3♂♂	https://observation.org/observation/215104080/	●
2021-05-23	2♂♂	https://observation.org/observation/214626205/	●

Lägern (ZH):

2023-05-27	1♂	https://observation.org/observation/273671912/	
2023-05-27	1♂	https://observation.org/observation/273672011/	
2020-05-10	1♀	https://observation.org/observation/191028194/	●

Xanthogramma pedissequum (Harris, 1780)

Status: relatively common; conspicuous species but often moving around in dense undergrowth vegetation and then hard to detect.

Habitat / preferences: variety of habitats; in (dense) undergrowth at ground level.

Flight time: April – August

ID remarks: look similar to *Xanthogramma dives* and *Xanthogramma stackelbergi*, but differs by a number of features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41207>



Xanthogramma pedissequum (♂), 18.08.2023

Xanthogramma pedissequum (♀), 24.08.2025

2025-08-24	1♀	https://observation.org/observation/382928990/	●
2025-06-09	1♂	https://observation.org/observation/356016562/	
2025-05-24	2	https://observation.org/observation/352433131/	
2025-05-15	2♂♂	https://observation.org/observation/350649576/	
2023-06-03	1♂	https://observation.org/observation/374744114/	●
2022-04-21	1♂	https://observation.org/observation/238524053/	
2021-06-07	1♂	https://observation.org/observation/230737318/	●
2021-06-01	2	https://observation.org/observation/215593391/	●
2021-05-28	3	https://observation.org/observation/215104127/	
2021-05-23	1	https://observation.org/observation/214626241/	
2021-05-20	3	https://observation.org/observation/214392601/	

Lägern (ZH):

2021-06-10	1	https://observation.org/observation/216585399/	
2019-08-18	3	https://observation.org/observation/178190447/	●

Xanthogramma stackelbergi Virolovitsh, 1975

Status: rare; low detectability in dense undergrowth; high detectability when perched on leaves along forest roads.

Habitat / preferences: interior deciduous woodland species; on leaves and flowers at ground level.

Flight time: June – July

ID remarks: looks like *Xanthogramma pedissequum* and *Xanthogramma dives*, but differs by the pattern on abdomen underside and the rounded ends of the yellow patches on tergite 2, among other features (see Bot & van de Meutter 2023).

Info fauna map: <https://lepus.infofauna.ch/carto/41340>

2021-07-09	2♀♀	https://observation.org/observation/219476381/	●
2021-06-25	1♂?	https://observation.org/observation/218145022/	●
2021-06-22	1♂	https://observation.org/observation/217862166/	●



Xanthogramma stackelbergi (♀), 09.07.21



Xanthogramma stackelbergi (♂), 22.06.21

Xylota segnīs (Linnaeus, 1758)

Status: common (record list incomplete); high detectability.

Habitat / preferences: in undergrowth, bushes and trees; running on leaves to find food (pollen).

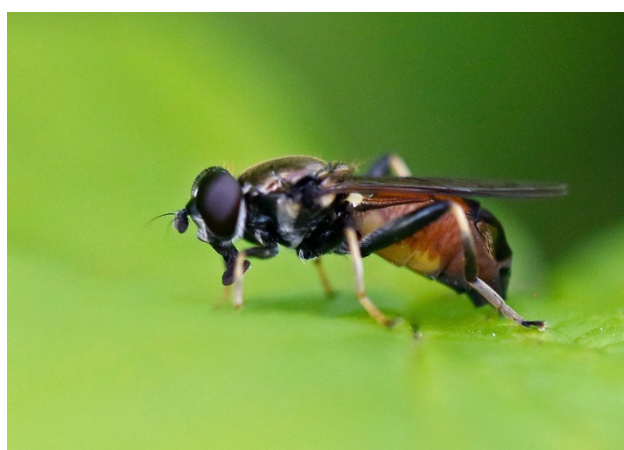
Flight time: April – August

ID remarks: looks similar to *Xylota ignava* and *Xylota tarda* that potentially could occur in the Jurapark Aargau; the likelihood of these species occurring in/near the survey area is very small considering the efforts made to find these species, especially for *Xylota tarda* which is a small secretive species.

Info fauna map: <https://lepus.infofauna.ch/carto/41048>



Xylota segnīs (♂), 14.05.2021



Xylota segnīs (♀), 14.06.2025

2025-08-16	2	https://observation.org/observation/368907144/	
2025-06-14	1♀	https://observation.org/observation/382905015/	●
2025-05-24	10	https://observation.org/observation/352437839/	
2025-05-15	5	https://observation.org/observation/350649183/	
2025-04-29	5	https://observation.org/observation/347410710/	
2025-04-28	3	https://observation.org/observation/347240826/	
2025-04-19	1	https://observation.org/observation/345569990/	
2022-04-22	1	https://observation.org/observation/238656225/	
2022-04-19	1	https://observation.org/observation/238358335/	
2021-05-14	20	https://observation.org/observation/213925000/	●
2021-05-08	10	https://observation.org/observation/213001125/	
2021-05-03	1	https://observation.org/observation/212635051/	●
2020-04-22	3	https://observation.org/observation/189390960/	●
2019-08-09	1	https://observation.org/observation/177752269/	●

Lägern (ZH):

2021-06-13	3	https://observation.org/observation/216907515/	
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Xylota sylvarum (Linnaeus, 1758)

Status: (relatively) common; high detectability when moving around in open bushes and trees.

Habitat / preferences: in undergrowth, bushes and trees; running on leaves to find food (pollen).

Flight time: May – August

ID remarks: *Xylota sylvarum* looks much like *Xylota xanthocnema* that could potentially occur in the Jurapark Aargau and the survey area; *Xylota xanthocnema* has no black on the hind tibia, in addition to other features.

Info fauna map: <https://lepus.infofauna.ch/carto/41050>



Xylota sylvarum (♂), 21.06.2025



Xylota sylvarum (♀), 18.05.2025

2025-08-16	1	https://observation.org/observation/368907058/	
2025-08-09	1	https://observation.org/observation/367945781/	
2025-07-18	1	https://observation.org/observation/363673126/	
2025-06-21	2	https://observation.org/observation/358056243/	●
2025-06-14	2	https://observation.org/observation/356575197/	
2025-06-14	2	https://observation.org/observation/356575921/	
2025-06-09	1♂	https://observation.org/observation/356021079/	
2025-06-09	1♀	https://observation.org/observation/356021553/	
2025-06-09	2	https://observation.org/observation/356026274/	
2025-05-18	1♀	https://observation.org/observation/351275601/	●
2024-06-13	2	https://observation.org/observation/314388909/	
2024-05-26	1	https://observation.org/observation/311654034/	
2023-06-03	1♂	https://observation.org/observation/274722097/	
2021-07-02	2	https://observation.org/observation/218920853/	●
2021-06-22	1	https://observation.org/observation/217862459/	
2021-06-18	1♂	https://observation.org/observation/217453358/	●

Lägern (ZH):

2022-08-07	5	https://observation.org/observation/251685936/	
2020-06-06	5	https://observation.org/observation/193371195/	●
2020-05-27	1	https://observation.org/observation/192591147/	●
2019-08-18	1	https://observation.org/observation/178190451/	●

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7 Appendices

Table 7.1: Survey overview. The survey duration is the time between the first and last photo taken.

2019		
survey day	photo time	duration [min]
2019-08-09	17:03-19:07	124
2019-09-13	14:41-16:11	90

2020		
survey day	photo time	duration [min]
2020-04-22	12:13-14:13	120
2020-05-07	12:31-13:44	73
2020-05-18	files lost	90
2020-05-20	14:17-15:33	76

2021		
survey day	photo time	duration [min]
2021-03-29	12:59-15:52	173
2021-03-30	14:00-16:08	128
2021-04-09	14:15-16:20	125
2021-05-03	14:56-16:54	118
2021-05-08	11:17-14:44	207
2021-05-14	9:52-13:09	197
2021-05-20	15:28-17:39	131
2021-05-22	8:49-10:28	99
2021-05-23	14:32-17:58	206
2021-05-28	12:42-16:45	243
2021-06-01	9:51-13:00	189
2021-06-03	12:01-13:25	84
2021-06-07	15:30-16:06	36
2021-06-08	14:35-17:03	148
2021-06-18	13:49-16:19	150
2021-06-22	13:21-15:56	155
2021-06-24	14:14-15:18	64
2021-06-25	14:40-17:19	159
2021-07-02	11:26-14:53	207
2021-07-09	14:23-17:34	189
2021-08-16	14:54-16:24	90
2021-09-30	16:13-17:06	53

2022		
survey day	photo time	duration [min]
2022-03-22	14:41-17:05	144
2022-03-29	14:18-15:47	89
2022-04-11	14:20-15:34	74
2022-04-12	12:14-15:04	170
2022-04-13	12:19-14:11	112
2022-04-14	11:48-13:11	83
2022-04-19	11:00-13:05	125
2022-04-20	10:51-13:02	131
2022-04-21	10:23-12:46	143
2022-04-22	12:38-14:39	121
2022-05-09	14:56-16:37	101
2022-05-10	11:22-13:07	105
2022-05-15	9:42-11:56	134
2022-08-01	10:22-13:33	191
2022-09-07	files lost	30
2022-09-21	15:48-16:29	41
2022-10-06	16:29-17:05	36
2022-10-07	16:07-17:10	63

2023		
survey day	photo time	duration [min]
2023-03-17	13:21-13:57	36
2023-03-22	16:22-17:56	84
2023-05-03	15:37-17:09	92
2023-05-09	11:42-12:48	66
2023-05-25	17:04-17:49	45
2023-06-03	11:19-14:15	176
2023-06-10	9:52-13:36	224
2023-09-17	9:56-12:39	163
2023-09-24	12:55-14:38	103

2024		
survey day	photo time	duration [min]
2024-03-14	14:51-16:50	119
2024-04-08	14:03-15:24	81
2024-05-10	10:19-12:45	146
2024-05-18	10:32-13:18	166
2024-05-20	9:57-14:47	290
2024-05-26	files lost	120
2024-05-28	16:17-17:19	62
2024-06-08	10:49-12:44	115
2024-06-13	16:15-17:48	93
2024-06-16	10:13-15:02	289

2025		
survey day	photo time	duration [min]
2025-03-24	14:37-15:34	57
2025-04-02	16:00-17:22	82
2025-04-04	15:28-17:56	148
2025-04-05	15:26-17:27	121
2025-04-08	15:50-17:26	96
2025-04-10	16:08-17:01	53
2025-04-11	15:31-17:22	111
2025-04-12	12:12-14:00	108
2025-04-15	16:20-17:38	78
2025-04-19	11:40-17:10	330
2025-04-28	13:36-17:43	247
2025-04-29	11:36-17:25	349
2025-05-10	10:32-14:36	244
2025-05-15	15:56-17:53	117
2025-05-17	10:25-15:34	309
2025-05-18	11:16-12:49	93
2025-05-23	15:59-17:39	100
2025-05-24	10:25-15:30	305
2025-06-09	10:20-16:09	349
2025-06-14	9:26-13:45	259
2025-06-21	9:53-13:16	203
2025-06-22	9:36-13:55	259
2025-06-25	10:16-12:48	152
2025-07-05	10:55-12:57	122
2025-07-13	9:47-12:58	191
2025-07-18	11:13-13:41	148
2025-08-03	14:15-17:21	186
2025-08-09	9:29-12:15	166
2025-08-10	9:55-12:53	178
2025-08-16	9:19-12:36	197
2025-08-24	10:10-12:36	146
2025-08-31	camera broken	60

Table 7.2: Overview of the 20 visits made to the Lägern area (ZH) from 2019-2023.

2019	2020	2021	2022	2023
18.08.2019	10.05.2020	10.06.2021	14.05.2022	27.05.2023
	17.05.2020	11.06.2021	06.07.2022	18.08.2023
	23.05.2020	13.06.2021	07.08.2022	
	27.05.2020	02.08.2021	09.08.2022	
	06.06.2020		24.08.2022	
	08.06.2020			
	11.06.2020			
	16.06.2020			