NAT. CROAT. | VOL. 32 | No 1 | 81-119 | ZAGREB | June 30, 2023

original scientific paper / izvorni znanstveni rad
DOI 10.20302/NC.2023.32.6

MICROLEPIDOPTERA OF CROATIA: A BIBLIOGRAPHY AND REVIEW OF THE PUBLISHED AND SOME UNPUBLISHED RECORDS OF SPECIES FROM THE FAMILIES MICROPTERIGIDAE, ERIOCRANIIDAE, HEPIALIDAE, NEPTICULIDAE, OPOSTEGIDAE, HELIOZELIDAE, ADELIDAE, PRODOXIDAE, INCURVARIIDAE AND TISCHERIIDAE, AND ALUCITIDAE AND PTEROPHORIDAE

Danijela Gumhalter[1], Kai Berggren[2] & Leif Aarvik[3]

[1]Azuritweg 2, 70619 Stuttgart, Germany (E-mail: danijela.gumhalter@gmail.com)

[2]Bråvann terrasse 21, NO-4624 Kristiansand, Norway (E-mail: kberggre@online.no)

[3]Natural History Museum, University of Oslo, P.O. Box 1172, NO-0318 Oslo, Norway (E-mail: leif.aarvik@nhm.uio.no)

Gumhalter, D., Berggren, K. & Aarvik, L.: Microlepidoptera of Croatia: a bibliography and review of the published and some unpublished records of species from the families Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae and Tischeriidae, and Alucitidae and Pterophoridae. Nat. Croat., Vol. 32, No. 1, 81-119, 2023, Zagreb

A bibliography and review of the published records of species from several Microlepidoptera families in Croatia are presented. Altogether 274 species from eight superfamilies, 12 families and 55 genera of Microlepidoptera occurring in Croatia are presented. The paper is a summarization of available published records, from historical publications to recent studies. It also includes material collected during field surveys conducted by the second and third author in 2018 and 2019 in Croatia. Eight out of the 61 recorded species were not previously reported from that country and are considered new to its fauna. Furthermore, the findings of 10 species reconfirm their occurrence in the fauna of Croatia, as they are the first recent records in 100 years or more.

Except for the families Pyralidae and Crambidae, no checklists for Croatian microlepidopterous families have been published in the form of journal articles. This paper represents a first summary of available published records and a first species list of the families Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae and Tischeriidae, and Alucitidae and Pterophoridae in Croatia. By making data about the occurrence of species from these families in Croatia available, this list is a major contribution to the overall knowledge of the Croatian fauna of Microlepidoptera. It aims at increasing the interest in these micromoth families in that country and inspiring future research into this group. It is also hoped that it will encourage the creation of checklists of these microlepidopterous families or even all micromoths in Croatia.

Keywords: Lepidoptera, Micromoths, Croatia, Micropterigidae-Tischeriidae, Alucitidae, Pterophoridae

Gumhalter, D., Berggren, K. & Aarvik, L.: Mikrolepidoptera Hrvatske: bibliografija i pregled objavljenih i nekih neobjavljenih nalaza vrsta iz porodica Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae i Tischeriidae, te Alucitidae i Pterophoridae. Nat. Croat., Vol. 32, No. 1, 81-119, 2023, Zagreb.

U radu se navode bibliografija i pregled objavljenih nalaza o vrstama iz nekoliko porodica Mikrolepidoptera u Hrvatskoj. Ukupno je za hrvatsko područje zabilježeno 274 vrsta iz osam nadporodica, 12 porodica i 55 roda Mikrolepidoptera. Rad predstavlja sažetak dostupnih objavljenih radova, od povijesnih do recentih publikacija. Rad usto sadrži podatke o skupljenom materijalu sa vlastitih terenskih istraživanja koja su provedena od drugog i trećeg autora u 2018. i 2019. godini u Hrvatskoj. Ukupno osam od 61 zabilježenih vrsta nije bilo prethodno utvrđeno u Hrvatskoj, te se smatraju novima u njenoj fauni. Također je potvrđeno prisustvo dodatnih 10 vrsta u hrvatskoj fauni jer su utvrđene po prvi puta u 100 ili više godina.

Osim publiciranih checklisti vrsta iz porodica Pyralidae i Crambidae za područje Republike Hrvatske nisu izrađene niti objavljene checkliste s vrstama koje pripadaju drugim porodicama Mirkolepidoptera. Stoga ovaj rad predstavlja prvi sažetak dostupnih objavljenih nalaza i popis vrsta iz Hrvatske koje pripadaju porodicama Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae i Tischeriidae te Alucitidae i Pterophoridae. Učinivši popis o zabilježenim vrstama dostupnim široj publici, dan je velik doprinos cjelokupnom poznavaju hrvatske faune Mikrolepidoptera. Cilj rada jest povećavanje interesa za ovim porodicama Mikrolepidoptera u Hrvatskoj te poticanje budućih istraživanja ove skupine leptira. Usto je želja potaknuti izradu checklisti za spomenute porodice Mikrolepidoptera ili čak cijele skupine Mikrolepidoptera za Hrvatsku.

Ključne riječi: Lepidoptera, Mikrolepidoptera, Hrvatska, Micropterigidae-Tischeriidae, Alucitidae, Pterophoridae

INTRODUCTION

Although the tradition of lepidopterological investigation in Croatia is a long one, micromoths in Croatia remain poorly known despite their ecological importance in many plant communities. In the past, numerous surveys on butterflies and moths in Croatia were undertaken. Even though the then-published papers usually covered micromoth families as well, these historical records cannot be checked and verified. Unfortunately, many species have frequently been misidentified so these papers probably do not contribute much to the knowledge of Croatian Microlepidoptera (e.g. Mann, 1857; 1867; 1869; Wocke, 1871; Rebel, 1891; 1895; Koča, 1901; Rebel, 1903; 1904; Galvagni, 1909; Rebel, 1910; 1913; 1914; 1917; 1919; Schawerda, 1921; Prohaska, 1922; Koča, 1925; Klimesch, 1942, etc.). Nowadays, micromoths have not been a focus of Lepidoptera research for several reasons and research in Croatia was predominately dedicated to butterflies or Macrolepidoptera in general. When micromoths were studied, the surveys usually covered "bigger" Microlepidoptera, like species from the families Pyralidae and Crambidae, or pest species, like those from the families Tortricidae, Gracillariidae, etc. The smallest micromoths of the families Micropterigidae through Tischeriidae were particularly frequently overlooked in surveys, probably because of their small size and concealed feeding habits which make them difficult to collect in the field and identify. Therefore, no species list of this group or Microlepidoptera in general exists. However, an effort was made to mark a beginning. While working on her doctoral thesis, Gumhalter (2020) summarized all available data from historic publications and the few available recent studies on the Microlepidoptera species recorded in Croatia and presented a first species list of the group. That list contained all known records and accessible data, even if the status of a species was unclear or was extracted only from historical documents, its presence in Croatia still needing to be reconfirmed in future investigations. The species list includes approximately 2,000

Microlepidoptera species occurring in Croatia. Since the aim of the above-mentioned research was not to deal with possible species misidentifications from historical records it needs to be revised in the future by group specialists. Until now, the only revised and published checklists, in the form of journal articles that originate from that research, are for the families Pyralidae and Crambidae (Gumhalter, 2019a; 2019b, 2021).

It is important to create species lists not only for faunal surveys but also for the sake of biological and ecological research, as feeding specialization and limited dispersal capacity may place these micromoths at potential risk. This applies especially to endangered habitats or habitats that are threatened by climate change. Besides, larvae of many species mine the leaves of both angiosperms and gymnosperms, like species from the families Eriocraniidae, Nepticulidae, Incurvariidae, or Tischeriidae (Hill, 2008). Therefore, checklists could be of great importance for state agencies regulating pest species.

Not every record appearing in this paper could be thoroughly verified, as some species were probably misidentified in the past and the presence of many species could not be reconfirmed through the few recent investigations. The occurrence of each species in Croatia was matched with the information provided by the Fauna Europaea database even though it has not been updated since 2013 and some information may not be up to date. These species are marked and commented on in the Notes section.

Climate change and habitat loss represent a great threat to biodiversity, so an inventory of species' occurrence is necessary, as changes in species composition and distribution are to be expected in future decades. This bibliography and review, which incorporates old historical and recent records, as well as results from our own field surveys, can serve as a baseline for the creation of a checklist and for future faunistic and ecological investigations. Activities should be focused on reconfirmation of historical findings, examination of museum or private collections, as well as on recent surveys in order to collect more material. Also, group specialists should be contacted for them to contribute by either providing survey data or with their knowledge about this group of Micromoths.

This paper aims to present the first list of species from the following 12 microlepidopterous families occurring in Croatia: Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae and Tischeriidae, and Alucitidae and Pterophoridae. The main wish is to make data about the occurrence of species from these families in Croatia accessible and to increase the interest in these micromoths in that country, as well as to inspire future research into this group or even the making of checklists of these micromoth families in Croatia. Improvements by clarifying uncertainties, correcting mistakes, and providing new information are to be expected and very welcome. Ultimately, this paper aims to increase the interest in other Microlepidoptera in Croatia and to encourage the creation of a national checklist of all micromoths in Croatia, as this group has been unfortunately quite neglected in recent investigations.

MATERIALS AND METHODS

This bibliography and review are based on the examination of available records, ranging from historical publications to recent studies. More than 200 different literature sources with data on the occurrence of species in Croatia were analyzed. The

specimens deposited in museum and private collections, as well as the records from historical publications, have to be examined by group specialists and these results have to be implemented in future updates of this list or the checklists of the above-mentioned families if they are indeed created in the future.

The list of species does not include unpublished data from museum or private collections. Nonetheless, included are records of species that were collected during field work by the second and third author. The field work was carried out around the area of Zadar (Dalmatia) and in Lika region from May until June 2018 and 2019. Most specimens were caught with a UV light and deposited in the private collection of the second author (coll. Berggren) or deposited in the Natural History Museum, University of Oslo (NHMO). The determination of all species was conducted using relevant taxonomic literature and to some extent resources on the internet. Dissections of genitalia were performed when necessary. Some of the specimens were barcoded and can be found on BOLD. The Barcode of Life Data System is an online workbench and database that supports the assembly and use of DNA barcode data. It gives information on the specimen identifier, taxonomy, specimen details, collection data and collection site, sequence information, specimen image details, and attribution details.

All available data from both field surveys and literature sources have been summarized and a first list of the families Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae and Tischeriidae, and Alucitidae and Pterophoridae is presented.

The superfamily and family classification proposed by van Nieukerken *et al.* (2011) is followed in this paper. The species in each genus are organized alphabetically and the nomenclature follows Fauna Europaea (Nuss *et al.*, 2011).

RESULTS AND DISCUSSION

While the micro-moth grade includes more than three-quarters of the 47 currently recognized lepidopteran superfamilies, it comprises little more than one-third of the described species in the order (Kristensen *et al.*, 2007). Based on published information on Microlepidoptera in Croatia altogether 10 families from six different superfamilies up to the clade Ditrysia were registered, as well as 2 families from two superfamilies of the clade Apoditrysia.

The family Micropterigidae is the most archaic family of the order Lepidoptera. Micropterigids are usually pollen eaters (Kristensen, 1999) and predominantly diurnal species. Micropterigids are devoid of a coilable proboscis and instead retain functional mandibles, which are functional only in the adult (Kristensen, 1984; 1999, Kristensen *et al.*, 2015, Regier *et al.*, 2015). The family is species-rich, comprising about 160 described species in 21 genera (van Nieukerken *et al.*, 2011). The only genus of the family in Europe is *Micropterix* Hübner, 1825. This genus is distributed through the Palaearctic from North Africa and Europe to Japan in the east (Gibbs 1983; Zeller *et al.* 2013; Gibbs & Lees 2014) and even down to the foothills of the Himalayas (Lees *et al.* 2010).

Species from the family Eriocraniidae are small moths, usually diurnal but with some nocturnal species (Hellers, 2016). The larvae mine the leaves of both angiosperms and gymnosperms (Hill, 2008). Eriocraniidae is a small family with currently only 29 described species in five genera (van Nieukerken *et al.*, 2011).

The Hepialidae are the ghost or swift moths and, in contrast to the remainder of the pre-Ditrysian Lepidoptera, many of the species are large and spectacular (Nielsen *et al*., 2000). So, despite their phylogenetic position among the Microlepidoptera, the ghost moths have been considered for practical purposes to be honorary Macrolepidoptera. With 606 valid species in 62 genera, they are represented worldwide (van Nieukerken *et al*., 2011). According to Fauna Europaea (Karsholt & van Nieukerken, 2013a) caterpillars are large, boring in roots, or living in the soil, usually polyphagous and some species are considered pest species.

Nepticulidae, often named pygmy leaf-mining moths, contain some of the smallest moths, and even the largest have a wingspan of less than 1 cm. Larvae of the vast majority of the species are leaf-miners on trees or shrubs, with an interesting life history and a tight connection to the hostplant (van Nieukerken *et al*., 2016). Nepticulidae is one of the early-diverging Lepidoptera lineages and currently comprises 884 described species. The larvae are highly monophagous (Doorenweerd *et al*., 2016).

Opostegidae are closely related to Nepticulidae, but are often a little bit larger. Larvae rarely make leaf-mines; they probably feed more often in the cambium layer of tree bark, but this is only known for very few species. Opostegidae are, as well as Nepticulidae called the smallest moths in the world (van Nieukerken *et al*., 2016). There are 192 species in seven genera of Opostegidae recognized (Doorenweerd *et al*., 2016).

The family Heliozelidae comprises 125 described species in 12 genera, with the largest diversity in North America and Australia (van Nieukerken *et al*. 2012; van Nieukerken & Geertsema 2015; Milla *et al*. 2017). According to Fauna Europaea (Karsholt & van Nieukerken, 2013b), Heliozelidae are very small moths, often with metallic markings. Some species from this family are also leaf-mining moths. In Europe, Heliozelidae are poorly represented, with only ten species recorded (van Nieukerken *et al*., 2018).

The Adelidae are a family within the superfamily Adeloidea. Adelid moths or fairy moths usually have a colorful metallic appearance and are diurnal (Hellers, 2016). Males often have very long antennae, sometimes much longer than their body length. Adelids are usually tightly restricted to particular host plants (van Nieukerken *et al*., 2011) but little life history data is available on their larvae (Ahola *et al*., 2017). There are 294 described species in five genera (van Nieukerken *et al*., 2011).

Species from the family Prodoxidae, or Yucca moths, are well known for their obligate pollination mutualism with yuccas. In addition to the pollinators, yuccas also host many non-pollinating yucca moths (Pellmyr *et al*., 2006). Currently, 51 species in 11 genera have been described (van Nieukerken *et al*., 2011). According to Fauna Europaea (Karsholt & van Nieukerken, 2013b), larvae are endophagous in plant shoots, fruits, buds, etc., in Europe on hosts such as Betulaceae, Rosaceae, Saxifragaceae.

The larvae of species from the family Incurvariidae and Tischeriidae belong also to leaf miner moths (Hill, 2008). Tischeriidae is the only family representing the superfamily Tischerioidea, and is known from all continents except Australia and Antarctica (Lees & Stonis, 2007). As far as is known, tischeriids are trophically associated with at least 11 families of plants. In non-tropical regions, the family strongly predominates on plants from Rosacea, Fagaceae, as well as from Compositae families (Dišķus, 1998). The larvae of incurvariid moths are known to construct a portable case while feeding

on the leaves of their host plants (Okamoto & Hirowatiri, 2004). There are currently 98 described species in nine genera of Incurvaridae and 110 species in three genera of Tischeriidae (van Nieukerken *et al*., 2011).

Larvae of Alucitidae may be gall-makers, or borers in flowers, buds, fruits, or shoots; hostplants are found in at least eight families of dicotyledoneous plants, including Caprifoliaceae, Bignoniaceae and Rubiaceae (Dugdale *et al*., 1998), and Gesneriaceae (Carlson & Harms, 2007). The species from this family are called many-plumed moths because of their specifically shaped wings. The shape resembles bird feathers. Alucitidae is a family with currently 216 described species in nine genera (van Nieukerken *et al*., 2011).

The family Pterophoridae or plume moths belong, together with the family Alucitidae, to the clade Apoditrysia. Their wings are also specifically shaped and resemble bird feathers. According to van Nieukerken *et al.* (2011), the family is species-rich, comprising about 1,318 described species in 90 genera (van Nieukerken *et al.*, 2011).

A total of 274 species from 55 genera have been recorded for the territory of Croatia. All registered species are given in Tab. 1.

From the superfamily Micropterigoidea 13 species from the family Micropterigidae, placed in one genus (*Micropterix*), were registered.

From the superfamily Eriocranioidea two species from the family Eriocraniidae, placed in two genera (*Eriocrania* and *Dyseriocrania*), were registered.

From the superfamily Hepialoidea five species from the family Hepialidae, placed in three genera (*Triodia, Pharmacis* and *Phymatopus*), were registered.

From the superfamily Nepticuloidea 127 species were registered. Altogether 125 species from the family Nepticulidae, placed in seven genera (*Simplimorpha*, *Stigmella*, *Acalyptris*, *Bohemannia*, *Trifurcula, Paraformia* and *Ectoedemia*) were registered. Trifurcula is divided into the subgenera *Levarchama*, *Trifurcula* and *Glaucolepis*. Ectoedemia is divided into the subgenera *Zimmermannia*, *Etainia* and *Ectoedemia*. Two species from the family Opostegidae, placed in two genera (*Opostega* and *Pseudopostega*), were also registered.

From the superfamily Adeloidea altogether 45 species from four different families were registered: six species from the family Heliozelidae, placed in three genera (*Antispila*, *Heliozela* and *Holocacista*), 28 species from the family Adelidae, placed into four genera (*Nemophora*, *Adela*, *Cauchas* and *Nematopogon*), five species from the family Prodoxidae, placed into one genus (*Lampronia*) and six species from the family Incurvariidae, placed into one genus (*Incurvaria*).

From the superfamily Tischerioidea six species from the family Tischeriidae, placed in two genera (*Tischeria* and *Coptotriche*) were registered.

From the superfamily Alucitoidea 11 species from the family Alucitidae, placed in 2 genera (*Alucita* and *Pterotopteryx*), were registered.

From the superfamily Pterophoroidae 65 species from the family Pterophoridae, placed in 27 genera (*Agdistis*, *Paraplatyptilia, Platyptilia*, *Buszkoiana*, *Amblyptilia, Stenoptilodes*, *Stenoptilia*, *Cnaemidophorus*, *Oxyptilus*, *Crombrugghia*, *Geina*, *Capperia*, *Procapperia, Stangeia*, *Pterophorus*, *Porrittia*, *Calyciphora*, *Marasmarcha*, *Merrifieldia*, *Pselnophorus*, *Gypsochares*, *Oidaematophorus, Hellinsia*, *Adaina*, *Emmelina*, *Gillmeria* and *Wheeleria*), were registered.

The following information is given for every record: Scientific name of the species, name of the author and year of publication, and a list of all records listed according to the year of publication. In addition, synonyms with references to the publication are given for all species that were published under a synonym in the past. Species marked with (*) are according to Fauna Europaea absent in the fauna of Croatia.

For the species that have been recorded in field surveys conducted by the second and third author, the following information is given: Date of collection, locality with altitudes, number of specimens with a remark if it is barcoded or dissected, and the collection in which it is stored in (coll. Berggren, coll. NHMO).

Throughout these field surveys, several interesting species have been recorded. Altogether 10 species were collected for the first time in 100 years or even more: *Ectoedemia (Ectoedemia) subbimaculella, Cauchas fibulella, C. leucocerella* (Fig. 1), *Nemophora istrianellus* (Fig. 2), *N. minimella, Nematopogon adansoniella, N. schwarziellus, Lampronia flavimitrella, Capperia celeusi* (Fig. 3) and *Merrifieldia leucodactyla*. Hereby, their occurrence in the Croatian micromoth fauna is reconfirmed. Nonetheless, 70 species are still mentioned only in historical literature and their status in Croatia today is unclear.

The list also includes eight species that have not been previously recorded from Croatia and are considered new to its fauna: *Micropterix mansuetella, Ectoedemia (Ectoedemia) contorta, Trifurcula (Glaucolepis) magna* (Fig. 4), *Lampronia pubicornis* (Fig. 5), *Paraplatyptilia metzneri* (Fig. 6), *Stenoptilia annadactyla, Capperia loranus* (Fig. 7) and *Marasmarcha oxydactylus* (Fig. 8).

Fig. 1. Adult of *Cauchas leucocerella* in Croatia (Photo: K. Berggren)

Fig. 2. One specimen of *Nemophora istrianellus* (Photo: K. Berggren)

Fig. 3. One specimen of the species *Capperia celeusi* in Croatia (Photo: L. Aarvik)

Fig. 4. Adult of *Trifurcula (Glaucolepis) magna* (Photo: K. Berggren)

Fig. 5. One specimen of *Lampronia pubicornis* collected on 12th June 2019 at approximately 1,093 meters above sea level, Zadar (Otrić, Velika Popina) (Photo: K. Berggren)

Fig. 6. One specimen of *Paraplatyptilia metzneri collected* on 12th June 2019 in the area around Zadar (Otrić, Velika Popina 1093m) (Photo: K. Berggren)

Fig. 7. *Capperia loranus collected* on 29th May 2018 on the island of Pag (Photo: K. Berggren)

Fig. 8. One specimen of *Marasmarcha oxydactylus* collected on 30th May 2018 at approximately 780 meters above sea level in Prezid, area around Zadar (Photo: K. Berggren)

Fig. 9. The locality Marinovići where the specimens of *Merrifieldia leucodactyla* were collected (Photo: N. Aarvik)

Additionally, the list includes three species whose status is still unclear as they are mentioned in some literature sources as present in Croatia, but about which there are still uncertainties (Michael Alexander Kurz, pers. comm., February 2021): *Micropterix allionella* (Fabricius, 1794), *M. aureatella* (Scopoli, 1763) and *M. rothenbachii* (Frey, 1856). Nonetheless, Michael Alexander Kurz says that the occurrence of these species in Croatia is possible and probable. Since these above-mentioned species are expected in Croatia, they are listed here.

Several other species whose status is unclear in Croatia, or that should be discussed for some reason, are marked with a number and commented on in the Notes section. The explanatory notes appear after the species list.

LIST OF SPECIES WITH A BIBLIOGRAPHY AND REVIEW

Tab. 1. List of species from the families Micropterigidae, Eriocraniidae, Hepialidae, Nepticulidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae and Tischeriidae, and Alucitidae and Pterophoridae occurring in Croatia with available published records

Superfamily MICROPTERIGOIDEA
Family MICROPTERIGIDAE
Genus *Micropterix* Hübner, 1825

Micropterix allionella (Fabricius, 1794); Mann 1857, Stainton 1921, Zeller-Lukashort et al. 2007

Micropterix amsella (Heath, 1975); Zeller-Lukashort et al. 2007, Weidlich 2014

Micropterix aruncella (Scopoli, 1763); Mann 1867, Abafi-Aigner et al. 1896, Rebel 1904, Weidlich 2014; 27.V.2018, Zadar (Mazin 1050m), 2 specimens (coll. NHMO), 1 specimen (coll. Berggren); 1.VI.2018, Zadar (Mazin 1050m), 1 specimen (coll. Berggren); 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. Berggren)

****Micropterix aureatella*** (Scopoli, 1763); Abafi-Aigner *et al*. 1896, Galvagni 1909, **Note 1**

****Micropterix calthella*** (Linnaeus, 1761); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Rebel 1913, Stainton 1921, Koča 1925, **Note 2**

Micropterix croatica (Heath & Kaltenbach, 1984); Heath & Kaltenbach 1984, Weidlich
2014

Micropterix facetella (Zeller, 1850); Mann 1869, Zeller-Lukashort et al. 2007, Kurz et al. 2009, Kurz & Horvat 2010, Horváth et al. 2017, Plotkin et al. 2018

****Micropterix igaloensis*** (Amsel, 1951); Amsel 1951, **Note 3**

****Micropterix mansuetella*** (Zeller, 1844); 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. NHMO), 2 specimens (coll. Berggren); 27.V.2018 Zadar (Mazin 1050m), 1 specimen (coll. Berggren); 1.VI.2018, Zadar (Mazin 1050m), 1 specimen (coll. Berggren), **Note 4**

Micropterix myrtetella (Zeller, 1850); Abafi-Aigner et al. 1896, Ginzberger 1916, Klimesch 1942, Zeller-Lukashort et al. 2007; 2.VI.2018, Zadar (Meka Draga 120m), 5 specimens (coll. Aarvik); 30.V.2018, Zadar (Zaton Obrovački 210m), 5 specimens (coll. Berggren); 31.V.2018, Zadar (Prezid 780m), 1 barcoded specimen (coll. Berggren); 17.VI.2019, Zadar (Marinovići 493m), 8 specimens (coll. NHMO), 10 barcoded specimens (coll. Berggren)

Micropterix rothenbachii (Frey, 1856); Zeller-Lukashort et al. 2007, Weidlich 2014

****Micropterix schaefferi*** (Heath, 1975); **Note 5**

Synonym: *Micropteryx anderschella* (Herrich-Schäffer, 1855); Wocke 1871, Abafi-Aigner et al. 1896

Synonym: *Micropteryx ammanella* (Hb.); Rebel 1904

****Micropterix tunbergella*** (Fabricius, 1787); Rebel 1895, Abafi-Aigner et al. 1896, Rebel 1904, **Note 6**

Superfamily ERIOCRANIOIDEA
Family ERIOCRANIIDAE
Genus *Eriocrania* Zeller, 1851
Eriocrania semipurpurella* (Stephens, 1835); Koča 1925, **Note 7**
Genus *Dyseriocrania* Spuler, 1910
Dyseriocrania subpurpurella* (Haworth, 1828); Carnelutti 1994, Habeler 2003
Synonym: *Micropteryx fastuosella* (Zeller, 1839); Mann 1857, Mann 1867, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921
Synonym: *Eriocrania subpurpurella v. fastuosella* Z.; Koča 1925

Superfamily HEPIALOIDEA
Family HEPIALIDAE
Genus *Triodia* Hübner, 1820
Triodia adriaticus (Osthelder, 1931); Witt 1987
Triodia amasinus* (Herrich-Schäffer, 1852); Staudinger 1878, Rebel 1913, Rebel 1914, Stauder 1933, **Note 8**
Triodia sylvina (Linnaeus, 1761); Abafi-Aigner et al. 1896, Koča 1901, Rebel 1903, Rebel 1904, Rebel 1912, Stauder 1933, Witt 1987, Carnelutti 1994, Kučinić et al. 1994, Habeler 2003, Vignjević et al. 2010, Koren 2015
Genus *Pharmacis* Hübner, 1820
Pharmacis lupulina (Linnaeus 1758); Abafi-Aigner et al. 1896, Koča 1901, Rebel 1904, Stauder 1933, Kučinić et al. 1994, Habeler 2003; 26.V-6.VI.2018, 4, Lika-Senj Lika-Senj (Ričice 570m), 4 specimens (coll. NHMO), 2 specimens (coll. Berggren)
Genus *Phymatopus* Wallengren, 1869
Phymatopus hecta* (Linnaeus, 1758); Koča 1901, Rebel 1904, Stauder 1933, Kučinić et al. 1994

Superfamily NEPTICULOIDEA
Family NEPTICULIDAE
Genus *Simplimorpha* Scoble, 1983
Simplimorpha promissa (Staudinger, 1871); Skala 1938, Klimesch 1942, Matošević et al. 2009
Synonym: *Stigmella promissa* (Stgr.); Hering 1967
Synonym: *Nepticula promissa* (Stgr.); Buhr 1930
Genus *Stigmella* Schrank, 1802
Stigmella aceris (Frey, 1857); Mutanen et al. 2003, Matošević et al. 2009
Stigmella aeneofasciella (Herrich-Schäffer, 1855); van Nieukerken 2013
Stigmella alnetella (Stainton, 1856); Laštuvka & Laštuvka 2005, Matošević et al. 2009
Stigmella anomalella (Goeze, 1783); Mann 1857, Abafi-Aigner et al. 1896, Stainton 1921, Skala 1939, Utech 1962, **Note 9**
Stigmella assimilella (Zeller, 1848); van Nieukerken 2013
Stigmella atricapitella (Haworth, 1828); van Nieukerken & Johanssson 2003
Stigmella aurella (Fabricius, 1775); Skala 1938, Klimesch 1942, Zerafa 2008, Matošević et al. 2009
Stigmella auromarginella (Richardson, 1890); Nieukerken van 1996, van Nieukerken et al. 2004b
Stigmella basiguttella (Heinemann, 1862); van Nieukerken & Johanssson 2003;

2.VI.2018, Zadar (Meka Draga 120m), 1 barcoded specimen (coll. Berggren)
Stigmella betulicola (Stainton, 1856); Matošević et al. 2009
Stigmella carpinella (Heinemann, 1862); Klimesch 1942, van Nieukerken et al. 2006
Stigmella catharticella (Stainton, 1853); van Nieukerken 2013
Stigmella centifoliella (Zeller, 1848); Mann 1869, Abafi-Aigner 1903, Utech 1962, Matošević et al. 2009
Stigmella crataegella (Klimesch, 1936); van Nieukerken 2006, Matošević et al. 2009
Synonym: *Nepticula gratiosella* (Stt.); Mann 1869
Stigmella desperatella (Frey, 1856); Dimić 1968, **Note 10**
Stigmella dorsiguttella (Johansson, 1971); van Nieukerken & Johanssson 2003
Stigmella eberhardi (Johansson, 1971); van Nieukerken & Johanssson 2003
Stigmella fasciata (van Nieukerken & Johansson, 2003); van Nieukerken & Johanssson 2003
Stigmella floslactella (Haworth, 1828); Schawerda 1921, Matošević et al. 2009
Stigmella freyella (Heyden, 1858); Nupponen et al. 2003
Stigmella glutinosae (Stainton, 1858); Laštuvka & Laštuvka 2005, Matošević et al. 2009
Stigmella hahniella (Wörz, 1937); Huemer 2001
Stigmella hemargyrella (Kollar, 1832); Matošević et al. 2009; 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 7 barcoded specimens (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 2 barcoded specimens (coll. Berggren)
Stigmella hybnerella (Hübner, 1813); Mann 1857, Abafi-Aigner et al. 1896, Stainton 1921, Laštuvka & Laštuvka 2005, Matošević et al. 2009; 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren); 9.VI.2019, Zadar (Kruševo E 306m, 1 dissected specimen (coll. Berggren)
Stigmella incognitella (Herrich-Schäffer, 1855); Dimić 1968, Laštuvka & Laštuvka 2005
Stigmella irregularis* (Puplesis, 1994); Laštůvka & Laštůvka 2009, Šumpich 2013
Stigmella johanssonella (A. & Z. Laštuvka, 1997); Laštůvka & Laštůvka 1997
Stigmella lapponica (Wocke, 1862); van Nieukerken 2013
Stigmella lemniscella (Zeller, 1839); Aarvik et al. 2004, Matošević et al. 2009
Stigmella luteella (Stainton, 1857); Laštuvka & Laštuvka 2005, van Nieukerken et al. 2006
Stigmella malella (Stainton, 1854); Arčanin & Ciglar 1971, Matošević et al. 2009
Stigmella mespilicola (Frey, 1856); van Nieukerken 2013
Stigmella microtheriella (Stainton, 1854); Skala 1937, Rungs 1988, Matošević et al. 2009, van Nieukerken et al. 2016
Stigmella minusculella (Herrich-Schäffer, 1855); Skala 1937, Rungs 1988, Laštuvka & Laštuvka 2004
Stigmella nivenburgensis (Preissecker, 1942); Johansson et al. 1990
Stigmella nylandriella (Tengström, 1848); van Nieukerken et al. 2006
Stigmella obliquella (Heinemann, 1862); Skala 1937, **Note 11**
Stigmella oxyacanthella (Stainton, 1854); Skala 1937, Dimić 1968, Rungs 1988
Stigmella paliurella (Klimesch, 1940); Klimesch 1942, **Note 12**

Stigmella paradoxa (Frey, 1858); van Nieukerken et al. 2004a
Stigmella perpygmaeella (Doubleday, 1859); Aarvik et al. 2004
Stigmella plagicolella (Stainton, 1854); Klimesch 1942, Laštuvka & Laštuvka 2005
Stigmella prunetorum (Stainton, 1855); Matošević et al. 2009
Stigmella pyri (Glitz, 1865); van Nieukerken 2013
Stigmella regiella (Herrich-Schäffer, 1855); van Nieukerken 2013
Stigmella rhamnella (Herrich-Schäffer, 1860); Gustafsson 1981
Stigmella roborella (Johansson, 1971); van Nieukerken & Johanssson 2003, Matošević et al. 2008, Matošević et al. 2009
Stigmella rolandi (van Nieukerken, 1990); van Nieukerken 1990a, Laštuvka & Laštuvka 2005; 2.VI.2018, Zadar (Meka Draga 120m), 2 barcoded specimens (coll. Berggren); 18.VI.2019, Zadar (Vir 0m), 4 barcoded specimens (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren)
****Stigmella ruficapitella*** (Haworth, 1828); Skala 1939, Klimesch 1942
Synonym: *Nepticula ruficapitella* (Haworth, 1828); Rebel 1913, **Note 13**
Stigmella salicis (Stainton, 1854); Laštuvka & Laštuvka 2005
Stigmella samiatella (Zeller, 1839); van Nieukerken & Johanssson 2003, Matošević et al. 2008, Matošević et al. 2009
Stigmella speciosa (Frey, 1857); Matošević et al. 2009
Stigmella splendidissimella (Herrich-Schäffer, 1855); Schawerda 1921, Matošević et al. 2009
Synonym: *Nepticula splendidissimella* (Herrich-Schäffer, 1855); Rebel 1913
Stigmella suberivora (Stainton, 1869); Skala 1938, van Nieukerken & Johanssson 2003
Synonym: *Stigmella suberivora* (Stt.); Buhr 1930
Stigmella thuringiaca (Petry, 1904); van Nieukerken 2006
Stigmella tiliae (Frey, 1856); Matošević et al. 2009
****Stigmella tityrella*** (Stainton, 1854); Matošević et al. 2009; 12.VI.2018, Otrić (Velika Popina 1093m), 5 barcoded specimens (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren)
Stigmella trimaculella (Haworth, 1828); **Note 14**
Synonym: *Nepticula trimaculella* (Haworth, 1828); Rebel 1913
Synonym: *Nepticula ilicivora* (Peyerimhoff, 1871); Skala 1938
Synonym: *Stigmella ilicivora* (Peyer.); Hering 1967
Stigmella ulmivora (Fologne, 1860); Matošević et al. 2009, van Nieukerken et al. 2018a
Stigmella viscerella (Stainton, 1853); van Nieukerken 2013
Stigmella zangherii (Klimesch, 1951); van Nieukerken & Johanssson 2003

Genus *Acalyptris* Meyrick, 1921
Acalyptris limonii (Laštůvka & A. Laštůvka, 1998); van Nieukerken 2007a
Acalyptris maritima (Laštůvka & A. Laštůvka, 1998); van Nieukerken 2007a
Acalyptris minimella (Rebel, 1926); Skala 1939, van Nieukerken 2007a, Zerafa & van Nieukerken, 2011
Acalyptris platani (Müller-Rutz, 1934); Laštuvka & Laštuvka 1997, van Nieukerken 2007a, Lopez-Vaamonde et al. 2010, Matošević & Pajač Živković 2013

Genus *Bohemannia* Stainton, 1859
Bohemannia pulverosella (Stainton, 1849); Laštuvka & Laštuvka 2008

Genus *Ectoedemia* Busck, 1907

Ectoedemia subg. Ectoedemia Busck, 1907
Ectoedemia (Ectoedemia) agrimoniae (Frey, 1858); Aarvik 2008
Ectoedemia (Ectoedemia) albifasciella (Heinemann, 1871); van Nieukerken 2013
Ectoedemia (Ectoedemia) angulifasciella (Stainton, 1849); Caradja 1920, van Nieukerken 1996, Puplesis & Diškus 2003
Ectoedemia (Ectoedemia) arcuatella (Herrich-Schäffer, 1855); Caradja 1920, van Nieukerken 2006
Ectoedemia (Ectoedemia) argyropeza (Zeller, 1839); Mann 1869, Abafi-Aigner et al. 1896, **Note 15**
Ectoedemia (Ectoedemia) atricollis (Stainton, 1857); Dimić 2004
Ectoedemia (Ectoedemia) caradjai (Groschke, 1944); van Nieukerken 2013
Ectoedemia (Ectoedemia) cerris (Zimmermann, 1944); van Nieukerken 2013
****Ectoedemia (Ectoedemia) contorta*** (van Nieukerken, 1985); 28.V.2018, Zadar (Otrić, Velika Popina 840m), 1 barcoded specimen (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren), **Note 16**
Ectoedemia (Ectoedemia) erythrogenella (Joannis, 1908); Skala 1938, **Note 17**
Ectoedemia (Ectoedemia) gilvipennella (Klimesch, 1946); Laštuvka & Laštuvka 2005
Ectoedemia (Ectoedemia) hannoverella (Glitz, 1872); van Nieukerken et al. 2010
Ectoedemia (Ectoedemia) haraldi (Soffner, 1942); van Nieukerken 2013
Ectoedemia (Ectoedemia) heringella (Mariani, 1939); van Nieukerken et al. 2006, Triberti & Braggio 2011; 18.VI.2019, Zadar (Vir 0m), 1 barcoded specimen (coll. Berggren)
Ectoedemia (Ectoedemia) heringi (Toll, 1934); van Nieukerken 2013; 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren)
Ectoedemia (Ectoedemia) intimella (Zeller, 1848); Caradja 1920, Laštuvka & Laštuvka 2008
Ectoedemia (Ectoedemia) klimeschi (Skala, 1933); van Nieukerken 1986
Ectoedemia (Ectoedemia) liechtensteini (Zimmermann, 1944); van Nieukerken 2013
Ectoedemia (Ectoedemia) mahalebella (Klimesch, 1936); van Nieukerken 1985a
****Ectoedemia (Ectoedemia) minimella*** (Zetterstedt, 1839); Klimesch 1978, Note 18
Ectoedemia (Ectoedemia) occultella (Linnaeus, 1767); **Note 19**
Synonym: *Nepticula argentipedella* (Zeller, 1839); Mann 1857, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921
Ectoedemia (Ectoedemia) quinquella (Bedell, 1848); van Nieukerken 1985a, van Nieukerken et al. 2010
Ectoedemia (Ectoedemia) rubivora (Wocke, 1860); **Note 20**
Synonym: *Nepticula rubivora* (Wocke, 1860); Rebel 1913
Ectoedemia (Ectoedemia) spinosella (Joannis, 1908); van Nieukerken 2006
Ectoedemia (Ectoedemia) subbimaculella (Haworth, 1828); Rebel 1913, 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren), **Note 21**
Synonym: *Nepticula cursoriella* (Heyd.); Mann 1857, Stainton 1921
Ectoedemia (Ectoedemia) turbidella (Zeller, 1848); Rebel 1916, **Note 22**
Ectoedemia subg. Etainia Beirne, 1945
Ectoedemia (Etainia) decentella (Herrich-Schäffer, 1855); Laštuvka & Laštuvka 2008; 8-20.VI.2019, Zadar (Erslani 220m), 1 specimen (coll. NHMO), 3 barcoded specimens (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 2 barcoded specimens (coll. Berggren)

Ectoedemia (Etainia) louisella (Sircom, 1849); van Nieukerken et al. 2006
Ectoedemia (Etainia) obtuse (Puplesis & Diškus, 1996); van Nieukerken & Laštuvka 2002
Ectoedemia (Etainia) sericopeza (Zeller, 1839); Abafi-Aigner 1903, **Note 23**
Ectoedemia* subg. *Fomoria Beirne, 1945
Ectoedemia (Fomoria) groschkei (Skala, 1943); Klimesch 1978, van Nieukerken 1996
Ectoedemia (Fomoria) septembrella (Stainton, 1849); van Nieukerken 2013
Ectoedemia subg. Zimmermannia M. Hering, 1940
Ectoedemia (Zimmermannia) amani (Svensson, 1966); van Nieukerken et al. 2010; 8-20.VI.2019, Zadar (Erslani 220m), 3 barcoded specimens (coll. Berggren)
****Ectoedemia (Zimmermannia) atrifrontella*** (Stainton, 1851); Klimesch 1942, **Note 24**
****Ectoedemia (Zimmermannia) liebwerdella*** (Zimmermann, 1940); Šumpich 2013; 13.VI.2019, Zadar (Matići 186m), 2 dissected specimens (coll. Berggren)
Ectoedemia (Zimmermannia) longicaudella (Klimesch, 1953); van Nieukerken et al. 2010; 13.VI.2019, Zadar (Matići 186m), 1 barcoded specimen (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 dissected specimen (coll. Berggren)
Ectoedemia (Zimmermannia) reichli (Z. & A. Laštuvka, 1998); van Nieukerken et al. 2010

Genus *Parafomoria* van Nieukerken, 1983
****Parafomoria cistivora*** (Peyerimhoff, 1871), Note 25
Synonym: *Stigmella cistivora* (Peyer.); Hering 1967
Synonym: *Nepticula cistivora* (Peyer.); Buhr 1930
Parafomoria helianthemella (Herrich-Schäffer, 1860); van Nieukerken 2013
Parafomoria pseudocistivora (van Nieukerken, 1983); Laštuvka & Laštuvka 2005

Genus *Trifurcula* Zeller, 1848
Trifurcula subg. Glaucolepis Braun, 1917
Trifurcula (Glaucolepis) bleonella (Chrétien, 1904); van Nieukerken 2013
Trifurcula (Glaucolepis) headleyella (Stainton, 1854); Ivinskis et al. 2012
Trifurcula (Glaucolepis) istriae (A. & Z. Laštuvka, 2000); Laštuvka & Laštuvka 2000
****Trifurcula (Glaucolepis) magna*** (A. & Z. Laštuvka, 1997); 31.V.2018, Zadar (Prezid 780m), 1 specimen (coll. NHMO), 1 specimen (coll. Berggren), 10.VI.2019, Zadar (Prezid 956m), 1 barcoded specimen (coll. Berggren), 27.V.2018, Zadar (Mazin 1050m), 1 specimen (coll. Berggren); 3.VI.2018, Zadar (Bruvno 665m), 1 specimen (coll. Berggren); 1.VI.2018, Zadar (Mazin 1050m), 3 barcoded specimens (coll. Berggren), **Note 26**
Trifurcula (Glaucolepis) melanoptera (van Nieukerken & Puplesis, 1991); van Nieukerken & Purplesis 1991, Ivinskis et al. 2012
Trifurcula (Glaucolepis) saturejae (Parenti, 1963); Laštuvka & Laštuvka 2005
****Trifurcula (Glaucolepis) thymi*** (Szöcs, 1965); van Nieukerken et al. 2004b, Ivinskis et al. 2012
Trifurcula subg. Levarchama Beirne, 1945
Trifurcula (Levarchama) cryptella (Stainton, 1856); Klimesch 1942, **Note 27**
Synonym: *Stigmella cryptella* (Stt.); Hering 1967
Trifurcula (Levarchama) eurema (Tutt, 1899); 29.V.2018, Zadar (Pag, Rtina

Miletići 15m), 2 barcoded specimens (coll. Berggren); 4.VI.2018, Zadar (Pag, Rtina Miletići 15m), 2 barcoded specimens (coll. Berggren); 18.VI.2019, Zadar (Vir 0m), 2 dissected specimens (coll. Berggren); 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 1 barcoded specimen (coll. Berggren); 16.VI.2019, Zadar (Gračac 580m), 1 dissected specimen (coll. Berggren); 14.VI.2019, Zadar (Pag, Rtina Miletići 15m), 9 barcoded specimens (coll. Berggren)

Synonym: *Nepticula dorycniella* (Suire, 1928); Klimesch 1942, van Nieukerken 2007b

Synonym: *Stigmella eurema* (Durr.); Hering 1967

Trifurcula (Levarchama) manygoza (van Nieukerken, A. & Z. Laštuvka, 2007); van Nieukerken 2007b; 31.V.2018, Zadar (Prezid 780m), 1 barcoded specimen (coll. Berggren)

Trifurcula (Levarchama) ortneri (Klimesch, 1951); van Nieukerken 2007b

Trifurcula subg. Trifurcula Zeller, 1848

Trifurcula (Trifurcula) aurella (Rebel, 1933); Rebel 1933, Skala 1939, **Note 28**

Synonym: *Nepticula aurella* (Hb.); Buhr 1930

Trifurcula (Trifurcula) calycotomella (A. & Z. Laštuvka, 1997); van Nieukerken et al. 2006

Trifurcula (Trifurcula) josefklimeschi (van Nieukerken, 1990); van Nieukerken 1990b, van Nieukerken et al. 2006

****Trifurcula (Trifurcula) immundella*** (Zeller, 1839); Schawerda 1921, Skala 1939, Klimesch 1942, **Note 29**

Trifurcula (Trifurcula) orientella (Klimesch 1953); Laštuvka & Laštuvka 2008

Trifurcula (Trifurcula) pallidella (Duponchel, 1843); Mann 1857, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1913, Skala 1939, van Nieukerken et al. 2004; 1.VI.2018, Zadar (Mazin 1050m), 1 barcoded specimen (coll. Berggren)

****Trifurcula (Trifurcula) subnitidella*** (Duponchel, 1843); Mann 1857, Abafi-Aigner et al. 1896, Stainton 1921, van Nieukerken 1990b; 2.VI.2018, Zadar (Meka Draga 120m), 1 barcoded specimen (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 1 specimen (coll. Berggren); 16.VI.2019, Zadar (Bruvno 665m), 1 specimen (coll. Berggren); 13.VI.2019, Zadar (Matići 186m), 1 barcoded specimen (coll. Berggren)

Family OPOSTEGIDAE

Genus *Opostega* Zeller, 1839

Opostega salaciella (Treitschke, 1833); Mann 1857, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, **Note 30**

Genus *Pseudopostega* Kozlov, 1985

Pseudopostega crepusculella (Zeller, 1839); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Klimesch 1942, **Note 31**

Superfamily ADELOIDEA

Family HELIOZELIDAE

Genus *Antispila* Hübner, 1825

Antispila metallella (Denis & Schiffermüller, 1775); van Nieukerken et al. 2018b

Synonym: *Antispila pfeifferella* (Hübner, 1813); Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1913

Synonym: *Elachista stadtmuellerella* (Hübner, 1825); Mann 1857, Stainton 1921

Antispila petryi (Martini, [1899]); **Note 32**

****Antispila treitschkiella*** (Fischer von Röslerstamm, 1843); Matošević et al. 2009, 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren), **Note 33**

Genus *Heliozela* Herrich-Schäffer, 1853

****Heliozela lithargyrellum*** (Zeller, 1850); Klimesch 1942, **Note 34**

Heliozela sericiella (Haworth, 1828); Mann 1869, Abafi-Aigner 1903, Skala 1938, Matošević et al. 2009

Synonym: *Heliozela stanneella* (Fischer von Röslerstamm, 1841); Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896

Synonym: *Tinagma stanneellum* (F. R.); Mann 1857

Genus *Holocacista* Walsingham & Durrant, 1909

****Holocacista rivillei*** (Stainton, 1855); Rebel 1891, Abafi-Aigner 1903, **Note 35**

Family ADELIDAE

Genus *Adela* Latreille, 1796

Adela croesella (Scopoli, 1763); Rebel 1903, Rebel 1904, Hoffmann 1917, Koča 1925, Klimesch 1942, Carnelutti 1994, Habeler 2003

Synonym: *Adela religatella* (Zeller, 1850); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, Rebel 1913

Synonym: *Adela sulzella* (Zeller, 1763); Mann 1867, Mann 1869

Adela cuprella (Denis & Schiffermüller, 1775); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, Koča 1925, Habeler 2003

Adela reaumurella (Linnaeus, 1758); Carnelutti 1994, Habeler 2003, Koren 2015; 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. NHMO), 1 specimen (coll. Berggren); 12.VI.2019, Zadar (Otrić, Velika Popina 1093m, 1 specimen (coll. Berggren); 10.VI.2019, Zadar Prezid 956m, 1 specimen (coll. NHMO)

Synonym: *Adela viridella* (Sc.); Mann 1857, Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1903, Rebel 1904, Rebel 1913, Rebel 1914, Stainton 1921, Koča 1925

****Adela violella*** (Denis & Schiffermüller, 1775); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, **Note 36**

Genus *Cauchas* Zeller, 1839

Cauchas fibulella (Denis & Schiffermüller, 1775); Mann 1857, Mann 1867, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Stainton 1921, Klimesch 1942, Carnelutti 1994, 4.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. NHMO); 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 1 dissected specimen (coll. Berggren), **Note 37**

Cauchas leucocerella (Scopoli, 1763); Mann 1869, Wocke 1871, Rebel 1895, Rebel 1903, Koča 1925, 27.V.2018, Zadar (Mazin 1050m), 1 specimen (coll. NHMO); 1.VI.2018, Zadar (Mazin 1050m), 6 specimens (coll. NHMO), 7 specimens (coll. Berggren), **Note 38**

Cauchas rufifrontella (Treitschke, 1833); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Stainton 1921, **Note 39**

Cauchas rufimitrella (Scopoli, 1763); Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, **Note 40**

Genus *Nemophora* Hoffmannsegg, 1798

****Nemophora associatella*** (Zeller, 1839); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, **Note 41**

Nemophora barbatellus (Zeller, 1847); Mann 1857, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, Carnelutti 1994, **Note 42**
Synonym: *Nemotois barbatellus* (Zeller, 1847); Rebel 1913
Nemophora cupriacella (Hübner, 1819); Mann 1869, Rebel 1903, Rebel 1904, **Note 43**
Nemophora degeerella (Linnaeus, 1758); Mann 1857, Mann 1867, Mann 1869, Rebel 1904, Stainton 1921, Koča 1925, Koren 2015, Kozlov et al. 2016, 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 barcoded specimen (coll. Berggren), **Note 44**
****Nemophora dumerilella*** (Duponchel, 1838); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1903, Stainton 1921, Habeler 2003
****Nemophora fasciella*** (Fabricius, 1775); Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1903, Koča 1925, Habeler 2003
Nemophora istrianellus (Heydenreich, 1851); Wocke 1871, Abafi-Aigner et al. 1896, Prohaska 1922, Stainton 1921, Carnelutti 1994, 3.VI.2018, Zadar (Bruvno 665m), 11 specimens (coll. Aarvik), 9 specimens (coll. Berggren); 26.V-6.VI.2018, Lika-Senj (Ričice570m), 1 specimen (coll. NHMO); 16.VI.2019, Zadar (Gračac 580m), 1 specimen (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 3 specimens (coll. NHMO), 6 specimens (coll. Berggren), **Note 45**
Synonym: *Nemotois dalmatinellus* (Mn.); Mann 1869, Wocke 1871, Rebel 1904, Stainton 1921
Nemophora metallica (Poda, 1761); Rebel 1904, Rebel 1910, Koča 1925, Habeler 2003
Synonym: *Nemotois metallicus aerosellus* (Zeller, 1839); Wocke 1871, Abafi-Aigner et al. 1896, Neustetter 1956
Synonym: *Nemotois aerosellus* (H.S.); Mann 1857, Mann 1867, Mann 1869, Stainton 1921
Nemophora minimella (Denis & Schiffermüller, 1775); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Stainton 1921, 16.VI.2019, Zadar (Gračac 580m), 2 specimens (coll. NHMO), 1 barcoded specimen (coll. Berggren), **Note 46**
Synonym: *Nemotois schiffermüllerellus* (S.V.); Mann 1857, Stainton 1921
****Nemophora mollella*** (Hübner, 1816); Mann 1869, Rebel 1903, **Note 47**
Nemophora pfeifferella (Hübner, 1813); Mann 1857, Mann 1869, Rebel 1903, Rebel 1904, Rebel 1910, Habeler 2003
****Nemophora prodigellus*** (Zeller, 1853); Geiger 1873, **Note 48**
****Nemophora raddaella (Hübner, 1793);***
Synonym: *Nemotois latreillellus* (F.); Rebel 1919, **Note 49**
****Nemophora violellus*** (Stainton, 1851);
Synonym: *Nemophora violaria* (Razowski, 1978); Habeler 2003

Genus *Nematopogon* Zeller, 1839

Nematopogon adansoniella (Villers, 1789); Carnelutti 1994, 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 2 specimens (coll. Berggren), **Note 50**
Synonym: *Nemophora panzerella* (Hübner, 1819); Rebel 1904, Rebel 1924, Koča 1925
****Nematopogon metaxella*** (Hübner, 1813); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, Koča 1925, Habeler 2003; 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. Berggren)
Nematopogon pilella (Denis & Schiffermüller, 1775); 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1903, Stainton 1921, **Note 51**

Nematopogon robertella (Clerck, 1759);
Synonym: *Nemophora pilulella* (Hb.); Mann 1857, Mann 1867, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1904, Stainton 1921, **Note 52**

Nematopogon schwarziellus* (Zeller, 1839); Rebel 1895, 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 2 barcoded specimens (coll. Berggren), **Note 53

Nematopogon swammerdamella (Linnaeus, 1758); Mann 1857, Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1904, Stainton 1921, Koča 1925, Habeler 2003, Koren 2015; 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. Berggren)

Family INCURVARIIDAE

Genus *Incurvaria* Haworth, 1828

Incurvaria koerneriella* (Zeller, 1839); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, **Note 54

Incurvaria masculella (Denis & Schiffermüller, 1775); Mann 1857, Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1903, Rebel 1913, Rebel 1914, Stainton 1921, Koča 1925, Hering 1967, Carnelutti 1994, Habeler 2003

Incurvaria oehlmanniella (Hübner, 1796); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1903, Stainton 1921, Hering 1967, Koren 2018

Incurvaria pectinea (Haworth, 1828); Mann 1857, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, Carnelutti 1994, Habeler 2003, Kurz & Horvat, 2010, Koren 2015

Incurvaria praelatella* (Denis & Schiffermüller, 1775); Koča 1925, **Note 55

Incurvaria vetulella* (Zetterstedt, 1839); Abafi-Aigner et al. 1896, Rebel 1904, **Note 56

Family PRODOXIDAE

Genus *Lampronia* Stephens, 1829

**Lampronia corticella* (Linnaeus, 1758);
Synonym: *Lampronia rubiella* (Bjerkander, 1781); Mann 1857, Wocke 1871, Abafi-Aigner et al. 1896, Stainton 1921, **Note 57**

Lampronia flavimitrella* (Hübner, 1817); Koča 1925, 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 1 barcoded specimen (coll. Berggren), **Note 58

Lampronia provectella* (Heyden, 1865); Rebel 1895, Rebel 1910, **Note 59

Lampronia pubicornis* (Haworth, 1828); 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 1 barcoded specimen (coll. Berggren), **Note 60

Lampronia rupella* (Denis & Schiffermüller, 1775); Koča 1925, **Note 61

Superfamily TISCHERIOIDEA

Family TISCHERIIDAE

Genus *Coptotriche* Walsingham, 1890

Coptotriche angusticollella (Duponchel, 1843); Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1913, Stainton 1921, Matošević et al. 2009

**Coptotriche heinemanni* (Wocke, 1871); Matošević et al. 2009

Coptotriche marginea (Haworth, 1828); Mann 1869, Wocke 1871, Schawerda 1921, Skala 1938, Klimesch 1942, Habeler 2003; 8-20.VI.2019, Zadar (Erslani 220m), 2 barcoded specimens (coll. Berggren); 9.VI.2019, Zadar (Kruševo E

306m), 1 specimen (coll. Berggren); 18.VI.2019, Zadar (Vir 0m), 1 specimen (coll. Berggren)

Synonym: *Tischeria emyella* (Duponchel, 1840); Mann 1857, Stainton 1921

Genus *Tischeria* Zeller, 1839

Tischeria decidua (Wocke, 1876); Matošević et al. 2008, Matošević et al. 2009; 8-20.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren); 9.VI.2019, Zadar (Kruševo E 306m), 1 specimen (coll. Berggren)

Tischeria dodonaea (Stainton, 1858); Matošević et al. 2008, Matošević et al. 2009; 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 2 specimens (coll. Berggren); Zadar (Matići 186m), 1 barcoded specimen (coll. Berggren)

Tischeria ekebladella (Bjerkander, 1795); Carnelutti 1994, Matošević et al. 2008, Matošević et al. 2009

Synonym: *Tischeria complanella* (Hübner, 1817); Mann 1857, Mann 1867, Mann 1869, Wocke 1871, Abafi-Aigner et al. 1896, Rebel 1913, Schawerda 1920, Stainton 1921, Koča 1925, Klimesch 1942

Superfamily ALUCITOIDEA

Family ALUCITIDAE

Genus *Alucita* Linnaeus, 1758

Alucita bidentata (Scholz & Jäckh, 1994); Scholz & Jäckh 1994, Šumpich & Skyva 2014

Alucita cancellata (Meyrick, 1908); Habeler 2003

Alucita cymatodactyla (Zeller, 1852); Mann 1869, Wocke 1871

Synonym: *Orneodes cymatodactyla* (Zeller, 1852); Rebel 1914, Zerny 1920, Schawerda 1921, Klimesch 1942, **Note 62**

Alucita desmodactyla (Zeller, 1847); Mann 1867, Abafi-Aigner et al. 1896, Carnelutti 1994

Synonym: *Orneodes desmodactyla* (Z.); Rebel 1904, Schawerda 1921, Klimesch 1942, **Note 63**

Alucita grammodactyla (Zeller, 1841); Rebel 1891

Synonym: *Orneodes grammodactyla* (Z.); Rebel 1904, Rebel 1913, Koča 1925, **Note 64**

Alucita hexadactyla (Linnaeus, 1758); Geiger 1873, Abafi-Aigner et al. 1896, Carnelutti 1994, Habeler 2003

Synonym: *Alucita polydactyla* (Hübner, 1813); Mann 1867, Mann 1869

Synonym: *Orneodes hexadactylus* (Hb.); Mann 1857

Alucita huebneri (Wallengren, 1859); Abafi-Aigner et al. 1896, Habeler 2003; 31.V.2018, Zadar (Bruvno 665m), 2 specimens (coll. NHMO), 1 specimen (coll. Berggren); 3.VI.2018, Zadar (Bruvno 665m), 1 specimen (coll. NHMO), 1 specimen (coll. Berggren); 5.VI.2018, Zadar (Prezid 780m), 1 specimen (coll. Berggren); 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 3 specimens (coll. NHMO), 4 specimens (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 2 specimens (coll. Berggren)

Synonym: *Orneodes hübneri* (Wallgr.); Rebel 1904, Rebel 1913, Rebel 1914

Alucita major (Rebel, 1906); Scholz & Jäckh 1994

Alucita palodactyla (Zeller, 1847); Mann 1869, **Note 65**

Synonym: *Orneodes palodactyla* (Z.); Klimesch 1942

Alucita zonodactyla (Zeller, 1847), **Note 66**

Synonym: *Orneodes zonodactyla* (L.); Rebel 1914, Rebel 1919, Schawerda 1921, Klimesch 1942

Genus *Pterotopteryx* Hannemann, 1959
Pterotopteryx dodecadactyla (Hübner, 1813); Habeler 2003
Synonym: *Alucita dodecadactyla* (Hb.); Mann 1869

Superfamily PTEROPHOROIDEA
Family PTEROPHORIDAE
Subfamily AGDISTINAE
Genus *Agdistis* Hübner, 1825
Agdistis adactyla (Hübner, 1819); Habeler 2003, Fazekas 2009
Agdistis bennetii (Curtis, 1833); Habeler 2003
Agdistis heydeni (Zeller, 1852); Šumpich 2013
Agdistis meridionalis (Zeller, 1847); Mann 1869, Abafi-Aigner 1903, Rebel 1914, Habeler 2003; 29.V.2018, Zadar (Pag, Rtina Miletići 15m), 3 specimens (coll. Berggren); 14.VI.2019, (Pag, Rtina Miletići 15m), 1 specimen (coll. Aarvik), 2 specimens (coll. Berggren); 18.VI.2019, Zadar (Vir 0m), 1 specimen (coll. NHMO)
Synonym: *Agdistis staticis* (Zeller, 1847); Galvagni 1902, Abafi-Aigner 1903, Prohaska 1922, Klimesch 1942
Agdistis paralia (Zeller, 1847); Mann 1869, **Note 67**
Agdistis tamaricis (Zeller, 1847); Mann 1869, Prohaska 1922, Klimesch 1942, **Note 68**

Subfamily PTEROPHORINAE
Genus *Paraplatyptilia* Bigot & Picard, 1986
Paraplatyptilia metzneri (Zeller, 1841); 12.VI.2019, Zadar (Otrić, Velika Popina 1093m), 3 specimens (coll. Berggren), **Note 69**
Genus *Platyptilia* Hübner, 1825
Platyptilia farfarellus (Zeller, 1867); Carnelutti 1994, Habeler 2003
Platyptilia gonodactyla (Denis & Schiffermüller, 1775); Abafi-Aigner et al. 1896, Rebel 1913, Hoffmann 1917, **Note 70**
Synonym: *Pterophorus gonodactylus* (S. V.); Mann 1857
Platyptilia isodactylus (Zeller, 1852); Koča 1925, **Note 71**
Platyptilia tesseradactyla (Linnaeus, 1761); Schawerda 1921, **Note 72**
Synonym: *Platyptilus fischeri* (Zeller, 1841); Mann 1867, Mann 1869
Genus *Buszkoiana* Koçak, 1981
Buszkoiana capnodactylus (Zeller, 1841), **Note 73**
Synonym: *Platyptilia capnodactyla* (Zeller, 1841); Abafi-Aigner et al. 1896, Rebel 1904
Genus *Amblyptilia* Hübner, 1825
Amblyptilia acanthadactyla (Hübner, 1813); Abafi-Aigner et al. 1896, Klimesch 1942, Carnelutti 1994, Habeler 2003, Koren 2015; 26.V-6.VI.2018, Lika-Senj (Ričice 570m), 1 specimen (coll. Berggren)
Synonym: *Platyptilia acanthodactyla* (Hübner, 1813); Mann 1869, Rebel 1904, Schawerda 1916, Schawerda 1920, Schawerda 1921, Koča 1925
Synonym: *Pterophorus acanthodactylus* (H.); Mann 1857
Synonym: *Aciptilia acanthodactyla* (Tr.); Abafi-Aigner et al. 1896
Amblyptilia punctidactyla (Haworth, 1811), **Note 74**
Synonym: *Platyptilus cosmodactylus* (Hbn.); Mann 1869
Genus *Stenoptilodes* Zimmermann, 1958

Stenoptilodes taprobanes (Felder & Rogenhofer, 1875); Habeler 2003

Genus *Stenoptilia* Hübner, 1825

Stenoptilia annadactyla Sutter, 1988; 10.VI.2019, Zadar (Prezid 950m), 1 dissected specimen (coll. NHMO), **Note 75**

Stenoptilia aridus (Zeller, 1847); Abafi-Aigner 1903, Klimesch 1942, Habeler 2003

Synonym: *Pterophorus aridus* (Zeller, 1847); Mann 1869

Stenoptilia bipunctidactyla (Scopoli, 1763); Schawerda 1916, Schawerda 1920, Zerny 1920, Neustetter 1956, Habeler 2003, Fazekas 2009; 27.V.2018, Zadar (Mazin 1050m), 2 specimens (coll. Berggren); 1.VI.2018, Zadar (Mazin 1050m), 1 specimen (coll. Berggren); 28.V.2018, Zadar (Otrić, Velika Popina 750m), 1 specimen (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 1 specimen (coll. Berggren)

Synonym: *Pterophorus serotinus* (Zeller, 1852); Mann 1869

Stenoptilia coprodactylus (Stainton, 1851), **Note 76**

Synonym: *Pterophorus coprodactylus* (Stainton, 1851); Mann 1857

Synonym: *Mimaeseoptilus coprodactylus* (Zeller, 1839); Abafi-Aigner et al. 1896

Stenoptilia pelidnodactyla (Stein, 1837); Rebel 1904, Rebel 1910, Koča 1925, **Note 77**

Synonym: *Pterophorus pelidnodactylus* (Stein, 1837); Mann 1867

Synonym: *Mimaeseoptilus pelidnodactylus* (Stein); Abafi-Aigner et al. 1896

Stenoptilia pterodactyla (Linnaeus, 1761); Galvagni 1902, Rebel 1904, Schawerda 1921, Rebel 1924, **Note 78**

Synonym: *Pterophorus pterodactylus* (Zeller, 1841); Mann 1857, Mann 1867, Mann 1869

Synonym: *Stenoptilia pterodactyla* Z.; Koča 1925

Synonym: *Pterophorus fuscus* (Retzius, 1783); Mann 1857, Mann 1867, Mann 1869

Synonym: *Mimaeseoptilus pterodactylus* (Linnaeus, 1758); Abafi-Aigner et al. 1896

Stenoptilia stigmatodactylus (Zeller, 1852); Rebel 1904, Rebel 1913, Schawerda 1921, **Note 79**

Synonym: *Pterophorus stigmatodactylus* (Zeller, 1852); Mann 1857, Mann 1869

Synonym: *Mimaeseoptilus stigmatodactylus* (Zeller, 1879); Abafi-Aigner et al. 1896

Stenoptilia zophodactylus (Duponchel, 1840); Rebel 1913, Rebel 1913a, Rebel 1914, Schawerda 1920, Habeler 2003; 18.VI.2019, Zadar (Vir 0m), 1 barcoded specimen (coll. Berggren); 14.VI.2019, Zadar (Razanac, Općina 10m), 1 barcoded specimen (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 1 barcoded specimen (coll. Berggren); 13.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren)

Genus *Cnaemidophorus* Wallengren, 1862

Cnaemidophorus rhododactyla (Denis & Schiffermüller, 1775); Abafi-Aigner et al. 1896, Carnelutti 1994, Habeler 2003, Koren 2015; 8-20.VI.2019, Zadar (Erslani 220m), 1 specimen (coll. Berggren)

Synonym: *Platyptilus rhododactylus* (Denis & Schiffermüller, 1775); Mann 1867, Mann 1869, Rebel 1904, Rebel 1914, Schawerda 1916, Schawerda 1920, Schawerda 1921

Genus *Oxyptilus* Zeller, 1841

Oxyptilus chrysodactyla (Denis & Schiffermüller, 1775); Abafi-Aigner et al. 1896, Habeler 2003; 31.V.2018, Zadar (Prezid 780m), 2 specimens (coll. Berggren); 5.VI.2018, Zadar (Prezid 780m), 1 specimen (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 specimen (coll. Berggren); 17.VI.2019, Zadar (Marinovići 493m),

1 barcoded specimen (coll. Berggren)

Synonym: *Oxyptilus hieracii* (Z.); Mann 1867, Mann 1869, Wocke 1871, Schawerda 1916, Schawerda 1920

Oxyptilus parvidactyla (Haworth, 1811); Staudinger 1879, Abafi-Aigner et al. 1896, Rebel 1904, Rebel 1913, Koča 1925, Klimesch 1942, Carnelutti 1994, Habeler 2003; 29.V.2018, Zadar (Pag, Rtina Miletići 15m), 1 specimen (coll. Berggren); 4.VI.2018, Zadar (Pag, Rtina Miletići 15m), 5 specimens (coll. Aarvik), 2 barcoded specimens (coll. Berggren); 14.VI.2019, Zadar (Pag, Rtina Miletići 15m), 1 specimen (coll. NHMO), 2 barcoded specimens (coll. Berggren); 13.VI.2019, Zadar (Matići 186m), 2 dissected specimens (coll. NHMO)

Synonym: *Oxyptilus obscurus* (Zeller, 1841); Mann 1867, Mann 1869

Synonym: *Pterophorus parvidactylus* (Hw.); Mann 1857

Oxyptilus pilosellae (Zeller, 1841); Abafi-Aigner et al. 1896, Rebel 1904, Habeler 2003

Genus *Crombrugghia* Tutt, 1907

Crombrugghia distans (Zeller, 1847); Carnelutti 1994, Koren 2015; 31.V.2018, Zadar (Prezid 780m), 2 specimens (coll. Berggren); 5.VI.2018, Zadar (Prezid 780m), 1 specimen (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 1 specimen (coll. Berggren); 17.VI.2019, Zadar (Marinovići 493m), 1 barcoded specimen (coll. Berggren)

Synonym: *Oxyptilus distans* (Zeller, 1847); Mann 1869, Abafi-Aigner et al. 1896, Rebel 1903, Rebel 1904, Rebel 1913, Schawerda 1921, Koča 1925, Neustetter 1956, Habeler 2003

Synonym: *Pterophorus distans* (Zeller, 1847); Mann 1857

Crombrugghia laetus (Zeller, 1847), **Note 80**

Synonym: *Oxyptilus laetus* (Zeller, 1847); Mann 1869, Rebel 1910, Zerny 1920, Klimesch 1942

Crombrugghia tristis (Zeller, 1841), **Note 81**

Synonym: *Oxyptilus tristis* (Zeller, 1841); Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1903, Schawerda 1921

Synonym: *Pterophorus tristis* (Zeller, 1841); Mann 1857

Genus *Geina* Tutt, 1907

Geina didactyla (Linnaeus, 1758), **Note 82**

Synonym: *Oxyptilus didactylus* (Linnaeus, 1758); Mann 1867, Mann 1869, Abafi-Aigner et al. 1896, Rebel 1904

Genus *Capperia* Tutt, 1905

Capperia celeusi (Frey, 1886); 28.V.2018, Zadar (Otrić, Velika Popina 750m), 1 specimen (coll. Aarvik); 31.V.2018, Zadar (Prezid 780m), 1 specimen (coll. NHMO); 5.VI.2018, Zadar (Prezid 780m), 1 specimen (coll. NHMO), **Note 83**

Synonym: *Oxyptilus teucrii celeusi* (Frey, 1886); Rebel 1913, Ginzberger 1916

Capperia fusca (O. Hofmann, 1898); Arenberger 2002; 13.VI.2019, Zadar (Matići 186m), 1 specimen (coll. NHMO), 1 dissected specimen (coll. Berggren); 8-20. VI.2019, Zadar (Erslani 220m), 1 dissected specimen (coll. NHMO); 15.VI.2019, Zadar (Erslani N 390m), 1 specimen (coll. NHMO); 17.VI.2019, Zadar (Marinovići 493m), 1 barcoded specimen (coll. Berggren); 16.VI.2019, Zadar (Zaton Obrovački 152m), 1 specimen (coll. Berggren); 15.VI.2019, Zadar (Erslani 220m), 1 barcoded specimen (coll. Berggren); 10.VI.2019, Zadar (Prezid 956m), 1 specimen (coll. Berggren)

Capperia hellenica (Ademczewski, 1951); Habeler 2003

****Capperia loranus*** (Fuchs, 1895); 29.V.2018, Zadar (Pag, Rtina Miletići 15m), 1 specimen (coll. Berggren), **Note 84**

Capperia maratonica (Adamczewski, 1951); Arenberger 2002; 10.VI.2019, Zadar (Prezid 956m), 1 dissected specimen (coll. NHMO)

****Capperia marginellus*** (Zeller, 1847)

Synonym: *Oxyptilus marginellus* (Zeller, 1847); Rebel 1914, **Note 85**

Capperia polonica (Adamczewski, 1951); Šumpich & Skyva 2012

Genus *Procapperia* Adamczewski, 1951

Procapperia linariae (Chrétien, 1922); Arenberger 2002

Genus *Stangeia* Tutt, 1905

Stangeia siceliota (Zeller, 1847); Habeler 2003

Synonym: *Pterophorus ononidis* (Zeller, 1847); Mann 1869

Synonym: *Pterophorus siceliota* (Zeller, 1847); Mann 1869

Synonym: *Trichoptilus siceliota* (Zeller, 1847); Galvagni 1902, Ginzberger 1916, Prohaska 1922, Daniel et al. 1951

Synonym: *Aciptilia siceliota* (Zeller, 1847); Wocke 1871

Genus *Pterophorus* Geoffroy, 1762

Pterophorus ischnodactyla (Treitschke, 1835); Carnelutti 1994, Habeler 2003; 13.VI.2019, Zadar (Matići 186m), 1 specimen (coll. NHMO), 1 dissected specimen (coll. Berggren); 8.VI.2019, Zadar (Erslani 220m), 1 specimen (coll. Berggren)

Synonym: *Alucita ischnodactyla* (Treitschke, 1835); Rebel 1904, Stauder 1914, Rebel & Zerny 1934

Synonym: *Aciptilus ischnodactylus* (Tr.); Geiger 1873

Pterophorus pentadactyla (Linnaeus, 1758); Mann 1857, Mann 1867, Mann 1869, Carnelutti 1994, Habeler 2003, Fazekas 2009, Vignjević et al. 2010, Krčmar 2014, Koren 2015, Koren 2018; 31.V.2018, Zadar (Prezid 780m), 1 specimen (coll. NHMO)

Synonym: *Alucita pentadactyla* (Linnaeus, 1758); Rebel 1913, Rebel 1914, Stauder 1914, Schawerda 1920, Prohaska 1922, Koča 1925

Synonym: *Aciptilus pentadactylus* (Linnaeus, 1758); Mann 1867

Genus *Porrittia* Tutt, 1905

****Porrittia galactodactyla*** (Denis & Schiffermüller, 1775); Habeler 2003

Genus *Calyciphora* Kasy, 1960

Calyciphora homoiodactyla (Kasy, 1960); Habeler 2003

****Calyciphora xanthodactyla*** (Treitschke, 1833), **Note 86**

Synonym: *Pterophorus xanthodactylus* (Treitschke, 1833); Mann 1857, Mann 1869

Synonym: *Aciptilia xanthodactyla* (Treitschke, 1833); Mann 1867, Abafi-Aigner et al. 1896

Synonym: *Alucita xanthodactyla* (Treitschke, 1833); Rebel 1904

Calyciphora xerodactyla (Zeller, 1841); Arenberger 2002

Genus *Marasmarcha* Meyrick, 1886

****Marasmarcha oxydactylus*** (Staudinger, 1859); 31.V.2018, Zadar (Prezid 780m), 1 specimen (coll. Aarvik), 1 specimen (coll. Berggren), **Note 87**

Genus *Merrifieldia* Tutt, 1905

Merrifieldia baliodactylus (Zeller, 1841); Habeler 2003

Synonym: *Pterophorus baliodactylus* (Zeller, 1841); Mann 1869

Synonym: *Alucita baliodactyla* (Z.); Abafi-Aigner 1903, Rebel 1904

Merrifieldia leucodactyla (Denis & Schiffermüller, 1775)

Synonym: *Aciptilia tetradactyla* (Linnaeus, 1758); Mann 1867, Rebel 1895, Abafi-Aigner et al. 1896, Koča 1925; 27.V.2018, Zadar (Mazin 1050m), 1 specimen (coll. NHMO), 5 specimens (coll. Berggren); 1.VI.2018, Zadar (Mazin 1050m), 2 specimens (coll. NHMO); 5.VI.2018, Zadar (Prezid 780m), 1 specimen (coll. Berggren); 3.VI.2018, Zadar (Bruvno 665m), 1 specimen (coll. Berggren); 16.VI.2018, Zadar (Bruvno 665m), 1 specimen (coll. Aarvik); 10.VI.2019, Zadar (Prezid 956m), 1 specimen (coll. NHMO), 1 barcoded specimen (coll. Berggren); 17.VI.2019, Zadar (Marinovići 493m), 1 specimen (coll. NHMO), 2 dissected specimens (coll. Berggren), **Note 88**

Synonym: *Alucita tetradactyla* (L.); Neustetter 1956

Merrifieldia malacodactylus (Zeller, 1847); Habeler 2003; 8.VI.2019, Zadar (Erslani 220m), 2 barcoded specimens (coll. Berggren); 11.VI.2019, Zadar (Erslani N 390m), 2 specimens (coll. Berggren); 16.VI.2019, Zadar (Erslani N 390m), 1 specimen (coll. Berggren); 13.VI.2019, Zadar (Matići 186m), 1 specimen (coll. Berggren)

Synonym: *Alucita malacodactyla* (Zeller, 1847); Galvagni 1902, Abafi-Aigner 1903, Rebel 1904, Zerny 1920, Prohaska 1922

Synonym: *Pterophorus malacodactylus* (Zeller, 1847); Mann 1869

Synonym: *Pterophorus meristodactylus* (Zeller, 1852); Mann 1857, Carnelutti 1994

Synonym: *Alucita baliodactyla var. meridionalis* (Staudinger, 1880); Ginzberger 1916, Rebel 1916

Synonym: *Alucita tetradactyla meristodactyla* (Rbl.); Schawerda 1921, Klimesch 1942

Merrifieldia tridactyla (Linnaeus, 1758); Habeler 2003

Genus *Pselnophorus* Wallengren, 1881

Pselnophorus heterodactyla (Müller, 1764), **Note 89**

Synonym: *Pterophorus brachydactylus* (L.); Mann 1857, Mann 1869

Synonym: *Leioptilus brachydactylus* (Treitschke, 1833); Abafi-Aigner et al. 1896

Synonym: *Pselnophorus brachydactylus* (Treitschke, 1833); Rebel 1904

Genus *Gypsochares* Meyrick, 1890

Gypsochares baptodactylus (Zeller, 1850); Habeler 2003; 29.V.2018, Zadar (Pag, Rtina Miletići 15m), 1 specimen (coll. NHMO), 1 specimen (coll. Berggren); 4.VI.2018, Zadar (Pag, Rtina Miletići 15m), 1 specimen (coll. NHMO), 2 specimens (coll. Berggren); 2.VI.2018, Zadar (Meka Draga 120m), 3 specimens (coll. NHMO), 3 specimens (coll. Berggren); 9.VI.2019, Zadar Gornji Karin 0m), 3 dissected specimens (coll. NHMO); 14.VI.2019, Zadar (Pag, Rtina Miletići 15m), 1 barcoded specimen (coll. Berggren); 13.VI.2019, Zadar (Matići 186m), 1 specimen (coll. Berggren)

Synonym: *Aciptilia baptodactyla* (Zeller, 1850); Abafi-Aigner et al. 1896

Synonym: *Pterophorus baptodactylus* (Zeller, 1850); Mann 1857, Mann 1869

Genus *Oidaematophorus* Wallengren, 1862

Oidaematophorus constanti (Ragonot, 1875); Šumpich 2013

Oidaematophorus lithodactyla (Treitschke, 1833); Habeler 2003

Synonym: *Pterophorus lithodactylus* (Treitschke, 1833); Mann 1867, Mann 1869, Rebel 1903, Rebel 1904, Rebel 1913

Genus *Hellinsia* Tutt, 1905

Hellinsia carphodactyla (Hübner, 1813); Habeler 2003

Hellinsia inulae (Zeller, 1852); Habeler 2003
Hellinsia lienigianus (Zeller, 1852)
Synonym: *Pterophorus lienigianus* (Zeller, 1852); Mann 1857
Hellinsia osteodactylus (Zeller, 1841), **Note 90**
Synonym: *Pterophorus osteodactylus* (Zeller, 1841); Mann 1857

Genus *Adaina* Tutt, 1905
Adaina microdactyla (Hübner, 1813); Habeler 2003
Synonym: *Pterophorus microdactylus* (Hb.); Mann 1857, Mann 1869, Koča 1925, Neustetter 1956
Synonym: *Leioptilus microdactylus* (Hübner, 1813); Abafi-Aigner et al. 1896
Synonym: *Leioptilus carphodactylus* (Hübner, 1813); Abafi-Aigner et al. 1896
Synonym: *Pterophorus carphodactylus* (Stephens, 1834); Mann 1857, Mann 1867, Rebel 1904, Rebel 1910, Rebel 1914, Klimesch 1942

Genus *Emmelina* Tutt, 1905
Emmelina monodactyla (Linnaeus, 1758); Carnelutti 1994, Habeler 2003, Vignjević et al. 2010, Krčmar 2014, Koren 2015, Koren 2018; 8-20.VI.2019, Zadar (Erslani 220m), 1 dissected specimen (coll. Berggren)
Synonym: *Platyptilia monodactylus* (L.); Schawerda 1921
Synonym: *Pterophorus monodactylus* (Linnaeus, 1758); Rebel 1904, Rebel 1910, Rebel 1913a, Rebel 1914, Schawerda 1920, Rebel 1924, Koča 1925

Genus *Gillmeria* Tutt, 1905
Gillmeria miantodactylus (Zeller, 1841), **Note 91**
Synonym: *Mimaeseoptilus miantodactylus* (Zeller, 1879); Abafi-Aigner et al. 1896
Synonym: *Stenoptilia miantodactylus* (Zeller, 1879); Koča 1925
Gillmeria ochrodactyla (Denis & Schiffermüller, 17751, **Note 92**
Synonym: *Platyptilia ochrodactyla* (Hb.); Schawerda 1921
Synonym: *Alucita tetradactyla* (Linnaeus, 1758); Schawerda 1916, Schawerda 1920

Genus *Wheeleria* Tutt, 1905
Wheeleria obsoletus (Zeller, 1841); Habeler 2003; 31.V.2018, Zadar (Prezid 780m), 1 specimen (coll. Berggren); 2.VI.2018, Zadar (Meka Draga 120m), 1 specimen (coll. Berggren); 11.VI.2019, Zadar (Erslani N 380m), 2 specimens (coll. NHMO), 3 specimens (coll. Berggren); 8-20.VI.2019, Zadar (Erslani 220m), 2 specimens (coll. NHMO); 9.VI.2019, Zadar (Kruševo E 306m), 1 specimen (coll. NHMO)
Wheeleria spilodactylus (Curtis 1827); Carnelutti 1994, Habeler 2003
Synonym: *Aciptilus spilodactylus* (Curt.); Geiger 1873, Abafi-Aigner 1903, Rebel 1904

Notes

1. From the family Micropterigidae five species from the genus *Micropterix* are reported only from historical literature and their occurrence in Croatia needs to be reconfirmed in future investigations. *M. aureatella* was only reported by Abafi-Aigner *et al*. (1896) and Galvagni (1909).
2. The species *M. calthella* has not been recorded since the 1920s (Stainton, 1921; Koča, 1925) and its occurrence needs to be reconfirmed.
3. The only record of *M. igaloensis* for Croatia is from Amsel (1951). It is unclear if the species is indeed present in the fauna of Croatia.

4. Several specimens of *M. mansuetella* were collected in 2018 and 2019 by the second and third author. These records represent the first findings of this species from Croatia.
5. *M. schaefferi* was only reported at the end of the 19th and the beginning of the 20th century. Its occurrence in Croatia needs to be reconfirmed.
6. The species *M. tunbergella* was also recorded at the end of the 19th and the beginning of the 20th century. Its occurrence in Croatia needs to be reconfirmed in future surveys.
7. From the family Eriocraniidae the species *E. semipurpurella* was only mentioned in Kočа (1925), so its occurrence in Croatia needs to be reconfirmed in future investigations. The Croatian entomologist Đuro Koča collected and preserved more than 10,000 insect specimens, all held in the Croatian Natural History Museum in Zagreb. He contributed to the Croatian entomofauna by preparing a list of 300 Micromoth species in Croatian (Kočа, 1925).
8. *T. amasinus* from the family Hepialidae has not been recorded in Croatia since 1933 (Stauder) and its presence in the fauna of Croatia needs to be reconfirmed.
9. Several species from the family Nepticulidae are reported only from historical literature and their occurrence in Croatia needs to be reconfirmed. One of these species is *S. anomalella*, which was reported the last time in 1962 (Utech).
10. The species *S. desperatella* (Frey, 1856) was recorded only once (Dimić, 1968) and its status in Croatia is unclear.
11. The same applies to the species *S. obliquella* which was only recorded once, in 1937 (Skala).
12. The species *S. paliurella* was only reported once in 1942 from Croatia (Klimesch). The status of the species is unclear and its occurrence needs to be reconfirmed in future surveys.
13. The last time that *S. ruficapitella* was recorded in Croatia was in 1942 (Klimesch) so its occurrence needs to be reconfirmed.
14. The newest record of *S. trimaculella* is from Hering from the year 1967.
15. E. *argyropeza* has not been recorded since 1896 (Abafi-Aigner *et al*.). Therefore, its status in Croatia is unclear.
16. Two specimens of the species *E. contorta* were collected in 2018 and 2019 by the second author from the area around Zadar. Both specimens were barcoded.
17. There is only one record of the species *E. erythrogenella*. It originates from 1938 (Skala) and its presence in the fauna of Croatia needs to be reconfirmed.
18. E. *minimella* was recorded only once in Croatia, in the year 1978 (Klimesch).
19. The species *E. occultella* was only reported at the end of the 19th and the beginning of the 20th century. Its occurrence in Croatia needs to be reconfirmed.
20. There is only one record of *E. rubivora* from Croatia, from Rebel (1913).
21. The status of *E. subbimaculella* in Croatia was unclear, as it was reported only by Mann (1857), Rebel (1913) and Stainton (1921). But in 2019 one specimen was collected and afterward barcoded from the area around Zadar. Its occurrence in the Croatian micromoth fauna is hereby reconfirmed.

22. The species *E. turbidella* was only reported by Rebel in the year 1916 and its occurrence in Croatia needs to be reconfirmed in future surveys.
23. There is only one historical record of *E. sericopeza*. It originates from Abafi-Aigner (1903).
24. The status of *E. atrifrontella* is unclear, as there is only a single record from Croatia (Klimesch, 1942).
25. The species *P. cistivora* was recorded only once in Croatia. The record originates from the year 1967 (Hering).
26. The species *T. magna* was reported for the first time from Croatia as several specimens were collected and barcoded from the area around Zadar by the second and third author.
27. The last record of *T. cryptella* is from Hering (1967). Therefore, the presence of this species in the fauna of Croatia needs to be reconfirmed in future investigations.
28. The species *T. aurella* has not been recorded in Croatia since 1939 (Skala) and its occurrence needs to be reconfirmed.
29. The current status of *T. immundella* in Croatia is unclear, as it has not been reported since 1942 (Klimesch).
30. From the family Opostegidae two species are reported only from historical literature and their occurrence in Croatia needs to be reconfirmed in future investigations. *O. salaciella* was not recorded in Croatia after 1904 (Rebel).
31. The species *P. crepusculella* has not been recorded in Croatia since 1942 (Klimesch).
32. Although the species *A. petryi* (Martini, 1899) is not mentioned in the Fauna Europaea database, it was added to the checklist. According to Michael Alexander Kurz (pers. comm., February 2021), mines/larvae of this species were reported from Istria in Croatia on *Cornus sanguinea* (nkis.info).
33. The species *A. treitschkiella* (Fischer von Röslerstamm, 1843) was reported from Croatia only by Matošević *et al.* (2009) and is according to Fauna Europaea not present in the fauna of Croatia. But in 2019 one specimen was collected and afterward barcoded by the second author from the area around Zadar. Michael Alexander Kurz tells us that (pers. comm., February 2021) mines of this species on *C. mas* were reported from Istria in Croatia (nkis.info).
34. *H. lithargyrellum* (Zeller, 1850) was only mentioned by Klimesch in 1942 and is not listed in the Fauna Europaea database. But records of its occurrence in Croatia are available from the online database NKIS (Natural History Information System) (Michael Alexander Kurz, pers. comm., February 2021).
35. Several more species from the family Adelidae are reported only in historical literature and their occurrence in Croatia needs to be reconfirmed in future investigations. The species *H. rivillei* was only reported by Rebel (1891) and Abafi-Aigner (1903). Therefore, its presence in the fauna of Croatia needs to be reconfirmed in future investigations.
36. The last record of *A. violella* originates from the year 1921 (Stainton), so its status in Croatia is unclear.

37. One specimen of *C. fibulella* was collected in 2018 in the region of Lika by the third author and one in 2019 in the area around Zadar by the second author. The species was previously mentioned only by Carnelutti in 1994. But his work deals with the findings of the late Ivan Hafner, who collected more than 800 butterflies and moths in Croatia between 1934 and 1938, and it was not freshly recorded in Croatia after the 1930s. As these records are the only recent ones in almost 100 years, its occurrence in the Croatian micromoth fauna is hereby reconfirmed.
38. The last record of *C. leucocerella* was from the year 1925 when it was mentioned by the Croatian entomologist Kočа. Then several specimens were collected in 2018 in the area around Zadar by the second and third author. These records are the first recent ones in almost 100 years and its occurrence in the Croatian micromoth fauna is hereby reconfirmed.
39. The presence of *C. rufifrontella* in the fauna of Croatia needs to be reconfirmed, as no record is newer than 1921 (Stainton).
40. The species *C. rufimitrella* was reported several times in historical literature from the end of the 19th and the beginning of the 20th century. In recent literature, it was mentioned in 2020 by Bryner.
41. The last time that *N. associatella* was recorded in Croatia was in 1921 (Stainton), so its occurrence needs to be reconfirmed.
42. Because *N. barbatellus* was not reported from Croatia after the 1930s (Carnelutti, 1994) its occurrence in Croatia needs to be reconfirmed.
43. There are no newer records of *N. cupriacella*. The last one originates from 1904 (Rebel).
44. *N. degeerella* (Linnaeus, 1758) was previously mentioned by Mann (1857, 1867, 1869), Rebel (1904), Stainton (1921), Koča (1925), Koren (2015) and Kozlov *et al*. (2016). In 2019 one specimen was collected and barcoded from the Lika region by the second author. According to Kozlov *et al.* (2016), *N. degeerella* (Linnaeus, 1758) is a complex of cryptic species. Their research showed that this complex consists of three taxa: *N. degeerella*, which is widely distributed across temperate Europe north of the Alps, from Portugal to Finland, Central Russia and Ukraine; *N. scopolii* (Kozlov *et al*., 2016), which inhabits central and southern Europe (Slovakia, southern Germany, Austria, Slovenia and Italy); and *N. deceptoriella* (Kozlov *et al*., 2016) from the Caucasus (Russia and Georgia). The authors state that their results provide strong evidence for the validity of classifying *N. degeerella* and *N. scopolii* as biologically distinct species. It was to be expected that both species occur in Croatia. Since the status of *N. scopolii* is still unclear, it was excluded and only *N. degeerella* was added to this checklist. The occurrence of *N. degeerella* in Croatia was confirmed by DNA barcodes from 2018. The species was recorded by the second and third author from the Lika region. In Fauna Europaea, the species *N. degeerella* is not separated from *N. scopolii*.
45. The presence of *N. istrianellus* in the fauna of Croatia was confirmed. Several samples were collected in 2018 by the second and third author from the area around Zadar, and in the Lika region. The species has not been recorded in the country for almost 100 years. These records are thus a reconfirmation of its occurrence in Croatian micromoth fauna.

46. The presence of the species *N. minimella* in the fauna of Croatia was confirmed by DNA barcodes as samples were collected in 2018 from the area around Zadar by the second and the third author. These records are the first in more than 100 years and its occurrence in the Croatian fauna is hereby reconfirmed.
47. The species *N. mollella* was only reported by Mann (1869) and Rebel (1903). Its occurrence in Croatia needs to be reconfirmed.
48. There is only one historical record of *N. prodigellus* and it originates from the year 1873 (Geiger). Therefore, the status of this species in Croatia is unclear.
49. The same applies to *N. raddaella*, as the only record is from the year 1919 (Rebel).
50. The presence of *N. adansoniella* in the fauna of Croatia was confirmed by DNA barcodes, as two specimens were collected from the Lika region in 2018 by the second author. These findings are the first since the 1930s. The occurrence of this species is hereby reconfirmed in the fauna of Croatia.
51. There are several records of *N. pilella*. But the record of Stainton from 1921 is the most recent, so the status of this species in Croatia is unclear.
52. The species *N. robertella* was also the last time recorded by Stainton (1921).
53. There is one historical record of *N. schwarziellus* (Rebel, 1895). The occurrence of the species in the Croatian micromoth fauna was reconfirmed as two specimens were collected around the area of Zadar and barcoded in 2019 by the second author.
54. From the family Incurvariidae three species are reported in historical literature. Nonetheless, there are unpublished records from *I. koerneriella* reported by Richter on BOLD. The species was collected from South Velebit in 2002 and confirmed by DNA barcodes.
55. There is only one historical record of *I. praelatella*. It was reported by Koča in 1925.
56. *I. triglavensis* (Hauder, 1912) is in Fauna Europaea doubtfully present in the Croatian fauna and was therefore not included in this list. According to Huemer (1993), all old records of *I. vetulella* (Abafi-Aigner *et al.* 1896; Rebel 1904) are probably misidentifications for *I. triglavensis*. Nonetheless, since the presence in the fauna of Croatia is still unclear, *I. triglavensis* was not, and *I. vetulella* was added to this checklist.
57. From the family Prodoxidae several species are mentioned only in historical literature and their occurrence in Croatia needs to be reconfirmed in future investigations. *L. corticella* was only reported by Mann (1857), Wocke (1871), Abafi-Aigner *et al.* (1896) and Stainton (1921).
58. There is one historical record of *L. flavimitrella* and it originates from 1925 when it was reported by the famous Croatian entomologist Koča. In the year 2019, one specimen was collected from the area around Zadar by the second author, and confirmed by DNA barcodes. The occurrence of the species in the Croatian micromoth fauna is hereby reconfirmed.
59. The species *L. provectella* was only reported twice, by Rebel (1895; 1910), and its occurrence in Croatia needs to be reconfirmed.
60. The species *L. pubicornis* was recorded for the first time in Croatia, as one specimen was collected in 2019 by the second author, and confirmed by DNA barcodes.
61. There is only one historical record of *L. rupella*. It was reported by Koča in 1925.

62. *A. cymatodactyla* has not been reported from Croatia since the 1940s (Klimesch, 1942). Its status in Croatia today is unclear.
63. The same applies to the species *A. desmodactyla*.
64. The species *A. grammodactyla* was not recorded after 1925 (Koča). Its occurrence needs to be reconfirmed.
65. *A. palodactyla* was the last time recorded by Mann in 1869 and its status in the Croatian micromoth fauna today is unclear.
66. *A. zonodactyla* has not been reported from Croatia since the 1940s (Klimesch, 1942) and its status in Croatia is unclear.
67. *A. paralia* was the last time recorded by Mann in 1869.
68. The species *A. tamaricis* was recorded by Klimesch (1942) and its status today is unclear.
69. The species *P. metzneri* was recorded for the first time in Croatia. Three specimens were collected by the second author in the area around Zadar.
70. The species *P. gonodactyla* was not reported after 1917 (Hoffmann) and its status in Croatia is unclear.
71. *P. isodactylus* has not been recorded since 1925 (Koča).
72. *P. tesseradactyla* was not recorded after 1921 (Schawerda).
73. Rebel's findings from 1904 are the last of *B. capnodactylus* in Croatia.
74. *A. punctidactyla* was recorded the last time, by Mann, in 1869.
75. The species *S. annadactyla* was recorded the first time from Croatia in 2019, when one specimen was collected in the area around Zadar. The specimen was dissected and stored in coll. NHMO.
76. The species *S. coprodactylus* has not been reported since the end of the 19th century and its status in Croatia is unclear.
77. *S. pelidnodactyla* was not recorded after 1925 (Koča) and its occurrence needs to be reconfirmed in Croatia.
78. The same applies to *S. pterodactyla.*
79. *S. stigmatodactylus* has not been reported since 1921 (Schawerda).
80. The species *C. laetus* was recorded the last time by Klimesch (1942).
81. *C. tristis* was recorded the last time in 1921 (Schawerda).
82. *G. didactyla* has not been recorded since 1904 (Rebel) and its status is unclear.
83. *C. celeusi* was reported the last time in 1916, by Ginzberger. These findings are the first in more than 100 years and its occurrence in the Croatian micromoth fauna is hereby reconfirmed.
84. The species *C. loranus* was recorded for the first time in Croatia. One specimen was collected by the second author in the area around Zadar.
85. There is only one historical record of *C. marginellus* from Croatia and it is from the year 1914 (Rebel). Its occurrence in Croatia needs to be reconfirmed.
86. There are many findings of *C. xanthodactyla*, the last one from 1904 (Rebel).
87. The species *M. oxydactylus* was recorded for the first time in Croatia. In 2018 two specimens were collected by the second and the third author.

88. Neustetter reported *M. leucodactyla* species in 1956. The findings from 2018 and 2019 are the first recent records of this species in Croatia and its occurrence in the Croatian micromoth fauna is reconfirmed. Several specimens were collected at the locality Marinovići (Fig. 7).
89. The last record of *P. heterodactyla* is from Rebel in 1904.
90. The species *H. osteodacytalus* was reported only once in historical literature (Mann, 1857) and its status today in Croatia is unclear.
91. The last record is from 1925 (Koča) and the occurrence of *G. miantodactylus* in Croatia needs to be reconfirmed.
92. Schawerda recorded *G. ochrodactyla* in 1916, 1920 and 1921. Its status today is unclear.

Several species were excluded from this list:

Although the species *M. aureoviridella* (Höfner, 1898) was mentioned by Zeller-Lukashort *et al.* (2007) and Weidlich (2014) for Croatia it was excluded from this checklist. Michael Alexander Kurz tells us (pers. comm., February 2021) that these records are misidentifications of *M. amsella*.

The species *M. isobasella* (Staudinger, 1871) was excluded from this checklist. Although it was mentioned by Carnelutti (1994) for Croatia, this species is endemic to the area of the Swiss-Italian border and the records of Carnelutti were probable misidentifications of *M. facetella* and/or *M. igaloensis* (Michael Alexander Kurz, pers. comm., February 2021).

M. klimeschi (Heath, 1973) was mentioned in the work by Carnelutti (1994) for Croatia, but in fact the species occurs only in western parts of Turkey and in Greece on the Dodecanese Islands (Michael Alexander Kurz, pers. comm., February 2021).

Michael Alexander Kurz tells us (pers. comm., February 2021) that *M. paykullella* (Fabricius, 1794), although mentioned in several literature sources for Croatia, is probably a misidentification of *M. amsella*. The species *M. paykullella* was previously reported only in historical sources: Mann (1857), Wocke (1871), Abafi-Aigner *et al.* (1896), Galvagni (1902), Rebel (1913) and Stainton (1921).

According to Fauna Europaea, the species *Micropterix rablensis* (Zeller, 1868) is doubtfully present in the fauna of Croatia. Following Zeller-Lukashort *et al.* (2007) the records from Croatia are indeed doubtful and probably belong to *M. myrtetella*. Therefore, the species was excluded from this list.

Although it was reported by Skala (1937) from Croatia, *Parafomoria cistivora* (Peyerimhoff, 1871) is only known from south-west Europe (van Nieukerken, 1985b) and therefore cannot be included in this checklist. According to van Nieukerken (1983), this was a misidentification of *P. pseudocistivora*.

Although Martini (1899) described morphological differences between *Antispila treitschkiella* (Fischer von Röslerstamm, 1843) and *A. petryi* (Martini, 1899) in the larva, forewing color pattern and wing venation, *A. treitschkiella* and *A. petryi* have been regarded as synonymous since 1978. Recent research showed them to be two separated species with different hostplants, life histories, DNA barcodes and morphology (van Nieukerken *et al.*, 2018). As well as *A. treitschkiella, A. petryi* probably also occurs in Croatia, but the species was not included in this checklist since the evidence is still missing.

ACKNOWLEDGEMENTS

We are indebted and most grateful to Dr. E. J. van Nieukerken (Naturalis Biodiversity Center, Leiden, the Netherlands) for all his remarks and helpful comments on the manuscript, which helped us to improve it. We would also like to thank Mag. M. A. Kurz (Naturkundliche Gesellschaft, Salzburg, Austria) for his contribution and valuable help, as well as to Mag. Dr. Peter Huemer (Tiroler Landesmuseen, Innsbruck, Austria) for taking the time and effort necessary to review and improve the manuscript. The second and third author are grateful to Prof. Tatjana Vlahović and Dr. Martina Šašić, both Croatian Natural History Museum, for assistance and the provision of supporting letters for the field work. We thank Dr. Torbjørn Ekrem, Trondheim, Norway, for faciltating the barcoding of specimens.

Received September 4, 2022

REFERENCES

Aarvik, L., Berggren, K & Bakke, S. A., 2004: Nye funn av sommerfugler i Norge 4. *Insekt-Nytt* **29** (3/4), 37–66.

Aarvik, L., Berggren, K., Sørlibråten, O., Haugen, L. T. & Bakke, S. A., 2008: Nye funn av sommerfugler i Norge 6. Insekt-Nytt **33** (2-3), 9–31.

Abafi-Aigner, L., Pavel, J. & Uhryk, F., 1896: Fauna Regni Hungariae. Lepidoptera. Regia Societas Scientiarum Naturalium Hungarica, Budapest, 82 pp.

Abafi-Aigner, L., 1903: Adálek Microlepidopteráink ismeretéhez. Rovartani lapok **10** (7), 133–137.

Ahola, M., Davis, D. R., Itämies, J., Leinonen, R. & Mutanen, M., 2017: Description of immature stages of *Nemophora bellela* (Walker, 1863) (Lepidoptera: Adelidae): Entomologica *Fennica* **28** (2), 49–56. Doi: https://doi.org/10.33338/ef.84675

Amsel, H. G., 1951: Una raccolta di Microlepidotteri della Dalmazia meridionale. Redia **36**, 411–422.

Arčanin, B. & Ciglar, I., 1971: Vrste entomofaga lisnog minera *Stigmella* (*Nepticulla*) *malella* Stt. i *Lithocoletis blancardella* u jabučnim nasadima SR Hrvatske u periodu 1966 – 1970. g. Acta Entomologica Jugoslavica **7** (2), 85–89.

Arenberger, E., 2002: Pterophoridae II. *In*: H. G. Amsel, F. Gregor & H. Reisser (Eds). Microlepidoptera Palaearctica, Verlag Goecke & Evers, Keltern, 287 pp.

Bryner, R., 2020: Adelidae (Lepidoptera) – Beitrag zur Kenntnis der Biologie und Bestimmungshilfe für die europäischen Arten. Contributions to Natural History **38**, 1–475.

Buhr, H., 1930: Einige Blattminen und Gallen von der Insel Lesina (Hvar) in Dalmatien. Sitzungsberichte und Abhandlungen der naturforschenden Gesellschaft zu Rostock (**3**) 2, 125–148.

Caradja, A., 1920: Beitrag zur Kenntnis der geographischen Verbreitung der Mikrolepidopteren des palaearktischen Faunengebietes nebst Beschreibung neuer Formen. Deutsche Entomologische Zeitschrift Iris **34**, 75–179.

Carlson, J. E. & Harms, K. E., 2007: The benefits of bathing buds: water calyces protect from a microlepidopteran herbivore. Biol Lett **3**, 405–407.

Carnelutti, J., 1994: Modernisiertes „Verzeichnis der bei Knin gesammelten Schmetterling (Lepidoptera)" von Ivan Hafner. Natura Croatica **3** (2), 185–223.

Daniel, F., Forster, W. & Osthelder, L., 1951: Beiträge zur Lepidopterenfauna Mazedoniens. Veröff. zool. Staatssamml. Münch. 2, 1–78.

Dimić, N., 1968: Neka zapažanja o lisnim moljcima minerima iz roda *Stigmella* (Fam.: Nepticulidae), kao Štetočinama jabuke na području Bosne i Hercegovine. (Einige Bemerkungen über die Blattminiermotten der Gattung *Stigmella* (Fam.: Nepticulidae), als Apfelschädlinge in Bosnien und der Herzegowina). Radovi Poljoprivrednog Fakulteta Univerziteta u Sarajevu **17** (19), 137–146.

Diškus, A., 1998: Review of the Tischeriidae (Lepidoptera) of Central Asia. Acta Zoologica Lituanica 8 (3), 23–32.

Doorenweerd, C., van Nieukerken, E. J. & Hoare, R. J. B., 2016: Phylogeny, classification and divergence times of pygmy leafmining moths (Lepidoptera: Nepticulidae): the earliest lepidopteran ra-

diation on Angiosperms? Systematic Entomology **42** (1), 267–287. Doi: https://doi.org/10.1111/syen.12212

Dugdale, J. S., Kristensen, N. P., Robinson G. S. & Scoble, M. J., 1998: The smaller microlepidopteragrade superfamilies, p.217-232. *In:* Kristensen NP (ed) Handbook of zoology, Lepidoptera, moths and butterflies, v. 1: Evolution systematic and biogeography. Walter de Gruyter, Berlin & New York, 491 pp.

Fazekas, I., 2009: Contribution to the Microlepidoptera fauna of Balkans, Nr. 1 (Lepidoptera). Natura Somogyiensis **15**, 181–194.

Galvagni, E., 1902: Beiträge zur Kenntnis der Fauna einiger dalmatinischer Inseln. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft **52**, 362–380.

Galvagni, E., 1909: Die zoologische Reise des naturwissenschaftlichen Vereines nach Dalmatien im April 1906. 13. Lepidoptera. Beiträge zur Kenntnis der Lepidopterenfauna der Adriatischen Inseln. Mitteilungen des Naturwissenschaftlichen Vereins an der Universität Wien **7**, 245–254.

Geiger, V., 1873: Beitrag zur Schmetterlingskunde Dalmatiens. Verhandlungen des zoologisch-botanischen Vereins in Wien **23**, 167–168.

Gibbs, G. W., 1983: Evolution of Micropterigidae (Lepidoptera) in the SW Pacific. GeoJournal **7** (6), 505–510. Doi: 10.1007/bf00218523

Gibbs, G. W. & Lees, D. C., 2014: New Caledonia as an evolutionary cradle: a re-appraisal of the jaw-moth genus *Sabatinca* (Lepidoptera: Micropterigidae) and its significance for assessing the antiquity of the island's fauna. *In*: Guilbert É, Robillard T, Jourdan H, Grandcolas P (Eds) Zoologia Neocaledonica 8. Biodiversity studies in New Caledonia. Muséum national d'Histoire naturelle, Paris, 239–266. [Mémoires du Muséum national d'Histoire naturelle; 206]

Ginzberger, A., 1916: Beiträge zur Naturgeschichte der Scoglien und kleineren Inseln Süddalmatiens. 14. Lepidoptera. Denkschriften der kaiserlichen Akademie der Wissenschaften in Wien **92**, 261–404.

Gumhalter, D., 2019a: First checklist of pyraloid moths (Lepidoptera: Pyraloidea) in Croatia. Zootaxa **4604** (1), 059–102. https://doi.org/10.11646/zootaxa.4604.1.3

Gumhalter, D., 2019b: A revised checklist of pyraloid moths (Lepidoptera: Pyraloidea) in Croatia. Natura Croatica 28 (2), 271–288. Doi: 10.20302/NC.2019.28.20

Gumhalter, D., 2020: Biodiversity, ecological and biogeographical features of Pyralidae and Crambidae (Insecta, Lepidoptera) in three Croatian climate regions. PhD Dissertation, University of Zagreb, Zagreb, 369 pp. (in Croatian)

Gumhalter, D., 2021: *Psorosa mediterranella* (Amsel, 1954) (Lepidoptera: Pyralidae, Phycitinae) – a new species for the Croatian pyraloid moth fauna, with an updated checklist. Natura Croatica **30** (1), 37–52. DOI 10.20302/NC.2021.30.4

Gustafsson, B., 1981: New leaf-mining moths of the family Nepticulidae from Cyprus, Greece (Lepidoptera). Fauna Entomologica Scandinavica **12**, 453–469.

Habeler, H. 2003: Die Schmetterlinge der Adria-Insel Krk. Eine ökofaunistische Studie. Buchreihe zur Entomologie Esperiana. Graz, 221 pp.

Heath, J. & Kaltenbach, T., 1984: New species of *Micropterix* Hübner (Lepidoptera; Zeugloptera: Micropterigidae) from Italy and Yugoslavia. Entomological Gazette **35**, 21–23.

Hellers, M., 2016: Die Kleinschmettrlinge Luxemburgs: die Familien Micropterigidae, Eriocraniidae, Opostegidae, Heliozelidae, Adelidae, Prodoxidae, Incurvariidae, Tischeriidae und Tineidae. Bulletin de la Societe des naturalistes luxembourgeois **118**, 111–129.

Hering, E. M., 1967: Blattminen der Insel Hvar (Col., Dipt., Hym., Lep.). Deutsche entomologische Zeitschrift **14**, 1–80.

Hill, D. S., 2008: Pests of Crops in Warmer Climates and Their Control. Springer Science & Business Media, B. V., New York, 704 pp.

Hoffmann, F., 1917: Kleiner Beitrag zur Lepidopterenfauna Mitteldalmatiens. Zeitschrift des Österreichischen Entomologen Vereines **1**, 38–39.

Horváth, D., Fazekas, I. & Keszthelyi, S., 2017: *Phthorimaea operculella* (Zeller, 1873), first record of an invasive pest in Hungary (Lepidoptera, Gelechiidae). Acta Phytopathologica et Entomologica Hungarica **52** (1), 117–122.

Huemer, P., 1993: Review of the *Incurvaria vetulella* species-group in the Alps (Lepidoptera: Incurvariidae). *Entomologica scandinavica* **24** (1), 109–120.

Huemer, P., 2001: Biomonitoring der Schmetterlingsfauna in Waldstandorten Südtirols und Trients (Lepidoptera). Linzer Biologische Beitrage **34** (1), 199–264.

Ivinskis, P., van Nieukerken, E. J. & Rimsaite, J., 2012: *Trifurcula* (*Glaucolepis*) *lituanica* sp. nov., an unexpected new stem-miner on *Salvia pratensis* occurring in eastern Europe (Lepidoptera: Nepticulidae). Zootaxa **3570**, 41–55.

Johansson, R., Nielsen, E. S., Nieukerken, E. J. van & Gustafsson, B., 1990: The Nepticulidae and Opostegidae (Lepidoptera) of NW Europe. Fauna Entomologica Scandinavica **23**, 2 parts, 739 pp.

Karsholt, O. & Nieukerken, E.J. van, 2013a: Fauna Europaea: Hepialidae. Fauna Europaea version 2017.06, https://fauna-eu.org

Karsholt, O. & Nieukerken, E.J. van, 2013b: Fauna Europaea: Heliozelidae, Adelidae, Prodoxidae, Incurvariidae. Fauna Europaea version 2017.06, https://fauna-eu.org

Klimesch, J., 1942: Über Microlepidopteren-Ausbeuten von Zaton bei Gravosa (Süddalmatien) in Mitteilungen Münchener entomologischen Gesellschaft **32**, 347–399, pl. 13–15.

Klimesch, J., 1978: Beitrag zur Kenntnis der Nepticulidenfauna von Anatolien und der Insel Rhodos (Lepidoptera, Nepticulidae). Tijdschrift voor Entomologie **121** (5), 239–278.

Koča, GJ., 1901: Prilog fauni leptira (Lepidoptera) Hrvatske i Slavonije. Glasnik hrvatskog naravoslovnog drustva **13** (1–3), 1–67. (in Croatian).

Koča, GJ., 1925: Drugi prilog fauni leptira (Lepidoptera) Hrvatske i Slavonije. Glasnik hrvatskog prirodoslovnog društva **36** (1–2) (za god. 1924), 63–68.

Koren, T., 2015: Diversity of the moth fauna (Lepidoptera: Heterocera) of a wetland forest: A case study from Motovun forest, Istria, Croatia. Periodicum Biologorum **117** (3), 399–414. doi: 10.18054/pb.2015.117.3.2945

Koren, T., Vukotić, K & Črne, M., 2015: Diversity of the moth fauna (Lepidoptera: Heterocera) of a wetland forest: A case study from Motovun forest, Istria, Croatia. Periodicum Biologorum **117** (3), 399–414. https://doi.org/10.18054/pb.2015.117.3.2945

Koren, T., 2018: Diversity of moths (Lepidoptera: Heterocera) in the surroundings of the Bednja River, Varaždin County, Northern Croatia. Natura Croatica **27** (1), 111–141. https://doi.org/10.20302/NC.2018.27.6

Kozlov, M. V., Mutanen, M., Lee, K. M. & Huemer, P., 2016: Cryptic diversity in the long-horn moth *Nemophora degeerella* (Lepidoptera: Adelidae) revealed by morphology, DNA barcodes and genome-wide ddRAD-seq data. Systematic Entomology **42** (2), 329–346. Doi: 10.1111/syen.12216

Krčmar, S., 2014: List of insect fauna (Insecta) of Kopački rit Nature park (NE Croatia). Turkish Bulletin of Entomology **4**, 15–39.

Kristensen, N. P., 1984: Studies on the morphology and systematics of primitive Lepidoptera (Insects). Steenstrupia **10**, 141–191.

Kristensen, N.P. (Ed.), 1999: Lepidoptera: Moths and Butterflies 1. Evolution, Systematics and Biogeography. Handbuch der Zoologie/Handbook of Zoology, Walter de Gruyter, Berlin & New York, 491 pp.

Kristensen, N. P., Scoble, M. J. & Karsholt, O., 2007: Lepidoptera phylogeny and systematics: the state of inventorying moth and butterfly diversity. Zootaxa **1668**, 699–747.

Kristensen, N. P., Hilton, D. J., Kallies, A., Milla, L., Rota, J., Wahlberg, N., Wilcox, S. A., Glatz, R. V., Young, D. A., Cocking, G., Edwards, T., Gibbs, G. W. & Halsey, M., 2015: A new extant family of primitive moths from Kangaroo Island, Australia, and its significance for understanding early Lepidoptera evolution. Systematic Entomology **40**, 5–16. Doi: https://doi.org/10.1111/syen.12115

Kučinić, M., Igalffy, K., Šašić, M. & Balen, S., 1994: Istraženost faune leptira (Insecta, Lepidoptera) Gorskog kotara s posebnim osvrtom na šire područje NP „Risnjak". Zbornik radova „40 godina Nacionalnog parka Risnjak". Nacionalni park Risnjak 91–99, 158–159. (in Croatian).

Kurz, M., Zeller, C. & Kurz, M., 2009: The online database NKIS (Natural History Information System), https://www.nkis.info

Kurz, M. & Horvat, L., 2010: New and interesting Lepidoptera from the Balkans (Serbia, Croatia, Bosnia and Montenegro). Mitteilungen aus dem Haus der Natur Salzburg **18**, 51–55.

Neustetter, H., 1956: Sammelreisen nach Dalmatien (Jugoslavien). Entomologisches Nachrichtenblatt **3** (3), 4–8.

Laštůvka, A. & Laštůvka, Z., 1997: *Nepticulidae Mitteleuropas*. Ein illustrierter Begleiter (Lepidoptera). Konvoj, Brno, 229 pp.

Laštůvka, A. & Laštůvka, Z., 2000: Zwei neue *Globularia* minierende *Trifurcula*-Arten (Lepidoptera, Nepticulidae). Acta Musei Moraviae, Scientiae Biologicae **85** (2), 289–296.

Laštůvka, A. & Laštůvka, Z. 2004: *Stigmella stettinensis* (Heinemann), an overlooked species of the *Stigmella oxyacanthella*-group (Lepidoptera, Nepticulidae) in Europe. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis **52** (4), 17–24.

Laštůvka, A. & Laštůvka, Z., 2005: *Parafomoria fumanae* sp. n., a new stem miner on *Fumana procumbens* (Lepidoptera: Nepticulidae). Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis **53** (1), 15–17.

Laštůvka, A. & Laštůvka, Z., 2008: Seven Nepticulidae new to the Iberian Peninsula and several new province records (Lepidoptera: Nepticulidae). Revista de Lepidopt. **36** (144), 457–464.

Laštůvka, A. & Laštůvka, Z., 2009: Morphology, biology and distribution of *Stigmella irregularis puplesis* (Lepidopera: Nepticulidae). Acta Univ. Agric. Silvic. Mendelianae Brun. **57**, 193–196. https://doi.org/10.11118/actaun200957050193

Lees, D. & Stonis, D. R., 2007: The first record of Tischeriidae (Insecta: Lepidoptera) from Madagascar, with description of *Coptotriche alavelona* sp. n. and an updated distributional checklist of Afrotropical Tischeriidae. Zootaxa **1645**, 35–45.

Lees, D. C., Rougerie, R., Zeller-Lukashort, C. & Kristensen, N. P., 2010: DNA mini-barcodes in taxonomic assignment: a morphologically unique new homoneurous moth clade from the Indian Himalayas described in *Micropterix* (Lepidoptera, Micropterigidae). Zoologica Scripta **39** (6), 642–661. Doi: 10.1111/j.1463- 6409.2010.00447.x

LEPIFORUM E. V. [ed.], 2019: Micropterigidae-Tischeriidae in Mitteleuropa.

LEPIFORUM E.V. [ed.], 2008-2019: Bestimmungshilfe für die in Europa nachgewiesenen Schmetterlingsarten. Visited on December 3rd, 2020. http://www.lepiforum.de

Lopez-Vaamonde, C., Agassiz, D., Augustin, S., De Prins, J., De Prins, W., Gomboc, S., Ivinskis, P., Karsholt, O., Koutroumpas, A., Koutroumpa, F., Laštůvka, Z., Marabuto, E., Olivella, E., Przybylowicz, L., Roques, A., Ryrholm, N., Sefrova, H., Sima, P., Sims, I., Sinev, S., Skulev, B., Tomov, R., Zilli, A. & Lees, D., 2010: Alien terrestrial arthropods of Europe, Chapter 11. Lepidoptera. BioRisk, **4**, 603–668. https://doi.org/10.3897/biorisk.4.50

Mann, J., 1857: Verzeichnis der in Jahr 1853 in der Gegend von Fiume gesammelten Schmetterlinge. Wiener Entomol. Monatschrift **1** (6), 161–189 [170–173 for Pyraloidea].

Mann, J., 1867: Schmetterlinge gesammelt im J. 1866 um Josefsthal in der Croat. Militärgrenze. Verhandlungen der Zoologisch-Botanischen Gesellschaft Wien, 63–76.

Mann, J. J., 1869: Lepidopteren, gesammelt während dreier Reisen nach Dalmatien in den Jahren 1850, 1862, 1868. Verhandlungen des Zoologisch-Botanischen Gesellschaft in Wien **19**, 371–388.

Martini, W., 1899: *Antispila Petryi*, nov. spec. Stettin. Entomologische Zeitung **59** (10-12), 398–405.

Matošević D., Pernek, M. & Županić, M., 2008: Fauna lisnih minera na hrastovima (*Quercus* spp.) u Hrvatskoj i njihova štetnost. Šumarski list 11–12 (**CXXXII**), 517–527.

Matošević, D., Pernek, M., Dubravac, T. & Barić, B., 2009: Istraživanje faune lisnih minera drvenastog bilja u Hrvatskoj. Šumarski list 7–8 (**CXXXIII**), 381–390.

Matošević, D. & Pajač Živković, I., 2013: Strane fitofagne vrste kukaca i grinja na drvenastom bilju u Hrvatskoj. Šumarski list 3–4, 191–205.

Milla, L., Nieukerken, E. J, van, Vijverberg, R., Doorenweerd, C., Wilcox, S. A., Halsey, M., Young, D. A., Jones, T., Kallies, A. & Hilton, D. J., 2017: A preliminary molecular phylogeny of shieldbearer moths (Lepidoptera: Adeloidea: Heliozelidae) highlights rich undescribed diversity. Molecular Phylogenetics and Evolution **120**, 129–143. https://doi.org/10.1016/j.ympev.2017.12.004

Mutanen, M., Itamies, J., Junnilainen, J., Kaitila, J., Kullberg, J., Mutanen, T. & Valimaki, P., 2003: Huomionarvoiset pikkuperhoshavainnot 2000. Noteworthy records of Finnish Microlepidoptera (Micropterygidae-Pyralidae) in 2000. Baptria **28** (2), 4–16.

Neustetter, H., 1956: Sammelreisen nach Dalmatien (Jugoslavien). Entomologisches Nachrichtenblatt **3** (3), 4–8.

Nielsen, E. S., Robinson, G. S. & Wagner, D. L., 2000: Ghost-moths of the world: a global inventory and bibliography of the *Exoporia* (Mnesarchaeoidea and Hepialoidea) (Lepidoptera). Journal of Natural History **34**, 823–878. Doi: 10.1080/002229300299282

Nieukerken, E. J., van, 1985a: A taxonomic revision of the western Palaearctic species of the subgenera *Zimmermannia* Hering and *Ectoedemia* Busck s. str. (Lepidoptera, Nepticulidae), with notes on their phylogeny. Tijdschrift voor Entomologie **128**, 1–164.

Nieukerken, E. J., van, 1985b: A new species of *Parafomoria* van Nieukerken, and some additional notes on the genus (Lepidoptera: Nepticulidae). Entomologische Berichten **45**, 24–28.

Nieukerken, E. J., van, 1986: A provisional phylogenetic check-list of the western Palaearctic Nepticulidae, with data on hostplants (Lepidoptera) Entomologica Scandinavica **17**, 1–27.

Nieukerken, E. J., van, 1990a: *Stigmella rolandi* sp. n.: a widespread southern European species on *Rosa* (Lepidoptera: Nepticulidae). Tijdschrift voor entomologie **133**, 239–243.

Nieukerken, E. J., van, 1990b: The *Trifurcula subnitidella* group (Lepidoptera: Nepticulidae): taxonomy, distribution and biology. Tijdschrift voor Entomologie **133**, 205–238.

Nieukerken, E. J., van, 1996: Nepticulidae, Opostegidae. *In*: O. Karsholt & J. Razowski (Eds.), The Lepidoptera of Europe. A distributional checklist: 21-27, 300. Apollo Books, Stenstrup.

Niekerken, E. J, van, Mazurkiewicz, A., & Pałka, K., 2004: *Trifurcula pallidella* (Duponchel, 1843) (Nepticulidae): distribution, biology and immature stages, particularly in Poland. Nota Lepidopterologica 27 (2/3), 159–178.

Nieukerken, E. J. van, 2006: Records of mining Lepidoptera in Belgium with eight species new to the country (Nepticulidae, Opostegidae, Tischeriidae, Lyonetiidae). Phegea **34**, 125–144.

Nieukerken, E. J., van, 2007a: *Acalyptris* Meyrick: revision of the *platani* and *staticis* groups in Europe and the Mediterranean (Lepidoptera: Nepticulidae). Zootaxa **1436**, 1–48.

Nieukerken, E. J., van, 2007b: Review of the subgenus *Trifurcula* (*Levarchama*), with two new species (Lepidoptera: Nepticulidae). Acta zoologica Academiae Scientiarum *Hungaricae* **53**, 101–140.

Nieukerken, E. J., van & Purplesis, R., 1991: Taxonomy and distribution of the *Trifurcula* (*Glaucolepis*) *raikhonae* group (Lepidoptera: Nepticulidae). Tijdschrift voor Entomologie **134**, 201–210.

Nieukerken, E. J. van & Laštůvka, A. 2002: *Ectoedemia* (*Etainia*) *obtusa* Puplesis & Diškus, new for Europe: taxonomy, distribution and biology (Lepidoptera: Nepticulidae). Nota Lepidopterologica **25**, 87–95.

Nieukerken, E. J. van & Johanssson, R., 2003: The *Quercus* feeding *Stigmella* species of the West Palaearctic: new species, key, distribution (Lepidoptera: Nepticulidae). Tijdschrift voor Entomologie **146**, 307–370.

Nieukerken, E. J. van, Zolotuhin, V. V. & Mistchenko, A., 2004a: Nepticulidae from the Volga and Ural region. Nota lepidopterologica **27** (2/3), 125–127.

Nieukerken, E. J. van, Laštůvka, A. & Laštůvka, Z., 2004b: Annotated catalogue of the Nepticulidae and Opostegidae of the Iberian Peninsula (Lepidoptera: Nepticuloidea). SHILAP Revista de Lepidopterologia **32** (127), 211–260.

Nieukerken, E. J. van, Laštůvka, A. & Laštůvka, Z., 2006: The Nepticulidae and Opostegidae of mainland France and Corsica: an annotated catalogue (Lepidoptera: Nepticuloidea). Zootaxa **1216**, 1–114.

Nieukerken, E. J. van, Laštůvka, A. & Laštůvka, Z., 2010: Western Palaearctic *Zimmermannia* Hering and *Ectoedemia* Busck s. str. (Lepidoptera: Nepticulidae): five new species and new data on distribution, hostplants and recognition. Zookeys **32**, 1–82.

Nieukerken, E. J., van, Kaila, L., Kitching, I. J., Kristensen, N. P., Lees, D. C., Minet, J., Mitter, C., Mutanen, M., Regier, J. C., Simonsen, T. J., Wahlberg, N., Yen, S.-H., Zahiri, R., Adamski, D., Baixeras, J., Bartsch, D., Bengtsson, B. Å., Brown, J.W., Buc,heli, S. R., Davis, D. R., Prins, J. D., Prins, W. D., Epstein, M. E., Gentili-Poole, P., Gielis, C., Hättenschwiler, P., Hausmann, A., Holloway, J. D., Kallies, A., Karsholt, O., Kawahara, A. Y., Koster, S., Kozlov, M. V., Lafontaine, J. D., Lamas, G., Landry, J.-F., Lee, S., Nuss, M., Park, K.-T., Penz, C., Rota, J., Schintlmeister, A., Schmidt, B. C., Sohn, J.-C., Solis, M. A., Tarmann, G. M., Warren, A. D., Weller, S., Yakovlev, R. V., Zolotuhin, V. V. & Zwick, A., 2011: Order Lepidoptera. Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness. Zootaxa **3148**, 212–221.

Nieukerken, E. J., van, Wagner, D. L., Baldessari, M., Mazzon, L., Angeli, G., Girolami, V., Duso, C. & Doorenweerd, C., 2012: *Antispila oinophylla* new species (Lepidoptera, Heliozelidae), a new North American grapevine leafminer invading Italian vineyards: taxonomy, DNA barcodes and life cycle. Zookeys **170**, 29–77. Doi:10.3897/zookeys.170.2617

Nieukerken, E. J., van & Geertsema, H., 2015: A new leafminer on grapevine and *Rhoicissus* (Vitaceae) in South Africa within an expanded generic concept of *Holocacista* (Insecta, Lepidoptera, Heliozelidae). ZooKeys **507**, 41–97. https://doi.org/10.3897/zookeys.507.9536

Nieukerken, E. J., van, Doorenweerd, C., Hoare, R. J. B. & Davis, D. R., 2016: Revised classification and catalogue of global Nepticulidae and Opostegidae (Lepidoptera: Nepticuloidea). ZooKeys **628**, 65–246. Doi: 10.3897/zookeys.628.9799

Nieukerken, E. J., van, Gilrein, D. O. & Eiseman, C. S., 2018a: *Stigmella multispicata* Rocienė & Stonis, an Asian leafminer on Siberian elm, now widespread in eastern North America (Lepidoptera, Nepticulidae). ZooKeys **784**, 95–125. Doi: 10.3897/zookeys.784.27296

Nieukerken, E. J. van, Lees, D. C., Doorenweerd, C., Koster, S. (J. C.), Bryner, R., Schreurs, A., Timmermans, M. J. T. N. & Sattler, K., 2018b: Two European *Cornus* L. feeding leafmining moths, *Antispila petryi* Martini, 1899, sp. rev. and *A. treitschkiella* (Fischer von Röslerstamm, 1843) (Lepidoptera, Heliozelidae): an unjustified synonymy and overlooked range expansion. Nota Lepidopterologica **41** (1), 39–86.

Nupponen, K., Nupponen, T., Saarela, E. & Sippola, L., 2003: New records on Microlepidoptera from the western Mediterranean region (Lepidoptera: Nepticulidae, Scythridae, Tortricidae). SHILAP Revista de Lepidopterologia **31** (123), 229–233.

Nuss, M., Speidel, W. & Segerer, A., 2000-2013: Pyraloidea. *In*: Fauna Europaea Web Service. Version 2017.06. Available from: http://www.faunaeur.org. (Accessed 18 February 2022).

Okamoto, H. & Hirowatiri, I., 2004: Distributional records and biological notes on Japanese species of the family Incurvariidae (Lepidoptera). Transactions of the Lepidopterological Society of Japan **55** (3), 173–195.

Pellmyr, O., Balcázar-Lara, M., Althoff, D. M., Segraves, K. & Leebens-Mack, J., 2006: Phylogeny and life history evolution of *Prodoxus yucca* moths (Lepidoptera: Prodoxidae). The Royal Entomological Society, Systematic Entomology **31** (1), 1-20. Doi: 10.1111/j.1365-3113.2005.00301.x

Plotkin, D., Nazari, V., Homziak, N. T. & Kawahara, A. Y., 2018: Large male bias in collection of *Micropterix facetella* Zeller, 1851 (Lepidoptera, Micropterigidae). Nota Lepi. **41** (1), 119–123. Doi: 10.3897/nl.41.23626

Prohaska, K., 1922: Kleinschmetterlinge von Pola. Zeitschrift des Österreichischen Entomologen Vereines **7**, 32–33.

Puplesis, R. & Diškus, A., 2003: The Nepticuloidea & Tischerioidea (Lepidoptera) - a global review, with strategic regional revisions. Kaunas, Lutute Publishers. 512 pp.

Ratnasingham, S. & Hebert, P.D.N., 2007: BOLD: The Barcode of Life Data System (http://www.barcodinglife.org). Molecular Ecology Notes **7** (3), 355–364. https://doi.org/10.1111/j.1471-8286.2007.01678.x

Rebel, H., 1891: Beitrag zur Microlepidopteren-Fauna Dalmatiens. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien 41, 610–639.

Rebel, H., 1895: Verzeichniss der von Dr. R. Sturany im Jahre 1895 in Croatien gesammelten Lepidopteren. Verhandlungen der zologisch-botanischen Gesellschaft in Wien **45**, 390–392.

Rebel, H., 1903: Studien über die Lepidopterenfauna der Balkanländer. I. Teil. Bulgarien und Ostrumelien. Annalen des Naturhistorischen Museums in Wien **18**, 123–347.

Rebel, H., 1904: Studien über die Lepidopterenfauna der Balkanländer. II. Teil. Bosnien und Herzegowina. Annalen des Naturhistorischen Museums in Wien **19**, 97–377.

Rebel, H., 1910: Lepidopteren aus dem Gebiete des Monte Maggiore in Istrien. Jahresbericht des Wiener entomologischen Vereines **21**, 97–110.

Rebel, H., 1912: Lepidopteren aus dem Gebiete des Monte Maggiore in Istrien. I. Nachtrag. Jahresbericht des Wiener entomologischen Vereins **22**, 227–240.

Rebel, H., 1913: Lepidopteren aus dem Gebiete des Monte Maggiore in Istrien. II. Nachtrag. Jahresbericht des Wiener entomologischen Vereins **23**, 177–205.

Rebel, H. 1913a: Zur Lepidopterenfauna der Brionischen Inseln. Jahresbericht des Wiener entomologischen Vereins **23**, 217–222.

Rebel, H., 1914: Über die Lepidopterenfauna von Brioni grande. Jahresbericht des Wiener entomologischen Vereins **24**, 181–201.

Rebel, H., 1916: Die Lepidopterenfauna Kretas. Annalen des Naturhistorischen Museums in Wien 30, 66–172.

Rebel, H., 1917: Eine neuerliche Lepidopterenausbeute von Zengg. Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien **67**, 141–143.

Rebel, H., 1919: Zur Lepidopterenfauna Dalmatiens. Verhandlungen zoologisch-botanischen Gesellschaft **69**, 105–110

Rebel, H., 1924: Lepidopteren aus dem Gebiete des Monte Maggiore in Istrien. III. Nachtrag. Jahresbericht des Wiener Entomologischen Vereines **30**, 25–35.

Rebel H., 1933: Zwei neue Microlepidopteren aus Dalmatien. Zeitschrift des Österreichischen Entomologen-Vereines **18**, 81–82.

Rebel, H. & Zerny, H. 1934: Wissenschaftliche Ergebnisse der im Jahre 1918 entsendete Expedition nach Nordalbanien. Die Lepidopterenfauna Albaniens (mit Berücksichtigung der Nachbargebiete). Denkschriften der Akademie der Wissenschaften.Math.Natw.Kl. Frueher: Denkschr. der Kaiserlichen Akad. der Wissenschaften. Fortgesetzt: Denkschr. oest. Akad. Wiss. Mathem. Naturw. Klasse **103**, 37–161.

Regier, J.C., Mitter, C.E., Solis, M.A., Hayden, J.E., Landry, B., Nuss, M. & Simonsen, T.J., 2012: A molecular phylogeny for the pyraloid moths (Lepidoptera: Pyraloidea) and its implications for higher-level classification. Systematic Entomology **37**, 635–656. Doi: 10.1111/j.1365-3113.2012.00641.x

Rungs, C. E. E., 1988: Liste-inventaire systematique et synonymique des Lepidopteres de Corse. Alexanor **15**, supplement, 1–86.

Schawerda, K., 1916: Bericht der Sektion für Lepidopterologie. *Verhandlungen der* zologisch-botanischen Gesellschaft in Wien **66**, 107–115.

Schawerda, K., 1920: Lepidopteren-Ausbeute aus der Gegend von Lovrana und vom Monte Maggiore. Zeitschrift des Österreichischen Entomologischen Vereins **5** (4), 28.

Schawerda, K., 1921: Beiträge zur Lepidopterenfauna der kroatischen Küste und Neubeschreibungen. Deutsche Entomologische Zeitschrift Iris **35**, 111–138.

Scholz, A. & Jäckh, E., 1994: Taxonomie und Verbreitung der Westpalaearktischen Alucita-Arten (Lepidoptera: Alucitidae [Orneodidae]). Alexanor **18** (4), 3–64.

Skala, H., 1937: Einiges über Falter-Minen aus dem Mediterrangebiet. Zeitschrift des Österreichischen Entomologischen Vereins **22**, 109–112.

Skala, H., 1938: Einiges über Falter-Minen aus dem Mediterrangebiet. Zeitschrift des Österreichischen Entomologischen Vereins **23**, 8–10, 30–31, 43–46.

Skala, H., 1939: Miner in deutschen Landen. Zeitschrift des Österreichischen Entomologen Vereines **24**, 27–30, 43–45.

Stainton, H. T., 1921: The tineina of southern Europe. By H. T. Stainton, F.R.S. London: John Van Voorst, Paternoster Row.

Stauder, H., 1914: Mikrolepidopteren des Triester Gebietes und aus Inneristrien. Deutsche Entomologische Zeitschrift Iris, **23**, 4–12.

Stauder, H., 1933: Die Schmetterlings-fauna der illyroadriatischen Festland-und Inselzone (Faunula Illyro-Adriatica). Zeitschrift für wissenschaftliche Insektenbiologie **13**, 18–20.

Staudinger, O., 1879: Lepidopteren-Fauna Kleinasien`s. Horae societas entomologicae rossicae **15**, 159–435.

Šumpich, J., 2013: Faunistic records of some Microlepidoptera from Croatia. Entomologia Croatica **17** (1–4), 13–33.

Šumpich, J. & Skyva, J., 2012: New faunistic records for a number of Microlepidoptera, including description of three new taxa from Agonoxenidae, Depressariidae, and Gelechiidae (Gelechioidea). Nota Lepidopterologica **15** (2), 161–179.

Šumpich, J. & Skyva, J., 2014: Faunistic records of new and poorly known Microlepidoptera (Insecta) from Europe. Annalen des Naturhistorischen Museums in Wien. Serie B für Botanik und Zoologie **116**, 5–12.

Triberti, P. & Braggio, S., 2011: Remarks on some families of leaf-mining Microlepidoptera from central-southern Sardinia, with some ecological considerations (Lepidoptera: Nepticulidae, Bucculatricidae, Gracillariidae). Conservazione Habitat Invertebrati **5**, 767–781.

Utech, L., 1962: Blattminen und Pflanzengallen aus Albanien und dem Kaukasus. Deutsche Entomologische Zeitschrift N.F. **9**, 229–235.

Vignjević, G., Zahitović, Ž., Turić, N. & Merdić, E., 2010: Moths (Lepidoptera: Heterocera) of Kopački Rit Nature Park—Results of preliminary research. Entomologia Croatica **14** (3–4), 17–32.

Weidlich, M., 2014: Zum Vorkommen der bisexuellen Form von *Dahlica triquetrella* (Hübner, 1813) in Europa, insbesondere in Ungarn und in der Slowakei (Lepidoptera: Psychidae). Microlepidoptera. hu 7, 61–66.

Witt, T., 1987: Lepidopterologische Sammelergebnisse der Reisen Franz Daniel's nach Istrien in den Jahren 1965–1971 (Lepidoptera, Bombyces et Sphinges). Entomofauna **8** (28), 413–440.

Wocke, M. F., 1871: Microlepidoptera. *In*: Staudinger, O. & Wocke, M.F. (Eds.), Catalog der Lepidopteren des Europaeischen Faunengebiets. Dr. O. Staudinger und Hermann Burdach, Dresden, 1–426 pp.

Zeller-Lukashort, H. C., Kurz, M. E., Lees, C. D. & Kurz, A. M., 2007: A review of *Micropterix* Hübner, 1825 from northern and Central Europe (Micropterigidae). Nota lepidopterol. **30** (2), 235–298.

Zeller-Lukashort, H. C., Werno, A. & Kurz, A. M., 2013: A new species of *Micropterix* Hübner, [1825] from southern Spain (Lepidoptera: Micropterigidae). SHILAP Revista de Lepidopterologia **41** (164), 489–494.

Zerafa, M., 2008: First record of Nepticulidae from the Maltese Islands (Lepidoptera). Bulletin of the Entomological Society of Malta **1**, 55–57.

Zerafa, M, & van Nieukerken, E. J., 2011: The Nepticulidae of Malta (Lepidoptera). Bulletin of the Entomological Society of Malta 4, 79–84.

Zerny, H., 1920: III. Lepidoptera, pp. 195-204. *In*: Beiträge zur Kenntnis der Fauna Dalmatiens, besonders der Insel Brazza. Bericht über die zweite zoologische Reise des naturwissenschaftlichen Vereins an der Universität Wien nach Dalmatien. Juli 1912. C. Spezieller Teil. Bearbeitung des gesammelten Materials. Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere, **42** (4), 189–234.