SHILAP Revista de lepidopterología, 49 (193) marzo 2021: 65-83 eISSN: 2340-4078 ISSN: 0300-5267
https://doi.org/10.57065/shilap.325

Contribution to the knowledge of the Croatian Pyraloidea fauna. Species reported from Biokovo Natural Park (Insecta: Lepidoptera)

D. Gumhalter & M. Kučinić

Abstract

Little is known on the occurrence of Pyraloidea species from Croatian mountains and there is no species list from Mountain of Biokovo. We provide new data on Pyraloidea species recorded from Biokovo Natural Park. The species list contains information on date and locality of species recorded during field surveys conducted by the first author between 2016 and 2019 and the second author between 1985 and 2018. During these field surveys, 71 Pyraloidea species were recorded. The list was complemented with six species known only from literature data. Altogether we report 77 Pyraloidea species, 54 belonging to the family Crambidae and 23 belonging to the family Pyralidae. This represents about 20,5% of the overall Croatian Pyraloidea fauna.

Some interesting species that have been previously known only from historic literature are reported from Biokovo Mountain, for example, *Catoptria acutangulella* (Herrich-Schäffer, 1847), a montane specie that has not been recorded in Croatia since 1896 and Biokovo Mountain since 1850 (the results have been published elsewhere). The species *Mecyna trinalis* ([Denis & Schiffermüller], 1775) has been recorded for the first time in Dalmatia. The species *Udea numeralis* (Hübner, [1796]), *Evergestis limbata* (Linnaeus, 1767) and *Hypsopygia fulvocilialis* (Duponchel, 1834) have been reported for the first time from Dalmatia in almost 150 years and the species *Selagia spadicella* (Hübner, [1796]), *Agriphila inquinatella* ([Denis & Schiffermüller], 1775) and *Agriphila straminella* ([Denis & Schiffermüller], 1775) have been reported for the first time in almost 100 years. Also, 15 species have been reported for the first time from Dalmatia in decades, like *Dolicharthria bruguieralis* (Duponchel, 1833), a species that has not been reported in almost 85 years.

This paper deepens the knowledge on the distribution of Pyraloidea species occurring in Biokovo Natural Park and reconfirms the occurrence of many species that have not been reported from Croatia in decades.
KEY WORDS: Insecta, Lepidoptera, Pyraloidea, *Catoptria acutangulella, Mecyna trinalis, Udea numeralis*, *Evergestis limbata*, *Hypsopygia fulvocilialis,* Biokovo, Croatia.

Contribución al conocimiento de la fauna de Pyraloidea de Croacia. Especies registradas del Parque Natural de Biokovo (Insecta: Lepidoptera)

Resumen

Poco se conoce sobre la ocurrencia de especies de Pyraloidea de las montañas croatas y no hay lista de especies de las Montañas de Biokovo. Proporcionamos nuevos datos sobre las especies de Pyraloidea registradas del Parque Natural de Biokovo. La lista de especies contiene la información sobre la fecha y localidad de las especies registradas durante las salidas al campo dirigidas por el primer autor entre 2016 y 2019 y del segundo autor entre 1985 y 2018. Durante estas salidas al campo, se registraron 71 especies de Pyraloidea. La lista fue complementada con seis especies conocidas solamente de los datos de la literatura. En general informamos sobre 77 especies de Pyraloidea, 54 pertenecen a la familia Crambidae y 23 pertenecen a la familia Pyralidae. Esto representa aproximadamente el 20,5 % de las fauna de Pyraloidea croata.

Se registran algunas especies interesantes que han sido previamente conocidas por la literatura histórica sobre las montañas de Biokovo, por ejemplo, *Catoptria acutangulella* (Herrich-Schäffer, 1847), una especie de montaña que no ha sido registrada en Croacia desde 1896 y de la montaña de Biokovo desde 1850 (los resultados han sido publicados en otro lugar). La especie *Mecyna trinalis* ([Denis & Schiffermüller], 1775) ha sido registrada por primera vez en Dalmacia. Las especies *Udea numeralis* (Hübner, [1796]), *Evergestis limbata* (Linnaeus, 1767) y *Hypsopygia fulvocilialis* (Duponchel, 1834) han sido registradas, por primera vez, para Dalmacia en casi 150 años y las especies *Selagia spadicella* (Hübner, [1796]), *Agriphila inquinatella* ([Denis & Schiffermüller], 1775) y *Agriphila straminella* ([Denis & Schiffermüller], 1775) han sido registradas, por primera vez, en casi 100 años. También 15 especies han sido registradas, por primera vez, de Dalmacia en décadas, de la misma manera que *Dolicharthria bruguieralis* (Duponchel, 1833), una especie que no ha sido registrada en casi 85 años.

Este trabajo es uno de los más profundos sobre el conocimientos de la distribución de las especies de Pyraloidea que se encuentran en el Parque Natural de Biokovo y reconfirman la presencia de muchas especies que no habían sido registradas de Croacia en décadas.

PALABRAS CLAVE: Insecta, Lepidoptera, Pyraloidea, *Catoptria acutangulella, Mecyna trinalis, Udea numeralis*, *Evergestis limbata*, *Hypsopygia fulvocilialis,* Biokovo, Croacia.

Introduction

The superfamily Pyraloidea is the third largest of the order Lepidoptera. The superfamily comprises approximately 15.576 described species worldwide, about 9.655 species belonging to the family Crambidae and about 5.921 species to the family Pyralidae (NIEUKERKEN *et al*., 2011). Some 850 species can be found in Europe (KARSHOLT & RAZOWSKI, 1996).

The Croatian Pyraloidea fauna is represented by 377 species, 207 taxa from the family Crambidae and 170 taxa from the family Pyralidae (GUMHALTER, 2019a). This number was updated shortly after the first checklist of Pyraloidea species in Croatia was presented in 2019 (GUMHALTER, 2019b). Besides this important work, only sporadic studies have been carried out. Since no systematic research on Pyraloidea in Croatia was conducted, little is known on the occurrence of species from mountains in Croatia.

The majority of the papers published on Lepidoptera from Dalmatia does not cover Pyraloidea species from the area of Biokovo (STAUDINGER, 1870, 1879; WOCKE, 1871; REBEL, 1891, 1903, 1904, 1919; GALVAGNI, 1902, 1909; GINZBERGER, 1916; KLIMESCH, 1942, etc.). During our research, only three published papers that include Pyraloidea species from Mountain of Biokovo were discovered (MANN, 1869; NEUSTETTER, 1956; PLANT & SLAMKA, 2016). However, the Pyraloidea fauna of other mountains in Croatia is also poorly studied, as most of the recent studies were devoted to Rhopalocera or Macrolepidoptera in general (KUČINIĆ *et al*., 1995; MIHOCI *et al*., 2007, 2011; TVRTKOVIČ *et al*., 2012, 2015; KOREN & LAUŠ, 2013; KOREN *et al*., 2015, etc.). Yet, the Croatian mountains have great potential in floral and faunal biodiversity, as well as in endemism. This can be seen in the example of Rhopalocera. The number of recorded Rhopalocera species from Mountain of Velebit counts 153 (TVRTKOVIČ *et al*., 2015) and from Mountain of Dinara 130 species (TVRTKOVIČ *et al*., 2012). On Mountain of Biokovo 102 species were recorded (MIHOCI *et al*., 2011). Besides these well-known huge areas, smaller mountains have also been surveyed. For instance, on Mountain of Klek 84 butterfly species were recorded (GUMHALTER, 2015) and on Mountain of Kozjak 87 species (KOREN *et al*., 2019), but other areas were surveyed as well. Analog to butterfly fauna, same could be expected for the moth fauna from Croatian mountains.

Our study primarily aims at improving the knowledge of Pyraloidea occurring on Mountain of Biokovo, but in Croatia as well. Throughout a recent faunal survey on Pyraloidea in Biokovo Natural Park, we have conducted own field trips and reviewed published records on these species in Croatia. In this paper, we present these new data retrieved for Biokovo Natural Park.

Materials and methods

The materials in this study were collected during field surveys conducted by the first author between 2016 and 2019 and by the second author between 1985 and 2018.

The first author carried out research on Pyraloidea fauna from Mountain of Biokovo at irregular intervals between July 2016 and September 2019. The first author collected moths on several localities at different altitudes between 550 and 1762 meters above sea level. All specimens were caught with a UV light and deposited in the private collection of the first author (coll. Gumhalter). The determination of all species was conducted according to SLAMKA (2006, 2008, 2013, 2019).

The second author conducted several field trips between 1985 and 2018 and collected about 600 specimens of Pyraloidea in different localities in South Croatia, including Biokovo Natural Park. Until now only the results of his research from the Neretva Valley were published (GUMHALTER *et al*., 2018). The specimens were also caught with a UV light and deposited in the second author's collection in the Croatian Natural History Museum in Zagreb (coll. Lepidoptera Kučinić). To improve the knowledge on Pyraloidea on Mountain of Biokovo all specimens from the Kučinić collection were extracted and carefully examined. The determination of species was also conducted according to SLAMKA (2006, 2008, 2013, 2019).

To give a more complete species list from Biokovo Natural Park all Pyraloidea species from both, field investigations and the collection Kučinić, were drawn together and presented in this paper. In the attempt to complete the species list with literature data a total of 200 published historic and recent papers were reviewed, out of which only three could be considered. The systematic presentation in the species list follows Fauna Europaea (NUSS *et al*., 2011). Date and locality are provided for all specimens. As for the specimens from the collection Kučinić, the exact locality is given as it is written on the original label on Croatian. The species reported only from literature also contain a reference to the published source including the synonym under which it was published there.

Results and discussion

The mountainous karst area of Central Croatia lies between the Mediterranean and Eurosibirian-Northamerican biogeographic zone. Some parts of it belong to the Croatian part of the European "Alpine biogeographical region" (EEA, 2012) and present a broad transitional zone of continental (Eurosiberian) and Mediterranean faunal elements (TVRTKOVIČ *et al*., 2015).

Biokovo is a karst mountain range that is a part of the Dinaric karst. TIŠLJAR *et al*. (2002) state the Dinaric karst is approximately 700 km long and 80-210 km wide and stretches from the Julian Alps along the border between Italy and Slovenia, passes through the Croatian coast and islands, western and southern Bosnia and Herzegovina, and ends in southeastern Montenegro and northwestern Albania. Because of its proximity to the Adriatic Sea, there are areas with Continental, Montane and Mediterranean climate, and vegetation (MIHOCI *et al*., 2011). Therefore, certain habitat characteristics of Mountain of Biokovo cannot be found elsewhere in the Dinaric karst.

Biokovo was proclaimed a Natural Park in 1981 and covers an area of 196 km^2. Its position on the Adriatic Sea, at the border between the Continental and Mediterranean climate and its isolation from surrounding mountains, has resulted in a high degree of endemism on Mountain of Biokovo (ŠOLIČ, 1983).

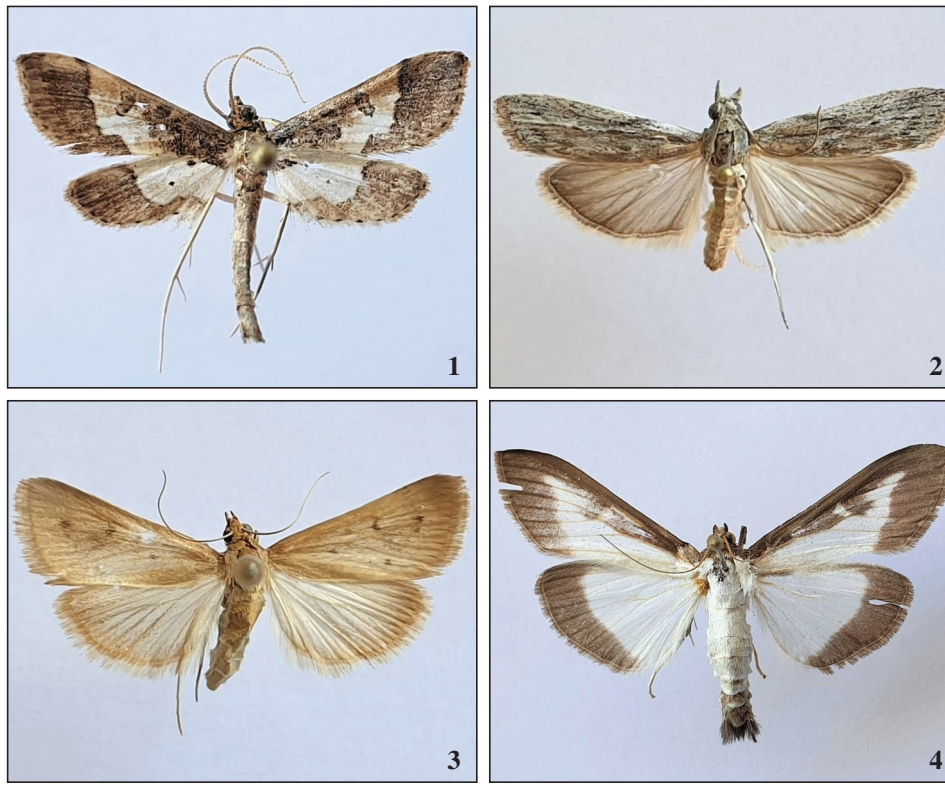
Throughout a recent faunal survey on Pyraloidea from Mountain of Biokovo, the first author reviewed published records species and conducted own field investigations. Wanting to get more data on the occurrence of Pyraloidea in Biokovo Natural Park, all specimens from the second author's collection that originate from the same area were extracted and the results implemented in the species list that is given in Appendix 1.

Altogether, 77 species are recorded from the area of Mountain of Biokovo, out of which 54 species belong to the family Crambidae and 23 species to the family Pyralidae. The listing contains 26 species that were collected only during the first author's field investigations and 18 species that originate exclusively from the second author's collection. Both authors have reported the remaining 27 species. All species that have been reported by the first author are named with "coll. Gumhalter" and by the second author with "coll. Kučinić". Only 12 species were mentioned in one of the relevant literature sources for the area of Mountain of Biokovo, out of which six were not recorded during the conducted

field trips: *Catoptria languidellus* (Zeller, 1863), *Nascia cilialis* (Hübner, 1796), *Udea lutealis* (Hübner, [1809]), *Hypsotropa limbella* (Zeller, 1848), *Phycita cryptica* (Plant & Slamka, 2016) and *Synaphe bombycalis* ([Denis & Schiffermuller], 1775). These species contain a literature reference.

The recorded species number comprises approximately 20,5 % of the total 377 species reported from Croatia. On one hand, it is evident that this largely contributes to the knowledge of the Croatian Pyraloidea fauna of Mountain of Biokovo and Croatia, on the other hand, it is seen that more studies have to be undertaken and that the Pyraloidea fauna of Mountain of Biokovo has to be studied in more detail.

The Pyraloidea fauna of Mountain of Biokovo is probably much richer and could maybe include some endemic species, as it is the case with butterflies. For instance, in 2007 the endemic butterfly species *Proterebia afra dalmata* (Godart, [1824]) was reported from Biokovo Natural Park (MIHOCI & ŠAŠIĆ, 2007).



Figures 1-4.– 1. *Hydriris ornatalis* collected in Biokovo Natural Park. **2.** The species *Amphithrix sublineatella.* **3.** *Achyra nudalis* collected in Biokovo Natural Park. **4.** The box tree moth *C. perspectalis*, an invasive species on box tree *Buxus* spp. in Europe.

Throughout this survey several interesting species have been recorded, some of them being previously known only from historic literature like *Catoptria acutangulella*, a montane moth that has not been recorded in Croatia since 1896 and Mountain of Biokovo since 1850 (the results have been published elsewhere) or *Mecyna trinalis*, a moth that has been recorded for the first time in Dalmatia.

Three species have been reported for the first time in Dalmatia in almost 150 years: *Udea numeralis*, *Evergestis limbata* and *Hypsopygia fulvocilialis.* Three species have been reported for the first time in almost 100 years: *Selagia spadicella*, *Agriphila inquinatella* and *Agriphila straminella*. Altogether 15 species have been reported for the first time from Dalmatia in decades: *Hydriris ornatalis* (Duponchel, 1832), *Euchromius ocellea* (Haworth, 1811), *Dolicharthria bruguieralis* (Duponchel, 1833), *Amphithrix sublineatella* (Staudinger, 1859), *Eurrhypis pollinalis* ([Denis & Schiffermüller], 1775), *Ancylolomia palpella* ([Denis & Schiffermüller], 1775), *Catoptria mytilella* (Hübner, [1805]), *Dioryctria abietella* ([Denis & Schiffermüller], 1775), *Myelois circumvoluta* (Fourcroy, 1785), *Paracorsia repandalis* ([Denis & Schiffermüller], 1775), *Pyrausta cingulata* (Linnaeus, 1758), *Udea olivalis* ([Denis & Schiffermüller], 1775), *Achyra nudalis* (Hübner, 1796), *Anania testacealis* (Zeller, 1847) and *Ecpyrrhorrhoe rubiginalis* (Hübner, 1796). The above-mentioned species probably have not been reported earlier from this area due to the lack of research on Pyraloidea fauna from Croatian mountains. These species are discussed later in this paper. Of interest is the finding of the box tree moth *Cydalima perspectalis* (Walker, 1859) from the highest parts of Mountain of Biokovo. Besides this, while reviewing the literature, we came across the interesting species *Phycita cryptica* (Plant & Slamka, 2016), mentioned from the area of Biokovo Natural Park.

Catoptria acutangulella, a montane species belonging to the family Crambidae, has been rediscovered for Croatia after more than a century (the results have been published elsewhere). The species has not been reported for Croatia since 1896 (ABAFI-AIGNER *et al*., 1896) and Biokovo since 1850 (MANN, 1869). However, several specimens of *C. acutangulella* were collected during field surveys conducted by the first author in 2019, as well as during the second author's field trips conducted between 1992 and 1995. Both authors collected their specimens on one of the highest parts of Mountain of Biokovo, at an altitude of approximately 1600 meters above sea level. Since the results from the later surveys have not been published previously, the findings stayed undiscovered until the examination of the collection Kučinić from CNHM in Zagreb in 2019.

These findings represent the first and only records of *C. acutangulella* in Croatia after almost 125 years and for Mountain of Biokovo after almost 170 years. This recent discovery confirms that *C. acutangulella* is still present in the fauna of Croatia and that it is presumably a permanent resident on Mountain of Biokovo. Also, these findings indicate that no habitat change has happened at the highest parts of Mountain of Biokovo, where the moths were collected. In general, montane species depend on specific types of vegetation and climate conditions. Therefore, climate change and global warming could be a threat to species such as *C. acutangulella.* The recent findings of *C. acutangulella* on Mountain of Biokovo represent an important contribution to the knowledge of this species' distribution in Croatia, and to the Croatian Pyraloidea fauna in general.

The species *Udea numeralis* was only reported by ABAFI-AIGNER *et al*. (1896), MANN (1857, 1869), CARNELUTTI (1994) and in the book from SLAMKA (2013), until one specimen was collected by the second author on July, 26th, 1995 from an altitude of approximately 1450 meters above sea level. This finding reconfirms the species' occurrence after almost 100 years in Croatia and after almost 150 years in Dalmatia.

The only records from Dalmatia for the species *Evergestis limbata* are from GERMAR (1817) and MANN (1869). There is only one recent record, which originates (HABELER, 2003) from island Krk. Several specimens of this species were collected by the second author in 1994 and 1995. Also, the first author collected one specimen in 2019 at an altitude of approximately 1600 meters above sea level. These recent findings are the first ones for Dalmatia after almost 150 years.

The species *Hypsopygia fulvocilialis* has been mentioned several times in the historic literature (MANN, 1869; GEIGER, 1873; REBEL, 1903, 1904, 1914; PROHASKA, 1922; SLAMKA, 2006), with the records from island Krk (HABELER, 2003) being the most recent ones. The second author collected many specimens between 1989 and 2017 in Biokovo Natural Park. His findings represent the first ones for Dalmatia after almost 145 years.

Mecyna trinalis was reported only by REBEL (1904, 1910) and in the book by SLAMKA (2013). The second author collected a single specimen in 1995 from the highest parts of Mountain of Biokovo

at an altitude of approximately 1600 meters above sea level. These records represent the first ones for Dalmatia at all and Croatia after almost 85 years.

One specimen of *Selagia spadicella* was collected by the first author in 2019 at an altitude of approximately 270 meters above sea level. Since the only records of this species are from historic literature (MANN, 1857, 1869; ABAFI-AIGNER *et al*., 1896; REBEL, 1910; SCHAWERDA, 1921), this recent finding reconfirms its occurrence in Dalmatia and represents the first records of *S. spadicella* after almost 100 years.

Besides the historic records of *Agriphila inquinatella* (MANN, 1857, 1867, 1869; ABAFI-AIGNER *et al*., 1896, 1903; REBEL, 1904, 1912; SCHAWERDA, 1921; KOČA, 1925; SLAMKA, 2008) there is only one record from island Krk (HABELER, 2003) and one from Continental Croatia from 2009 (FAZEKAS, 2009). The findings from the first author's field surveys in 2018 are the first ones for Dalmatia after almost 100 years.

Agriphila straminella has been recently recorded only from island Krk (HABELER, 2003), therefore the findings from the second author's field investigations from 1991, 1992 and 1995 represent the first findings from Dalmatia after almost 100 years. Previously it was reported by MANN (1857, 1867, 1869), ABAFI-AIGNER *et al*. (1896), REBEL (1904) and SCHAWERDA (1921). SLAMKA (2008) refers in his book to the same records.

The finding of *Hydriris ornatalis* (Fig. 1), a moth mentioned in recent papers only from island Krk (HABELER, 2003; FAUSTER, 2014), is interesting. One single specimen was collected by the first author on 21st August 2019 at an altitude of approximately 570 meters above sea-level, close to the entrance to Biokovo Natural Park. This finding represents the first record from Dalmatia since 1936 and therefore reconfirms the southern-most distribution point of *H. ornatalis* in Croatia.

According to Fauna Europaea the species is distributed in Europe in Portugal, Spain, Gibraltar, Balearic and Canary Islands, France, Switzerland, Corsica, Malta, Italy, Sicily, Sardinia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Kriti (Crete) and Greece. FAUSTER (2014) reports it from Austria but states that it is possible that his collected specimen was imported from a warmer country since it was caught close to a highway that connects the Adriatic Sea with North Europe and serves as a holiday route. SLAMKA (2013) states that *H. ornatalis* is observed in coastal areas and that it is native to tropics and subtropics. Also, the species could be considered as an occasional pest in economic plants.

The species is mentioned several times in the literature (REBEL, 1904; KLIMESCH, 1942; SLAMKA, 2013; ŠAŠIĆ-KLJAJO *et al*., 2016; PLANT & JAKŠIČ, 2018), but all of these records are either from historic literature sources or the papers refer one to another. Besides the papers (HABELER, 2003; FAUSTER, 2014), no recent records of *H. ornatalis* in Croatia are known. Except for the findings from island Krk, the species' only other known locality in Croatia is Zaton in south Dalmatia. However, these records are almost 85 years old. Therefore, this recent finding largely contributes to our knowledge of the Croatian Pyraloidea fauna by giving new recent information on the distribution range of *H. ornatalis* in Croatia.

Two specimens of the species *Euchromius ocellea* were collected by the first author on May 28th and May 31st, 2019 on a locality close to the entrance to Biokovo Natural Park, at an altitude of approximately 570 meters above sea level. Although the moth has been previously mentioned several times in the literature from coastal Croatia (MANN, 1869; STAUDINGER, 1870; REBEL, 189,; 1914; ABAFI-AIGNER, 1903; KLIMESCH, 1942), the only recent findings are from Krk (HABELER, 2003; GOMBOC & KLENOVČEK, 2013), an island that lies in the Bay of Kvarner in the northern Adriatic Sea. Other literature sources refer to one of these papers (SLAMKA, 2008; ŠAŠIĆ-KLJAJO *et al*., 2016; PLANT & JAKŠIČ, 2018). The findings from Mountain of Biokovo are of interest, as they reconfirm the species' distribution in the southern parts of the Croatian coast. As it is the case with *H. ornatalis*, the last records from Dalmatia are almost 85 years old.

According to SLAMKA (2008) the species is rare in Central Europe and it occurs on dry to fresh, but warm habitats. *E. ocellea* seems to be a migratory species, which established temporary populations in localities far outside its main distribution area from time to time (SCHOUTEN, 1988). As reported

by SLAMKA (2008) the species has a cosmopolitan distribution in the Tropics and Subtropics, North Africa, Asia Minor, large part of Asia, North America, Hawaii, and Australia. In Europe, it is distributed in South Europe (including the Canary and Madeira Islands and as an immigrant in Central Europe (Denmark, southern Sweden, and southern Norway, also Netherlands, England, southern Scotland and Ireland).

The species *Denticera divisella* has been mentioned several times in the historic literature (WOCKE, 1871; ROTHSCHILD, 1914; KLIMESCH, 1942; CARNELUTTI, 1994) and only HABELER (2003) mentioned it from island Krk. One single specimen was collected by the first author in 2018. This finding is the only recent finding of *D. divisella* in Dalmatia since 1936 (KLIMESCH, 1942).

Amphithrix sublineatella (Fig. 2) was reported from Croatia only by REBEL (1891, 1919) and KLIMESCH (1942) in the past, and recently by HABELER (2003). A single specimen was collected by the first author at an altitude of 570 meters above sea level in 2019. With this finding, the species occurrence in Dalmatia is reconfirmed or the first time since 1936.

Eurrhypis pollinalis has been reconfirmed for the Dalmatian fauna after almost 85 years. It has previously been mentioned several times in the literature (MANN, 1857, 1867; REBEL, 1891, 1904; ABAFI-AIGNER *et al*., 1896, 1910; KOČA, 1925; CARNELUTTI, 1994; HABELER, 2003; SLAMKA, 2006; ŠAŠIĆ-KLJAJO *et al*., 2016) until three specimens have been caught in 2019.

The species *Ancylolomia palpella* has been reported several times in historic literature (MANN, 1869; WOCKE, 1871; REBEL, 1903; PROHASKA, 1922; KOČA, 1925; SLAMKA 2008), and recently only by HABELER (2003) from island Krk. The last record of this species from Dalmatia is from Knin from 1936 (CARNELUTTI, 1994).

Catoptria mytilella has been reported by MANN (1869), ABAFI-AIGNER *et al*. (1896), REBEL (1904; 1912; 1913b), SCHAWERDA (1921) and SLAMKA (2008). The species was recently reported from island Krk (HABELER, 2003) and the last time from Dalmatia by HAFNER (1936) from Knin (CARNELUTTI 1994).

Both species, *Dioryctria abietella* and *Myelois circumvoluta* have been recently reported only by KOREN (2018) from Continental Croatia and HABELER (2003) from island Krk. Besides these records, *D. abietella* has been previously recorded a few times (REBEL, 1891; SCHAWERDA, 1921; CARNELUTTI 1994) and *M. circumvoluta* several times (MANN, 1857, 1869; REBEL, 1904, 1913b, 1914, 1919; KOČA, 1925; KLIMESCH, 1942; SLAMKA, 2006). *D. abietella* has been recorded many times by both authors, and these records represent the first ones for Dalmatia after 1936 (CARNELUTTI, 1994). One specimen of *M. circumvoluta* was collected by the first author in 2019. This record is the only recent record for Dalmatia after 1936 (KLIMESCH, 1942).

There are only a few records of *Paracorsia repandalis* in the historic literature (MANN, 1857; SCHAWERDA, 1921; KLIMESCH, 1942; SLAMKA, 2013). KOREN (2018) mentioned the species from Continental Croatia and HABELER (2003) from island Krk. The first author recorded it in 2019 and these records represent the first ones after almost 85 years.

The species *Dolicharthria bruguieralis* has been mentioned many times in the historic literature (MANN, 1857, 1869; ABAFI-AIGNER *et al*., 1896; REBEL, 1929; KLIMESCH, 1942; NEUSTETTER, 1956; CARNELUTTI, 1994; SLAMKA, 2013; ŠAŠIĆ-KLJAJO *et al*., 2016; PLANT & JAKŠIČ, 2018). Nonetheless, there are no recent records of this species. The last records from Croatia are from 1956 (NEUSTETTER, 1956) and originate from the area of Rijeka, a city in Bay of Kvarner. The last records from Dalmatia are from 1936 and originate from Zaton near Dubrovnik (KLIMESCH, 1942).

Throughout this survey, one specimen has been collected on May 31st, 2019 at an altitude of approximately 270 meters above sea-level and therefore represents the first recent findings for Croatia after more than 60 years and the first ones for Dalmatia after more than 80 years.

Pyrausta cingulata has been mentioned several times in the literature (GERMAR, 1817; MANN, 1857, 1867, 1869; ABAFI-AIGNER *et al*., 1896; REBEL, 1904, 1914; SCHAWERDA, 1921; PROHASKA, 1922; KOČA, 1925; CARNELUTTI, 1994; SLAMKA, 2013). Although it was recently

reported by HABLER (2003) and KOREN (2015) from Croatia, these records originate from island Krk and Istria. The two specimens collected in 2018 and 2019 represent the first ones from Dalmatia after more than 80 years.

The species *Udea olivalis* has been mentioned by MANN (1857) from the area around Rijeka (Bay of Kvarner) and 1867 from the area around Josipdol (north-western Croatia), by ABAFI-AIGNER *et al*. (1896) also from Josipdol, by REBEL (1904) (but he is referring only to the findings of Mann), by SCHAWERDA (1921) from the area around Senj (upper Adriatic Sea) and in the book by SLAMKA (2013), who is referring to all these old findings. The second author has caught three specimens in 1995. These findings represent the first ones for Croatia after almost 75 years and the first ones for Dalmatia at all, widening the distribution of *U. olivalis* in Croatia very much to the south.

The species *Achyra nudalis* (Fig. 3) has been previously mentioned often in the historic literature (MANN, 1869; REBEL, 1913a, 1914; ROTHSCHILD, 1914; ZERNY, 1920; PROHASKA, 1922; KLIMESCH, 1942; CARNELUTTI, 1994; SLAMKA, 2013). Recent records originate from island Krk (HABELER, 2003) and the last record from Dalmatia (NEUSTETTER, 1956).

Anania testacealis has been reported from Croatia (MANN, 1857; REBEL, 1891; GALVAGNI, 1902; PROHASKA, 1922; KLIMESCH, 1942; CARNELUTTI, 1994; SLAMKA, 2013). Recently is has been mentioned only from Krk Island (HABELER, 2003). The last record from Dalmatia (NEUSTETTER, 1956), therefore the new records from the second author from the 1990's re-confirms its occurrence in the Pyraloidea fauna of Dalmatia.

The species *Ecpyrrhorrhoe rubiginalis* has been previously mentioned often in the literature, but all these records either originate from historic literature sources (MANN, 1857, 1867, 1869; ABAFI-AIGNER *et al*., 1896; REBEL, 1904, 1910; SCHAWERDA, 1916, 1920, 1921; KOČA, 1925; CARNELUTTI, 1994; SLAMKA, 2013) or other parts of Croatia (HABELER, 2003; KOREN, 2018). Two specimens were collected by the second author in 1995. Since the last report of this species from Dalmatia (DANIEL *et al*., 1951), these recent findings represent the first ones after almost 45 years.

Another interesting finding is the box tree moth *Cydalima perspectalis* (Fig. 4) from the family Crambidae. This invasive species on box tree *Buxus* spp. in Europe, has been spreading and establishing across Europe since it was introduced from East Asia to Germany in 2006 (KRÜGER, 2008). *C. perspectalis* can cause serious damage in private and public gardens, as well as in forests, trees and shrubs. Infestation symptoms include feeding damage on the leaves of the shoot edges by the larvae, which can leave only leaf skeletons and the epidermis behind them. Larvae can also attack the bark (LEUTHARDT & BAUR, 2013). Heavy infestation leads to dry plants and their defoliation, which combined with the subsequent attack of the bark results in the death of the plant.

In 2012 the species was reported for the first time in Croatia (KOREN & ČRNE, 2012) from where it rapidly spread across the whole country. The species was collected several times in Biokovo Natural Park during the first author's field investigations. The finding of *C. perspectalis* itself is no surprise, as it is today widely distributed across Croatia. However, the finding of the box tree moth on the highest parts of Mountain of Biokovo, where one single adult was collected in 2019, is interesting.

C. perspectalis has been recorded in Europe exclusively on *Buxus* spp. The box tree moth feeds on all the widely used ornamental box species and cultivars in Europe (LEUTHARDT & BAUR, 2013), but it has also invaded several natural *Buxus* populations in Central Europe (KENIS *et al*., 2013). On the highest parts of Mountain of Biokovo, at an altitude of approximately 1600 meters above sea-level, no *Buxus* species could be found. Since this area is out of range of the species' host plants it is highly probable that the collected specimen was a wanderer, as adult moths have a wingspan between 30 and 45 mm (SLAMKA, 2013) and are good flyers. The moth must have travelled significantly uphill from the lower coastal parts of Biokovo Natural Park, where host plants are abundant. A similar situation was reported (PLANT *et al*., 2019) where a single adult was witnessed at the top end of an Alpine valley in the Savoy Department of south-east France, within sight of Mont Blanc. Like at the top of Mountain of Biokovo there is also no *Buxus* for several kilometers and such information provide additional support for the notion that the moth is capable of dispersal.

While searching through the available literature we came across a paper (PLANT & SLAMKA,

2016) in which a new species from the area of Biokovo Natural Park was mentioned. The authors state that during separate research by both of them it became apparent that there was considerable confusion and uncertainty concerning the taxon *Phycita metzneri*. This confusion was compounded by their discovery of many misidentifications of *Phycita* specimens in various collections, so a re-examination of the material from the Zeller collection was undertaken. This re-examination has shown that *P. metzneri* (Zeller, 1846) is a synonym of *P. poteriella* (Zeller, 1846) and that specimens labelled or determined as *P. metzneri* in various literature sources or collections have been incorrectly identified and they belong to either *P. poteriella*, *P. torrenti*, *P. strigata*, *P. coronatella* or the newly described species *P. cryptica* (Plant & Slamka, 2016). The holotype of *P. cryptica* is described from Bulgaria. According to PLANT & SLAMKA (2016), one of the many examined paratypes was collected in Gornje Igrane, a locality on the direct border to Biokovo Natural Park. Apart from that, the species described paratypes originate from Bulgaria, Croatia (island Krk, and in Dalmatia Igrane and Gornje Igrane), Albania, Greece, and Spain.

BIBLIOGRAPHY

ABAFI-AIGNER, L., PAVEL, J. & UHRYK, F., 1896.– *Fauna Regni Hungariae. Lepidoptera*: 82 pp. Regia Societas Scientiarum Naturalium Hungarica, Budapest.

ABAFI-AIGNER, L., 1903.– Ak Microledálepidopteráink ismeretéhez.– *Rovartani lapok*, **10**(7): 133-137.

ABAFI-AIGNER, L., 1910.– Adaléka Magyar Tengermellék, Horvátország és Dalmáczia lepkefaunájához.– *Rovartani lapok*, **17**(3-4): 55-57; (5-8): 71-105, [Pyralidae: 96-99], Budapest.

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.– *Veröffentlichungen der Zoologischen Staatssammlung München*, **2**: 1-78.

EUROPEAN ENVIRONMENT AGENCY (EEA), 2012.– *Biogeographical regions in Europe*. Available from: http://www.eea.europa.eu/data-and-maps/figures (accessed 2 February 2020).

FAUSTER, R., 2014.– *Hydriris ornatalis* (Duponchel, 1832) - Erstnachweis für Österreich (Insecta, Lepidoptera, Pyralidae).– *Joannea Zoologie*, **13**: 157-159.

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 der kaiserlich-königlichen zoologisch-botanischen Gesellschaft*, **23**: 167-168.

GERMAR, E. F., 1817.– *Reise nach Dalmatien und in das Gebiet von Ragusa,* **1-2**: 323 pp. F.A. Brockhaus, Leipzig.

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.

GOMBOC, S. & KLENOVŠEK, D., 2013.– First record of *Euchromius ocelleus* (Haworth, 1811) (Lepidoptera: Crambidae) in Slovenia.– *Acta Entomologica Slovenica*, **21**(1): 77-79.

GUMHALTER, D., 2015.– Butterfly fauna (Lepidoptera: Hesperioidea & Papilionoidea) of the Klek Mountain.– *Entomologia Croatica*, **19**(1-2): 11-24.

GUMHALTER, D., KUČINIĆ, M., VAJDIĆ, M., PEROVIĆ, F., PELIĆ-FIXA, D. & LUKAČ, G., 2018.– New records of the crambid moth *Euclasta splendidalis* (Herrich-Schäffer, [1848]) (Lepidoptera: Crambidae) in Croatia with notes on Pyraloidea fauna from the Neretva Valley.– *Natura Croatica*, **27**(1): 225-232. https://doi.org/10.20302/NC.2018.27.12.

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.

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

KARSHOLT, O. & RAZOWSKI, J., 1996.– *The Lepidoptera of Europe (A Distributional Checklist)*: 280 pp. Apollo Books, Stenstrup.

KENIS, M., NACAMBO, S., FLORINE, L., LEUTHARDT, G., DI DOMENICO, F. & HAYE, T., 2013.– The box tree moth, *Cydalima perspectalis*, in Europe: horticultural pest or environmental disaster? *Aliens*, **33**: 38-41.

KLIMESCH, J., 1942.– Über Microlepidopteren-Ausbeuten aus der Gegend von Zaton bei Gravosa (Süddalmatien).– *Mitteilungen der Münchner Entomologischen Gesellschaft*, **32**(2/3): 347-399.

KOČA, G., 1925.– Treić prilog fauni leptira (Lepidoptera) Hrvatske i Slavonije.– *Glasnik hrvatskog naravoslovnog društva,* **36**(1-2): 69-80.

KOREN, T. & ČRNE, M., 2012.– The first record of the box tree moth, *Cydalima perspectalis* (Walker, 1859) (Lepidoptera, Crambidae) in Croatia.– *Natura Croatica*, **21**(2): 507-510.

KOREN, T. & LAUŠ, B., 2013.– Dinara Massif - a new hotspot for the butterfly (Papilionoidea) diversity of the Dinara.– *Nota lepidopterologica*, **36**(2): 109-126.

KOREN, T., ČRNE, M., PAVLIHA, G. & TRKOV, D., 2015.– Mountain Poštak, a new hotspot for the Lepidoptera of Croatia (Lepidoptera: Rhopalocera).– *SHILAP Revista de lepidopterología*, **43**(169): 145-155.

KOREN, T., BURIĆ, I., GLAVAN, G. & VEROVNIK, R., 2019.– Contribution to the knowledge of the butterfly fauna (Lepidoptera: Papilionoidea) of Mt Kozjak, Split, Croatia.– *Natura Croatica*, **28**(1): 21-33.

KRÜGER, E. O., 2008.– *Glyphodes perspectalis* (Walker, 1859) - new for the European fauna (Lepidoptera: Crambidae).– *Entomologische Zeitschrift mit Insekten-Börse*, **118**(2): 81-83.

KUČINIĆ, M., BALTIĆ, M. & MATEŠIĆ, M., 1995.– Butterflies (Insecta, Lepidoptera, Rhopalocera) of Velebit Mountain: faunal and zoogeographical characteristics. Zbornik Simozija povodom 45. godišnjice NP Paklenica, Starigrad - Paklenica, 19.-22.-10.1994.– *Paklenički zbornik*, **1**: 169-188.

LEUTHARDT, F. L. G. & BAUR, B., 2013.– Oviposition preference and larval development of the invasive moth *Cydalima perspectalis* on native European box-tree varieties.– *Journal of Applied Entomology*, **137**: 437-444.

MANN, J., 1857.– Verzeichnis der im Jahre 1853 in der Gegend von Fiume gesammelten Schmetterlinge.– *Wiener Entomologische Monatsschrift*, **1**: 161-189.

MANN, J., 1867.– Schmetterlinge gesammelt im Jahre 1866 um Josefsthal in der croat. Militaergrenze.– *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, **17**: 63-76.

MANN, J., 1869.– Lepidopteren gesammelt während dreier Reisen nach Dalmatien in den Jahren 1850, 1862 und 1868.– *Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft,* **19**: 371-388.

MIHOCI, I. & ŠAŠIĆ, M., 2007.– New distribution data on the endemic butterfly *Proterebia afra dalmata* (Godart, [1824]) (Nymphalidae, Satyrinae) in Croatia.– *Natura Croatica*, **16**(3): 205-210.

MIHOCI, I., ŠAŠIĆ, M. & VUKOVIĆ, M., 2007.– Contribution to the butterfly fauna (Hesperioidea & Papilionoidea) of the Velebit Mountain, Croatia.– *Natura Croatica*, **16**(1): 29-62.

MIHOCI, I., HRŠAK, V., KUČINIĆ, M., MIČETIC STANKOVIĆ, V., DELIĆ, A. & TRVRTKOVIĆ, N., 2011.– Butterfly diversity and biogeography on the Croatian karst mountain Biokovo: Vertical distribution and preference for altitude and aspect?.– *European Journal of Entomology*, **108**: 623-633.

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

NIEUKERKEN VAN, E. J., KAILA, L. & KITCHING, I. J., 2011.– Order Lepidoptera. Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness.– *Zootaxa*, **3148**: 212-221.

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 2020).

PLANT, C. W. & SLAMKA, F., 2016.– Re-examination and revision of Zeller's original concept of *Phycita metzneri* (ZELLER, 1846) and description of *Phycita cryptica* sp. nov. (Lepidoptera, Pyraloidea, Pyralidae, Phycitinae).– *The Entomologist's Record and Journal of Variation*, **128**(1): 28-40.

PLANT, C. W. & JAKŠIČ, P., 2018.– A provisional checklist and bibliography of the Pyraloidea of the Balkan Peninsula (Lepidoptera: Pyralidae & Crambidae).– *Atalanta*, **49**: 219-263.

PLANT, C. W., POOLE, C., SALISBURY, A. & BIRD, S., 2019.– The Box-Tree Moth *Cydalima perspectalis* (Walker, 1859) in Britain: An Overview of its Spread and Current Status.– *The Entomologist's Record and Journal of Variation*, **13**: 122-147.

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

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

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

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

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

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

REBEL, H., 1929.– Lepidopteren von der Insel Incoronata.– *Annalen des Naturhistorischen Museums in Wien*, **43**: 14.

ROTHSCHILD, N. CH., 1914.– Adatok Magyarország lepkefaunájához. (Beiträge zur Lepidopterenfauna Ungarns).– *Rovartani lapok*, **21**: 72-77.

SCHAWERDA, K., 1916.– Bericht der Sektion für Lepidopterologie.– *Verhandlungen der zoologische-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, (5): 36.

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

SCHOUTEN, R. T. A., 1988.– Revision of the species of the genus *Euchromius* Guenée, 1845 (Lepidoptera: Pyralidae: Crambinae) occurring in the Afrotropical region.– *Zoologische Verhandlungen,* **244**: 3-64.

SLAMKA, F., 2006.– *Pyraloidea of Europe / Europas (Lepidoptera). Pyralinae, Gracillariinae, Epipaschiinae, Cathariinae & Odontiinae. Identification - Distribution - Habitat - Biologie / Bestimmung - Verbreitung - Habitat - Bionomie*, **1**: 138 pp. František Slamka, Bratislava.

SLAMKA, F., 2008.– *Pyraloidea of Europe (Lepidoptera). Crambinae & Schoenobiinae. Identification - Distribution - Habitat - Biologie*, **2**: 222 pp. František Slamka, Bratislava.

SLAMKA, F., 2013.– *Pyraloidea of Europe (Lepidoptera). Pyraustinae & Spilomelinae. Identification - Distribution - Habitat - Biologie*, **3**: 357 pp. František Slamka, Bratislava.

SLAMKA, F., 2019.– *Pyraloidea of Europe (Lepidoptera). Phycitinae - Part 1. Identification - Distribution - Habitat - Biologie*, **4**(1): 432 pp. František Slamka, Bratislava.

STAUDINGER, O., 1870.– Beitrag zur Lepidopterenfauna Griechenlands.– *Horae Societatis Entomologicae Rossicae*, **7**: 3-304.

STAUDINGER, O., 1879.– Lepidopteren-Fauna Kleinasien's.– *Horae Societas Entomologicae Rossicae*, **15**: 159-435.

ŠAŠIĆ-KLJAJO, M., 2016.– Završno izvješće za skupinu Lepidoptera: 188-226. *In* D. HATIĆ, M. MRAKOVČIĆ & Z. MESIĆ (Eds.). *Projekt integracije u EU Natura 2000: Terensko istraživanje i laboratorijska analiza novoprikupljenih inventarizacijskih podataka za taksonomske skupine: Actinopterygii i Cephalaspidomorphi, Amphibia i Reptilia, Aves, Chiroptera, Decapoda, Lepidoptera, Odonata, Plecoptera, Trichoptera*.

ŠOLIČ M. E., 1983.– Biokovo Mountain Endemism.– *Acta Biokovica*, **2**: 179-182.

TIŠLJAR, J., VLAHOVIĆ, I., VELIĆ, I. & SOKAĆ, B., 2002.– Carbonate platform megafacies of the Jurassic and Cretaceous deposits of the Karst Dinarides.– *Geologia Croatica*, **55**: 139-170.

TVRTKOVIČ, N., ŠAŠIĆ, M., MIHOCI, I., VUKOVIĆ, M. & BJELIĆ, M., 2012.– Review of the butterfly fauna (Hesperioidea & Papilionoidea) of the Dinara mountain range.– *Natura Croatica*, **21**(2): 471-481.

TVRTKOVIČ, N., VEROVNIK, R., LOVRENČIĆ, L., VUKOVIĆ, M. & ŠAŠIĆ, M., 2015.– New contributions to the butterfly fauna of Mt Velebit and the neighbouring area of Lika (Croatia). *Natura Croatica*, **24**(2): 281-292. https://doi.org/10.20302/NC.2015.24.18.

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

ZERNY, H., 1920.– III. Lepidoptera.– *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.

*D. G.
Azuritweg, 2
D-70619 Stuttgart
ALEMANIA / *GERMANY*
E-mail: danijela.gumhalter@gmail.com
https://orcid.org/0000-0002-5174-8145

M. K.
Department of Biology
Faculty of Science
University of Zagreb
Rooseveltov trg, 6
HR-10000 Zagreb
CROACIA / *CROATIA*
E-mail: kucinic@biol.pmf.hr
https://orcid.org/0000-0003-2756-2305

*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 20-V-2020)
(Revisado y aceptado / *Revised and accepted* 30-VII-2020)
(Publicado / *Published* 30-III-2021)

Appendix 1.– List of all recorded Pyraloidea species collected in Biokovo Natural Park, including date and locality.

PYRALIDAE

Agriphila brioniellus (Zerny, 1914)

Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, two specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019 (coll. Gumhalter).

Agriphila dalmatinellus (Hampson, 1900)

Livada, 1000 m.a.s.l., 06-IX-2018 (coll. Gumhalter).

Agriphila inquinatella ([Denis & Schiffermüller], 1775)

Šuma uz cestu, 750 m.a.s.l., 05-IX-2018, three specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018 (coll. Gumhalter).

Agriphila straminella ([Denis & Schiffermüller], 1775)

Kapelica, 890 m.a.s.l., 17-VII-1991, two specimens (coll. Kučinić); Vošac, 25-VII-1992 (coll. Kučinić); Gornje Igrane, 25-VII-1995 (coll. Kučinić); Lađena, 1200 m.a.s.l., 27-VII-1995 (coll. Kučinić).

Agriphila tolli (Bleszyński, 1952)

Šuma uz cestu, 570 m.a.s.l., 10-IX-2017 (coll. Kučinić); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Agriphila tristella ([Denis & Schiffermüller], 1775)

Lađena, 1200 m.a.s.l., 05-IX-2018, nine specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018, three specimens (coll. Gumhalter).

Ancylolomia palpella ([Denis & Schiffermüller], 1775)

Stara škola, 270 m.a.s.l., 30-VII-2018, two specimens (coll. Gumhalter).

Catoptria acutangulella (Herrich-Schäffer, 1847)

Vošac, 1421 m.a.s.l., 25-VII-1992, six specimens (coll. Kučinić); Vrh Biokova, 26-VII-1992 (coll. Kučinić); Trajna ploha, 1450 m.a.s.l., 23-VII-1994 (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995, two specimens (coll. Kučinić); Podno sv. Jure, 1594 m.a.s.l., 26-VII-1995, five specimens (coll. Kučinić); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, fifteen specimens (coll. Gumhalter).

Literature: Biokovo (MANN, 1869).

Catoptria falsella ([Denis & Schiffermüller], 1775)

Kapelica, 890 m.a.s.l., 17-VII-1991 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 21-VII-1994 (coll. Kučinić); Gornje Igrane, 25-VII-1995 (coll. Kučinić); Trajna ploha,1450 m.a.s.l., 26-VII-1995 (coll. Kučinić); Lađena, 1200 m.a.s.l., 27-VII-1995 (coll. Kučinić); Selo Srida, 30-VII-2017, (coll. Kučinić); Zagvozd, 01-VIII-2017 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 10-IX-2017 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, three specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018 (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 05-IX-2018, two specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, nine specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, nine specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, eight specimens (coll. Gumhalter).

Catoptria languidellus (Zeller, 1863)

Literature: Biokovo (MANN, 1869).

Catoptria mytilella (Hübner, [1805])

Lađena, 1270 m.a.s.l., 25-VII1995 (coll. Kučinić); Makarska, 25-VII-1995 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 10-IX-2017 (coll. Kučinić); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2019, eleven specimens (coll. Gumhalter).

Chrysocrambus linetella (Fabricius, 1781)
Lađena, 1270 m.a.s.l., 17-VI-1991 (coll. Kučinić).

Crambus perlella (Scopoli, 1763)
Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić).
Literature: Biokovo (MANN, 1869, *Crambus perlella* var. *warringtonella*, *Crambus perlella* var. *monochromella*).

Euchromius ocellea (Haworth, 1811)
Šuma uz cestu, 570 m.a.s.l., 28-V-2019 (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019 (coll. Gumhalter).

Pediasia contaminella (Hübner, 1796)
Vrh Biokova, 26-VII-1992 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, four specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, two specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 05-IX-2018, six specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018, three specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, five specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, five specimens (coll. Gumhalter).

Xanthocrambus saxonellus (Zincken, 1821)
Šuma uz cestu, 750 m.a.s.l., 05-IX-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, two specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, three specimens (coll. Gumhalter).

Evergestis limbata (Linnaeus, 1767)
Trajna ploha, 1450 m.a.s.l., 23-VII-1994 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 31-VII-1994 (coll. Kučinić); Makarska, 25-VII-1995 (coll. Kučinić); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Hydriris ornatalis (Duponchel, 1832)
Šuma uz cestu, 570 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Eurrhypis pollinalis ([Denis & Schiffermüller], 1775)
Trajna ploha, 1450 m.a.s.l., 31-V-2019, three specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, two specimens (coll. Gumhalter).

Cynaeda dentalis ([Denis & Schiffermüller], 1775)
Gornje Igrane, 25-VII-1995 (coll. Kučinić).

Achyra nudalis (Hübner, 1796)
Gornje Igrane, 25-VII-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).
Literature: Podgora (NEUSTETTER, 1956).

Anania terrealis (Tretischke, 1829)
Kapelica, 890 m.a.s.l., 17-VII-1991, two specimens (coll. Kučinić); Lađena, 1270 m.a.s.l., 23-VII-1993 (coll. Kučinić); Makarska, 25-VII-1993 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 21-VII-1994 (coll. Kučinić); Kotišina, 30-V-1995, six specimens (coll. Kučinić); Gornje Igrane, 25-VII-1995, two specimens (coll. Kučinić).

Anania testacealis (Zeller, 1847)
Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).
Literature: Podgora (NEUSTETTER, 1956).

Anania verbascalis ([Denis & Schiffermüller], 1775)
Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić).

Ecpyrrhorrhoe diffusalis (Guenée, 1854)

Biokovo, 1594 m.a.s.l., 24-VII-1994 (coll. Kučinić); Stara škola, 270 m.a.s.l., 26-VIII-2018, two specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018 (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, two specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 05-IX-2018 (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019 (coll. Gumhalter).

Ecpyrrhorrhoe rubiginalis (Hübner, 1796)

Makarska, 25-VII-1995 (coll. Kučinić); Gornje Igrane, 25-VII-1995 (coll. Kučinić).

Nascia cilialis (Hübner, 1796)

Literature: Biokovo Podgora (NEUSTETTER, 1956).

Paracorsia repandalis ([Denis & Schiffermüller], 1775)

Lađena, 1200 m.a.s.l., 19-VIII-2019, eight specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, three specimens (coll. Gumhalter).

Paratalanta hyalinalis (Hübner, 1796)

Kotišina, 20-VII-1994 (coll. Kučinić).

Pyrausta aurata (Scopoli, 1763)

Vrh Biokova, 25-VII-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Pyrausta castalis (Treitschke, 1829)

Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić); Grabovac, 01-VIII-2017 (coll. Kučinić); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018 (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, two specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 05-IX-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, eight specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, twelve specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, six specimens (coll. Gumhalter).

Pyrausta cingulata (Linnaeus, 1758)

Stara škola, 270 m.a.s.l., 30-VII-2018 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Pyrausta despicata (Scopoli, 1763)

Lađena, 1270 m.a.s.l., 28-V-1995 (coll. Kučinić); Kotišina, 30-V-1995 (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995, twp specimens (coll. Kučinić); Gornje Igrane, 2 5-VII-1995 (coll. Kučinić); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Literature: Podgora (NEUSTETTER, 1956, *Pyrausta cespitalis* var. *intermedialis*).

Pyrausta purpuralis (Linnaeus, 1758)

Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Pyrausta sanguinalis (Linnaeus, 1767)

Kapelica, 890 m.a.s.l., 17-VII-1991 (coll. Kučinić); Kotišina, 30-V-1995, two specimens (coll. Kučinić); Šuma uz cestu, 750 m.a.s.l., 05-IX-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l. 06-IX-2018 (coll. Gumhalter).

Sitochroa verticalis (Linnaeus, 1758)

Stara škola, 270 m.a.s.l., 30-VII-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Uresiphita gilvata (Fabricius, 1794)

Vošac, 20-VII-1994 (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić); Lađena, 1200 m.a.s.l., 27-VII-1995 (coll. Kučinić); Selo Srida, 10-IX-2017, two specimens (coll. Kučinić); Stara škola, 270 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Eudonia lacustrata (Panzer, 1804)

Kapelica, 890 m.a.s.l., 17-VII-1991, two specimens (coll. Kučinić); Lađena, 1270 m.a.s.l. 25-VII-1995 (coll. Kučinić); Gornje Igrane, 25-VII-1995, three specimens (coll. Kučinić); Trajna ploha, 1450 m.a.s.l., 26-VII-1995, two specimens (coll. Kučinić).

Eudonia mercurella (Linnaeus, 1758)

Kapelica, 850 m.a.s.l., 17-VII-1991, five specimens (coll. Kučinić); Vošac, 25-VII-1992, two specimens (coll. Kučinić); Makarska, 25-VII-1993, three specimens (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995, two specimens (coll. Kučinić); Gornje Igrane, 25-VII-1995, four specimens (coll. Kučinić); Trajna ploha,1450 m.a.s.l., 26-VII-1995 (coll. Kučinić).

Cydalima perspectalis (Walker, 1859)

Stara škola, 270 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Dolicharthria bruguieralis (Duponchel, 1833)

Stara škola, 270 m.a.s.l., 31-V-2019 (coll. Gumhalter).

Dolicharthria punctalis ([Denis & Schiffermüller], 1775)

Kotišina, 30-V-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 30-VII-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, two specimens (coll. Gumhalter).

Mecyna trinalis ([Denis & Schiffermüller], 1775)

Podno sv. Jure, 1594 m.a.s.l., 26-VII-1995 (coll. Kučinić).

Metasia carnealis (Treitschke, 1829)

Lađena, 1200 m.a.s.l., 19-VIII-2019, three specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, two specimens (coll. Gumhalter).

Metasia ophialis (Treitschke, 1829)

Kotišina, 30-V-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 21-VIII-2019, six specimens (coll. Gumhalter).

Metasia suppandalis (Hübner, [1823])

Stara škola, 270 m.a.s.l., 21-VIII-2019, two specimens (coll. Gumhalter).

Nomophila noctuella ([Denis & Schiffermüller], 1775)

Vošac, 25-VII-1992 (coll. Kučinić); Gornje Igrane, 25-VII-1995 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, six specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, five specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 05-IX-2018, two specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018, two specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Trajna ploha, 1400 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019 (coll. Gumhalter); Trajna ploha, 1450 m.a.s.l., 28-V-2019 (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, two specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, three specimens (coll. Gumhalter).

Palpita vitrealis (Rossi, 1794)

Makarska, 25-VII-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 06-IX-2018, three specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Pleuroptya crocealis (Duponchel, 1834)

Gornje Igrane, 25-VII-1995 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 31-V-2019 (coll. Gumhalter).

Pleuroptya ruralis (Scopoli, 1763)

Stara škola, 270 m.a.s.l., 05-IX-2018 (coll. Gumhalter).

Udea ferrugalis (Hübner, 1796)

Kapelica, 890 m.a.s.l., 17-VII-1991 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 26-VII-1992, two specimens (coll. Kučinić); Vošac, 20-VII-1994 (coll. Kučinić); Kotišina, 30-V-1995, three specimens (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić); Lađena, 1270 m.a.s.l., 25-VII-1995 (coll. Kučinić); Zagvozd, 25-IX-20IV (coll. Kučinić); Zagvozd, 01-VIII-2017, two specimens (coll. Kučinić); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, six specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 05-IX-2018, two specimens (coll. Gumhalter); Livada, 1000 m.a.s.l., 06-IX-2018 (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 06-IX-2018, two specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, two specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, three specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, three specimens (coll. Gumhalter).

Udea lutealis (Hübner, [1809])

Literature: Biokovo (MANN, 1869, *Botys nebulalis*)

Udea numeralis (Hübner, 1796)

Trajna ploha, 1450 m.a.s.l., 26-VII-1995 (coll. Kučinić).

Udea olivalis ([Denis & Schiffermüller], 1775)

Trajna ploha, 1450 m.a.s.l., 26-VII-1995 (coll. Kučinić); Gornje Igrane, 25-VII-1995 (coll. Kučinić); Blizu vrha, 1594 m.a.s.l., 26-VIII-1995 (coll. Kučinić).

PYRALIDAE

Lamoria anella ([Denis & Schiffermüller], 1775)

Kapelica, 890 m.a.s.l. 17-VII-1991, two specimens (coll. Kučinić); Makarska, 25-VII-1995 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, six specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 26-VIII-2018, eight specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, nine specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 06-IX-2018, four specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, three specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019, six specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, five specimens (coll. Gumhalter).

Epidauria transversariella (Zeller, 1848)

Kapelica, 890 m.a.s.l., 17-VII-1991 (coll. Kučinić); Biokovo podno sv. Jure, 1590 m.a.s.l., 24-VII-1994, three specimens (coll. Kučinić); Gornje Igrane, 25-VII-1995, three specimens (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 31-VII-1994 (coll. Kučinić); Stara škola, 270 m.a.s.l., 30-VII-2018, two specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019 (coll. Gumhalter).

Hypsotropa limbella (Zeller, 1848)

Literature: Podgora (NEUSTETTER, 1956).

Acrobasis fallouella (Ragonot, 1871)

Kapelica, 890 m.a.s.l., 10-VII-1989 (coll. Kučinić).

Acrobasis glaucella (Staudinger, 1859)

Gornje Igrane, 25-VII-1995 (coll. Kučinić).

Amphithrix sublineatella (Staudinger, 1859)

Šuma uz cestu, 570 m.a.s.l., 21-VIII-2019, (coll. Gumhalter).

Denticera divisella (Duponochel, 1842)

Šuma uz cestu, 570 m.a.s.l., 10-IX-2018 (coll. Gumhalter).

Dioryctria abietella ([Denis & Schiffermüller], 1775)

Šuma uz cestu, 570 m.a.s.l., 12-VI-1989, two specimens (coll. Kučinić); Vošac, 25-VII-1992 (coll. Kučinić);

Kotišina, 20-VII-1994 (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić); Makarska, 25-VII-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 30-VII-2018, Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018 (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Epischnia prodromella (Hübner, [1799])

Kapelica, 890 m.a.s.l., 17-VII-1991 (coll. Kučinić); Makarska, 25-VII-1995 (coll. Kučinić); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Etiella zinckenella (Treitschke, 1832)

Kotišina, 30-V-1995, two specimens (coll. Kučinić).

Myelois circumvoluta (Fourcroy, 1785)

Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter).

Oncocera semirubella (Scopoli, 1763)

Grabovac, 01-VIII-2017 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 27-VIII-2018, six specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, four specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, two specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, three specimens (coll. Gumhalter).

Oxybia transversella (Duponchel, 1836)

Selo Srida, 30-VII-2017, two specimens (coll. Kučinić); Selo Srida, 10-IX-2017, two specimens (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 10-IX-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 26-VIII-2018, seven specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, five specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, six specimens (coll. Gumhalter).

Pempelia palumbella ([Denis & Schiffermüller], 1775)

Šuma uz cestu, 570 m.a.s.l., 16-VI-1989 (coll. Kučinić); Vošac, 25-VII-1992 (coll. Kučinić); Lađena, 1270 m.a.s.l., 24-VII-1995 (coll. Kučinić); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, three specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019, two specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, four specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Phycita cryptica Plant & Slamka, 2016

Literature: Gornje Igrane (PLANT & SLAMKA, 2016).

Selagia spadicella (Hübner, 1796)

Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Endotricha flammealis ([Denis & Schiffermüller], 1775)

Kapelica, 890 m.a.s.l., 10-VII-1989, two specimens (coll. Kučinić); Gornje Igrane, 25-VII-1995, eight specimens (coll. Kučinić); Lađena, 1200 m.a.s.l., 27-VII-1995 (coll. Kučinić); Šuma uz cestu, 570 m.a.s.l., 21-VII-1999 (coll. Kučinić); Selo Srida, 30-VII-2017, two specimens (coll. Kučinić); Grabovac, 01-VIII-2017 (coll. Kučinić); Zagvozd, 01-VIII-2017, three specimens (coll. Kučinić); Stara škola, 270 m.a.s.l., 26-VIII-2018, three specimens (coll. Gumhalter); Šuma uz cestu, 750 m.a.s.l., 27-VIII-2018, two specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, five specimens (coll. Gumhalter); Šuma uz cestu, 570 m.a.s.l., 31-V-2019, three specimens (coll. Gumhalter); Lađena, 1200 m.a.s.l., 19-VIII-2019, two specimens (coll. Gumhalter); Blizu vrha, 1600 m.a.s.l., 20-VIII-2019, five specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, six specimens (coll. Gumhalter).

Hypsopygia costalis (Fabricius, 1775)

Stara škola, 270 m.a.s.l., 21-VIII-2019 (coll. Gumhalter).

Hypsopygia fulvocilialis (Duponchel, 1834)

Kapelica, 890 m.a.s.l., 10-VII-1989, four specimens (coll. Kučinić); Kapelica, 890 m.a.s.l. 17-VII-1991 (coll. Kučinić); Ispod sv. Jure, 1594 m.a.s.l., 24-VII-1994 (coll. Kučinić); Gornje Igrane 25-VII-1995, three specimens (coll. Kučinić); Grabovac, 01-VIII-2017 (coll. Kučinić).

Pyralis regalis ([Denis & Schiffermüller], 1775)

Zagvozd, 01-VIII-2017 (coll. Kučinić); Stara škola, 270 m.a.s.l., 30-VII-2018 (coll. Gumhalter); Stara škola, 270 m.a.s.l., 21-VIII-2019, two specimens (coll. Gumhalter).

Stemmatophora brunnealis (Treitschke, 1829)

Stara škola, 270 m.a.s.l., 26-VIII-2018, two specimens (coll. Gumhalter); Stara škola, 270 m.a.s.l., 06-IX-2018, eight specimens (coll. Gumhalter).

Literature: Podgora (NEUSTETTER, 1956).

Synaphe bombycalis ([Denis & Schiffermuller], 1775)

Literature: Podgora (NEUSTETTER, 1956).

Synaphe punctalis (Fabricius, 1775)

Vrha Biokova, 26-VII-1992 (coll. Kučinić); Kotišina, 20-VII-1994 (coll. Kučinić).