


New distribution and bionomy records for the Balkan Peninsula Plume Moth fauna [1.] (Lepidoptera, Pterophoridae)

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Abstract. The paper reports new distribution and phenological data of 47 species of Plume Moths from the Balkan Peninsula, with annotations. Twelve species are new to the Albanian fauna: *Adaina microdactyla* Hübner, [1813]; *Agdistis tamaricis* (Zeller, 1847); *Calyciphora homiodactyla* Kasy, 1960; *Calyciphora nephelodactyla* (Eversmann, 1844); *Capperia fusca* (Hofmann, 1898); *Capperia hellenica* Adamczewski, 1951; *Marasmarcha lunaedactyla* (Haworth, 1811); *Platyptilia gonodactyla* ([Denis & Schiffmüller], 1775); *Stenoptilia annadactyla* Sutter, 1988; *Stenoptilia lucasi* Arenberger, 1990; *Stenoptilia parnassia* Arenberger, 1986; *Stenoptilodes tabrobanes* (Felder & Rogenhofer, 1875); *Wheleria phlomidis* (Staudinger, 1870). *Stenoptilia plagiodactyla* (Stainton, 1851) represents a novel addition to the Greek fauna. The following countries have new species. Bulgaria: *Capperia marginellus* (Zeller, 1647); Montenegro: *Stenoptilia arida* (Zeller, 1847); North Macedonia: *Crombrugghia tristis* (Zeller, 1839); Serbia: *Marasmarcha lunaedactyla* (Haworth, 1811) and *Calyciphora homiodactyla* Kasy, 1960. This paper offers a detailed summary of species observed within the Balkan Peninsula, specifying their occurrence by country. It includes annotations for each species and provides illustrations of the wing patterns and genitalia structures of several species. Additionally, the paper maps the geographical distribution of rare species.

Keywords. Faunistic, new records, bionomy, distribution.

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Introduction

The literature on the Pterophoridae of the Balkan Peninsula is notably scarce. One of the most significant publications dates back nearly a century. I have previously summarised the species, their bionomics and the distribution of this geographical region (Fazekas, 2021). Much of the data is historical and uncertain, so it is important to present recent research.

The identification of *Stenoptilia* species presents several challenges and this author concurs with Arenberger (2002), who stated that numerous researchers have endeavoured to elucidate the identity of individual *Stenoptilia* species in recent years. During these investigations, many new species were discovered. Unambiguous determination within this genus is often challenging. Wing patterns are minimal. Both male and female genitalia exhibit considerable uniformity; only a specialist can provide a reliable species diagnosis. In the female genitalia, the morphology of the antrum offers the most informative characteristics. The male genitalia, specifically the uncus, the cucullus of the valve, and the anellus arms, offer significant differentiation possibilities. However, the aedeagus is the most precise and reliable organ for species differentiation, particularly its basal process. This author has consistently taken these factors into account in the identification of *Stenoptilia* species.

This study presents data on 31 species collected in recent years. This research aims to address existing uncertainties in the literature and contribute new observations to the current body of knowledge. This work will be followed by examining specimens collected in other Balkan countries, which will align with the theme of the author's forthcoming book on the Balkans, scheduled for publication in 2021.

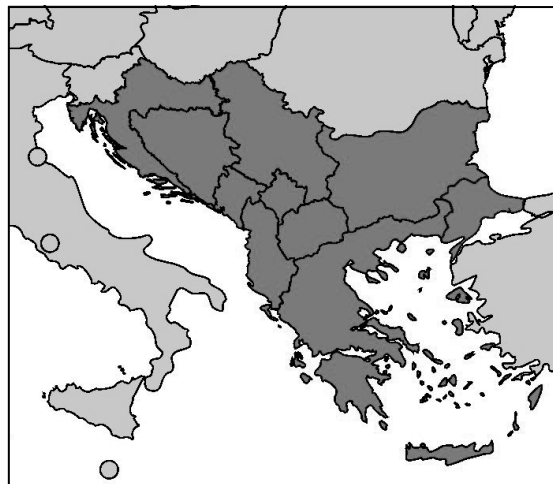
Material and methods

The morphological examinations were made using a Leica EZ4W stereomicroscope with LED illumination.

The examined specimens were collected by colleagues S. Beshkov, A. Nahirnič and C. W. Plant. Plant prepared the material for analysis and dispatched it to the author at the Pannon Institute (Hungary). The specimens were dissected under a stereomicroscope. Identification was based on an examination of the genitalia. Stereomicroscopic examinations require a magnification of at least 20-80 times.

Genitalia dissections were conducted after Robinson (1976). Some genitalia specimens were mounted in Euparal on slides, while others were preserved in microtubes containing glycerol. The micro-tubes are attached to the pin under the labels (length 8,5 mm, width 3,0 mm, tube material silicone). Genital analysis of worn, damaged Pterophoridae specimens was performed using Fazekas (2020, 2021) and Wanke and Rajaei (2018). The methodology for preparing microscope slides is elucidated in Fazekas's (2020: pp. 10–13) publication, which includes comprehensive diagrammatic representations. The examined specimens and slide preparations are housed in the Pannon Institute (Hungary, Pécs) collection.

The dissected genitalia are assigned a corresponding identification number. This number functions as a label (e.g., Genitalia preparation No FI-001-2025) and is pinned under the specimen, with a record maintained in the author's archive.



Geographical extent of the study area (Balkan Peninsula) based on Fazekas (2021).

Results

The list of species is in alphabetical order.

1. *Adaina microdactyla* (Hübner, [1813])

Material examined.

Albania

♀, Korce Region, Morava Mt., above Dishanica 1564 m, 25.vi.2017, leg. Beshkov & Nahirnič.

Remarks. **New species for the Albanian fauna.** Within the Balkans the species is known from Bulgaria, Croatia and Greece (Fazekas 2021) and is relatively local and rare. Only one female has been identified from the Morava Mountains.

2. *Agdistis adactyla* Hübner, [1825]

Material examined.

Bulgaria.

♂, Bansko at mvl. 2.viii.2013. leg. Alan Harris.

♀, Zemen Mountain Polska Skak, 7.vii.2012. leg. S. Beshkov.

Remarks. Balkan populations are fragmented, and abundance is low. An unusual form of foodplant feeding for the Pterophoridae has recently been reported in three species of *Agdistis*, *A. adactyla* (Hübner) and *A. frankinae* (Zeller). Larvae of *A. adactyla* have been found on the leaves and lower stem of *Artemisia* and *Suaeda* (Gielis, 1996a and others), and all three species likely feed on fresh foliage as well as detritus; they may hide in leaf litter when not feeding (see Matthews & Lott, 2005).

3. *Agdistis benettii* (Curtis, 1833)

Greece

♀, Lefkada, Lefkada, 19.07.2014. leg et gen. prep. F. Graf.

Remarks. Personal investigations in the Balkans revealed a serious shrinkage of the habitats and decline in the populations of *A. benettii*. The populations were small, with a mosaic pattern of distribution. The genitalia of *A. morini* Huemer, 2002 are very similar to those of *A. benettii*, but that species differs in the strongly bent costa and the complete absence of a sclerotised flap on the costa, which is always well developed in *A. benettii* (see Huemer, 2002, figs 4d-f, table I). The evolution of two species could be explained by the long isolation of the coastal areas of the western and eastern Mediterranean, which is also reflected by the speciation within the host-plant genus *Limonium*. However, all these records, particularly from the Adriatic coast and from the Balkans, have to be re-examined and confirmed by examination of genitalia. Genitalia characters of *A. morini* and *A. benettii* show a close similarity, and possibly they are vicarious species.

4. *Agdistis frankeniae* (Zeller, 1852)

Material examined.

Albania.

♂, Ionian coast at Butrint, 2.vi.2019. leg. S. Beshkov & A. Nahirnič.

Remarks. It occurs in the Balkan Peninsula: Albania, Bulgaria, Crete, Croatia, and Greece. Tourism and increased bathing sites threaten its habitats (Fazekas 2021). The typical habitat of the species is salt marshes, in muddy patches in estuarine areas and in grasslands further from the seashore.

5. *Agdistis satanas* Millière, 1875

Material examined.

Bulgaria.

♀, Border with Turkey at Maochia (hill fort), 22.vii.2011. leg. S. Beshkov

Remarks. Expansive Holomediterranean faunal element, reaching Germany in the north (Hessen, Brandenburg and elsewhere). Occurrence in the Balkan Peninsula: Albania, Bulgaria, Greece (also on Crete). Flight period in two generations from April to September, from the plains up to an altitude of 1200 m. Larvae on *Scabiosa candicans*, *S. pyrenaica*, *Scleranthus* spp. and *Limoniastrum monopetalum* (Fazekas 2021).

6. *Agdistis tamaricis* (Zeller, 1847)

Material studied.

Albania.

♀, Gjirokastër near Humelice village 161 m, 11.vii.2018, leg. Beshkov & Nahirnič.

Remarks. This species is new addition to the Albanian fauna. Previously, its presence in the Balkans was documented only in Bulgaria, Croatia, Greece and North Macedonia (Fazekas 2021). Distribution: Mediterranean region to Central Asia; from south-western Europe to Germany; Madeira; Cape Verde Islands; ubiquitous in *Tamarix* stands. Host plant: *Tamarix canariensis* (Tamaricaceae). The adults exhibit morphological similarities to other *Agdistis* species, necessitating dissection for accurate identification. The flight period occurs in two generations from March to September, in the Palaearctic region from lowland areas to an elevation of 1700 m. Larvae consume the foliage of *Tamarix dioica*, *T. gallica*, *T. smyrnenensis* and *Myricaria germanica*.

7. *Amblyptilia acanthadactyla* (Hübner, [1813])

Material studied.

Albania.

♂, Dajt, Tirana, 12. viii.2018. leg. C.W. Plant. ♂, Mt. Tomorr at 2180 m, 11.viii.2018. C.W. Plant.

Bulgaria.

♂, Belasitsa Mt. above Petrich Luda Mara River, 9.vii.2010. leg. S. Beshkov.

♀, East Rhodopes Mts., Kardazhalia area between Komuiya and Zheola, 11.viii.2011. leg. S. Beshkov.

♀, Pirin Mts. Dralyek 29.viii.2011. leg. S. Beshkov.

♂, Pirin Mts. Vlahi village area, 16.iv.2014. leg. S. Beshkov.

Remarks. Occurrence in the Balkan peninsula: Albania, Bulgaria, Bosnia-Herzegovina, Croatia, Greece, Montenegro, North Macedonia and Serbia. Food plants: Various *Geranium* species (Geraniaceae). Flight period in two generations from April to October in heath and other open habitats, woodland, and hedgerows.

8. *Buszkoiana capnodactyla* (Zeller, 1841)

Material studied

Albania.

♂, Bjesh Prokletije Mts., Cemi Selcës river valley 1230 m, 16.viii.2018. leg. C.W. Plant.

Remarks. Distribution: This is known from Denmark, Poland, southern Germany, the southern tip of the Netherlands, Belgium, Italy, Austria, the Czech Republic, Slovakia, Hungary, Romania (Locus typicus: „Bánát”), Bulgaria, North Macedonia, Albania, Ukraine, and southern Russia (Fazekas 2021). Its preferred habitats are alder swales and the more humid highland vegetation that accompanies streams. These habitats have been severely depleted by climate change and watercourse regulation. The species is gradually disappearing from highly fragmented habitats.

9. *Calyciphora homiodactyla* Kasy, 1960

Material studied

Albania.

♀, Korce Region, Morava Mt. above Dishnica, 1564 m, 25.vi.2017. leg. S. Beshkov & A. Nahirnič.

♂, Korcë Mt. Kuq Qarrit Pass, below Pepellash 1190 m, 5.vi.2018. leg. S. Beshkov & A. Nahirnič.

Remarks. This species constitutes a novel addition to the Albanian fauna. In the previous summary literature (Fazekas 2021), it is documented from the Balkan region solely in Bulgaria, Croatia (Istria, Rab), Greece, and North Macedonia. According to current knowledge (Fazekas 2021), the larvae are monophagous, feeding exclusively on *Echinops ruthenicus* (= *ritro*). The host plant is an element of the Pontic-Pannonian-Balkan flora. Preferred habitats comprise calcareous sandy scrub, sandy meadows, grassy mountain slopes, dolomitic rocky grasslands, and steppe meadows, ranging from lowlands to altitudes of 1800–2000 m. In the Balkans, it is a highly localised and rare species. The moth exhibits bivoltine behaviour, with flight periods from May to September.

10. *Calyciphora nephelodactyla* (Eversmann, 1844)

Material studied.

Albania.

♀, Dukat Mts. 820 m, 31.v.2018, leg. C.W. Plant.

♂, Korcë Mt. Kuq Qarrit Pass, below Pepellash 1190 m, 5.vi.2018. leg. S. Beshkov & A. Nahirnič.

North Macedonia.

♂, Mt. Suva Planina Kozjak Venec west of Braznitsa by road 302 at 1060 m, 8.vii.2018. leg. C.W. Plant.

♀, Near Prilep 980 m, 2.vii.2018. leg. C.W. Plant.

Serbia.

♂, Kazan N of Priepolje 1286 m, 3.vii.2019. leg. C.W. Plant.

Remarks. This species represents a novel addition to the Albanian and Serbian fauna, having been previously undocumented in Albania and Serbia. Within the Balkan region, it had hitherto been collected solely in Bosnia-Herzegovina, Bulgaria, Greece and North Macedonia (Fazekas 2021). The European and Asia Minor populations are predominantly found in mid- and high-altitude mountain ranges (up to 2000 m), whereas in Asia (e.g., Kazakhstan), populations occur in the lowland steppe zone (Fazekas 1993).

11. *Capperia celeusi* (Schmid [in: Frey], 1887)

Material studied.

Albania.

♂, Albania, Korce region, Dardha 1276 m, 26.vi.2017, leg. S. Beshkov & A. Nahirnič.

Bulgaria.

2♂, Silista region above Kranovp village, 18.v.2010. leg. C.W. Plant.

3♂, Above Stara Zagora on road to Dabrava 458 m, 5.v.2019. leg. S. Beshkov & A. Nahirnič.

Greece.

♂, Macedonia, above Vigla between Floria and Pisoderi 1808 m, 12.vi.2024. leg. S. Beshkov & A. Nahirnič-Beskova.

North Macedonia.

♂, West of Nova Breznitsa by road 302, 1.vi.2018. leg. C.W. Plant.

Serbia.

2♂, Kazan N., of Priepolje 1286 m, 3.vii.2019. leg. C.W. Plant.

Remarks. In the Palearctic region, this species is widespread but localised, particularly in mountainous areas, where it frequently attains altitudes exceeding 2050 metres. It is predominantly observed in the following habitats: rock and gravel meadows and dry and semi-dry grasslands. The moth's flight period extends from early May to the end of June and from mid-July to late August. Adults are readily disturbed from vegetation during daylight hours and at dusk and are also attracted to artificial light sources. The larva is likely monophagous; oviposition has been documented on *Teucrium chamaedrys* L. and *T. quadrifarium* (see Fazekas 2021).

12. *Capperia fusca* (Hofmann, 1898)

Material studied

Albania.

♂, Korçë Mt, Kuq Qarrit Pass below, Pepellash 1190 m, 5.vi.2018. leg. C.W. Plant.

Bulgaria.

♂, East Rhodope Mts, Zlatolist village area 18.x.2014. leg. S. Beshkov.

Remarks. This is a new species of the Albanian fauna. Previously, only the following countries were reported in Bulgaria, Croatia, Greece, Crete, North Macedonia, and Turkey. The larvae feed on *Stachys alpina*, *S. cassia*, and *Marrubium vulgare*. According to the literature, the moth flies in two generations from May to September. The new flight date is mid-October. It likes rocky forests and forest edges. It was also collected on roadsides and in weedy areas. In mountain areas, it climbs to altitudes of 2000–2020 m.

13. *Capperia hellenica* Adamczewski, 1951

Material studied.

Albania.

♂, Ionian coast, Butrint Lake near opening to the sea 18 m, 14.v.2017. leg. S. Beshkov & A. Nahirnič.

Remarks. This represents the first documented occurrence in the Albanian fauna. According to Fazekas (2021), the species' distribution encompasses Turkmenistan, the Caucasus, Crimea, the Middle East, Asia Minor, the Balkans, and Romania. In southwestern Europe, its

presence has been confirmed in Italy, Sardinia, France, and Spain. Within the Balkan region, observations have thus far been limited to Bulgaria, Croatia, Greece, and Serbia.

Biology. The species exhibits an extended flight period, with adult moths active from March until mid-September, potentially spanning two or three generations. Larvae are monophagous, feeding exclusively on *Teucrium scordium* or *T. scordium* ssp. *scordioides*. Their dietary habits involve consuming shoots or flower anthers, and they overwinter within dry calyces or desiccated leaves. The species' typical habitats comprise wet meadows, marshy areas, and humid biotopes. It has been observed in mountainous regions at elevations up to 2000 m above sea level. Within the Balkan peninsula, the species demonstrates the most extensive distribution in Greece. Population dispersal patterns indicate a north-north-westerly trajectory.

14. *Capperia marginellus* (Zeller, 1847)

Material studied.

Bulgaria.

♂, Above Stara Zagora on Road to “Dubrava”, 42.4376N, 25.5959 E, 25.vi.2019. leg. S. Beshkov & A. Nahirnič.

Remarks. This represents the first documented occurrence in the Bulgarian fauna. There is insufficient knowledge about the size of the Balkan populations and their ecological status. Flight period in May and end-July, reaching altitudes of up to 850 m in the mountains. The larva and the host plant are unknown (Fazekas 2021).

15. *Capperia trichodactyla* [Denis & Schiffermüller], 1775)

Material studied

Greece.

♂, Eastern Rhodopi, Erithropotamos/Luda Reka River Aleophori village near Mataxados 37 m, 30.iv.2019. leg. S. Beshkov & A. Nahirnič, gen. prep. I. Fazekas, No. 3540.

Remarks. According to Fazekas (2021: p. 50): “(? mainland Greece)”. The new data now pinpoints the species' valid occurrence. Presence in the European part of Turkey is questionable. Flight period from May to August, in two generations. Larvae monophagous on *Leonurus cardica*, *Teucrium quadrifarium*. The first-generation feeds on leaves, the second generation on flowers. Observed habitats. along forest edges, forest clearings, roadsides, weedy areas (Fazekas 2021).

16. *Capperia washbourni* Adamczewski, 1951

Material studied

Greece.

♂, Epirus, Sagiada 0 m, 39.461213N 20.14116E, 18.vii.2023. leg. et gen. prep. F. Graf, det. I. Fazekas.

Remarks. Within the Balkans, this species has been found only in Greece. There is a lack of information regarding its life cycle and population size (Fazekas 2021). Observations have been limited to the Zachlorou area in Greece. The species' geographical distribution remains poorly understood, with records from Greece, Turkey, Israel, Syria, Iran, Afghanistan, and Turkmenistan (Arenberger 2002, Alipanah & Ustjuzhanin 2013, Gielis 2003). Previous literature describes the species' biology as follows: Specimens have been collected from April to the end of July, predominantly in mountainous regions, at altitudes ranging from 700 to 2100 metres, in warm, dry habitats. The larva and host plant remain unidentified. The new data for Greece (Sagiada, 0 m) have not yet been documented at this elevation.

17. *Cnaemidophorus rhodocatyta* ([Denis & Schiffermüller], 1775)

Material studied.

Albania.

♂, Dajt, Tirana, 12.viii.2018. leg. S. Beshkov & C.W. Plant;

♂, Bjeshkët e Namuna Mts. Malësi e Madhe Cemi Selcës river valley at Gropat e Selcës village 1236 m, 16.viii.2018. leg. C.W. Plant.

Bulgaria.

♂, Sakar Mountains, Matochia 167 m, 9.vi.2019. leg. S. Beshkov & A. Nahirnič.

Serbia.

♂, Jakubo, 16.vii.2014. leg. S. Beshkov.

Remarks. It is known over a very large geographical area: the Palaearctic, Nearctic, and Oriental regions. It occurs in the Balkan peninsula: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Montenegro, North Macedonia, and Serbia.

18. *Crombrugghia distans* (Zeller, 1847)

Material studied.

Albania.

♂, Albania, Mt. Thanës, Bulqiza/Plani Bardhë 767 m, 30.ix.2018. leg S. Beshkov & A. Nahirnič.

Bulgaria.

♂, Balchik coastal cliff ledges, 14.viii.2009. leg S. Beshkov.

♀, Petrich region, Kozhuh mountains 175 m, 11.v.2010. leg. C.W. Plant.

♂, Blagoevgrad region, Struma Valley near Stara Kresna village, 21.ix.2010. leg. C.W. Plant & A.J. Pickens.

♀, Rhodope Mountains, Chemoochene near Panchkovo, 10.viii.2011. leg S. Beshkov.

♂, Dobrich region near Loznitza village, 28.viii.2011. leg S. Beshkov.

♀, Montane region above Ohrid village, 9.ix.2011. leg. S. Beshkov.

♂, Vidin region, Voinitsa area 10.ix.2011. leg S. Beshkov.

♂, Nikopol Ali Koch Baba, 22.ix.2011. leg S. Beshkov.

♂, Nikopol Ali Koch Baba, 23.ix.2011. leg S. Beshkov.

♂, Rhodope Mountains Chemoochene near Panichkovo, 10.viii.2011. leg S. Beshkov.

♂, East Rhodope Mts. Haskovo region Aida Charet, 13.viii.2011. leg S. Beshkov.

♂, Vidin region, Voinitsa area, 10.ix.2011. leg S. Beshkov.

♂, Pirin, Mts. Vlahi village area, 26.x.2013. leg S. Beshkov.

♀, Above Aytos town 294 m, 10.vi.2019. leg S. Beshkov & A. Nahirnič.

♂, Sofia, Kostinbrod, 22.v.2021. leg S. Beshkov.

Remarks. It is widespread and not uncommon in the Balkan Peninsula. Habitat: grasslands, pastures, mows, forest margins, weed communities, roadsides, agricultural land. It lives from the lowlands to the high mountains. Euryecous species. The phenology of the Balkan populations is not yet known. Intraspecific variation is very significant: several local forms are known, so genital analysis of specimens is important.

19. *Crombrugghia laetus* (Zeller, 1847)

Material studied.

Albania.

♀, Korçë Mt. Kuq. Qarrit Pass below Pepellash 1190 m, 5.vi.2018. leg. C.W. Plant.

♂, Thanës Mountain near Bulqiza/Plani I Bardhë village, 833 m, 6.iv.2019. leg. S. Beshkov & A. Nahirnič.

♂, Tirana region, Dajt Mt., near Shkalla 893 m, 23.viii.2017. leg. S. Beshkov & A. Nahirnič.

♂, Tirana region, Mali me Gropa Mts. NW of Qafa Selites Pass, 1222 m, 1.x.2019, leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♂, East Rhodope Mts. Zlatolist village area, 18.x.2014. leg S. Beshkov

Bosnia and Herzegovina.

♂, Stolac, 30.07.2024. leg. F. Graf.

Remarks. It is known from Southern Europe to Central Asia. The localities in the Balkan peninsula are Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Turkey. Due to the morphological variability exhibited by both *C. laetus* and *C. distans*, it is not feasible to definitively identify all specimens based solely on wing markings. be verified by examining the genitalia.

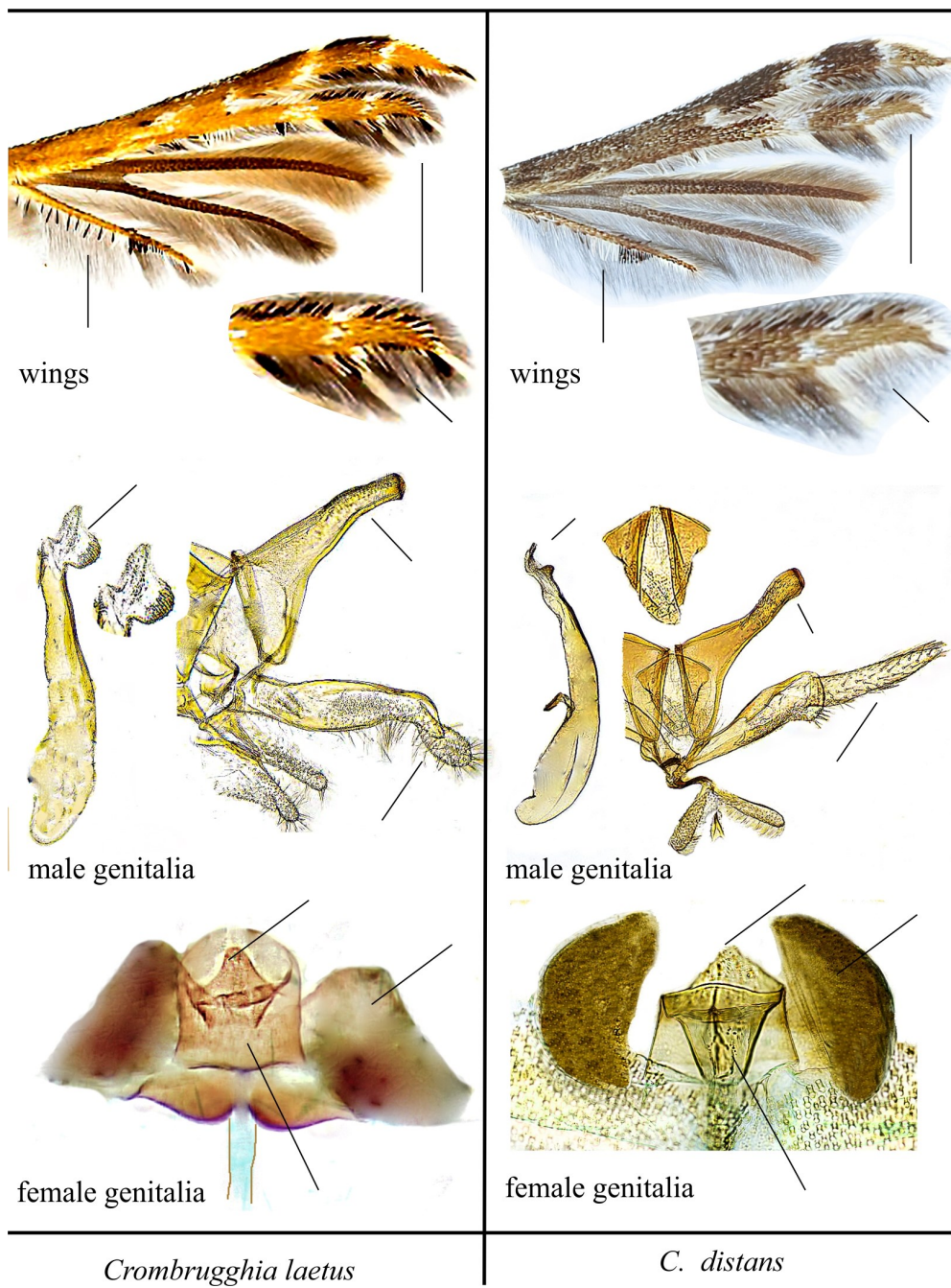


Fig. 1. Comparative morphology of *Crombrugghia laetus* and *C. distans* species based on wings and genitalia (detailed description on next page).

Detailed explanation of Figure 1:

The species *C. distans* and *C. laetus* exhibit significant morphological similarities, necessitating genital dissection for accurate differentiation. A distinguishing feature of *C. laetus* is the presence of a row of small dark brown scales at the termen of the second lobe of the forewing, which are absent in *C. distans*. Regarding male genitalia, the two species can be differentiated by the relative lengths of the sacculus and valvulus; in *C. distans*, the sacculus is considerably longer than the valvulus, whereas in *C. laetus*, this is not the case. Regarding female genitalia, the ostium-antrum complex of *C. laetus* is characterized by a rounded shape with a ventro-caudal bulge. In contrast, the ostium-antrum complex of *C. distans* is markedly different, exhibiting high variability, a narrower basal region, and a generally more elongated form.

Nel et al. (2023) demonstrated through DNA sequencing several specimens attributed to *Oxyptilus lantoscanus* Millière, 1882, spec. rev., that this taxon is indeed a valid species. This study provides a compelling basis for a comprehensive revision of the Balkan and, more broadly, Central European *Laetus* populations. According to the survey conducted by Nel et al. (2023), the known geographical distribution of *O. lantoscanus* is likely endemic to the southwestern Alps, encompassing regions in France and Italy; specifically, in France, it is found in Alpes-Maritimes, Alpes-de-Haute-Provence, and Hautes Alpes. The distribution of the *laetus* species is described as "circum-Mediterranean, from the Canary Islands to Asia Minor and Iraq; in France, the Mediterranean region, Corsica, the Atlantic coast to Loire-Atlantique, and sporadically south of a Sarthe–Ain axis." This geographical concept significantly contrasts with Arenberger's (2002) broader description of the geographic range. It is noteworthy that Arenberger consistently regards *O. lantoscanus* as a synonym.

20. *Crombrugghia tristis* (Zeller, 1839)

Material studied.

North Macedonia.

1 ex. Mt. Suva Planina, Kozjak Venec west of Nova Breznitsa by road 1060 m, 8.viii.2018. leg. C.W. Plant. (missing the abdomen).

Bulgaria.

♂, Black Sea Coast, Kalaikra wind farm, 16.v.2010. leg. C.W. Plant

♂, Blagoevgrad region, Struma Valley near Stara Kresna village, 21.ix.2010. leg. S. Beshkov.

♀, Montana region, above Ohrid village, 9.ix.2011. leg. S. Beshkov.

Remarks. New species for North Macedonia (comp. Fazekas 2021). The number of generations, the exact flight time are not yet known. Specimens have been collected from March to November, which indicates that there are at least three generations. Habitat includes dry, sandy biotope complexes, mezo to xerophilic meadows, open grasslands, mountain meadows, and rock steppe slopes up to altitudes of 2300 m. Preferred habitat is a south-facing, rock-interspersed, flowery meadow at the edge of the forest.

21. *Emmelina monodactyla* (Linnaeus, 1758)

Material studied

Albania.

♀, Tomori Mts. above Ujanik village Abaz all Tomori Peak, 2379 m, 15.vii.2018. leg. S. Beshkov & A. Nahirnič.

♀, Dajti, Tirana, 12.viii.2018. leg. Beshkov & CW. Plant, gen. prep. I. Fazekas, No. 3533.

♀, Dajti near Polican above Pronovic at 585 m, 9.viii.2018. leg. C.W. Plant.

♂, Tomori Mts. above Ujanik village Abaz Ali Tomori Tep, 2379 m, 15.vii.2018. leg. S. Beshkov & A. Nahirnič.

♂, Bjeshkët e Nemura Mts. Malësi e Madhe Cemi Selcës river valley at Gropat e Selcës village 1236 m, 16.viii.2018. leg. S. Beshkov & A. Nahirnič.

♀, Tiranha, Dajt Mts. at Parpunje below Shkala on road to Verr 439 m, 31.x.2018. leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♂, Petric region, Kozhuh Mountain 175 m, 11.v.2010. leg. C.W. Plant.

♀, Dobrich region near Loznitsa village, 28.viii.2011. leg. S. Beshkov.

♂, Chepan Mountains area, 12.vi.2014. leg. S. Beshkov.

♂, Rila Mts. Prava Maritza River between Maritza and Zavrachitza chalets above Borovets Resort, 1964 m, 20.ix.2018. leg. S. Beshkov & A. Nahirnič.

Serbia.

2♂, Ada, river bank, wet meadow, 31.viii.30.2022. leg. I. Fazekas.

Remarks. Wide-ranging in the Balkan peninsula: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, North Macedonia, Serbia, and Greece. It prefers semi-arid and wet habitats, groves, and agricultural and kitchen gardens. The moth flies throughout the year. *Emmelina monodactyla* is morphologically variable and easily confused with the *E. argoteles* species. In case of uncertainty, it is necessary to examine the genitalia (see Fazekas 2021: pp. 80–81, Figs. 133–134).

22. *Marasmarcha lunaedactyla* (Haworth, 1811)

Material studied

Albania.

♀, Bjeshkët e Nemura Mts. Malësi e Madhe Cemi Selcës river valley at Gropat e Selcës village 1236 m, 16.viii.2018. leg. S. Beshkov & A. Nahirnič.

Serbia.

♂, Tresibaba (montane meadow) 720 m, 18.vi.2017. leg. C.W. Plant.

Remarks. New species for Albanian and Serbian fauna. Previously, it has only been collected in Greece (Fazekas 2021). A Eurasian fauna element. Distribution according to World Catalogue (Gielis 2003): Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France Germany, Great Britain, Hungary, Italy, Luxembourg, Netherlands, Poland, Portugal, Russia, Slovakia, Spain, and Sweden.

According to Fazekas (2021), it prefers dry habitats meadows, pastures and dunes, and the larvae feed on *Ononis* species. In addition, observed in ruderal places and along roadsides. One generation a year: from May to August. The adults fly during the day, and the nectar source is mainly from Fabaceae flowering plants. There is a notable scarcity of observations from the Balkan Peninsula and the Pannonian Basin, specifically in Hungary. These populations are isolated along the boundary of the area surrounding Budapest, the Mátra Mountains and the Jászberény area (Fazekas 2003). There are no precise studies on the biology of populations in the former areas. Gielis (1996) wrote the following in his European book: The larva feeds on the flowers and shoots and pupates along the shoot or on the leaf. The adults are sexually dimorphic, the males having a darker brown general colour. Damaged specimens that have become frayed can only be identified by genital examination. The male genitalia are valvae symmetrical and in the basal half of each valve, a pair of strongly curved spines which are semicircular in cross-section. This is very typical for the separation of closely related species.

From a taxonomic point of view, I must mention here the very similar species *Marasmarcha fauna* (Millière, 1871). There are researchers who, based on uncertain information, believe that the species may be present in the Balkans, but I strongly doubt it. The validity of the species status is not proven to me, perhaps just a geographic form, or possibly a subspecies (“*in statu nascendi*”). According to Gibeaux (1990), the synonymy of this species with *M. lunaedactyla* is a misinterpretation.

The representations of the genitalia of *M. lunaedactyla* and *M. fauna* have been subject to varying interpretations. According to Jacques Nel and Thierry Varenne (2021), Gielis (1996) introduced confusion by employing disparate representations of male specimens, which were not depicted on a consistent scale. For the *M. fauna* (fig. 79, page 163), the genitalia are illustrated from a frontal perspective with the valves closed, resulting in a lack of clarity, particularly regarding the long semi-circular spines, which are only partially visible through transpar-

ency. In contrast, for *M. lunaedactyla* (fig. 78, page 163), the genitalia are accurately displayed in a spread-out manner; however, the uncus appears to have been damaged and is significantly deformed. The author distinguishes between the two taxa based on the curvature of the genitalia, specifically the long semi-circular spines at the base of the valves.

The photographs of the same genitalia pertain to a Mediterranean fauna, specifically *Ononis spinosa* (J. Nel leg.), depicted both unread (fig. 1A) and open and spread (fig. 1B). These images demonstrate that the long spines, as represented by Gielis (*op. cit.*), are significantly longer than previously depicted. These spines exhibit considerable flexibility, with their curvature and orientation varying substantially based on the position of the valve and the pressure applied by the cover slip. No significant differences were observed between *fauna* (fig. 1B) and *lunaedactyla* (fig. 1C), with the variations noted being minimal or attributable to positional artefacts. Regarding the female genitalia (fig. 1D and E), the ostium exhibits considerable variability from specimen to specimen, influenced by the pressure exerted by the cover slip or the angle of view. The ostium may appear more or less rounded or oval, with the apical part being more or less rounded or flattened. Nel (2003) also presents the genitalia of *M. fauna* and *M. lunaedactyla*, concluding that the observed differences are attributable to individual or intraspecific variations.

Despite the presence of numerous unresolved questions, the following proposition by Jacques Nel and Thierry Varenne (2021) is acceptable: The synonymy between *Marasmarcha fauna* (Millière, [1876]) and *M. lunaedactyla* (Haworth, [1811]) is acknowledged, with *Marasmarcha lunaedactyla* ssp. *fauna* (Millière 1871) being proposed as an ecotype associated with *Ononis spinosa* within the biocenosis of *Quercus ilex*.

According to Jacques Nel of personal communication (in e-mail 23.03.2025): “Since *M. fauna* is a trophic subspecies of *M. lunaedactyla*, they cannot be distinguished from genitalia. The subspecies *M. fauna* is Mediterranean, related to *Ononis spinosa*, and this applies to France”.

The native range of *Ononis spinosa* is notably extensive. Within the specific research area under detailed examination, namely the Pannonian Basin and the Balkan Peninsula, *Ononis spinosa* is commonly found in dry meadows, pastures, and weedy habitats. Despite the abundant presence of this forage plant for *M. lunaedactyla* larvae, the species remains conspicuously rare and localised in this region.



Fig. 2. *Marasmarcha lunaedactyla*, Serbia, adult, wing pattern

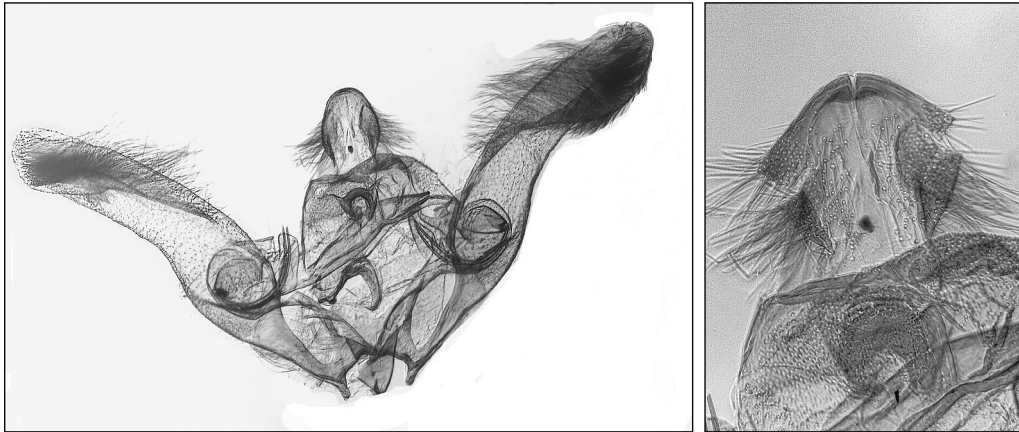


Fig. 3. *Marasmarcha lunaedactyla*, ♂ genitalia, Tresibaba (montane meadow) 720 m, 18.vi.2017. leg. C.W. Plant. Gen. prep. Fazekas, No. 3550. On the right, the uncus is highlighted and enlarged.

23. *Merrifieldia baliodactylus* (Zeller, 1841)

Material studied

Albania.

2 ♂, Korçë Mt. Kuq. Qarrit Pass below Pepellash 1190 m, 5.vi.2018. leg. C.W. Plant.

North Macedonia.

♂, Mt. Suva Planina, Kozjak, Venec, west of Nova Breznitza, by road 302, at 1060 m, 8.viii.2108. leg C.W. Plant.

Remarks. In the Balkans very local and rare everywhere: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Serbia. It prefers calcareous soils, is a species of dry grasslands, hillsides, and forest edges, and has been found in karst scrub, rocky plains, and semi-humid hornbeam oak woodlands. Based on my preliminary studies, it is a of euryecous species. Monovoltine, the moth flies from June to the end of August.

24. *Merrifieldia leucodactyla* ([Denis & Schiffermüller], 1775)

Albania.

♂, Mt. Thanës near Klos, near Bulgizë above Plani i Bardë at 820 m, leg. C.W. Plant.

♂, Tomori Mts. above Ujanik village Abaz Ali Tomori Tep, 2379 m, 15.vii.2018. leg. S. Beshkov & A. Nahirnič.

Serbia.

6♂, Kasan N. of Priepolje 1286 m, 3.vii.2019. leg. C.W. Plant, gen. prep. No. 3548. Fazekas I.

♂, Ada, river bank, wet meadow, 31.viii.2022. leg I. Fazekas.

Remarks. It is known over in the Palaearctic. It is found in the far east of Russia, China, central Siberia, and the British Isles. It is poorly known from Asia, where it appears to have a highly dispersed distribution. A widespread phenomenon in the Balkans: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Serbia. Surely two generations. Preferred habitats: Dry and semi-dry grasslands, forest margins, grasslands, pastures, karst scrub, rocky grasslands, rocky grasslands on hillsides and mountainsides, and continental grasslands.

25. *Merrifieldia malacodactylus* (Zeller, 1847)

Material studied

North Macedonia.

♂, W of Nova Breznitsa by road 302, 1060 m, 1.vi.2018. leg. C.W. Plant.

♂, Mt. Suva Planina, Kozjak Venec west of Nova Breznitsa by road 1060 m, 8.viii.2018. leg. C.W. Plant.

♂, Near Vardar River valley above Demir Kapiya town 244 m, leg. S. Beshkov & A. Nahirnič.

Remarks. *M. malacodactylus* is very variable, and several local forms have been described as separate species. Therefore, there are many synonyms (see Arenberger 1996; Gielis 2003). For the identification of specimens, it is always important to examine the genitalia. It is described by Arenberger and other authors as a Mediterranean fauna element, but in the opinion of this author, it is rather a Holomediterranean-Iranian faunal element. Further investigation is needed (Fazekas 2000).

26. *Merrifieldia tridactyla* (Linnaeus, 1758)

Material studied

Albania.

♂, Korcë, Boboschtice, near Drenovë, 1240 m, 04.vi.2018. leg. C. W. Plant.

♀, Bjeshkët e Nemura Mts. Malësi e Madhe Cemi Selcës river valey at Gropat e Selcës vilage 1236 m, 16.viii.2018. leg. leg. S. Beshkov & A. Nahirnič.

Remarks. The geographical distribution of the species is becoming better known. It has been detected from the Central Yakutia, Lake Baikal region, through southern Siberia to the British Isles and North Africa. It is mainly distributed in the Western Palaearctic and fragmented in Asia (e.g., Iran, Kazakhstan, the Caucasus region, and Saudi Arabia). The moth flies in two to three generations from April to the end of September. Observed habitat types in lowland and montane meadows, deciduous forest edges, various pine forests, steppe meadows, rocky grasslands, along streams and rivers, and on strongly warming mountainsides (Fazekas 2021).

27. *Oxyptilus parvidactylus* (Haworth, 1811)

Material studied

Albania.

♀, Korcë Mt. Kuq. Qarrit Pass below Pepellash 999 m, 12.vii.2019. leg. S. Beshkov & A. Nahirnič.

3 ♂, Korcë Mt. Kuq. Qarrit Pass below Pepellash, 5. vi.2018 and 20.vi.2018, leg. C.W. Plant.

♂, Mt. Thanës near Bulgizë above Plani I Bardhë 767 m, 30.ix.2018, leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♂, Dolni Chiflik coastal sand dunes, 13.viii.2009. leg. C.W. Plant.

♂, Petrich region, Kozhuh mountain 175 m, 11.v.2010. leg. C.W. Plant.

2 ♂, East Rhodope Mtns. Krumovgrad region between Zvamarka & Dobeda, 10.vi.2011. leg. S. Beshkov.

2 ♂, Kozhuh at “avi” (sic!), 19.v. 2014. leg. C.W. Plant.

S. Beshkov & A. Nahirnič Above Stara Zagora town on road to Dabrava village, 458 m, 7.x.2020. leg. S. Beshkov & C.W. Plant.

2 ♂, Sofia, Kostrinbrod, 22.v.2021. leg. S. Beshkov.

Greece.

♂, Central Greece, in Parnassus, 17.08.2024. leg F. Graf

Remarks. Occurrence in the Balkan Peninsula: Albania, Bosnia-Herzegovina, Bulgaria, Greece, Macedonia, Montenegro, Serbia, Turkey. Flight period from May to September in two generations, reaching altitudes of 2500 m. in the mountains. Typical habitats include grasslands, reedbeds, pastures, forest edges, open pine forests, rocky woodlands, and mesophilic deciduous forest edges.

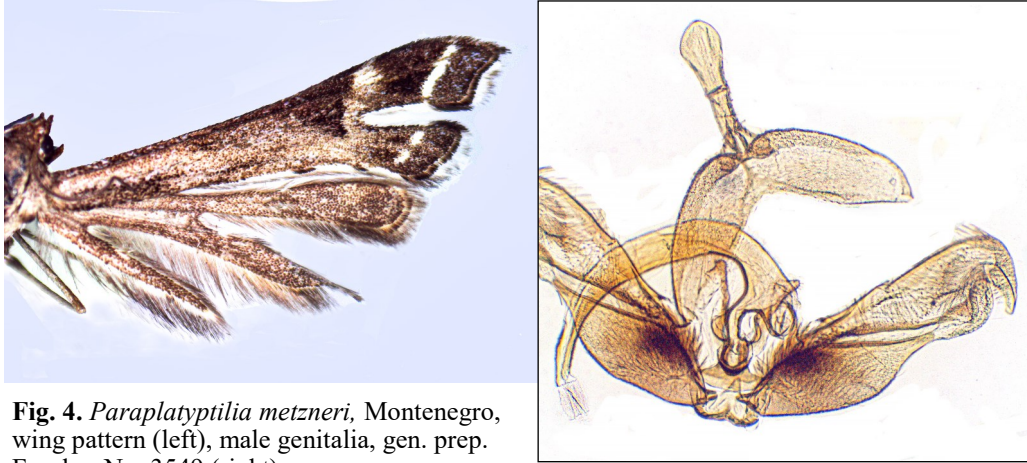


Fig. 4. *Paraplatyptilia metzneri*, Montenegro, wing pattern (left), male genitalia, gen. prep. Fazekas No. 3549 (right)

28. *Paraplatyptilia metzneri* (Zeller, 1841)

Material studied

Montenegro.

2 ♂, Piuska Mountains 1740 m, 17.vii.2014. leg. leg. S. Beshkov. gen prep, No. 3549 & 3550. I. Fazekas.

Remarks. The genres are distributed in the Holarctic and Neotropical regions. In the Balkans, only two species occur (Fazekas 2021): *P. metzneri* in the colder vegetation zones of Eurasia, where it seems to thrive in flat areas, while in Europe it prefers mountain places. The new Montenegrin observation is 500 m higher than the previous occurrence (1200 m). In *P. metzneri* species in the literature, the third lobe of the hindwing with distally placed scale-tooth is known. For the examined Montenegrin specimen, the third lobe of the hindwing with distally placed scale-tooth is not visible. The male genitalia of the species are depicted differently by various authors; these drawings are highly subjective and sometimes inaccurate. In my study, I present a microscopic image of the actual genital pattern of a specimen of *P. metzneri*. The species valva, anellus, uncus and aedeagus are distinguishable from *P. terminalis* (compared with Figures 49 and 50 in Fazekas 2021).

29. *Platyptilia gonodactyla* ([Denis & Schiffermüller], 1775)

Material studied

Albania.

♂, Tirana Region, Dajti Mt. Qafmolla Pass 665 m, 4.iv.2015. leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♀, Belasitsa Mt. above Petrich Luda Mara River, 9.vii.2010. leg. S. Beshkov.

Croatia.

♂, Požega-Slawonien, Gornja Šumetlica, 09.08.2015. leg. et gen. prep. F. Graf.

Remarks. First record for Albanian fauna. The Balkan Peninsula was previously only known from the following countries (Fazekas 2021): Bulgaria, Croatia, and Greece. From Central Asia, Asia Minor, through Europe to the British Isles. It has been observed in many parts of Europe, including the islands of Sardinia and Sicily. According to Prakash *et al.* (2021), known in India.

Biology. The flight period from May to October in two generations. Larvae are said to be monophagous on *Tussilago farfarae*, but according to several authors, they also live on *Petasites* spp. (see Gielis, 1996, pp. 40–41). Reported feeding in flowers, stems, rootstocks, inflorescence stems, and leaves as young larvae. The first generation of larvae begins as leaf miners and then feed on the underside of leaves; those of the summer generation feed on leaves, overwinter in the rootstock, and then resume feeding on flower shoots and flowers. In the mountains, it reaches altitudes of 1700–1800 m.



Fig. 5. *Platyptilia gonodactyla*, Bulgaria, wing pattern (left), male genitalia (right). Details in the text (previous page).

P. gonodactyla and *P. nemoralis* can be distinguished by the black scaling on the hindmost lobe of the hindwing. In *P. gonodactyla* it is a short section in the middle of the lobe. In *P. nemoralis* it is a scaling that starts broadly in the middle and tapers distally. (see Fazekas 2021: Figs. 18-19).

30. *Procapperia maculata* (Constant, 1865)

Material studied

Bulgaria.

3 ♂, Sakar Mountains Matochina, 167 m, 2.v.2019. leg. S. Beshkov & A. Nahirnič.

♂, Above Aytos at 294 m, 4.v.2019. leg. S. Beshkov & A. Nahirnič. Gen. prep. I. Fazekas, No. 3541.

Remarks. It was previously unknown in the Balkans (Arenberger 2002, Fazekas 2021, Gielis 2003). A new species in this geographical area. Based on chorological data, its range is distributed between southwestern Europe (France, Spain, Italy) and the Eastern Mediterranean (Asia Minor, Caucasus, Crimea and more recently the Balkans). A highly fragmented species. Arenberger (2002) mentions the alpine plant *Scutellaria alpina* as a food source for larvae. The vertical range of the species is given by Arenberger (2002) as 1300 to 2680 m a.s.l. The new habitat in Bulgaria is only at an altitude of 167–294 m. The geographical area shows a disjoint and dispersed pattern.

31. *Pterophorus ischnodactyla* Treitschke, 1833

Material studied

Albania.

♂, Mt. Thanës near Klos near Bulgizë above Plani I Bardhë at 767 m, 30. ix.2018. leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♂, N Black Sea coast, Bolata near Cape Kaliakra, 42 m, 11.vi.2018. leg. 2020. leg. S. Beshkov & A. Nahirnič.

2 ♂ and 1 ♀, Above Stara Zagora on road to Dabrava 458 m, 5.v.2019. leg. S. Beshkov & A. Nahirnič.

2 ♂, Sakar Mountains Matochia 167 m, 9.vi.2019. leg. S. Beshkov & A. Nahirnič.

♂, Stara Zagora on road to Dubrova 458 m, 5.v.2019. leg. S. Beshkov & A. Nahirnič.

Remarks. The species is widely distributed from southwestern Pakistan to the Arabian Peninsula and Asia Minor, as well as central and western Europe. It also survives on the North African coast, and it has also been found in South Africa and Mongolia. The larvae are monophagous and feed on *Convolvulus cantabrica*. Preferred habitats: on rocky sites, sunny

slopes, drought-tolerant heaths, dry grassland and heaths with calcareous soils, altitudes from 0 to 1300 metres above sea level. In the Balkans, it has been observed in the following countries: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, and North Macedonia (Fazekas 2021).

32. *Pterophorus pentadactyla* (Linnaeus, 1758)

Material studied

Albania.

♂, Mt. Thanës near Klos near Bulgizë above Plani i Bardhë at 820 m, 17.viii.2018. leg. C.W. Plant.

Bulgaria.

♂, Dragoman Distr. above Aldomirovtsi marsh, 42.890763N, 23.002988E. 745 m, 4.ix.2019. leg. S. Beshkov.

Remarks. It is known throughout most of the Palaearctic, except for Japan and North Africa. Its central distribution is in central and southern Europe. It is highly disjunct in Scandinavia, Siberia, and Asia Minor. In the Balkans, it is widespread, but not an abundant species: Albania, Bosnia-Herzegovina, Bulgaria, Crete, Croatia, Greece, Montenegro, North Macedonia, and Serbia. Moths fly in two generations from May to September, from the lowlands to altitudes of 1700-1900 metres in the mountains.

33. *Stangeia siceliota* (Zeller, 1847)

Material studied.

Bulgaria.

♂, Chepan Mountains area, 12.vi.2014. leg. S. Beshkov.

Remarks. Occurrence in the Balkan Peninsula: Albania, Bulgaria, Greece, Croatia, Montenegro, North Macedonia, Serbia, Turkey. Most widespread in Greece (Fazekas 2021). It occurs in sandy landscapes, steppe meadows, and southern rocky grasslands. It has adapted to the most extreme ecological niches. It has colonised from the lowlands to the high mountain ranges up to 3000 m. In Dalmatia Orno-Quercetum, in Greece Ostryo-Carpinion-aegeicum, Oleo-Ceratonion vegetation zones are not uncommon. In Bulgaria, it occurs very locally in Quercetum frainetto cerris associations.

According to Arenberger (2002), a Mediterranean species, of whose distribution limits are Switzerland and Hungary in the north and extend as far as China in the east. In the author's opinion, it is not a Mediterranean species, but a multi-centred faunal element of southern Eurasia. The area of distribution of Central- and South Asian populations, including Saudi Arabia, Yemen, Turkmenistan, Iraq, Iran and Afghanistan, is not yet clear. A rough map of the known distribution of the region in an earlier work (see Fazekas 1999, Figure 6) is presented here. Very rare in the south-western mountain ranges of Arabia, in the tropical dry savannah climate, the short-grass, dry, shrubby savannah in the Asir Mountains, Namas, 2000–2350 m.

34. *Stenoptilia arida* (Zeller, 1847)

Material studied.

Montenegro.

♂, Moraca River valley, Bioče village 195 m, 6.x.2019, leg. S. Beshkov & A. Nahirnič.

North Macedonia.

♂, Arda river valley above Demir Kapiya 244m, 28.x.2018. leg. S. Beshkov & A. Nahirnič.

Remarks. So far, no such data were known from Montenegro (Fazekas 2021); this is the first observation. Bigot et al. (2009) reported the following about the so-called "arida section" (*arida*, *mimula*, *bigoti*, *eborinodactyla*, *parnasia*): This is the only section in which the species classified here have almost nothing in common except for the structure of the aedeagus. This may be an artificial grouping of species, masking the existence of several different section's poor in species and yet to be defined using criteria other than those derived from the structure of the aedeagus. During collection and preparation, the forewings of the specimens were frequently damaged, and the similarity and variability of the genitalia also made

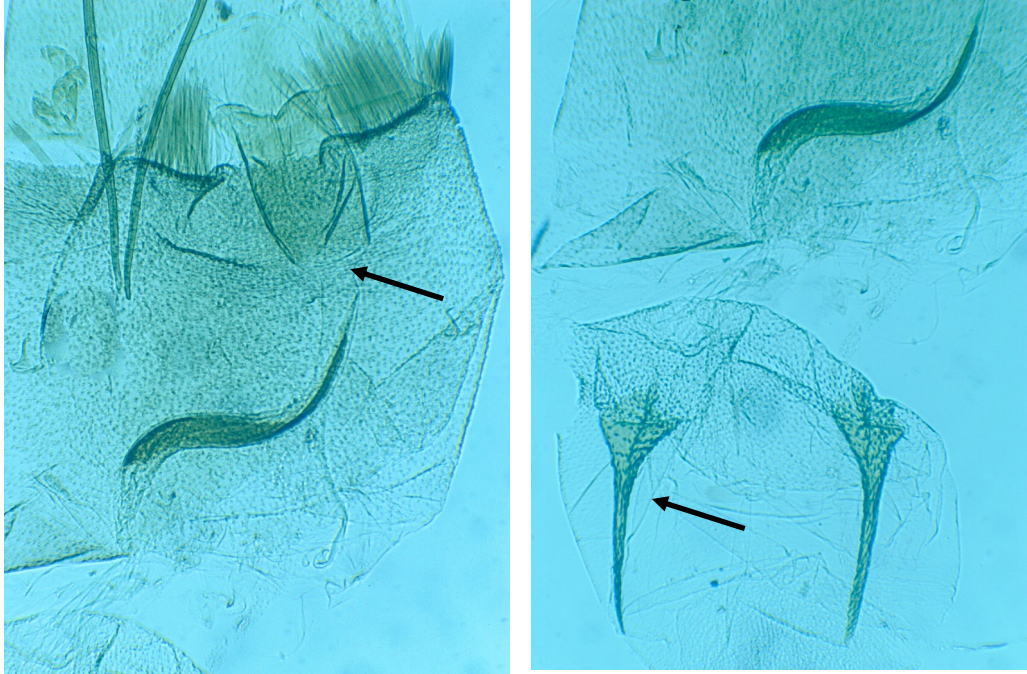


Fig. 6. Male genitalia of *Stenoptilia annadactyla* (details), ostium-antrum complex on the left, bursa copulatrix with signum on the right. Bulgaria, gen. prep. Fazekas, No. 3543.

species identification difficult. In my opinion, there is a lot of subjective identification, so the literature data can only be accepted with criticism.

35. *Stenoptilia annadactyla* Sutter, 1988

Material studied

Albania.

♀, Thanës Mountain near Bulgize/Plani I Bardha 833 m, 6.iv.2019, leg. S. Beshkov & A. Nahirič.

Bulgaria.

♀, Petrich region, Kozhuh mountain 175 m, 11.v.2010. leg. S. Beshkov, gen. prep. no. 3543, Fazekas I.

♀, East Rhodope Mtns., Kardzalia area between Kommunya and Zehola, 11.viii.2011. leg. S. Beshkov, gen. prep. in a glycerine tube on the needle.

Remarks. First record of the Albanian and Bulgarian fauna. It was previously unknown in the Balkan peninsula (see Fazekas 2021). A species described less than 40 years ago; its geographical distribution is only partially known. It is known from only a few countries: East Anglia, France, Germany, Switzerland, Italy, Lithuania, Czechia, Slovakia, Austria, Hungary, Romania, and south of the European part of Russia, the Southern Ural. Genital dissection is always required for identification. The wings are almost identical to those of the *S. bipunctidactyla* species-complex, though, in fresh specimens, the blackish mark in the cilia of the anal angle of the first lobe is more distinct on *S. annadactyla*. To identify females, the following points should be noted: The antrum, which is tapered and about three times longer than its width in *S. bipunctidactyla*, has parallel sides and is only one and a half times longer than its width in *S. annadactyla* (see Fazekas 2021: pp.26–27. Fig 25).

36. *Stenoptilia bipunctidactyla* (Scopoli, 1763)

Synonyms:

Alucita mictodactyla Denis & Schiffermüller, 1775*Stenoptilia mictodactyla* ([Denis és Schiffermüller], 1775)*Pterophorus serotinus* Zeller, 1852 [Synonym or separate species? It is listed as a separate species in major literature (e.g. Arenberger 2005).]*Pterophorus hodgkinsonii* Gregson, 1868*Pterophorus hirundodactylus* Gregson, 1871*Pterophorus scabiodactylus* Gregson, 1871 [Synonym or separate species? It is listed as a separate species in major literature, e.g. Arenberger 2005]*Stenoptilia succisae* Gibeaux & Nel, 1991 ; [According to Huemer et al. (2021), it is synonymous with *bipunctidactyla*.]*Stenoptilia tourlani* Gibeaux, 1993 [Synonym or separate species? It is listed as a separate species in major literature (e.g. Arenberger 2005).

Material studied.

Serbia.

2 ♂, Kasan N., of Priepolje 1286 m, 3.vii.2019. leg. C.W. Plant.

Bulgaria.

♂, West Stara Planina Mountains, Iskra Gorge above Osenovlag 5.ix.2011. leg S. Beshkov.

♂, West Stara Planina Mountains, nr. Milonovo, 7.ix.2011. leg S. Beshkov.

Remarks. The long list of synonyms and the uncertainty of taxa make specimen identification very difficult. I wrote more about this in my book on the Balkans (Fazekas 2021). Usually found in hygro- to xerophilous meadows and pastures, open grassland, sunny rocky slopes, especially on limestone or andesite. Flight period, depending on latitude and altitude, from April to September or October, in successive generations, the larvae are polyphagous.

37. *Stenoptilia eborinodactyla* Zagulajev, 1986

Material studied

Serbia.

2 ♂, Kasan N., of Priepolje 1286 m, 3.vii.2019. leg C.W. Plant. Gen. prep. I. Fazekas, No. 3541/P

Remarks. In my book on Pterophoridae species of the Balkans (Fazekas 2021), *S. eborinodactyla* is not yet a relevant species from the region. I write about the species *S. gratiolae* from Bulgaria and Serbia. Ustjuzhanin and Kovtunovich (2008) suggest that the widespread *Stenoptilia gratiolae* is synonymous with *S. eborinodactyla*. This proposition was not initially adopted in this study due to numerous unresolved questions. A single complete male specimen of *Stenoptilia eborinodactyla* has been described from Russia (Taganrog); the paratype, also designated as male by Zagulajev, lacks an abdomen. Arenberger (2005) examined only the holotype and classified the taxon within the "species group *bipunctidactyla*", which differs from the group containing *S. gratiolae* ("grisescens species group").

38. *Stenoptilia lucasi* Arenberger, 1990

Material studied

Albania.

♂, Tirana Region, Dajti Mt., Qafmolla Pass, 665 m, 4.iv.2018, leg. S. Beshkov & A. Nahirnić, gen. prep. no. 3535. Fazekas I.

Remarks. First record for the Albanian fauna. The species was previously only known from Greece (Gielis 1996; Fazekas 2021: pp. 32–33, Fig. 35). It was described by Arenberger from Turkey. Locus typicus: Turkey, Develi, Erciyes dagh, 1700 m. Apart from the locus typicus, the species is also known from Greece and Cyprus (compilation in Arenberger (2005: 55). Bigot *et al.* (2008) present a notable finding in that they now attribute the specimens from Cécuse near Gap in the French south-western Alps (Hautes-Alpes department), which were previously assigned to *Stenoptilia manni*, to *S. lucasi*, thus reporting the first record of the species for France. Subsequently, Iran was also reported (Alipanah & Gielis 2010).

Neither Arenberger (1990) nor Arenberger (2005) provide any information regarding the caterpillar's life cycle. If the attribution of the specimens from Cécuse in the French Alps to this

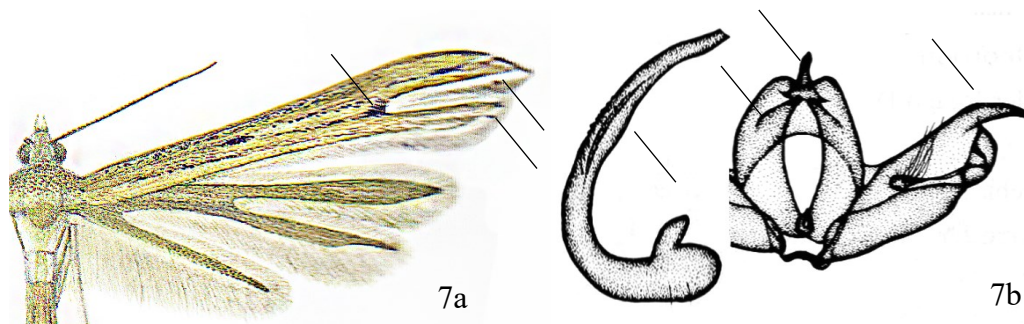
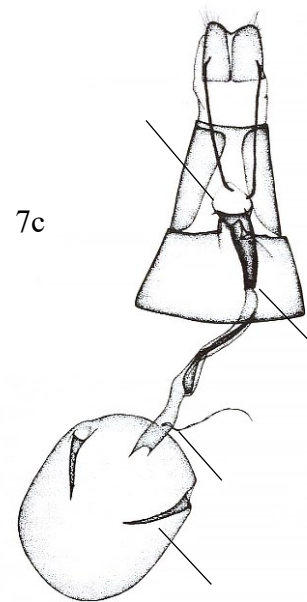


Fig. 7. Identification of *Stenoptilia lucasi* (indicated):

7a. Wing pattern (after Arenberger 2005).

7b. Male genitalia: The outer edge of the valve is somewhat flattened, the cucullus relatively pointed, only slightly curved downwards. The anellus arms reach almost to the base of the uncus. This is slightly widened in front of the tip. The aedeagus is strongly curved and longer than a valve (after Arenberger 1990, gen. prep. 2846).

7c. Female genitalia: Antrum in ventral view in oblique position, orientated towards the right half of the body. It is strongly sclerotised and has about half the length of the posterior apophysis. Its anal margin is cut out in a circular shape, the lateral margins of the ostium opening are projected anally. The bursal duct is twice as long as the antrum. The seminal duct branches off immediately before the confluence of the bursal duct with the corpus bursae. The latter has two strong signa. Apophyses anteriores are missing. Anal end of the 7th sternite notched in its centre (after Arenberger 1990, gen. prep. 2848).



species, which is otherwise only known from Turkey, Greece and Cyprus, is indeed accurate, *Nepeta nuda* may be considered a potential food plant. This plant species predominantly occurs in the southeastern European and Turkish distribution range of the moth (refer to www.lepiforum.de). The spot at the base of the forewing cleft in *Stenoptilia stigmatodactyla* and *S. stigmatoides* differs from those presented (see Arenberger 2005; Taf. 33, Fig. 13 and Taf. 36, Fig. 27). This observation supports the identification of *S. lucasi*. The *S. stigmatodactyla* spot is divided into a larger dorsal part and a small, basally displaced costal spot. In *S. lucasi*, it more closely resembles a single large blotch at the base of the aperture. The identification of the former species requires very detailed genital examinations.

39. *Stenoptilia mannii* (Zeller, 1852)

Material studied.

Albania.

4 ♂, Albania, Tomor, Abaz Alin peak at 2060 m, 10.viii.2018. leg. C.W. Plant.

North Macedonia.

♂, Suva Planina Mts. Kozjak Venec 1070 m, 18.viii.2018. leg. S. Beshkov & A. Nahirnič.

Remarks. Its range reaches Dagestan, Uzbekistan, and Iraq in the east. Its exact distribution in Asia is not known. In the east, it is known as far east as the Tien-Shan Mountain range in China. In the Balkans, there a local species: Albania, Bosnia-Herzegovina, Bulgaria,

Greece, Montenegro, North Macedonia and Turkey. The moths are collected from May to August. It is a montane species, appearing at altitudes as low as 2100 m. I have already described the taxonomic and identification problems in my earlier book (Fazekas 2021).

40. *Stenoptilia parnasia* Arenberger, 1986

Albania.

♂, Tomori Mts., 1894 m a.s.l, 16. VI. 2024, leg. Beshkov & Nahirnic-Beshkova.

The species is less well-known in European and Balkan literature (e.g. Fazekas 2021; Gielis 1996). Wingspan 16–17 mm. The forewings and hindwings are coffee-brown, and the hindwings appear lighter in colour. The costal margin of the forewings is dark brown until after the cleft. This is followed by a small patch of pure white fringes. In the centre of the forewing, there is a dark brown which reaches the dark brown costal fringes but does not extend to the inner margin to the inner margin. The cleft spot is very strong and continues with dark scales up to the costal fringes. The costal fringes. The inner edge of the forewing is lighter in colour than the front edge. The upper side of the antennae is dark brown, with alternating white and brown scales on the sides.

In his original description of the species, Arenberger (1986) described the male and female genitalia its follows: Male genitalia. The valvae exhibit symmetry. The species is readily distinguishable from related taxa by the distal extremities of the valves. The apices of the valves are linear. The tornus, in contrast to the typical rounded form observed in *Stenoptilia* species, protrudes as a lobate projection. The tegumen displays a slight indentation, with the uncus extending marginally beyond the distal edge of the tegumen. The anellus arms are 3–4 times the width of the uncus. The aedeagus exhibits a curvature at one-third of its length. The morphological patterns required for identification were presented in my book published in 2021 (Fazekas 2021, Fig. 40.).

Remarks. This is a new species in Albania. According to Fazekas (2021), this species is likely a Pontic faunal element, with known occurrences limited to Turkmenistan, Iran, Armenia, Turkey, and Greece.

Occurrence in the Balkan peninsula: Within the Balkans, specimens have been collected exclusively in the mountainous regions of Greece, at elevations ranging from 1600 metres to 2500 metres.

Biology: To date, the imago has been observed solely on the inflorescence of *Scabiosa taygeta*, which is hypothesised to be the larval host plant. The moth's flight period extends from early May to August, suggesting a bivoltine life cycle.

The type locality of the species is the National Park of Mount Parnassos: This is situated in the south-central mainland of Greece, in proximity to Delphi and Arachova. Established in 1938, it encompasses an area of 36 million square metres. It is the second largest Greek national park, with Mount Olympus being the largest, and it comprises a unique ecosystem. Mediterranean vegetation, including oregano, water-thyme, cedar, laurel, and arbutus, flourishes in this environment. Additionally, the park features pine forests, with the predominant tree species being *Abies cephalonica*, a fir species characterised by sharp needles.

Mount Parnassos has been subjected to uncontrolled exploitation through intense anthropogenic intervention over the years, resulting in extensive areas of significant degradation, where bedrock and rocky outcrops frequently dominate the landscape.

The moth exhibits a preference for the following habitats within the national park: a) the non-forested zone of high mountains (Astragalo-Acantholimonetalia) characterised by the Astragalo-Daphnion alliance, b) the beech-fir zone (Fagetalia) featuring the Abietion cephalonicae alliance, encompassing not only *Abies cephalonica* forests but also *Pinus nigra* clusters, and c) the deciduous broadleaf zone (Quercetalia pubescentis), comprising deciduous forests as well as kermes oak shrublands.

Given the degradation of ecosystems, it is imperative to conduct regular monitoring of the species (e.g., population dynamics, abundance, etc.). Research into the life cycle and monitoring of additional host plants is a priority for the conservation of the species.



Fig. 8. *Stenoptilia plagiodactyla*, Greece, wings with slight lesions (left), male genitalia (right), gen. prep. Fazekas, No. 3551.

41. *Stenoptilia plagiodactyla* (Stainton, 1881)

Material studied

Greece.

♂, Macedonia, above Vugle between Floria and Pisoderi 1808 m, 21.v.2024. leg S. Beskov & A. Nahirnič-Beskova. Gen. prep. I. Fazekas No 3551.

Serbia.

♀, Valjevo, Divčibare, Kaona 820 m, 14.vi.2017. leg. C.W. Plant.

Remarks. This species represents a novel addition to the Greek fauna. Within the Balkans, it has previously been documented exclusively in the following countries (Fazekas 2021): Albania, Bosnia-Herzegovina, Bulgaria, Montenegro, and Serbia. The taxonomic classification of this species has been a subject of longstanding debate. Gielis (2003) states that *S. plagiodactyla* is synonymous with *S. bipunctidactyla*. In contrast, Arenberger (2005) refutes this assertion, maintaining that it is a "valid" species. The findings of Huemer et al. (2021), which revealed a significant genetic divergence from *Stenoptilia bipunctidactyla* in their adjacent joining tree during barcoding (mtDNA COI gene), provide substantial evidence supporting the distinct species status of *S. plagiodactyla* (Lepiforum e. V. 2025).

See also: <https://www.ncbi.nlm.nih.gov/nuccore/2645652296>

42. *Stenoptilia pterodactyla* (Linnaeus, 1761)

Material studied

Albania.

♂, Tomor, Abaz Alin peak at 2060 m, 10.viii.2018. leg. C.W. Plant.

2 ♂, Tirana Region, Dajt Mt., Qafmolla Pass, 665 m, 4.iv.2018. leg. S. Beshkov & A. Nahirnič, gen. prep. no. 3535/2024 and 3537/2024. Fazekas I.

Bulgaria.

1 ex, Vikren at mvl, 31.vii.2013. leg. Alan Harris (missing the abdomen).

2 ♂, Beli Iskar River valley above Beli Iskar village 21.vii.2020, 1469 m, leg. S. Beshkov, A. Nahirnič & Kaynarov.

♀, Above Stara Zagora town on the road to Dubrava village, 458 m, 7.x.2020. leg. S. Beshkov & C.W. Plant

Remarks. The species is distributed throughout most of the Palaearctic region, with its presence in North Africa remaining unconfirmed. A historical record from the United States exists (Forbes 1923); however, recent investigations have not substantiated this claim, suggesting a potential misidentification. The species has been documented in several Balkan countries, including Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, North Macedonia, Serbia, and Turkey. General observations indicate that the moth's flight period extends from May to September, comprising two generations. Examination of collected specimens revealed individuals in flight during the initial days of April, representing a novel phenological observation for the Balkan Peninsula.

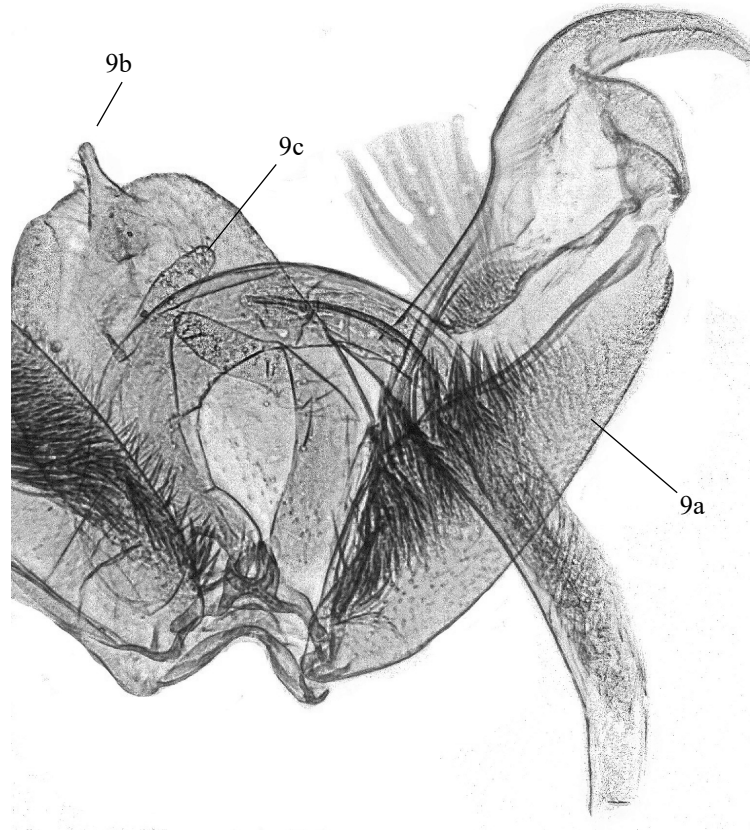


Fig. 9. Male genitalia of *Stenoptilia pterodactyla*; mostly variable, but the following morphological characters can be observed. The valva moderately wide (9a), uncus are slender (9b), The anellus arm two thirds as long as tegumen (9c).

43. *Stenoptilia stigmatodactyla* (Zeller, 1852)

Material studied

Albania.

♂, Galichista Mts. Korita 1485 m, 20.vi.2017. leg. S. Beshkov & A. Nahirnič.

♂, West Stara Planina Mtns. Iskar Gorge above Osenov lag, 5.ix.2011. leg. S. Beshkov.

Remarks. The current distribution is centred in the Western Palaearctic region, but the moth is absent from North Africa. From the Near East, there are only unconfirmed individual records from Anatolia, Israel, and Iran. The species has been documented in Central Asia, Siberia, Yakutia, and the Magadan region. It is widespread in many parts of Europe; however, in extensive geographical areas (e.g., the Carpathian Basin), it is localised, with only historical records known and no recent observations. The species is absent in England and Scandinavia. Occurrence in the Balkan peninsula: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia (Fazekas 2021). Although considered a widespread species, closer examination of certain geographical areas (e.g., the Carpathian-Pannonian-Balkan region) reveals highly fragmented populations with very few individuals observed. No new observations have been recorded in large geographical areas for decades. This bivoltine species exhibits flight activity from May to September. In Europe, it occurs from lowland plains to mountainous regions in 1700–1900 metres.

44. *Stenoptilia zophodactyla* (Duponchel, 1840)

Material studied

Albania.

♂ and ♀, Shkodra Region, Vau il Dejës 333 m, 28.ix.2018. leg. S. Beshkov & A. Nahirnič, gen. prep. no. 3534, Fazekas I.;

♂, Hot region Stara village 4.xi.2018, leg. S. Beshkov & A. Nahirnič.

♂, Tirana region, Dajt Mts. at Purpunje Shkala on road to Verr 439 m, 23.viii.2021. leg. S. Beshkov & A. Nahirnič;

♂, Tirana Region, Dajti Mt. Qafmolla Pass 665 m, 1. xi.2018. leg. S. Beshkov & A. Nahirnič.

Bulgaria.

♂, East Rhodope Mtns., Luda Kamchya River near Gradetsd village, 20.viii.2011. leg. S. Beshkov.

♀, Montana region above Ohrid village, 9.ix.2011. leg. S. Beshkov.

♂, Vidin region, Vojnitsa area, 10.ix.2011. leg. S. Beshkov

Montenegro.

♂, Moraca River valley, Bioče village 195 m, 6.x.2019, leg. S. Beshkov & Nahirnič.

North Macedonia.

♂, Near Vardar River valley above Demir Kapiya town, 244 m, 17.x.2017. leg. Beshkov & Nahirnič.

Remarks. This species is found in all biogeographical regions globally. It exhibits wide-spread distribution across the Balkan peninsula, including Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia and Serbia. Specimens have been collected in the Balkans from April to early November, indicating that it is a multigenerational species.

45. *Stenoptilodes tabrobanes* (Felder & Rogenhofer, 1875)

Material studied.

Albania.

♂, Bjeshkët e Nemuna Mts. Malësi e Madhe Cemi Selcës river valley at Gropat e Selcës village 1236 m, 16. viii.2018. leg. C.W. Plant.

Remarks. The identification of a novel species within the Albanian fauna is of significant interest. This species demonstrates a confirmed presence across multiple biogeographical regions, including the Holarctic, Oriental, Australasian, Afrotropical, and Neotropical zones. As noted by Gielis (1996), the moth is documented throughout tropical and subtropical areas. It is predominantly found in the Mediterranean region of Europe, with additional occurrences reported in Finland. Within the Balkan Peninsula, the species is confined to specific calving grounds, namely Bulgaria, Greece, Crete, and Turkey and is active from March to October, although precise phenological data remain undetermined. Further research is necessary to determine the number of generations produced annually.

46. *Wheleria ivae* (Kasy, 1960)

Material studied.

Albania.

♀, Gjirokastër Region, Bëncës Gorge, co-3 km SW from Bënë village, Tepelene District, 4.x.2019, leg. S. Beshkov & A. Nahirnič.

North Macedonia.

2 ♂, Near Prilep 980 m, 2.vi.2018. leg. C.W. Plant.

Remarks. Occurrence in the West Palaearctic: Cyprus, Asia Minor and the Middle East (Lebanon, Syria). Found in the Balkan peninsula: in Albania, Bulgaria, Greece and North Macedonia (type locality). The moth flies from May to July. Populations cover restricted areas and are of low density. Preferred habitats: stony slopes, dry meadows, roadsides, and sunny, dry rocky grasslands.

47. *Wheleria phlomidis* (Staudinger, 1870)

Material studied

♂, Albania, Korçë Mt. Kuq. Qarrit Pass below Pepellash 1190 m, 5.vi.2018. leg. C.W. Plant.

Remarks: New species identified in the Albanian fauna. This species was previously known in the Balkans, only from southern Greece (Peloponnese, Monemvasia) (Fazekas 2021). Current data indicate that the moth is active from April to July, at altitudes reaching 1500-1600 metres in mountainous regions. Monitoring data suggest that it is a xerothermophilous species, inhabiting dry grasslands, open Mediterranean-style scrub, and rocky mountain slopes. *W. phlomidis* is recognised as the most heat and drought-tolerant species within its genus, facilitating its colonisation of habitats in summer-dry Mediterranean areas. Its discovery in Albania holds significant importance from a faunal genetic perspective. The geographical distribution of this species warrants further investigation, as it represents a highly fragmented, Ponto-Caspian faunal element. Its northernmost presence is recorded in the Orenburg region of Russia, while its southern range extends to Iran, Jordan, and Israel. The species' primary distribution centre is situated in Asia Minor.

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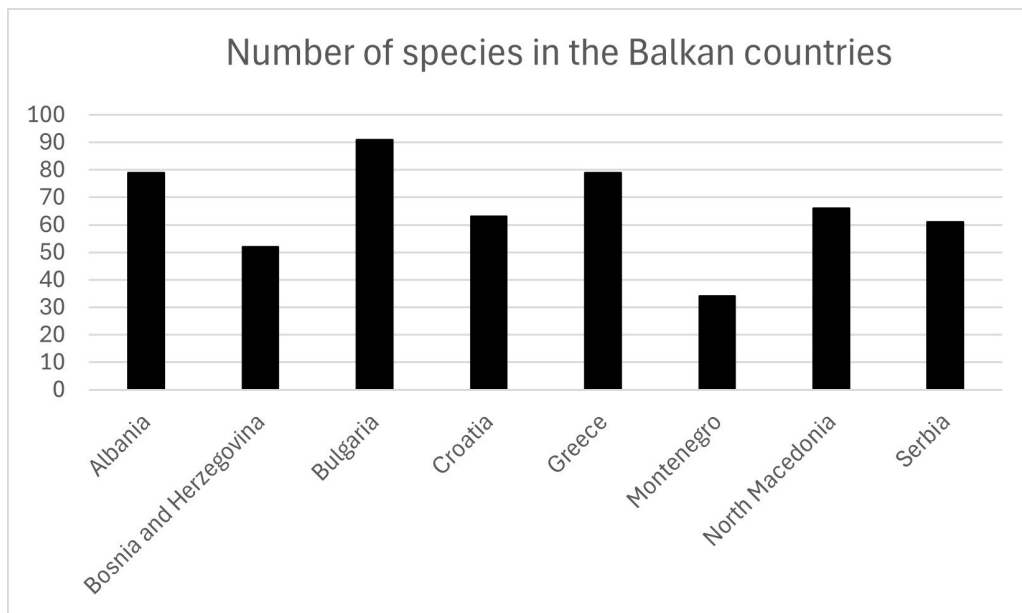


Fig. 10. Number of species of Pterophoridae in the Balkan countries based on observations to date (preliminary plot)



Fig. 11. The author's collection methods and tools using a 160 Watt HLMI lamp. These devices have been used by the author continuously since the 1990s for night-time collections.

Checklist and distribution of Balkanian Pterophoridae moths

Pterophoridae

Agdistinae Tutt, 1907

Agdistis Hübner, [1825] (10 species)

Agdistis adactyla (Hübner, [1825]: Albania, Bulgaria, Greece, North Macedonia, Turkey.

Agdistis bennetii (Curtis, 1833): Albania, Croatia, Greece, Serbia.

Agdistis bigoti Arenberger, 1976: Albania, Greece.

Agdistis frankeniae (Zeller, 1847): Albania, Bulgaria, Croatia, Greece.

Agdistis heydeni (Zeller, 1852): Albania, Bulgaria, Greece, Turkey.

Agdistis hulli Gielis, 1998: Greece.

Agdistis meridionalis (Zeller, 1847): Albania, Croatia, Greece, Turkey.

Agdistis paralia (Zeller, 1847): Greece.

Agdistis satanas Millière, 1875: Albania, Bulgaria, Greece.

Agdistis tamaricis (Zeller, 1847): Albania, Bulgaria, Croatia, Greece, North Macedonia.

Pterophorinae [Zeller, 1841]

Platyptilia Hübner, [1825] (6 species)

Platyptilia calodactyla ([Denis & Schiffermüller], 1775): Bosnia-Herzegovina, Bulgaria, Croatia, North Macedonia and Serbia.

Platyptilia galicicaensis Junnilainen & Kaitila, 2017: North Macedonia.

Platyptilia farfarella Zeller, 1867: Albania, Bulgaria, Greece, North Macedonia, Serbia.

Platyptilia gonodactyla ([Denis & Schiffermüller], 1775): Albania, Bulgaria, Croatia and Greece.

Platyptilia nemoralis Zeller, 1841: Bulgaria, North Macedonia.

Platyptilia tesseradactyla (Linnaeus, 1761): Bulgaria, Greece, North Macedonia.

Gillmeria Tutt, 1905 (3. species)

Gillmeria miantodactyla (Zeller, 1841): Bulgaria, Greece, North Macedonia, Serbia.

Gillmeria pallidactyla (Haworth, 1811): Bulgaria, Greece, Serbia.

Gillmeria tetradactyla (Linnaeus, 1761): Albania, Bulgaria, Bosnia-Herzegovina, Croatia, North Macedonia.

Stenoptilodes Zimmerman, 1958 (1 species)

Stenoptilodes tabrobanes (Felder & Rogenhofer, 1875): Albania, Bulgaria, Greece, and Turkey.

Stenoptilia Hübner, [1825] (19 species)

Stenoptilia annadactyla Sutter, 1988: First record for Albania, Bulgaria. It was previously unknown in the Balkan peninsula (see Fazekas 2021).

Stenoptilia arida (Zeller, 1847): Albania, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Serbia, Turkey.

Stenoptilia atlantica Zerny, 1936: Bulgaria (Osogovo).

Stenoptilia bipunctidactyla (Scopoli, 1763): Albania, Bosnia-Herzegovina, Bulgaria, Greece, Croatia, North Macedonia, Serbia, Turkey.

Stenoptilia coprodactylus (Stainton, 1851): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, Serbia, Turkey.

Stenoptilia eborinodactyla Zagulajev, 1986 (syn.: *S. gratiolae* Gibeaux & Nell, 1989): Bulgaria, Serbia.

Stenoptilia elkefi Arenberger, 1984: Croatia, Greece.

Stenoptilia graphodactyla (Treitschke, 1833): Albania, Bulgaria, North Macedonia, Serbia.

- Stenoptilia lucasi* Arenberger, 1990: Albania, Greece. First record of the Albanian fauna.
- Stenoptilia lutescens* (Herrich-Schäffer, 1855): Albania, Bosnia-Herzegovina, North Macedonia, Serbia.
- Stenoptilia manni* (Zeller, 1825): Albania, Bosnia-Herzegovina, Bulgaria, Greece, Montenegro, North Macedonia and Turkey.
- Stenoptilia parnassia* Arenberger, 1986: Albania, Greece. This is a new species in Albania.
- Stenoptilia pelidnodactyla* (Stein, 1837): Bosnia-Herzegovina, North Macedonia.
- Stenoptilia plagiodactyla* (Stainton, 1881): Albania, Bosnia-Herzegovina, Bulgaria, Greece, Montenegro, Serbia.
- Stenoptilia pneumonanthus* (Bütter, 1880): Bulgaria.
- Stenoptilia pterodactyla* (Linnaeus, 1761): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, North Macedonia, Serbia, and Turkey.
- Stenoptilia stenodactyla* Turati & Fiori, 1930: Greece, Rhodos. Nothing certain is known about the taxon. (Arenberger 2005, Fazekas 2021).
- Stenoptilia stigmatodactylus* (Zeller, 1852): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia.
- Stenoptilia zophodactylus* (Duponchel, 1838): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia and Serbia.
- Stenoptilia plagiodactylus* (Stainton, 1851): Albania, Bosnia-Herzegovina, Bulgaria, Montenegro, Serbia.
- Paraplatyptilia* Bigot & Picard, 1986 (2 species)
- Paraplatyptilia metzneri* (Zeller, 1841): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia and Serbia.
- Paraplatyptilia terminalis* (Erschoff, 1877): Montenegro (Korična 1904, see Arenberger & Jakšić 1991).
- Amblyptilia* Hübner, [1825] (2 species)
- Amblyptilia acanthadactyla* (Hübner, [1813]): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Croatia, Montenegro, North Macedonia, Serbia,
- Amblyptilia punctidactyla* (Haworth, 1811): Albania, Bulgaria, Montenegro, Serbia.
- Buszkoiana* Kocak, 1981 (1 species)
- Buszkoiana capnodactyla* (Zeller, 1841): Albania, Bulgaria, North Macedonia.
- Cnaemidophorus* Wallengren, 1862 (1 species)
- Cnaemidophorus rhododactyla* ([Denis & Schiffermüller], 1775): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Montenegro, North Macedonia, Serbia.
- Tribus **Exelastini** Gielis, 2000
- Marasmarcha* Meyrick, 1886 (1 species)
- Marasmarcha lunaedactyla* (Haworth, 1811): Albania, Serbia.
- Tribus **Oxyptilini** Bigot, Gibeaux, Nel & Picard, 1998
- Geina* Tutt, 1907 (1 species)
- Geina didactyla* (Linnaeus, 1758): Bosnia-Herzegovina, Bulgaria (?Serbia).
- Capperia* Tutt, 1905 (8 species)
- Capperia celeusi* (Schmid [in: Frey], 1887): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Serbia, Turkey.

- Capperia fusca* (Hofmann, 1898): Albania, Bulgaria, Croatia, Greece, North Macedonia and Turkey.
- Capperia hellenica* Adamczewski, 1951: Albania, Bulgaria, Croatia, Greece and Serbia.
- Capperia maratonica* Adamczewski, 1951: Albania, Bulgaria, Croatia, Greece and Serbia.
- Capperia marginella* (Zeller, 1847): Bulgaria, Greece.
- Capperia polonica* Adamczewski, 1951: Croatia, Greece.
- Capperia trichodactyla* ([Denis & Schiffermüller], 1775): Bulgaria, Greece, North Macedonia.
- Capperia washbourni* Adamczewski, 1951: Greece.
- Procapperia* Adamczewski, 1951 (2 species)
- Procapperia maculatus* (Constant, 1865): Bulgaria.
- A new species in the Balkan Peninsula.* Based on chorological data, its range is distributed between southwestern Europe (France, Spain, Italy) and the Eastern Mediterranean (Asia Minor, Caucasus, Crimea and more recently the Balkans).
- Oxyptilus* Zeller, 1841 (4 species)
- Oxyptilus chrysodactylus* ([Denis & Schiffermüller], 1775): Albania, Bulgaria and North Macedonia
- Oxyptilus ericetorum* (Stainton, 1851): Bosnia-Herzegovina, Bulgaria and Greece.
- Oxyptilus parvidactyla* (Haworth, 1811): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, North Macedonia, Montenegro, Serbia, Turkey.
- Oxyptilus pilosellae* (Zeller, 1841): Bosnia-Herzegovina, Bulgaria, Croatia, North Macedonia and Serbia.
- Crombrugghia* Tutt, 1906 (3 species)
- Crombrugghia distans* (Zeller, 1847): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Serbia and Turkey.
- Crombrugghia laetus* (Zeller, 1847): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Turkey
- Crombrugghia tristis* (Zeller, 1839): Bulgaria, North Macedonia.
- Stangeia* Tutt, 1905 (1 species)
- Stangeia sceliota* (Zeller, 1847): Albania, Bulgaria, Greece, Croatia, Montenegro, North Macedonia, Serbia, Turkey.
- Puerphorus* Arenberger, 1990 (1 species)
- Puerphorus olbiadactylus* (Millière, 1859): Greece.
- Gypsochares* Meyrick, 1890 (1 species)
- Gypsochares baptodactylus* (Zeller, 1850): Croatia (Makarska).
- Pselnophorus* Wallengren, 1881 (1 species)
- Pselnophorus heterodactylus* (Müller, 1764): Bosnia-Herzegovina, Bulgaria, Croatia, Greece.
- Hellinsia* Tutt, 1905 (8 species)
- Hellinsia carphodactyla* (Hübner, [1813]): Albania, Bosnia-Herzegovina, Bulgaria, Greece, Croatia, North Macedonia, Serbia.
- Hellinsia didactylites* (Ström, 1783): Bulgaria.
- Hellinsia distincta* (Herrich-Schäffer, 1855): Greece.
- Hellinsia inulae* (Zeller, 1852): Albania, Bulgaria, Croatia, Greece, North Macedonia, Serbia, Turkey.
- Hellinsia lienigiana* (Zeller, 1852): Bulgaria, Croatia, Serbia.

Hellinsia osteodactylus (Zeller, 1841): Bosnia-Herzegovina, Bulgaria, Croatia, Serbia, Turkey.

Hellinsia pectodactylus (Staudinger, 1859): Greece.

Hellinsia tephrodactyla Hübner, [1813]: Bosnia-Herzegovina, Bulgaria, Greece, North Macedonia, Serbia.

Oidaematophorus Wallengren, 1862 (2 species)

Oidaematophorus constanti Ragonot, 1875: Bosnia-Herzegovina, North Macedonia.

Oidaematophorus lithodactyla (Treitschke, 1833): Bosnia-Herzegovina, Bulgaria, Croatia, Greece, (?Serbia).

Emmelina Tutt, 1905 (2 species)

Emmelina argoteles Meyrick, 1922: Bulgaria, Greece.

Emmelina monodactyla (Linnaeus, 1758): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, North Macedonia and Serbia.

Adaina Tutt, 1905 (1 species)

Adaina microdactyla (Hübner, [1813]): Albania, Bulgaria, Croatia, Greece.

Calyciphora Kasy, 1960 (4 species)

Calyciphora albodactylus (Fabricius, 1794): Bosnia-Herzegovina, Bulgaria, Croatia, Greece, North Macedonia.

Calyciphora homiodactyla Kasy, 1960: Albania, Bulgaria, Croatia (Nur in Rab Insel), Greece.

Calyciphora nephelodactyla (Eversmann, 1844): Albania, Bosnia-Herzegovina, Bulgaria, Greece, North Macedonia, Serbia.

Calyciphora xanthodactyla (Treitschke, 1833): Bulgaria, Greece, North Macedonia.

Merrifieldia Tutt, 1905 (4 species)

Merrifieldia baliodactylus (Zeller, 1841): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Serbia.

Merrifieldia leucodactyla ([Denis & Schiffermüller], 1775): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Serbia.

Merrifieldia malacodactylus (Zeller, 1847): Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, and Serbia.

Merrifieldia tridactyla (Linnaeus, 1758): Albania, Bulgaria, Croatia, Greece, North Macedonia, and Serbia.

Wheeleria Tutt, 1905 (4 species)

Wheeleria ivae (Kasy, 1960): Albania, Bulgaria, Greece and North Macedonia (type locality).

Wheeleria lyrae Arenberger, 1983: Greece.

Wheeleria obsoletus (Zeller, 1841): Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Turkey.

Wheeleria phlomidis (Staudinger, 1870): Albania, Greece.

Pterophorus Schäffer, 1766 (2 species)

Pterophorus ischnodactyla Treitschke, 1833: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Greece and North Macedonia.

Pterophorus pentadactyla (Linnaeus, 1758): Albania, Bosnia-Herzegovina, Bulgaria, Crete, Croatia, Greece, Kosovo, Montenegro, North Macedonia, Serbia and Turkey.

Recommended References

Note: The literature references included herein are not comprehensive and are intended solely for informational purposes. These represent the primary sources I have consulted and considered in the preparation of this study.

- Adamczewski S. 1951: On the systematics and origin of the generic group *Oxyptilus* Zeller (Lep., Alucitidae). – Bulletin of the British Museum Natural History (Entomology) 1(5): 301–388.
- Arenberger E., 1977: Die palaearktischen *Agdistis*-Arten. – Beiträge zur naturkundlichen Forschung Südwestdeutschlands 36: 185–226.
- Arenberger E. 1990: Beitrag zur Kenntnis der Gattung *Stenoptilia* Hübner, 1825 (Lepidoptera, Pterophoridae). – Nota Lepidopterologica 13(2–3): 90–107.
- Arenberger E. 1995: Pterophoridae 1. Teilband. In: Amsel H.G., Gregor F. & Reisser H. (Hrsg.): Microlepidoptera Palaeartica 9. – Verlag Braun, Karlsruhe, XXV + 258 pp, 153 pl.
- Arenberger E. 2002a: Pterophoridae 2. Deuterocopinae, Platyptiliinae: Trichoptilini, Oxyptilini, Tetraschalini. – In: Gaedike R. (Hrsg.): Microlepidoptera Palaeartica 11. – Goecke & Evers, Keltern, 287 p, 96 pl.
- Arenberger E. 2002b: Einführung einer Determinationshilfe bei den *Stenoptilia* – Arten mit der Beschreibung von *Stenoptilia bassii* sp. nov. (Lepidoptera: Pterophoridae). – Zeitschrift der Arbeitsgemeinschaft österreichischer Entomologen 54: 127–131.
- Arenberger E. 2002: Pterophoridae II (Deuterocopinae, Platyptiliinae: Trichoptilini, Oxyptilini, Tetraschalini). In: Gaedike R. (ed.): Microlepidoptera Palaeartica. Vol. 11. Goecke & Evers, Keltern, 287 p.
- Arenberger E. 2005: Pterophoridae III (Platyptiliini, *Stenoptilia*). In: Gaedike R. (ed.): Microlepidoptera Palaeartica. Vol. 12. – Goecke & Evers, Keltern, 191 p.
- Bigot L., Nel J. & Picard J. 2008: *Stenoptilia mannii* (Zeller, 1852) et *S. megalochroa* Meyrick, 1930, espèces distinctes. *Stenoptilia lucasi* Arenberger, 1990, présente en France (Lep. Pterophoridae). – *Oreina* 3: 4–5.
- Buszko J. 1986 Pterophoridae (Lepidoptera): Bulgariens. – *Polskie Pismo Entomologiczne* 56: 273–315.
- Fazekas I. 2003 : Systematisch–biologischer und faunistischer Katalog der Platyptiliinae Ungarns (Microlepidoptera: Pterophoridae). – *Folia Comloensis* 12: 25–52.
- Fazekas I. 2021: Pterophoridae fauna of the Balkan Peninsula (Lepidoptera). – Pannon Institute, Hungary, 113p.
- Gibeaux C. & Nel J. 1991: Révision des espèces françaises du complexe *bipunctidactyla* (Scopoli, 1963) dans le genre *Stenoptilia* Hübner, 1825. – *Alexanor* 17(2): 103–119.
- Gielis C. 1996: Pterophoridae. In: Huemer P., Karsholt O. & Lyneborg L. (eds.): Microlepidoptera of Europe. Vol. 1. – Apollo Books, Stenstrup, 222 p.
- Gielis C. 2003: Pterophoridae & Alucitoidea (Lepidoptera). In: van der Wolf H. (ed.): World Catalogue of Insects. Vol. 4. – Apollo Books, Stenstrup, 198 p.
- Hart C. 1996: The status of *Crombrugghia laetus* (Zeller, 1847) (Lep.: Pterophoridae) in Britain with a review of known records and notes on its separation from *C. distans* (Zeller, 1847). – *The entomologist's record and journal of variation* 108: 113–117.
- Huemer P. 2013: Studiohelefe 12. Die Schmetterlinge Österreichs (Lepidoptera). Systematische und faunistische Checkliste. – Tiroler Landesmuseen-Betriebsgesellschaft m. b. H., Innsbruck, 304 p.
- Lepiforum e. V. 2025: https://lepiforum.org/wiki/page/Stenoptilia_plagiodactylus#Diagnose-Maennchen (Accessed, 26.04.2025)
- Nel J. 2003: Atlas des Lépidoptères Pterophoridae de France. – *Revue de l'Association Roussillonnaise d'Entomologie* 12(Suppl.): 1–61.

- Nel J., Huemer P. & Varenne T. 2023 : *Oxyptilus lantoscanus* Milliére, 1882, spec. rev. (Lepidoptera, Pterophoridae). – Revue de l'Association Roussillonnaise d'Entomologie 32 (2): 99–104.
- Rebel H. 1903: Studien über die Lepidopterenfauna der Balkanländer. II. Teil. Bosnien und Herzogowina. – Annalen des Naturhistorischen Museums in Wien 19: 97– 377. (Tafel IV, V).
- Rebel H. 1913: Studien über die Lepidopterenfauna der Balkanländer, Teil III. Sammelerrgebnisse aus Montenegro, Albanien, Mazedonien und Trazien. – Annalen des k.k. naturhistorischen Hofmuseums 27: 281–334.
- Rebel H. & Zerny H. 1931: Die Lepidopterenfauna Albaniens (mit Berücksichtigung der Nachbargebiete). – Denkschriften der kaiserlichen Akadmie der Wissenschaften mathematisch-naturwissenschaftliche Klasse, Wien 103: 6–161.

