

# ACALYPTRATAE FLIES (DIPTERA: SCHIZOPHORA) FROM VINEGAR TRAPS FROM THE VALBONA VALLEY NATIONAL PARK (ALBANIA)

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## Abstract

With a vinegar trap, ten new Diptera species for the fauna of Albania were caught in the Valbona Valley National Park.

KEY WORDS: Albania, vinegar, Diptera, new records, Xylophagous

## Introduction

Most of the material found in traps placed by entomologists is never identified or published. During a field trip to the Valbona Valley National Park by a group of naturalists from the Netherlands, several vinegar traps were placed to catch xylophagous beetles. Fortunately, I was able to examine the left-over material for acalyptrate flies. The results are reported below.

## Materials and Methods

Material was collected in Albania, Kukës County, Valbona Valley National Park, from 8<sup>th</sup> till 12<sup>th</sup> of July 2019. Coordinates: 42° 24' 43" N, 19 ° 53' 37" E. Collection was done using only a number of vinegar traps (Fig. 1).

The habitat where the traps were placed is a half-open old beech (*Fagus*) forest with occasional clearings. The area around the forest is used for small-scale farming. Patches of forest are cut for firewood and small paths run through the forest to herd sheep to the highlands beyond.



Figure 1. Vinegar trap in Valbona Valley National Park (Photo by R. Buesink).

All material is stored in 70% ethanol in the author's private collection. Identification was performed in ethanol using an Euromex StereoBlue Trino Zoom microscope with 0.7-4.5 x magnification. For identification of Drosophilidae, the keys in Bächli *et al.* (2004) were used as well as reference material of the Dutch *Amiota* material in my collection. The following keys and descriptions were used: for Heleomyzidae Papp (1981); for Micropezidae Roháček & Bartak (1990); for Milichiidae the keys in Shtakel'berg (1989) were used for *Neophyllomyza*, and Sabrosky (1983) for *Desmometopa*; for Periscelididae the keys and descriptions in Papp & Withers (2011) and Roháček & Andrade (2017) were used.

## Results

Family Drosophilidae

### ***Leucophenga maculata* (Dufour, 1839)**

2 ♂♂ and a single ♀ were found. A widespread species in Europe. Has been bred from the fruiting bodies of several species of fungi (Bächli *et al.*, 2004).

***Amiota alboguttata* (Wahlberg, 1839)**

1 ♂ and 2 ♀♀ were found. A widely distributed species in the Palaearctic region. Of all European *Amiota* species, it is most often found in canopy traps (Bächli *et al.*, 2004). Remarkably, this was not the case here. Canopy traps are usually filled with wine or beer, not vinegar, which possibly contributed to a different array of species being caught in this instance. Nothing is known about the biology of *Amiota* species. However, W. Gritsch was able to breed a species of *Amiota* from under the bark of fallen common beech (*Fagus sylvatica* L.) trees in Denmark (pers comm W. Gritsch).

***Amiota rufescens* (Oldenberg, 1914)**

20 ♂♂ and 15 ♀♀. A widespread but rarely collected species in Europe (Bächli *et al.*, 2004). For a habitus photo of one of the males see Fig. 2.

Hellqvist *et al.* (2017) recorded this species and *A. subtusradiata* as being pyrophilous in Sweden. The species was caught with traps in recently burnt forests. Hellqvist *et al.* (2017) bred the species from the fruiting bodies of *Daldinia concentrica* on burnt *Ulex europaeus* in Wales but theorize that the species might not be restricted to any particular tree species or fungus.



Figure 2. Habitus of a male *Amiota rufescens* from Valbona Valley National Park (Photo by R. Delhem).

***Amiota subtusradiata* Duda, 1934**

9 ♂♂ and a single ♀. A much less widespread species than *A. rufescens* (Bächli *et al.*, 2004).

Family Heleomyzidae

***Suillia gigantea* (Meigen, 1830)**

4 ♂♂ and 2 ♀♀. This large *Suillia* species with golden hairs on the sternites of the abdomen is easy to recognize. The species is widespread but rare in Europe (Preisler & Roháček, 2012). It can however be caught relatively easily with beer traps. In the elevated parts of France, I was able to catch the species every time I placed beer traps in summer, a method also reported as being very successful in the Czech Republic by Preisler & Roháček (2012). It is a mycophagous species that has been bred on truffles (*Tuber mesentericum*) in Spain (García-Montero *et al.*, 2004).

Family Micropezidae

***Rainieria latifrons* (Loew, 1870)**

A single, heavily seriously female was found (Fig. 3). Fortunately, a single femur and wing were mostly intact, enabling identification. A widespread species in the Palaearctic, but rarely recorded. Larvae develop under the bark of deciduous trees (Kurina, 2004).



Figure 3. Habitus of the female *Rainieria latifrons* from Valbona Valley National Park (Photo by R. Delhem).

## Family Milichiidae

***Desmometopa sordida* (Fallén, 1820)**

103 ♂♂ and 51 ♀♀. This species is common and widespread in Europe. Catching such large numbers is, however, rare (Sabrosky, 1983).

***Neophyllomyza acyglossa* (Villeneuve, 1920)**

14 ♂♂ and 52 ♀♀. This species is widespread in Europe with the closest known locality in Morović, Serbia (Coe, 1968). Larvae of Nearctic *Neophyllomyza* have been reared from logs in varying stages of decay (Brochu & Wheeler, 2009). Presumably, the European species of this genus share a similar larval habitat.

## Family Periscelididae

***Myodris annulata* Fallén, 1820**

A single female was present in the collected material. Larvae live in sapruns on trees, recorded from a great variety of deciduous tree species. A widespread species in Europe known from most European countries, though not from Albania thus far (Papp & Withers, 2011).

***Periscelis fugax* Roháček & Andrade, 2017**

A single male specimen was found, seriously damaged. The darkened cross vein, 6<sup>th</sup> sternite with posterior medial narrow depression and gonostylus with simple apex were intact and allowed its identification. Larvae live in sapruns on trees and probably develop in oak trees. Recorded thus far only from the Czech Republic and Portugal, but it is certainly more widespread. Normally an autumn species found in numbers in August and September and single specimens in June and July (Roháček & Andrade, 2017).

## Discussion

As the traps were designed for Coleoptera, it is remarkable that so many flies were caught. The traps were filled with vinegar. The vinegar releases an odor that attracts xylophagous species. There were many xylophagous Diptera species in the traps. *Amiota alboguttata*, *A. rufescens*, *A. subtusradiata*, *Rainieria latifrons*, *Neophyllomyza acyglossa*, *Myodris annulata* and *Periscelis fugax* all depend on dead wood for their larval development. It is known that some are attracted to beer traps, but to my knowledge, they have never been reported as being caught with vinegar-filled beetle traps.

The species *Amiota rufescens* and *A. subtusradiata* are reported to be pyrophilous in Sweden (Hellqvist *et al.*, 2017). However, no burnt forest or trees were observed in the vicinity of the traps, nor were any burnt patches of forest or single burnt logs encountered in the area (pers. com. R. Buesink). *Leucophenga maculata* and *Suillia gigantea* are mycophagous species. *S. gigantea*, as noted above, is known to be attracted to beer traps. Maybe the odor of vinegar resembles that of the fungi these species larvae depend on. *Desmometopa* species are known to be attracted to strong odors and thus it was not strange to find them in our traps (Sabrosky, 1983).

This collection shows that in the Valbona Valley National Park there is an abundance of dead wood available for a large population of xylophagous Diptera, rich in both numbers of species and individuals.



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# ACALYPTRATAE (DIPTERA: SCHIZOPHORA) МУВЕ ИЗ СИРЋЕТНИХ КЛОПКИ НАЦИОНАЛНОГ ПАРКА ДОЛИНА ВАЛБОНЕ (АЛБАНИЈА)

ЕЛИАС ДЕ БРЕ

## Извод

Клопком са сирћетном киселином, прикупљено је десет нових врста Diptera за фауну Албаније у Националном парку долина Валбоне.

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