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An annotated catalogue of the Procridinae of the World (Lepidoptera: Zygaenidae)

Konstantin A. Efetov & Gerhard M. Tarmann

Abstract

Almost 90 years have passed after the last publication of a catalogue of the family Zygaenidae of the world (Bryk, 1936). At that time there was no correct understanding of the taxonomic, genetic and ecological framework of the subfamily Procridinae. Many species of this subfamily were included into the Chalcosiinae and Zygaeninae. A new contemporary annotated catalogue consisting of five tribes, 94 genera and 570 species of Procridinae is provided. This is the first ever published complete worldwide catalogue of the subfamily. All together, 1111 taxa (including synonyms) are discussed. Three new tribes (Thyrassiini, tribus nov., Pollanisini tribus nov. and Cleleini tribus nov.), two new genera (*Afromalamblia* gen. nov. and *Psudohedina* gen. nov.) as well as four new subgenera (*Longiterna* subgen. nov., *Afroterna* subgen. nov., *Obscuriterna* subgen. nov., and *Eurasiterna* subgen. nov.) are described. 36 comb. nov., 14 stat. nov. and 3 syn. nov. are established.
Keywords: Lepidoptera, Zygaenidae, Procridinae, Thyrassiini, Pollanisini, Artonini, Cleleini, Procridni, systematic catalogue, taxonomy, distribution, larval host-plants, World.

Catálogo anotado de los Procridinae del mundo (Lepidoptera: Zygaenidae)

Resumen

Han pasado casi 90 años desde la última publicación de un catálogo de la familia Zygaenidae del mundo (Bryk, 1936). En aquella época no existía una comprensión correcta del marco taxonómico, genético y ecológico de la subfamilia Procridinae. Muchas especies de esta subfamilia se incluyeron en los Chalcosiinae y Zygaeninae. Se proporciona un nuevo catálogo contemporáneo anotado que consta de cinco tribus, 94 géneros y 570 especies de Procridinae. Se trata del primer catálogo mundial completo publicado de la subfamilia. En total, se analizan 1111 taxones (incluidos los sinónimos). Se describen tres nuevas tribus (*Thyrassiini*, tribus nov., *Pollanisini* tribus nov. y *Cleleini* tribus nov.), dos nuevos géneros (*Afromalamblia* gen. nov. y *Psudohedina* gen. nov.) y cuatro nuevos subgéneros (*Longiterna* subgen. nov., *Afroterna* subgen. nov., *Obscuriterna* subgen. nov. y *Eurasiterna* subgen. nov.). Se establecen 36 comb. nov., 14 stat. nov. y 3 syn. nov.
Palabras clave: Lepidoptera, Zygaenidae, Procridinae, Thyrassiini, Pollanisini, Artonini, Cleleini, Procridni, catálogo sistemático, taxonomía, distribución, plantas nutricias de larvas, Mundo.

Content

Introduction

The family Zygaenidae is an important model group for ecological, environmental, zoogeographic, biochemical, karyological, genetic, morphological and taxonomic investigations in Lepidoptera (see e.g. Can et al. 2018, 2019; Can Cengiz et al. 2018; Drouet & Tarmann, 1989; Drouet et al. 2021; Gernaat et al. 2022; Huang & Efetov, 2021; Efetov, 1996e, 2012b, 2016, 2018, 2019; Efetov et al. 2004, 2010a, 2010b, 2010c, 2010d, 2011, 2012a, 2012b, 2013, 2014a, 2014b, 2014c, 2014d, 2015a, 2015b, 2016a, 2016b, 2016c, 2016d, 2017, 2018, 2019a, 2019b, 2019c, 2019d, 2020, 2021, 2022, 2023a, 2023b; Efetov & Gorbunov, 2016; Efetov & Knyazev, 2014; Efetov & Kucherenko, 2020, 2021; Efetov & Savchuk, 2009, 2013; Efetov & Tarmann, 2012, 2014b, 2017a, 2020a, 2020b, 2022a, 2022b; Knyazev et al. 2015a, 2015b; Landoldt et al. 1991; Marianelli et al. 2020; Markl et al. 2022; Mutanen et al. 2016; Nahirnić-Beshkova et al. 2021; Nazari & Efetov, 2023; Nazari et al. 2019; Parshkova & Efetov, 2014; Razov et al. 2017; Subchev et al. 2016, 2012, 2013; Tarmann, 1975, 1979, 1984a, 1984b, 1992a, 1992b, 1995, 1998, 2004, 2016, 2019a, 2019b, 2019c; Tarmann & Efetov, 2021; Tarmann et al. 2019; Vrenozi et al. 2019; Zahiri et al. 2021). Its systematics is well established. According to the contemporary classification the family Zygaenidae consists of five subfamilies: Inouelinae Efetov & Tarmann, 2017; Zygaeninae Latreille, 1809; Callizygaeninae Alberti, 1954; Chalcosiinae Walker, 1865, and Procridinae Boisduval, 1828 (Efetov, 1999c, 2001d, 2004d; Efetov & Tarmann, 2014a, 2017a; Tarmann, 1994; Mirić et al. 2023).

The Procridinae is the only subfamily that has a worldwide distribution and which occurs also in America and Australia. Many species have been described during the last years (see e.g. Efetov, 1998a, 1998b, 2010, 2012a; Efetov & Tarmann, 2013a, 2013b, 2014a, 2014b, 2016a, 2016b, 2017a, 2017b; Keil, 1998, 1999, 2016b, 2020; Mollet, 2008, 2015, 2016a, 2016b, 2016c, 2016d, 2017, 2018, 2020a, 2020b; Mollet & Tarmann, 2007, 2010, 2023; Owada, 2021; Owada et al. 2021, 2022a, 2022b; Owada & Inada, 2005; Shih & Owada, 2022; Sondhi et al. 2023; Tarmann & Cock, 2019; Tarmann & Drouet, 2015). However, newer checklists of taxa exist only for the Palaearctic and Australian regions (Tarmann, 2004; Efetov & Tarmann, 2012).

As the last catalogue of the Procridinae of the world was published 88 years ago (Bryk, 1936) it is urgently time for an update. Although there are several papers in preparation where more species will be described, we think this catalogue should be published now. We have postponed this work already for many years, always in the hope of making it more complete by waiting for the next publication series about Procridinae. Further new species must be summarized as an addition at a later time.

Historical background

Illustrations of Zygaenidae can be found on the paintings of the Dutch Masters of 17th century

where they join Papilionoidea and other moths on and around flower bouquets (Efetov & Tarmann, 2008a). The first Zygaenidae were described in the 10th edition of Carolus Linnaeus' *Systema Naturae* in the year 1758, viz. *Sphinx filipendulae* Linnaeus, 1758, and *Sphinx statices* Linnaeus, 1758. Soon there followed numerous descriptions by other authors such as Eugen Johann Christoph Esper, Michael Denis & Ignaz Schiffermüller, Jacob Hübner, Ferdinand Ochsenheimer and others. However, a first comprehensive summary of the so far known names was not available before the publication of Jean-Baptiste Alphonse DéChauffour de Boisduval's work *Monographie des Zygaenides* (1828). A significant step forward in our knowledge about Zygaenidae followed slightly later in the 19th century with authors like Gottlieb August Wilhelm Herrich-Schäffer (1843-1855, 1843-1856, [1853]-[1858], [1856]-1861), Christian Friedrich Freyer (1833-1836), Francis Walker (1854, 1856), Otto Staudinger (1862, 1871, 1878-1879, 1887a, 1887b), George Francis Hampson (1893), Charles Oberthür (1880, 1893, 1894, 1916), John-Henry Leech (1889a, 1889b, 1898), Charles Swinhoe (1890, 1891, 1892, 1894, 1903), Edward Meyrick (1886-1888), Herbert Druce (1881-1900, 1889, 1896, 1899, 1806, 1910) and others. These authors did not only deal with the Palaearctic species but were working in a world-wide context. An impressive overview of all known species of Zygaenidae of the world with short descriptions of the species and, if known, also of their distribution and biology, with colour illustrations of all mentioned species can be found in Adalbert Seitz's books *Die Gross-Schmetterlinge der Erde*. In these series of books the Zygaenidae were treated by Karl Jordan (1907a, 1907c-1908, 1913) and Max Gaede (1926).

A list of all known taxa in the world with synonyms, citations of original descriptions and geographical notes on the distribution was published by Embrik Strand in *Lepidopterorum Catalogus* in volumes 33 (by Helmut Burgeff, 1926, all Zygaeninae) and 71 (by Felix Bryk, 1936, all other Zygaenidae groups). The fascination about the variability of Zygaenidae and their geographical differences especially of the Palaearctic species of *Zygaena* Fabricius, 1775, resulted in a huge number of descriptions of subspecies, forms and aberrations. Helmut Burgeff, Franz Daniel, Francis Dujardin, Otto Holik, Manfred Koch, Hans Rauch, Hugo and Günther Reiss, Ubaldo Rocci, Ruggero Verity, Karl-Heinz Wiegel, etc. described hundreds of taxa.

Only Burchard Alberti (1954, 1958-1959) saw the familiy Zygaenidae as a whole and in a global context. He summarised their characters, especially those of their genitalia and tried the first phylogenetic analysis. Interesting new ideas came from Ernst Rudolf Reichl (1964) who implemented for the first time biometry and biostatistics into the discussion about populations, subspecies and species. He also created the first electronic database for Zygaenidae. The phylogenetic approach of Alberti, based on the studies of more and new characters, was further developed by Clas Naumann (morphology, ultrastructures, biochemistry, and biogeography) and many of his students, e.g. Oliver Niehuis (molecular biology), Axel Hille (biology, biochemistry, biometry), Harald Fänger (morphology, ultrastructure), also by Konstantin Efetov & Gerhard Tarmann (morphology, biology, behaviour, biochemistry, molecular biology, genetics) and recently by Mirela Mirić and Jadranka Rota (genetics).

We also have to mention Walter Gerald Tremewan (genetics, bionomics, bibliography, systematics, taxonomy, and phylogeny), Axel Hofmann (biology, biogeography, systematics, taxonomy, and phylogeny), Hiroshi Inoue (morphology, systematics, and taxonomy), Bernard Mollet and Thomas Keil (morphology, biology, systematics) and Shen-Horn Yen (morphology, systematics, molecular biology, and phylogeny) as other important contributors to the knowledge of the family.

By all these works more lepidopterologists were stimulated to study Zygaenidae. Many of them compiled large collections. Here we have to mention the rich special collections of Zygaenidae of Eyjolf Aistleitner (Palaearcic region, especially Iberian Peninsula), Francis Dujardin (Palaearctic region), Ulf Eitschberger (Palaearcti region), Helmut und Ruth Holzinger (Palaearctic region), Predrag Jakšić (Balkans), Thomas Keil (especially Palaearctic region), Hans Rauch (Alps, Italy, Balkans), and

especially the huge collection of Thomas Witt (mainly Palaearctic and Oriental region). In some countries collectors have formed very active working groups that contributed significantly especially to the knowledge of the Zygaenidae fauna of their country, e.g. in France the GIRAZ with members like Louis Faillie, Jean-Marie Desse, Eric Drouet, Marc Nicolle, Bruno Lambert and others.

A number of impressive monographies in the form of books have been published on Zygaenidae during the last years (e.g. Efetov, 2001f, 2004a, 2005a; Efetov & Tarmann, 1999a, 2008b, 2012; Guenin, 2023; Keil, 2014; Hofmann & Tremewan, 2017, 2020a, 2020b; Naumann, Tarmann & Tremewan, 1999; Tarmann, 2004) and more will follow.

Extended material was compiled during various collecting expeditions by persons who deposited their material in private collections and in museums. Here we have to mention especially the collectors of the British, Dutch, German, Austrian and Russian Empires that worked between the end of the 19th century up to the Second World War. Extraordinary persons like Lord Walter Rothschild and the Grand Duke Nikolay Mikhaylovich Romanov, and later Adalbert Seitz, invested lots of money in compiling material and in the publication of richly illustrated book series. For those private people but also for larger national museums a number of collectors travelled around the world and brought material of Zygaenidae from almost all countries where they are distributed. Moreover, members of the navy of the British Empire and employees of powerful commercial companies (e.g. the Dutch East Indian Company) were sent to foreign countries and many of them were collectors of insects. As examples for some of these almost "professional collectors" we mention Hugo Theodor Christoph (Central Asia), J. Z. Kannegieter (South-East Asia) and as an example of well-known people who were based far away from their home countries Rudolph van Eecke (South-East Asia), Hermann Höne (China), Edi Diehl (Indonesia), Georg Brückner (Guatemala) and J. F. Zikân (Brazil).

In Europe Leo Sheljuzhko (Eastern Europe, Caucasus, Central Asia), Guy Barrague (North Africa), Josef J. de Freina (Western Palaearctic and Africa), Wolfgang Eckweiler (especially western Asia), Ernst Görgner (western Asia), and Jiři Klir (Asia) collected valuable material also of Zygaenidae that is now mainly deposited in other collections.

In Asia especially the Japanese scientists and collectors like Hiroshi Inoue, Mamoru Owada, Yasunori Kishida, Kiyoshi Horie and Toshitsugo Endo established large collections that contain important material of Zygaenidae. Others such as Masanao Nakamura, Kayoko Nishihara und Chiharu Koshio contributed significantly to our knowedge of morphology and biology.

In spite of all these efforts we still have large gaps in the knowledge of Zygaenidae for many parts of the world, where newer comprehensive summaries are missing and the identification of species is therefore difficult. Many undescribed species are already known and waiting to be described. A very substantial contribution to the knowledge of the Asian and Australian Zygaenidae fauna, mainly based on his own field observations and rearing experiments, has recently been carried out by Bernard Mollet (e.g. Mollet, 1995, 2003a, 2003b, 2003c, 2019a; Mollet & Tarmann, 2023).

Revisions on generic level are permanently published but the progress is slow. Revisions on Zygaenidae dealing with whole continents have only been published for parts of the Palaearctic (Naumann et al. 1999; Efetov, 2001d, 2005a, 2005b; Efetov & Tarmann, 1995b, 1999a; Keil, 2014), America (Tarmann, 1984b) and Australia (Tarmann, 2004; Mollet & Tarmann, 2023) during the last 50 years.

The authors of this catalogue have already summarised their total knowledge on Zygaenidae and undertook an attempt to provide a hypothetical ground plan of the family in 2017 (Efetov & Tarmann, 2017a).

The concept of Alberti (genera, subgenera, species groups)

Scientific work with Zygaenidae has been often controversial. While in one case a character can

be extremely useful for classification, the same character can be completely irrelevant in another case. This problem is not new. Already scientists like Karl Jordan (e.g. Jordan, 1907a, 1907c) and Martin Hering (e.g. Hering 1922, 1926), who summarised parts of the World's Zygaenidae in several books and papers, stepped into some of the tricky traps that have been laid by an unpredictable evolutionary history especially in the subfamily Procridinae (Tarmann, 1984b, 2004).

Alberti (1954) published the first comprehensive revision of the Zygaenidae of the world. It was based on extended studies, especially on the genitalia morphology of males and females. He recognised seven subfamilies for Zygaenidae: Zygaeninae, Phaudinae (now family Phaudidae within Zygaenoidea), Chalcosiinae, Anomoeotinae (now family Anomoeotidae within Zygaenoidea), Himantopterinae (now family Himantopteridae within Zygaenoidea), Charideinae (moved to Thyrididae by Minet, 1991) and Procridinae.

Especially for his treatment of the Procridinae Alberti (1954) used genera and also subgenera and within these subgenera species groups. In the same way, he also treated the subfamily Zygaeninae.

This concept has been widely accepted, especially in Procridinae. However, the discovery of new characters and more knowledge on their variability has made it necessary to describe a new subfamily, viz. Inouelinae (Efetov & Tarmann, 2017a), new genera and to divide some genera into more subgenera.

There is a common consensus that species can be grouped together with closely related species to form so-called species groups. However, there is no consensus if it makes sense to give a group of species or a group of species groups a taxonomic status in the form of the description of a subgenus. The fact that many of these described subgenera have suddenly appeared as genera in various publications and have confused users of scientific names like taxonomists, applied entomologists, biogeographers etc. led to a widely distributed rejection of subgeneric names. Opinions about the pros and cons of subgeneric names have been strongly held between entomologists and it is mainly dependent on the education and the tradition of an entomological society in which direction these feelings go (see e.g. Hofmann & Tremewan, 2009).

The authors of this catalogue have studied the family Zygaenidae for almost half a century. Nevertheless, they could not avoid following Alberti's concept throughout all their works as it was in most cases clearly the best solution for taxonomic and systematic work in Zygaenidae and especially in the Procridinae, which are treated in this catalogue. This concept enables good grouping of monophyletic units, the subgeneric names are based on types with a designated type species and there is a responsible authorship for each of them. Moreover, in many cases clear monophyletic species groups are found within the subgenera which enables further good subgrouping. Examples are genera like *Artona* Walker, 1854, *Illiberis* Walker, 1854, *Zygaenoprocris* Hampson, 1900, *Adscita* Retzius, 1783, or *Jordanita* Agenjo, 1940, each with a number of well differentiated subgenera (Figures 1-2).

A new concept to use tribes in Procridinae

Since 1994 the subfamily Procridinae has been divided into two tribes: Artonini Tarmann, 1994 and Procridini Boisduval, 1828 (Tarmann, 1994; Efetov & Tarmann, 2012, 2017a). This concept was based on a large number of significant morphological, biological and other characters. All these relevant characters were listed, compared and discussed in detail in Efetov & Tarmann (2017a). However, some characters that have earlier been thought to belong to Artonini only have later also been found in Procridini. The concept that Artonini are monophyletic and Procridini paraphyletic has not been confirmed as valid in recent years. The final confirmation that the concept used so far was wrong is based on the newest DNA results using 32 nuclear and mitochondrial genes (Mirić et al. 2023). Taking into account these new results and combining them with the so-far known earlier results on morphology and biology we see that the subfamily Procridinae consists of five monophyletic traits.

Consequently, we divide here the Procridinae into Thyrassiini **tribus nov.**, Pollanisini **tribus nov.**, Artonini Tarmann, 1994, Cleleini **tribus nov.**, and Procridini Boisduval, 1828.

The concept for species and subspecies in this catalogue

Since the times of Linnaeus it has been an unsolvable problem to find a common agreement between authors of what is a species and, of course, also what is a subspecies. Populations with common characters have been grouped together and named but the moment when species level is reached has never been completely clear. There are many zoological species concepts. Wilkins (2006) mentions in a short summary at least 26 existing species concepts. It is not the aim of this catalogue to contribute to this discussion but we have to agree to a pragmatic solution for the list of taxa given below. The subfamily Procridinae of Zygaenidae that is treated in this catalogue shows especially rich character variability and character combinations. We are confronted with the situation that sometimes characters are very constant in one group but are completely variable in another. Moreover, many species interbreed without problems and produce hybrid populations that are also fertile in further generations. Therefore, it has often been difficult to decide whether a taxon has to be treated as a species or included in a known taxon as a subspecies. According to Alberti's concept (Alberti, 1954) (see above) most taxa that show unique genitalic characters have to be treated as species in Procridinae. However, there are species groups that do not show significant differences in genitalia but are, without doubt, different species (e.g. *Pollanisus* in Australia, *Harrisina* in America). Even characters like DNA distances cannot solve this problem (e.g. *Jordanita* in the Palaearctic and *Pollanisus* in Australia). Moreover, even if small genitalic differences are present the existence of broad hybrid belts show that it is sometimes better to treat geographically separated population groups as subspecies and not as valid species even if they also have small genetic differences.

Based on the current knowledge about the variability of characters in Procridinae the authors strongly support the opinion that for the subfamily Procridinae subspecies only make sense and can be accepted if they represent a group of populations that have important constant characters that separate them clearly from the nominotypical populations without exceptions. As examples we mention *Adscita* (*Adscita*) *statices statices* and *A.* (*A.*) *statices drenowskii* (constant genitalic differences in male, no genitalic differences in female, small genetic differences in the COI gene within the populations but clustering into two well-separated groups, similar biology, vicariant distribution, broad hybrid belt where the two subspecies meet), *Adscita* (*Adscita*) *italica italica* and *A.* (*A.*) *italica storaiae* (no constant genitalic differences in male, small but also not constant genitalic differences in female, clear genetic distance in the COI gene, clearly isolated geographic range, no geographical meeting points and therefore no hybrids known in nature), *A.* (*A.*) *geryon geryon* and *A.* (*A.*) *geryon orientalis* (no constant genitalic differences but large genetic distances in the COI gene, vicariant distributional ranges, no proof of hybrids in nature so far) and *A.* (*A.*) *obscura obscura* and *A.* (*A.*) *obscura maxima* (no differences in genitalia, constant differences only in habitus and clearly isolated geographic ranges, small genetic differences in the COI gene).

Many species and subspecies described earlier do not fit into this concept. They often were based on insufficient characters and have shown to be synonyms. Especially subspecies were often based only on habitus characters like the different size and colour of the specimens and on an isolated geographic occurrence. The lack of a profound knowledge of the overall variability of these characters in Procridinae has led to this situation. The authors have therefore already synonymized most of the so-far described subspecies in Procridinae (Efetov & Tarmann, 1995b, 2012; Efetov, 2001d). However, recently a number of new taxa have been described where other criteria have been used by the authors as accepted by us for this catalogue (e.g. Keil, 2016b, 2020; Zolotuhin, 2020). All these taxa are here included, discussed in detail and mainly placed according to our above mentioned concept.

Catalogue

C - comments that follow immediately after the checklist

Family **Zygaenidae** Latreille, 1809, 189, 211 (as Zygaenides)
[Type genus: *Zygaena* Fabricius, 1775, 550]

Subfamily **Procridinae** Boisduval, 1828, 38 (as Procridae)
[Type genus: *Procris* [Fabricius in Illiger], 1807, 289] (see Taeger & Gaedike, 2001, 87)

Tribe **Thyrassiini** Efetov & Tarmann, **tribus nov. (C01)**
[Type-genus: *Thyrassia* Butler, 1876, 355]

Larval host-plants: Vitaceae.
Distribution: Southern and southeastern Asia, Australia.

Genus ***Thyrassia*** Butler, 1876, 355
[Type species: *Syntomis subcordata* Walker, 1854, 132, by original designation]
Monoschalis Hampson, 1893 ("1892"), 238
[Type species: *Monoschalis virescens* Hampson, 1893 ("1892"), 238, by original designation]
Atucia Watson, 1980, 20
[Type species: *Acutia bidens* Kaye, 1919, 89, by original designation], a junior homonym of *Acutia* Ragonot, 1891, 539 - Insecta: Lepidoptera, Pyralidae. The objective replacement is *Atucia* Watson, 1980, 20

Larval host-plants: Vitaceae.

T. subcordata (Walker, 1854, 132) (*Syntomis*)

Distribution: Noth India (ssp. *subcordata*), South India, Sri Lanka (ssp. *aurodisca*).

T. subcordata subcordata (Walker, 1854, 132) (*Syntomis*)
subcaudata [sic] Swinhoe, 1892, 55, misspelling
T. subcordata aurodisca Hampson, 1891, 44

T. virescens (Hampson, 1893, 238) (*Monoschalis*)

Distribution: Sri Lanka.

T. penangae (Moore, 1859, 198) (*Syntomis*)

Distribution: southern China, Myanmar (Burma), Malaysia, Singapore, Indonesia (Sumatra) (ssp. *penangae*), Java, Bali (ssp. *rafflesi*).

T. penangae penangae (Moore, 1859, 198) (*Syntomis*)
diversa (Walker, 1864, 31) (*Hydrusa*) (synonymised by Bryk, 1936, 271)
penanga [sic] (Hampson, 1896, 466) (*Syntomis*), misspelling
T. penangae rafflesi (Moore, 1859, 198) (*Syntomis*)

T. bidens (Kaye, 1919, 89) (*Acutia*)

Distribution: Malaysia (Borneo), Indonesia (Borneo).

T. philippina Jordan, 1908, 51
penangae (sensu Semper, 1898, 433) (nec Moore, 1859, 198) (see Bryk, 1936, 271)

Distribution: Philippines (Luzon).

T. aprepes Swinhoe, 1905, 144

Distribution: Indonesia (Sumba. Kai Islands).

T. inconcinna Swinhoe, 1892, 55 (Figure 3)
mimetica (Turner, 1902, 200) (*Monoschalis*)

Distribution: Australia (Queensland, Lizard Island).

Tribe **Pollanisini** Efetov & Tarmann, **tribus nov. (C02)**
[Type-genus: *Pollanisus* Walker, 1854, 114]

Larval host-plants: Dilleniaceae, Myrtaceae, Vitaceae, Arecaceae.
Distribution: Australia, Fiji, South Africa.

Genus ***Pollanisus*** Walker, 1854, 114 **(C03)**
[Type species: *Procris viridipulverulenta* Guérin-Méneville, 1839, pl. 11, by subsequent designation by Kirby, 1892, 87]

Larval host-plants: Dilleniaceae (two species on Urticaceae and one on Fabaceae).

P. acharon (Fabricius, 1775, 556) (*Zygaena*)
eumetopus Turner, 1926, 443
eungellae Tarmann, 2004, 95

Distribution: Australia (Queensland).

Pollanisus **sp. 7** (discussed and figured in Tarmann, 2004, 103; Mollet & Tarmann, 2023, 9, 11)

Distribution: Australia (Northern Territory).

P. yugambeh Mollet & Tarmann, 2023, 30

Distribution: Australia (Queensland, New South, Wales).

P. angustifrons Tarmann, 2004, 100
Pollanisus sp. 4 (discussed and figured in Tarmann, 2004, 102)
Pollanisus sp. 5 (discussed and figured in Tarmann, 2004, 102)

Distribution: Australia (Queensland).

P. jumbun Mollet & Tarmann, 2023, 13

Distribution: Australia (Queensland).

P. horakae Mollet & Tarmann, 2023, 33

Distribution: Australia (Queensland).

P. trimacula (Walker, 1854, 110) (*Procris*)

Distribution: Australia (Queensland, New South Wales).

P. worimi Mollet & Tarmann, 2023, 36

Distribution: Australia (New South Wales).

P. kalliesi Mollet & Tarmann, 2023, 37

Distribution: Australia (New South Wales).

P. subdolosa (Walker, 1865, 32) (*Procris*)

Distribution: Australia (Queensland, New South Wales (subsp. *clara*), Victoria (subsb. *subdolosa*)).

P. subdolosa subdolosa (Walker, 1865, 32) (*Procris*)
P. subdolosa clara Tarmann, 2004, 89

P. edwardsi Tarmann, 2004, 86

Distribution: Australia (Queensland, New South Wales).

***Pollanisus* sp. 2** (discussed and figured in Tarmann, 2004, 102; Mollet & Tarmann, 2023, 20)

Distribution: Australia (New South Wales).

P. commoni Tarmann, 2004, 98 (Figure 15)

Distribution: Australia (Queensland).

***Pollanisus* sp. 8** (discussed and figured in Tarmann, 2004, 104; Mollet & Tarmann, 2023, 22)

Distribution: Australia (Queensland).

P. contrastus Tarmann, 2004, 91

Distribution: Australia (Queensland, New South Wales).

***Pollanisus* sp. 3** (discussed and figured in Tarmann, 2004, 102; Mollet & Tarmann, 2023, 26)

Distribution: Australia (Queensland).

***Pollanisus* sp. 6** (discussed and figured in Tarmann, 2004, 103; Mollet & Tarmann, 2023, 26)

Distribution: Australia (Queensland).

P. incertus Tarmann, 2004, 99

Distribution: Australia (Queensland).

P. jirrbal Mollet & Tarmann, 2023, 45

Distribution: Australia (Queensland).

P. viridipulverulenta (Guérin-Méneville, 1839, pl. 11) (*Procris*) (Figure 21)
adelaidae Turner, 1926, 444

Distribution: Australia (Queensland, New South Wales, Victoria, South Australia, Tasmania).

P. cupreus Walker, 1854, 115

Distribution: Australia (Western Australia).

P. nielseni Tarmann, 2004, 75 (Figure 22)

Distribution: Australia (Western Australia).

P. empyrea (Meyrick, 1888, 927) (*Procris*) **(C04)**

Distribution: Australia (Western Australia).

P. amethystina (Meyrick, 1888, 927) (*Procris*) **(C04)**

Distribution: Australia (Western Australia).

P. apicalis (Walker, 1854, 111) (*Procris*)
sequens Walker, 1854, 115
novaehollandiae (Wallengren, 1860, 39) (*Procris*)

Distribution: Australia (Queensland, New South Wales, Victoria, South Australia, Tasmania).

P. nocturna Mollet & Tarmann, 2023, 50

Distribution: Australia (Queensland, New South Wales).

P. modestus Tarmann, 2004, 76

Distribution: Australia (New South Wales).

P. lithopastus Turner, 1926b, 443

Distribution: Australia (New South Wales, Victoria, Tasmania).

P. marriotti Kallies & Mollet, 2011

Distribution: Australia (Victoria).

Pollanisus **sp. 1** (discussed and figured in Tarmann, 2004, 79; Mollet & Tarmann, 2023, 18)

Distribution: Australia (Australian Capital Territory).

P. cyanota (Meyrick, 1886, 793) (*Procris*)

Distribution: Australia (Queensland, New South Wales, Victoria).

P. hyacinthus Kallies & Mollet, 2018

Distribution: Australia (Kangaroo Island).

P. isolatus Tarmann, 2004, 105

Distribution: Australia (Victoria).

P. calliceros Turner, 1926a, 117

Distribution: Australia (southern New South Wales, Victoria, Tasmania (subsp. *calliceros*); central east and north of New South Wales (subsp. *azurea*).

P. calliceros calliceros Turner, 1926a, 117
P. calliceros azurea Tarmann, 2004, 107

Genus ***Saliuncella*** Jordan, 1907b, 124 **(C29)**
[Type species: *Saliuncella marshalli* Jordan, 1907b, 124, by monotypy]

Larval host-plants: Vitaceae.

S. marshalli Jordan, 1907b, 124 (Figure 45)

Distribution: South Africa (Natal, Swasiland).

Genus ***Onceropyga*** Turner, 1906, 137
[Type species: *Onceropyga anelia* Turner, 1906, 137, by monotypy]

Larval host-plants: Vitaceae.

O. anelia Turner, 1906, 137 (Figure 4)

Distribution: Australia (Queensland, New South Wales).

O. pulchra Tarmann, 2004, 135

Distribution: Australia (Queensland, New South Wales).

Genus ***Hestiochora*** Meyrick, 1886, 788
[Type species: *Procris tricolor* Walker, 1854, 111, by subsequent designation by Turner, 1926b, 441]

Larval host-plants: Myrtaceae (in one species also Proteaceae).

H. erythrota Meyrick, 1886, 789 (Figure 23)

Distribution: Australia (Queensland, New South Wales).

H. tricolor (Walker, 1854, 111) (*Procris*) (Figure 5)

Distribution: Australia (Victoria, Tasmania).

H. continentalis Tarmann, 2004, 145

Distribution: Australia (Western Australia, Queensland, New South Wales, Victoria, South Australia).

H. furcata Tarmann, 2004, 148

Distribution: Australia (Queensland, New South Wales, Victoria, South Australia).

H. queenslandensis Tarmann, 2004, 149

Distribution: Australia (Queensland, New South Wales).

H. xanthocoma Meyrick, 1886, 788

Distribution: Australia (Northern Territory, Queensland).

H. occidentalis Tarmann, 2004, 151

Distribution: Australia (Western Australia).

H. intermixta Tarmann, 2004, 152

Distribution: Australia (Queensland, New South Wales, South Australia).

Genus ***Turneriprocris*** Bryk, 1936, 304
[Type species: *Procris dolens* Walker, 1854, 112, by original designation]
Neoprocris Turner, 1926b, 445 (a junior homonym of *Neoprocris* Jordan, 1915, 300 - Lepidoptera, Zygaenidae)
The objective replacement name is *Turneriprocris* Bryk, 1936, 304
[Type species: *Neoprocris saltuaria* Jordan, 1915, 300, by original designation]

Larval host-plants: Myrtaceae.

T. dolens (Walker, 1854, 112) (*Procris*)

Distribution: Australia (Queensland, New South Wales, Victoria, South Australia, Tasmania).

Genus ***Myrtartona*** Tarmann, 2004, 169
[Type species: *Procris rufiventris* Walker, 1854, 110, by original designation]

Larval host-plants: Myrtaceae

M. coronias (Meyrick, 1886, 792) (*Procris*)

Distribution: Australia (Queensland, New South Wales, Victoria, South Australia, Tasmania).

M. leucopleura (Meyrick, 1886, 792) (*Procris*)

Distribution: Australia (Queensland, New South Wales).

M. rufiventris (Walker, 1854, 110) (*Procris*) (Figure 24)

Distribution: Australia (Western Australia, South Australia, western Victoria).

M. mariannae Tarmann, 2004, 176

Distribution: Australia (Queensland).

Genus ***Levuana*** Bethune-Baker, 1906, 343 **(C05)**
[Type species: *Levuana iridescens* Bethune-Baker, 1906, 344, by original designation]

Larval host-plants: Arecaceae (former pest on *Cocos nucifera*)**.**

L. iridescens Bethune-Baker, 1906, 344

Distribution: Fiji Islands (Viti Levu, Ovalau, Cagalai).

Tribe **Artonini** Tarmann, 1994, 120 **(C06)**
[Type-genus: *Artona* Walker, 1854, 439]

Larval host-plants: Poaceae, Zingiberaceae, Pittosporaceae, Lauraceae, Musaceae, Arecaceae.
Distribution: Australia, eastern, southern and southeastern Asia, tropical Africa.

Genus ***Artona*** Walker, 1854, 439 **(C07)**
[Type-species: *Artona discivitta* Walker, 1854, 440, by monotypy]

Larval host-plants: Poaceae (mainly bamboo) (subgenera *Artona, Zeuxippa, Balataea, Fuscartona*).

Subgenus ***Artona*** Walker, 1854, 439 **(C07)**
[Type-species: *Artona discivitta* Walker, 1854, 440, by monotypy]

Larval host-plants: Poaceae (bamboo).

A.* (*A.*) *discivitta Walker, 1854, 440 **(C08)** (Figure 25)

Distribution: southern India.

Subgenus ***Zeuxippa*** Herrich-Schäffer, 1855, 87, **stat. nov. (C07)**
[Type-species: *Sphinx pulchra* Drury, 1773, 52, by monotypy]

Larval host-plants: Poaceae (bamboo).

A.* (*Z.*) *phaeoxantha Hampson, 1920a, 274 **(C09)**

Distribution: southern India (Madras).

A.* (*Z.*) *zebraica Butler, 1876, 356 **(C09)**

Distribution: northern India, Myanmar (Burma), Thailand, Malaysia.

A.* (*Z.*) *fulvida Butler, 1876, 356 **(C09)**
diffusa Oberthür, 1894, 30 (*Artona fulvida* var. *diffusa*)

Distribution: northern India, Myanmar (Burma), Thailand, Malaysia.

A.* (*Z.*) *flaviciliata Hampson, 1920a, 273 **(C09)**

Distribution: northern India (Sikkim).

A.* (*Z.*) *confusa Butler, 1876, 357 **(C09)**

Distribution: northern India.

A.* (*Z.*) *digitata Hampson, 1920a, 273 **(C09)**

Distribution: Myanmar (Burma) (Tenasserim).

A.* (*Z.*) *khasiana Jordan, 1908, 43 **(C09)**

Distribution: NE India (Assam).

A.* (*Z.*) *sikkimensis Elwes, 1890, 379 **(C09)**

Distribution: north India (Sikkim).

A.* (*Z.*) *nigrescens Butler, 1876, 356, **stat. nov. (C10)**

Distribution: northern India.

A.* (*Z.*) *guttata (Snellen, 1892, 32) (*Syntomis*), **stat. rev. (C10)**

Distribution: Indonesia (Sumatra).

A.* (*Z.*) *neglecta Hering, 1925, 175, **stat. rev. (C10)**

Distribution: Myanmar (Burma).

A.* (*Z.*) *walkeri (Moore, 1859), 199 ("? *Syntomis*") **(C11)** (Figure 26)

Distribution: Indonesia (Java) (ssp. *walkeri*), Indonesia (Bali) (ssp. *baliensis*).

A.* (*Z.*) *walkeri walkeri (Moore, 1859), 199 ("? *Syntomis*")
A.* (*Z.*) *walkeri baliensis Jordan, 1908, 43

A.* (*Z.*) *hainana Butler, 1876, 357
walkeri (sensu auct.) (nec Moore, 1859, 199)
fulvida (sensu auct.) (nec Butler, 1876, 356)

Distribution: China (Hainan).

A.* (*Z.*) *flavipuncta Hampson, 1900, 225

Distribution: northeastern India (Assam).

A.* (*Z.*) *hypomelas Jordan, 1908, 43

Distribution: northern India (NW India, Sikkim).

A.* (*Z.*) *superba Alphéraky, 1897, 124

Distribution: western China.

A.* (*Z.*) *pulchra (Drury, 1773, pl. 29, fig. 3) (*Sphinx*)

Distribution: western China.

A.* (*Z.*) *cuneonotata Leech, 1898, 328

Distribution: western China.

A.* (*Z.*) *lucasseni (Snellen, 1903), 234 (*Brachartona*)

Distribution: Indonesia (Java).

A.* (*Z.*) *pluristrigata Hampson, 1907, 328 **(C12)**

Distribution: Indonesia (Borneo, Pulo Laut).

A.* (*Z.*) *refulgens (Hampson, 1893, 232) (*Chrysartona*)
[systematic position of this taxon needs verification]

Distribution: Myanmar (Burma).

Subgenus ***Balataea*** Walker, 1865, 110, **stat. rev. (C07)**
[Type-species: *Balataea aegerioides* Walker, 1865, 111, by monotypy]
Rhaphidognatha Felder & Felder, 1862, 31, a junior homonym of *Rhaphidognatha* Murray, 1857, 316 - Insecta: Coleoptera. There is no objective replacement name but the type species of *Rhaphidognatha* Felder & Felder, 1862, is considered to be conspecific with *Balataea aegerioides* Walker, 1865, the type species of *Balataea* Walker, 1865. The latter is therefore available for use as a subjective replacement name.
[Type-species: *Rhaphidognatha sesiaeformis* Felder & Felder, 1862, 32, by monotypy]
Bintha Walker, 1865, 127
[Type-species: *Bintha gracilis* Walker, 1865, 127, by monotypy]

Larval host-plants: Poaceae.

A.* (*B.*) *octomaculata (Bremer, 1861, 476) (*Euchromia*), **stat. rev.** (Figure 27)
sesiaeformis (Felder & Felder, 1862, 32) (*Rhaphidognatha*)
aegerioides Walker, 1865, 111 (*Balataea*)

Distribution: Russia (Far East (Amur Region, Khabarovsk Territory, Pimorye Territory)), eastern China, Korea, Japan.

A.* (*B.*) *gracilis (Walker, 1865, 127) (*Bintha*), **stat. rev.**

Distribution: Russia (Far East (Sakhalin, southern Kuril Islands)), eastern China, Korea, Japan.

A.* (*B.*) *taiwana Wileman, 1911, 174 (*Artona* "(?)") (see Owada & Inada, 2005, 5), **stat. nov.**

Distribution: China (Taiwan).

A.* (*B.*) *kimurai (Owada & Inada, 2005, 2) (*Balataea*), **stat. nov.**

Distribution: Japan (Okinawa).

A.* (*B.*) *angusta Alberti, 1954, 269, **stat. rev.**

Distribution: eastern China.

A.* (*B.*) *intermediana Alberti, 1954, 270, **stat. rev.**

Distribution: eastern China.

A.* (*B.*) *elegantior Alberti, 1954, 270, **stat. rev.**

Distribution: eastern China.

Subgenus ***Pseudosesidia*** Alberti, 1954, 271, **stat. rev. (C07)**
[Type-species: *Balataea (Pseudosesidia) aegeriaeformis* Alberti, 1954, 271, by original designation and monotypy]

Larval host-plants: unknown.

A.* (*P.*) *aegeriaeformis (Alberti, 1954, 271) (*Balataea*), **stat. rev.**

Distribution: southeastern China.

Subgenus ***Fuscartona*** Efetov & Tarmann, 2012, 13, 38 **(C07)**
[Type-species: *Artona martini* Efetov, 1997a, 170, by original designation]

Larval host-plants: Poaceae (bamboo).

A.* (*F.*) *martini Efetov, 1997a, 170 (Figures 6, 16)
funeralis (sensu Alberti, 1954, 267 (*Balataea*) et sensu auct.) (nec Butler, 1879, 351) (see Efetov, 1997a, 166)

Distribution: eastern and southeastern China (including Taiwan), Vietnam, Japan, introduced also to Ogasawara Islands (Japanese Micronesia), New Zealand and even in Europe, viz. Italy (Marianelli et al. 2020).

A.* (*F.*) *funeralis (Butler, 1879a, 351) (*Procris*), **stat. rev.**
tokyonella (sensu Alberti 1954, 267 (*Balataea*)) (nec Matsumura, 1927, 76) (see Efetov, 1997a, 166)

Distribution: Russia (Far East (Sakhalin, southern Kuril Islands)), eastern and southeastern China, Japan.

A.* (*F.*) *uniformis (Alberti, 1954, 268) (*Balataea*), **stat. rev.**

Distribution: China (Shanxi).

A.* (*F.*) *parilis Efetov, 1997a, 175, **stat. rev.**

Distribution: China (Jiangxi).

Genus ***Procotes*** Butler, 1896, 355
[Type-species: *Euchromia diminuta* Walker, 1854, 230, by original designation and monotypy]

Larval host-plants: unknown.

P. diminuta (Walker, 1854, 230) (*Euchromia*)

Distribution: Sri Lanka.

Genus ***Striartona*** Efetov & Tarmann, 2012, 14, 39
[Type-species: *Bintha clathrata* Poujade, 1886a, 117, by original designation and monotypy]

Larval host-plants: unknown.

S. clathrata (Poujade, 1886a, 117) (*Bintha*)

Distribution: China (Sichuan, Shaanxi).

S. nanling Owada & Wang, 2021, 123 **(C13)**

Distribution: southern China.

Genus ***Allobremeria*** Alberti, 1954, 277
[Type-species: *Allobremeria plurilineata* Alberti, 1954, 277, by original designation and monotypy]

Larval host-plants: Poaceae (Xue & Han, 2003).

All. plurilineata Alberti, 1954, 277

Distribution: southeastern China.

All. maoershan Owada & Wang, 2021, 122

Distribution: southern China.

Genus ***Amuria*** Staudinger, 1887b, 172
[Type-species: *Amuria cyclops* Staudinger, 1887b, 172, by monotypy]
Brachartona Hampson, 1891, 44
[Type-species: *Artona quadrimaculata* Moore, 1879a, 390, by original designation]

Larval host-plants: Zingiberaceae (known for *A. (Am.) chorista* and *A. (Am.) trisignata*), Pittosporaceae (known for *A. (Am.) trisignata*), and Lauraceae (known for *A. (Am.) trisignata*), Musaceae (known for two undescribed species from India and New Guinea).

Am. cyclops Staudinger, 1887b, 172

Distribution: Russia (Far East (Khabarovsk Territory, Primorye Territory), China, Korea.

Am. microstigma (Jordan, 1908, 44) (*Artona*) **(C14)**

Distribution: northeastern India (Assam).

Am. flavigula (Hampson, 1896, 477) (*Chrysartona*) **(C14)**

Distribution: northeastern India (Assam).

Am. celebensis (Jordan, 1908, 45) (*Artona*) **(C14)**

Distribution: Indonesia (Sulawesi).

Am. annulipes (Jordan, 1908, 47) (*Homophylotis*) **(C14)**

Distribution: Indonesia (Natuna island group, Riau island province: Pulo Laut).

Am. sciara (Jordan, 1908, 47) (*Homophylotis*) **(C14)**

Distribution: Indonesia (Amboina).

Am. xanthosoma (Jordan, 1908, 47) (*Homophylotis*) **(C14)**

Distribution: Sula Islands (Sula Mangoli).

Am. chorista (Jordan, 1908, 44) (*Artona*) **(C14)**

Distribution: northeastern India.

Am. lugubris (Jordan, 1908, 44) (*Artona*) **(C14)**

Distribution: northeastern India.

Am. postvitta (Moore, 1879b, 13) (*Artona*) **(C14)**

Distribution: northeastern India (Sikkim).

Am. quadrimaculata (Moore, 1879a, 390) (*Brachartona*), **comb. nov. (C14)**

Distribution: northern India, Myanmar (Burma).

Am. trisignata (Snellen, 1903, 235) (*Brachartona*), **comb. nov. (C14)** (Figure 28)
quadrisignata (Snellen, 1903, 234) (*Brachartona*), **comb. nov.**, **syn. nov. (C15)**

Distribution: Indonesia (Sumatra, Java).

Am. sythoffi (Snellen, 1903, 236) (*Brachartona*), **comb. nov. (C14)**

Distribution: Indonesia (Java).

Am. melaleuca (Jordan, 1908, 46) (*Homophylotis*), **comb. nov. (C17)**

Distribution: New Guinea (both subspecies).

Am. melaleuca melaleuca (Jordan, 1908, 46) (*Homophylotis*)
Am. melaleuca postica (Jordan, 1908, 46) (*Homophylotis melaleuca* ssp.)

Am. assimilis (Jordan, 1908, 47) (*Homophylotis*), **comb. nov. (C16)**

Distribution: Malaysia (Malakka).

Am. aenea (Jordan, 1925, 231) (*Homophylotis*), **comb. nov. (C18)**

Distribution: Papua New Guinea (Feni Island (Ambitle island) east of New Ireland (Latangai island)).

Am. chalcosoma (Jordan, 1926, 366) (*Artona*), **comb. nov. (C19)**

Distribution: Indonesia (Kai Ketjil).

Am. albicilia (Hampson, 1900, 222) (*Artona*), **comb. nov. (C20)**

Distribution: northeastern India (Naga Hills).

Am. nigra (Hampson, 1893, 237) (*Tasema*), **comb. nov. (C20)**

Distribution: Myanmar (Burma).

Am. purpurata (Jordan, 1908, 47) (*Homophylotis*), **comb. nov. (C20)**

Distribution: Papua New Guinea.

Am. neglecta (Tarmann, 2004, 203) (*Pseudoamuria*), **comb. nov. (C20)**

Distribution: Australia (Queensland).

Genus ***Palmartona*** Tarmann, 2004, 207 **(C16)**
[Type species: *Brachartona catoxantha* Hampson, 1893 ("1892"), 233, by original designation]

Larval host-plants: Arecaceae (pest on *Cocos nucifera*) L.

Palm. catoxantha (Hampson, 1893, 233) (*Brachartona*)

Distribution: Myanmar (Tenasserim), Malaysia, Singapore, Indonesia (Sumatra, Nias, Java, Bangka, Kalimantan, Sulawesi), Philippines (Palawan), Papua New Guinea, Australia (Queensland).

Genus ***Australartona*** Tarmann, 2004, 185
[Type species: *Australartona mirabilis* Tarmann, 2004, 186, by original designation and monotypy]

Larval host-plants: Poaceae.

Austr. mirabilis Tarmann, 2004, 186

Distribution: Australia (Queensland, New South Wales).

Genus ***Homophylotis*** Turner, 1904, 243
[Type species: *Homophylotis thyridota* Turner, 1904, 243, by monotypy]
Homopylotis [sic] Alberti, 1954, 408, misspelling

Larval host-plants: unknown.

H. thyridota Turner, 1904, 243

Distribution: Australia (Queensland).

H. pseudothyridota Tarmann, 2004, 194

Distribution: Australia (Queensland).

H. artonoides Tarmann, 2004, 195

Distribution: Australia (Queensland).

H. doloides (Pagenstecher, 1900, 25) (*Procris*)

Distribution: Papua New Guinea (Bismarck Archipelago).

Genus ***Pseudoamuria*** Tarmann, 2004, 201
[Type species: *Pseudoamuria uptoni* Tarmann, 2004, 202, by original designation]

Larval host-plants: unknown.

Pseud. uptoni Tarmann, 2004, 202

Distribution: Australia (Queensland).

Genus ***Arachotia*** Moore, 1879b, 14
[Type-species: *Arachotia flaviplaga* Moore, 1879b, 14, by monotypy]

Larval host-plants: unknown.

Arach. flaviplaga Moore, 1879b, 14

Distribution: northern and northeastern India (West Bengal to Assam).

Arach. piaoac Owada & Pham, 2022, 203

Distribution: Vietnam.

Arach. euglenia Jordan, 1908, 50

Distribution: northeastern India (Assam).

Arach. tamdao Owada & Pham, 2021, 40

Distribution: Vietnam (Vinh Phuc, Tam Dao).

Arach. sapa Owada & Pham, 2021, 43

Distribution: Vietnam (Lao Cai, Sa Pa).

Arach. nanling Owada & Wang, 2021, 43

Distribution: China (Guangdong, Shaoguan, Nanling).

Arach. dadongshan Owada & Wang, 2021, 43

Distribution: China (Guangdong, Lianzhou, Dadongshan).

Arach. hohuanshanensis Shih & Owada, 2022, 136

Distribution: China (Taiwan).

Arach. vespoides Moore, 1879a, 390

Distribution: northern India.

Arach. quadricolor (Semper, 1898, 426) (*Lophosoma*)
aenea Jordan, 1908, 50

Distribution: Philippines.

Arach. xeniaetamara Bryk, 1936, 304
hyalina Hering, 1925, 175 (nec Leech, 1889b, 123)

Distribution: Philippines (Luzon).

Genus ***Chalconycles*** Jordan, 1907b, 123 **(C29)**
[Type species: *Chalconycles vetulina* Jordan, 1907b, 124, by monotypy]

Larval host-plants: Arecaceae (*Cocos nucifera* L. (coconut), *Elaeis guineensis* Jacq. (oil palm), palms).

C. vetulina Jordan, 1907b, 124
velutina [sic] Jordan, 1907b, pl. 2k, misspelling

Distribution: Eastern and Central Africa (Uganda).

C. chloauges (Holland, 1893, 374) (*Adscita*)

Distribution, Africa (Cameroon, Gaboon, Congo)

C. catori (Jordan, 1907b, 125) (*Homophylotis*)

Distribution: Africa (Sierra Leone, Ivory Coast, Togo, Gabon).

C. anhyalea Hampson, 1920a, 276

Distribution: Africa (Gabon).

C. albipalpis Hampson, 1920a, 275

Distribution: Africa (Ivory Coast).

C. chalybeia Rebel, 1914, 290

Distribution: Central Africa.

Genus ***Neobalataea*** Alberti, 1954, 306 **(C29)**
[Type species: *Neobalataea nigriventris* Alberti, 1954, 307, by original designation]

Larval host-plants: unknown.

N. nigriventris Alberti, 1954, 307

Distribution: Africa (Tanzania).

N. leptis (Jordan, 1907b, 125) (*Homophylotis*)

Distribution: Africa (Angola).

Tribe **Cleleini** Efetov & Tarmann, **tribus nov. (C21)**
[Type-genus: *Clelea* Walker, 1854, 465]

Larval host-plants: Vitaceae, Hydrangeaceae, Fagaceae, Rosaceae, Poaceae.
Distribution: eastern, southern and southeastern Asia, tropical Africa.

Genus ***Clelea*** Walker, 1854, 465
[Type-species: *Clelea sapphirina* Walker, 1854, 465, by monotypy]

Larval host-plants: Vitaceae.

C. sapphirina Walker, 1854, 465

Distribution: southern China, Myanmar (Burma), India [comment: due to a lot of misidentifications in literature the real distribution of *Clelea sapphirina* is not known.]

C. discriminis Swinhoe, 1891, 474

Distribution: northeastern India (Assam).

C. simplex Jordan, 1908, 45

Distribution: northeastern India (Assam).

C. nigroviridis Elwes, 1890, 380 (Figure 32)

Distribution: northeastern India, Myanmar (Burma).

C. cyanescens Alberti, 1954, 289

Distribution: southern China (Hunan, Guandong) (subsp. *cyanescens*); eastern China (subsp. *monotona*) (Jiangsu, Zhejiang).

C. cyanescens cyanescens Alberti, 1954, 289
C. cyanescens monotona Alberti, 1954, 289

C. formosana Strand, 1915, 119 (as *nigroviridis* v. *formosana*) (**C22)**

Distribution: China (Taiwan), Japan (Sakishima).

C. formosana formosana Strand, 1915, 119
C. formosana simplicior Bryk, 1926, 255, **stat. nov.**
C. formosana kanoi Owada, 2021, 205, **stat. nov.**

C. melli Hering, 1925a, 174

Distribution: China (Guangdong).

C. esakii Inoue, 1958, 238 (Figure 7)

Distribution: Japan.

C. yuennana Alberti, 1954, 290 (as *yünnana*)

Distribution: China (Yunnan).

C. chala (Moore, 1859, 311) (*Procris*)

Distribution: Indonesia (Java, Borneo?).

C. refulgens Hampson, 1905, 193

Distribution: northeastern India (Assam), Myanmar (Burma).

C. metacyanea Hampson, 1896, 467

Distribution: northeastern India (Assam).

C. plumbeola Hampson, 1893, 240

Distribution: northeastern India (Assam), Bhutan, Myanmar (Burma).

C. albofascia (Leech, 1898, 340) (*Arbudas*)
albifascia [sic] Bryk, 1936, 247, misspelling

Distribution: China (Sichuan).

Genus ***Thibetana*** Efetov & Tarmann, 1995b, 74
[Type-species: *Artona sieversi* Alphéraky, 1892, 5, by original designation]

Larval host-plants: unknown.

Th. sieversi (Alphéraky, 1892, 5) (*Artona*)
dejeani (Oberthür, 1894, 29) (*Artona*)
gephyra (Hering, 1936, 1) (*Artona*)

Distribution: China (Qinghai, Sichuan).

Th. delavayi (Oberthür, 1894, 29) (*Artona*)

Distribution: China (Yunnan).

Th. witti Efetov, 1997c, 509

Distribution: China (eastern Tibet).

Th. zebra (Elwes, 1890, 379) (*Artona*) **(C23)**

Distribution: northern India (Sikkim).

Th. postalba (Elwes, 1890, 379) (*Artona*) **(C23)**

Distribution: northern India (Sikkim).

Th. keili Efetov & Tarmann, 2017b **(C23)**

Distribution: China (eastern Tibet).

Genus ***Bremeria*** Alphéraky, 1892, 7
[Type-species: *Bremeria manza* Alphéraky, 1892, 7, by monotypy]
Subclelea Alberti, 1954, 292 (*Clelea* subg.)
[Type-species: *Clelea (Subclelea) parabella* Alberti, 1954, 293, by original designation]

Larval host-plants: unknown.

B. manza Alphéraky, 1892, 7

Distribution: northeastern China.

B. parabella (Alberti, 1954, 293) (*Clelea*)

Distribution: eastern China (Zhejiang).

B. aurulenta (Poujade, 1886a, 116) (*Bintha*)

Distribution: China (Sichuan) (subsp. *aurulenta*); China (Zhejiang) (subsp. *bella*).

B. aurulenta aurulenta (Poujade, 1886a, 116) (*Bintha*)
B. aurulenta bella (Alberti, 1954, 292) (*Clelea*)

B. albomacula (Leech, 1898, 329) (*Artona*)

Distribution: China (Sichuan).

B. sinica Alphéraky, 1897, 122

Distribution: China (Sichuan).

B. cyanicornis (Poujade, 1886a, 116) (*Bintha*) (see Efetov, 2000a, 23)

Distribution: China (Sichuan).

Genus ***Cerodendra*** Tremewan, 1973, 122
[Type-species: *Dendrocera quadripunctata* Hampson, 1893 ("1892"), 231, by original designation (for *Dendrocera* Hampson, 1893 ("1892")]

Dendrocera Hampson, 1893 ("1892"), 231, a junior homonym of *Dendrocera* Lamarck, 1817, 422 - Insecta: Coleoptera. The objective replacement name is *Cerodendra* Tremewan, 1973

Larval host-plants: unknown.

C. bipuncta (Hampson, 1895, 283) (*Clelea*)
bipunctata Jordan, 1908, (explicatio tabulae)

Distribution: south India (Nilgiris).

C. quadripunctata (Hampson, 1893, 231) (*Dendrocera*)

Distribution: Sri Lanka.

Genus ***Hagianga*** Mollet, 2020a, 106
[Type-species: *Hagianga tieni* Mollet, 2020a, 107, by original designation and monotypy]

Larval host-plants: unknown.

H. tieni Mollet, 2020a, 107

Distribution: northern Vietnam.

Genus ***Chrysartona*** Swinhoe, 1892, 57 (see Efetov, 1996; Efetov & Tarmann, 2008b, 2008c)
[Type-species: *Procris stipata* Walker, 1854, 114, by original designation and monotypy]

Larval host-plants: Vitaceae (known for one species that has been misidentified as *Ch. stipata* Walker, 1854, from Taiwan) (see Yen & Fan, 1995; Efetov, 2006).

Subgenus ***Chrysartona*** Swinhoe, 1892, 57
[Type-species: *Procris stipata* Walker, 1854, 114, by original designation and monotypy]

Ch. **(*Ch.*)** ***stipata*** (Walker, 1854, 114) (*Procris*)

Distribution: northern and northeastern India, Myanmar (Burma). All records from other regions (e.g. China, Indonesia) refer to other species.

Ch. **(*Ch.*)** ***efetovi*** Parshkova, 2007, 143

Distribution: northeastern India (Assam).

Ch. **(*Ch.*)** ***hausmanni*** Efetov, 2006, 27

Distribution: Indonesia (Java, Borneo). **(C24)**

Ch. **(*Ch.*)** ***murzini*** Mollet, 2016a, 59 **(C25)**

Distribution: Thailand.

Ch. **(*Ch.*)** ***stueningi*** Efetov, 2006, 29
stipata partim (sensu Alberti, 1954, 294 (*Clelea*)) (nec Walker, 1854, 114)

Distribution: eastern China.

Ch. **(*Ch.*)** ***tremewani*** Efetov, 2006, 31

Distribution: northeastern India.

Ch. **(*Ch.*)** ***sinevi*** Efetov, 2006, 33
stipata partim (sensu Alberti, 1954, 294, pl. 28, figs 9a-9c (*Clelea*)) (nec Walker, 1854, 114)

Distribution: China, Myanmar (Burma).

Ch. **(*Ch.*)** ***sylvianae*** Mollet, 2016a, 62

Distribution: Myanmar (Burma).

Ch. **(*Ch.*)** ***dangvani*** Mollet, 2018, 80 (Figure 31)

Distribution: southern Vietnam.

Subgenus ***Chrystremewana*** Efetov, 2006, 36
[Type-species: *Chrysartona birmana* Efetov, 2006, 37, by original designation]

Ch*. (*Chrystrem*.) *birmana Efetov, 2006, 37

Distribution: northeastern India (Assam), Myanmar (Burma), Laos.

Ch*. (*Chrystrem*.) *honeyi Efetov, 2006, 39

Distribution: northeastern India (Assam).

Subgenus ***Chrystarmanna*** Efetov, 2006, 41
[Type-species: *Chrysartona sikkima* Efetov, 2006, 42, by original designation]

Ch*. (*Chrystarm*.) *sikkima Efetov, 2006, 42
stipata (sensu Wang, 1995, 23 (*Clelea*)) (nec Walker, 1854, 114)

Distribution: northeastern India (Sikkim).

Ch*. (*Chrystarm*.) *meyi Efetov, 2006, 44
stipata partim (sensu Alberti, 1954, 294 (*Clelea*)) (nec Walker, 1854, 114)

Distribution: Indonesia (Java).

Ch*. (*Chrystarm*.) *margarita Efetov, 2006, 47

Distribution: northeastern India (Assam).

Ch. (Chrystarm.) mineti Efetov & Tarmann, 2013b, 198

Distribution: northern Vietnam.

Ch*. (*Chrystarm*.) *antenor Mollet, 2018, 79 **(C26)**

Distribution: southern Vietnam.

Ch*. (*Chrystarm*.) *pravata (Moore, 1859, 199) (*Syntomis*)

Distribution: Indonesia (Sumatra, Java, southeastern Borneo), Malaysia (northern Borneo), Philippines (Luzon).

Ch*. (*Chrystarm*.) *variata (Swinhoe, 1892, 58) (*Phacusa*)

Distribution: Indonesia (New Guinea, Irian Jaya) (subsp. *variata*); Indonesia (island Mefor NW. of New Guinea) (subsp. *fumosa*); Indonesia (Sumba, islands Kepulauan Kai, New Guinea (Irian Jaya)), Papua New Guinea (subsp. *separata*); Indonesia (island Ambon) (subsp. *amboinensis*); Indonesia (island Bacan) (subsp. *guttigera*).

Ch*. (*Chrystarm*.) *variata variata (Swinhoe, 1892, 58) (*Phacusa*)
Ch*. (*Chrystarm*.) *variata fumosa (Jordan, 1908, 46) (*Clelea*)
Ch*. (*Chrystarm*.) *variata separata (Jordan, 1908, 46) (*Clelea*)
Ch*. (*Chrystarm*.) *variata amboinensis (Jordan, 1908, 46) (*Clelea*)
Ch*. (*Chrystarm*.) *variata guttigera (Jordan, 1908, 46) (*Clelea*)

Ch.* (*Chrystarm.*) *explorata (Hering, 1925a, 175) (*Clelea*)

Distribution: Papua New Guinea.

Genus ***Araeocera*** Hampson, 1893 ("1892"), 244
[Type-species: *Araeocera cyanescens* Hampson, 1893 ("1892"), 244, by original designation]

Larval host-plants: Poaceae (bamboo) (known for *A. compta* according to a rearing note by R. W. Paine on paratype label).

A. compta Jordan, 1908, 48

Distribution: Indonesia (South Flores).

A. cyanescens Hampson, 1893, 244

Distribution: Myanmar (Burma).

A. posthyalina Hampson, 1893, 244

Distribution: India (Sikkim).

A. prasina Jordan, 1931, 277

Distribution: Indonesia (Java).

Genus ***Platyzygaena*** Swinhoe, 1892, 57
[Type-species: *Soritia moelleri* Elwes, 1890, 385, by original designation and monotypy]

Larval host-plants: unknown.

P. moelleri (Elwes, 1890, 385) (*Soritia*)

Distribution: northeastern India (Sikkim, Assam).

P. melaleuca (Jordan, 1907a, 17) (*Clelea*) (comb.: Efetov & Tarmann, 2012, 17)

Distribution: China (Sichuan).

Genus ***Piarosoma*** Hampson, 1893 ("1892"), 243 (**C27**)
[Type species: *Piarosoma albicinctum* Hampson, 1893 ("1892"), 243, fig. 160, by original designation and monotypy]
Hysteroscene Hering, 1925, 177
[Type-species: *Hysteroscene extravagans* Hering, 1925a, 177, by original designation]
Hysteroscena [sic] Horie & Wang, 2011, 44, pl. 3, fig. 2, misspelling)

Larval host-plants: Hydrangeaceae (*Hydrangea macrophylla* (Thunb.) Ser.) (known for *P. fushan* Owada & Shih, 2022) (Owada et al. 2022b).

P. arunachalensis Sondhi, Efetov, Tarmann & Kunte, 2023, 140.

Distribution: northeastern India.

P. albicinctum Hampson, 1893, 243

Distribution: Myanmar (Burma).

P. hyalina (Leech, 1889, 123) (*Arachotia*)
univittata Strand, 1915, 122 (*Piarosoma hyalina* ab.) (unavailable)

Distribution: southeastern and southern China.

P. thibetana (Oberthür, 1894, 31) (*Phacusa*)
hyalina partim (sensu Leech 1898, 336 (*Piarosoma*)) (nec Leech, 1889, 123)
thibetana (sensu Jordan, 1907, 17, pl. 3-i (*Piarosoma hyalina* f. *thibetana*))
thibetana partim (sensu Bryk, 1936, 269 (*Piarosoma hyalina* subsp. *thibetana*))
hyalina partim (sensu Alberti, 1954, 223 (*Hysteroscene hyalina*)) (nec Leech, 1889, 123)

Distribution: western China.

P. guangdong Owada & Wang, 2022, 214
thibetana (sensu Hering, 1925b, 82, fig. 3 (male genitalia) (*Hysteroscene thibetana*)) (nec Oberthür, 1894, 31)
thibetana partim (sensu Bryk, 1936, 269 (*Piarosoma hyalina* subsp. *thibetana*)) (nec Oberthür, 1894, 31)
thibetana (sensu Alberti, 1954, 223, pl. 17, fig. 1 (*Hysteroscene hyalina*)) (nec Leech, 1889, 123))
thibetana (sensu Horie & Wang, 2011, 45, pl. 3, fig. 5 (*Piarosoma thibetana*)) (nec Oberthür, 1894, 31)
thibettana (sensu Horie & Wang, 2011, pl. 3, caption of figure 5, misspelling (*Piarosoma thibettana* [sic])) (nec Oberthür, 1894, 31)

Distribution: China (Guangdong).

P. tamdao Owada & Wang, 2022, 215

Distribution: Vietnam (Vinh Phuc, Tam Dao).

P. bachma Owada & Pham, 2022, 217

Distribution: Vietnam (Thua Thien Hue, Bach Ma).

P. oquyho Owada & Pham, 2022, 207

Distribution: Vietnam (Lao Cai, Sa Pa, O Quy Ho).

P. melli (Hering, 1925b, 82) (*Hysteroscene*)

Distribution: southern China.

P. sapa Owada & Pham, 2022, 210

Distribution: Vietnam (Lao Cai, Sa Pa).

P. fushan Owada & Shih, 2022, 220
hyalina partim (sensu Matsumura, 1931, 991, fig. (*Piarosoma*)) (nec Leech, 1889, 123)
univittata (sensu Inoue, 1987, 299 (*Piarosoma*)) (nec Hering, 1925a, 178)
hyalina partim (sensu Tarmann, 1992b, 98 (*Hysteroscene*)) (nec Leech, 1889, 123)
hyalina partim (sensu Efetov & Tarmann, 1995, 77 (*Hysteroscene*)) (nec Leech, 1889, 123)
hyalina partim (sensu Wang, 1995, 9-10 ((*Hysteroscene*)) (nec Leech, 1889, 123)

hyalina partim (sensu Efetov & Tarmann, 2012, 17 (*Hysteroscene*)) (nec Leech, 1889, 123)

Distribution: China (Taiwan: Taipei, Taoyuan, Ilan, Hsinchu).

P. extravagans (Hering, 1925a, 177) (*Hysteroscene*)
annulatissima Strand, 1915, 122 (*Piarosoma hyalina* ab.) (unavailable)
univittata (Hering, 1925a, 178) (*Hysteroscene* sp.)

Distribution: China (Taiwan).

P. sizala (Swinhoe, 1894, 441) (*Phacusa*) (sensu Bryk, 1936, 269) **(C 28)**

Distribution: northeastern India (Assam).

Genus ***Tasema*** Walker, 1856, 1597
[Type-species: *Tasema bipars* Walker, 1856, 1597, by monotypy]

Larval host-plants: Fagaceae.

T. bipars Walker, 1856, 1597

Distribution: northern and northeastern India.

T. viridescens Alberti, 1954, 282

Distribution: China (Yunnan).

T. longipennis Hampson, 1893, 236

Distribution: Myanmar (Burma)

Genus ***Ephemeroidea*** Hampson, 1893 ("1892"), 242
[Type-species: *Ephemeroidea ariel* Hampson, 1893 ("1892"), 242, by original designation]

Larval host-plants: Poaceae (bamboo) (known for *E. viridescens*).

E. ariel Hampson, 1893, 242

Distribution: northeastern India (Assam), Myanmar (Burma).

E. cyanea Jordan, 1908, 50

Distribution: northeastern India (Assam).

E. flavocincta Hampson, 1893, 242

Distribution: Myanmar (Burma).

E. virescens Snellen, 1903, 222 (Figure 29)

Distribution: Indonesia (Sumatra, Java).

Genus ***Lophosoma*** Swinhoe, 1892
[Type-species: *Syntomis cuprea* Walker, 1856, 1596, by original designation]

Larval host-plants: unknown.

L. cuprea (Walker, 1856, 1596) (*Syntomis*) (Figure 30)

Distribution: northern India, Andaman islands.

L. quadricolor (Walker, 1856, 1596) (*Syntomis*)

Distribution: northern India.

Genus ***Morionia*** Jordan, 1910, 256
[Type-species: *Morionia sciara* Jordan, 1910, 256, by monotypy]

Larval host-plants: unknown.

M. sciara Jordan, 1910, 256 (Figure 33)
sciaria [sic] Efetov & Tarmann, 1995b, 76, misspelling

Distribution: China (Taiwan).

Genus ***Pseudoinope*** Efetov & Tarmann, 1999b, 165
[Type-species: *Procris fusca* Leech, 1889a, 595, by original designation and monotypy]

Larval host-plants: Hydrangeaceae.

P. fusca (Leech, 1889a, 595) (*Procris*)
syriaca (Hampson, 1920a, 275) (*Clelea*) (synonymized by Efetov & Tarmann, 1999b, 167)
albicilia (Inoue, 1976a, 159) (*Clelea*) (synonymized by Efetov & Tarmann, 1999b, 167)

Distribution: Japan.

Genus ***Inope*** Staudinger, 1887b, 170 (see Efetov & Tarmann, 1996)
[Type-species: *Inope heterogyna* Staudinger, 1887b, 170, by monotypy]
Aglaino Staudinger, 1887b, 171
[Type-species: *Aglaino maerens* Staudinger, 1887b, 171, by monotypy]
Pollanista Strand, 1915, 118
[Type-species: *Pollanista inconspicua* Strand, 1915, 118, by original designation]

Larval host-plants: Rosaceae.

I. heterogyna Staudinger, 1887b, 170
impellucida Graeser, 1888, 108

Distribution: Russia (Far East), Japan.

I. maerens (Staudinger, 1887b, 171) (*Aglaino*)
microphaea (Hampson, 1920a, 275) (*Clelea*) (synonymized by Efetov & Tarmann, 1999b, 167)
tokyonella (Matsumura, 1927, 76) (*Artona*) (synonymized by Efetov, 1997a, 166)
sachalinensis (Matsumura, 1927, 77) (*Artona*) (synonymized by Efetov, 1999a, 235)

fusca (sensu Inoue, 1976a, 160 (*Clelea*)) (nec Leech, 1889a, 595) (synonymized by Efetov & Tarmann, 1999b,167)
moerens [sic] (Jordan, 1907a, pl. 3) (*Artona*), misspelling

Distribution: Russia (Far East), northeastern China, Korea, Japan.

I. inconspicua (Strand, 1915, 118) (*Pollanista*)

Distribution: China (Taiwan).

I. fuliginosa (Moore, 1879a, 14) (*Artona*)

Distribution: northeastern India.

Genus ***Alloprocris*** Hering, 1925b, 84
[Type-species: *Alloprocris draesekei* Hering, 1925b, 84; by original designation]

Larval host-plants: unknown.

A. adusta Draeseke, 1926, 44

Distribution: Western China.

A. draesekei Hering, 1925b, 84

Distribution: Western China.

A. draesekei draesekei Hering, 1925b, 84)
A. draesekei ellenae Alberti, 1954, 286
A. draesekei hoenei Alberti, 1954, 286 (as *hönei*)

A. augustae Alberti, 1940, 99

Distribution: Central China.

A. spielhagenae Alberti, 1954, 286

Distribution: Western China.

Leptozygaena Jordan, 1907c, 13
[Type species: *Leptozygaena gracilis* Jordan, 1907c, 13, by monotypy]

Larval host-plants: unknown.

L. gracilis Jordan, 1907c, 13

Distribution: New Guinea.

Genus ***Metanycles*** Butler, 1876, 425 **(C29)**
[Type species: *Aclytia contracta* Walker, 1865 ("1864"), 102, by original designation]

Larval host-plants: unknown.

M. contracta (Walker, 1865), 102) (*Aclytia*)

Distribution: Africa (Sierra Leone).

M. flavibasis Hampson, 1920a, 274

Distribution: Eastern Africa (Malawi (Mount Mulanje)).

M. sachtlebeni Alberti, 1954, 304

Distribution: Africa (Ecuatorial Guinea, Gabon).

Genus ***Aethioprocris*** Alberti, 1954, 305 **(C29)**
[Type species: *Aethioprocris togoensis* Alberti, 1954, 306, by original designation and monotypy]

Larval host-plants: unknown.

A. togoensis Alberti, 1954, 306

Distribution: Africa (Togo).

A. congoensis Alberti, 1957, 294

Distribution: Africa (Congo).

Genus ***Sthenoprocris*** Hampson, 1920a, 275 **(C29)**
[Type species: *Sthenoprocris malgassica* Hampson, 1920a, 275, by original designation]

Larval host-plants: unknown.

S. malgassica Hampson, 1920a, 275

Distribution: Madagascar.

S. meinickei Hering, 1928, 280

Distribution: Eastern Africa (Tanzania).

S. brondeli Viette, 1978, 59

Distribution: Eastern Madagascar.

Genus ***Ankasocris*** Viette, 1965, 122 **(C29)**
[Type species: *Ankasocris striatus* Viette, 1965, 123, by original designation and monotypy]

Larval host-plants: unknown.

A. striatus Viette, 1965, 123

Distribution: Madagascar.

Genus ***Ischnusia*** Jordan, 1928, 133 **(C29)**
[Type species: *Syntomis culiculina* Mabille, 1878, 85, by monotypy]

Pseudonacta (partim) Kirby, 1892, 107
[Type species: *Syntomis culiculina* Mabille, 1878, 85, by monotypy]

Larval host-plants: unknown.

I. culiculina (Mabille, 1878, 85) (*Syntomis*)

Distribution: Madagascar.

Genus ***Alteramenelikia*** Alberti, 1971, 239 **(C29)**
[Type species: *Menelikia jordani* Alberti, 1954, 309, by original designation (for *Menelikia* Alberti, 1954)]
Menelikia Alberti, 1954, 308
[Type species: *Menelikia jordani* Alberti, 1954, 309, by original designation], a junior homonym of *Menelikia* Arambourg, 1941, 341 (Mammalia)

Larval host-plants: unknown.

A. jordani Alberti, 1954, 309

Distribution: Eastern Africa (Ethiopia).

Genus ***Triacanthia*** Romieux, 1937, 124 **(C29)**
[Type species: *Triacanthia filictorum* Romieux, 1937, 126, by original designation]

Larval host-plants: unknown.

T. filictorum Romieux, 1937, 126

Distribution: Africa (Congo).

Genus ***Xenoprocris*** Romieux, 1937, 127 **(C29)**
[Type species: *Xenoprocris jordani* Romieux, 1937, 129, by original designation]

Larval host-plants: unknown.

X. jordani Romieux, 1937, 129

Distribution: Africa (Congo).

Genus ***Madaprocris*** Viette, 1978, 61 **(C29)**
[Type species: *Madaprocris minetorum* Viette, 1978, 62, by original designation and monotypy]
Madaproctis [sic] Viette, 1978, 60, fig.2, misspelling

Larval host-plants: unknown.

M. minetorum Viette, 1978, 62

Distribution: Central Madagascar.

Genus ***Afromalamblia*** Efetov & Tarmann, **gen. nov.** (**C30**)
[Type species: *Malamblia flavipalpis* Hampson, 1910, 488, here designated]

Larval host-plants: unknown.

A. flavipalpis (Hamspon, 1910, 488) (*Malamblia*), **comb. nov.**

Distribution: Southern Africa (Zimbabwe).

A. titoea (Druce, 1896, 351) (*Brachartona*), **comb. nov.**

Distribution: Southern Africa (Transvaal).

A. unxia (Druce, 1896, 351) (*Brachartona*), **comb. nov.**

Distribution: Nigeria (Lagos).

Tribe **Procridini** Boisduval, 1828, 38 (as Procridae) **(C31)**
[Type genus: *Procris* [Fabricius in Illiger], 1807, 289] (see Taeger & Gaedike, 2001, 87)

Larval host-plants: Vitaceae, Rosaceae, Fagaceae, Polygonaceae, Asteraceae, Plumbaginaceae, Cistaceae, Geraniaceae and some others, a few species are polyphagous.

Distribution: Europe, Asia, Africa, America.

Genus ***Pseudoilliberis*** Efetov & Tarmann, 2012, 19, 42
[Type-species: *Illiberis kuprijanovi* Efetov, 1995a, 237, by original designation and monotypy]

Larval host-plants: Fagaceae (*Quercus*).

Ps. kuprijanovi (Efetov, 1995a, 237)

Distribution: Russia (Far East (Amur Region, Khabarovsk Territory, Pimorye Territory)), nothern China, Korea.

Genus ***Illiberis*** Walker, 1854, 280
[Type-species: *Illiberis sinensis* Walker, 1854, 280, by monotypy]

Larval host-plants: Rosaceae, Fagaceae (*Quercus*), Corylaceae (*Corylus*).

Subgenus ***Nikilliberis*** Efetov & Tarmann, 2012, 19, 43
[Type-species: *Illiberis kardakoffi* Alberti, 1951, 143, by original designation and monotypy]

Larval host-plants: Fagaceae (*Quercus*) (Efetov, 2000b), Corylaceae (*Corylus*) (Efetov, 2005b).

I. **(*N.*)** ***kardakoffi*** Alberti, 1951, 143

Distribution: Russia (Far East (Amur Region, Khabarovsk Territory, Pimorye Territory)), northern China.

Subgenus ***Primilliberis*** Alberti, 1954, 230
[Type-species: *Illiberis laeva* Püngeler, 1914, 53, by original designation]

Larval host-plant: Rosaceae.

I. **(*P.*)** ***laeva*** Püngeler, 1914, 53
glaucosquamata Strand, 1915, 120

Distribution: China (eastern part and Taiwan).

I.* (*P.*) *yeni Efetov, 1997b, 231 (*Illiberis*)

Distribution: China (Taiwan).

I.* (*P.*) *rotundata Jordan, 1907a, 15 (*Illiberis*)
fujisana Matsumura, 1927, 78 (*Illiberis*)
fumata Alberti, 1954, 231 (see Efetov, 2005a, 200) (*Illiberis*)
kaszabi Alberti, 1970b: 194 (see Efetov, 2005a, 200) (*Illiberis*)
ononica Dubatolov, 2002: 109 (see Efetov, 2005a, 200) (*Illiberis*)
psychina (sensu Alberti, 1951, 134 (*Illiberis*)) (nec Oberthür, 1880, 28)
rotundifolia [sic] Hofmann & Kia-Hofmann, 2011, 66, misspelling (*Illiberis*)

Distribution: Russia (southeastern Siberia (Zabaykalye Territory), Far East (Amur Region)) (Efetov, 2005, 61, 210), Mongolia, China, Korea (Kim, Sohn & Cho, 2004, 237), Japan.

I.* (*P.*) *pruni Dyar, 1905a, 954 (*Illiberis*)

Distribution: Russia (southeastern Siberia (Zabaykalye Territory), Far East (Amur Region, Khabarovsk Territory, Pimorye Territory)), China, Korea (subsp. *pseudopsychina*); Japan (subsp. *pruni*).

I.* (*P.*) *pruni pruni Dyar, 1905a, 954
aomoriensis Matsumura, 1927, 77
japonica Alberti 1951, 140 (*Illiberis pseudopsychina* subsp.)
elegans (sensu Jordan, 1907a, 7 (*Procris*)) (nec Poujade, 1886, 143) (see Alberti, 1954, 232)
nigra (sensu auct.) (nec Leech, 1889a, 595 (*Procris*))
I.* (*P.*) *pruni pseudopsychina Alberti, 1951, 139 (*Illiberis*)
sinensis auct. (nec Walker, 1854, 280) (*Illiberis*)

Subgenus ***Illiberis*** Walker, 1854, 280
[Type-species: *Illiberis sinensis* Walker, 1854, 280, by monotypy]

Larval host-plants: Rosaceae (Kim, Sohn & Cho, 2004; Efetov, Klir & Tarmann, 2010a).

I.* (*I.*) *sinensis Walker, 1854, 280
formosana (Matsumura, 1927, 76) (*Procris*)

Distribution: China, Korea. Literature data on the presence of *I. sinensis* in the Russian Far East are based on misidentifications of *I. pruni* Dyar, 1905a (see Efetov, 2005a, 200).

I.* (*I.*) *assimilis Jordan, 1907a, 15

Distribution: Russia (Far East (Pimorye Territory)), eastern China, Korea, Japan.

I.* (*I.*) *hoenei Alberti, 1954, 234 (as *hönei*)

Distribution: China (Yunnan).

I.* (*I.*) *ellenae Alberti, 1954, 235

Distribution: China (Yunnan).

I.* (*I.*) *crispoides Mollet, 2020a, 62

Distribution: Vietnam (North Vietnam).

I.* (*I.*) *crispa Mollet, 2016b, 162

Distribution: China (Hainan).

Subgenus ***Euphacusa*** Matsumura, 1927, 79
[Type-species: *Euphacusa taikozana* Matsumura, 1927, 79, by original designation and monotypy]

Larval host-plants: Vitaceae (Kim, Sohn & Cho, 2004).

***silvestris*-group**

I.* (*E.*) *silvestris (Strand, 1915, 121) (*Phacusa*)
taikozana (Matsumura, 1927, 79) (*Euphacusa*)

Distribution: China (Taiwan).

***cybele*-group**

I.* (*E.*) *phacusana Strand, 1915, 120

Distribution: China (Taiwan).

I.* (*E.*) *dirce (Leech, 1889a, 596) (*Northia*)

Distribution: eastern China, Korea.

I.* (*E.*) *formosensis Strand, 1915, 120
horishana Matsumura, 1927, 78

Distribution: China (Taiwan).

I.* (*E.*) *inermis Alberti, 1954, 238

Distribution: China (Hunan).

I.* (*E.*) *cybele (Leech, 1889a, 596) (*Northia*)
contraria Alberti, 1954, 239 (see Efetov, 2005a, 201)

Distribution: Russia (Far East (Pimorye Territory)), China (including Taiwan).

I.* (*E.*) *paracybele Alberti, 1954, 239 (*Illiberis*)

Distribution: China (Taiwan).

Subgenus ***Alterasvenia*** Alberti, 1971a, 239
[Type-species: *Northia ulmivora* Graeser, 1888, 107, by original designation]
Svenia Alberti, 1954, 246 (a junior homonym of *Svenia* Brotzen, 1937, 66 - Protozoa. The objective replacement name is *Alterasvenia* Alberti, 1971a, 239)

[Type-species: *Northia ulmivora* Graeser, 1888, 107, by original designation]

Larval host-plants: Ulmaceae.

ulmivora-group

I.* (*A.*) *ulmivora (Graeser, 1888, 107) (*Northia*)
pekinensis (Draeseke, 1926, 44) (*Procris*)

Distribution: Russia (Far East (Khabarovsk Territory, Pimorye Territory)), Mongolia, northern China.

I.* (*A.*) *yuennanensis Alberti, 1951, 139 (as *yünnanensis*)

Distribution: central and southern China.

ochracea-group

I.* (*A.*) *ochracea Leech, 1898, 335

Distribution: China (including Taiwan).

I.* (*A.*) *kislovskyi Efetov & Tarmann, 2016a, 138

Distribution: northern Myanmar (Burma).

I.* (*A.*) *habaensis Mollet, 2015, 224

Distribution: southwestern China.

I.* (*A.*) *wuzhiensis Mollet, 2015, 227

Distribution: China (Hainan).

banmauka-group

I.* (*A.*) *banmauka Efetov & Tarmann, 2014a, 63

Distribution: northern Myanmar (Burma).

I.* (*A.*) *cernyi Efetov & Tarmann, 2013a, 33 (Figure 34)

Distribution: northern Thailand.

Genus ***Pseudohedina*** Efetov & Tarmann, **gen. nov. (C32)**
[Type species: *Illiberis paradistincta* Alberti, 1954, 246, here designated, type-species also by monotypy]

Larval host-plants: unknown.

P. paradistincta (Alberti, 1954, 246) (*Illiberis* (*Svenia*)), **comb. nov.**

Distribution: eastern China (Jiangsu, Zhejiang).

Genus ***Hedina*** Alberti, 1954, 249 (see Efetov & Tarmann, 2012, 22)
[Type-species: *Northia tenuis* Butler, 1877a, 394, by original designation]
Thyrina Poujade, 1886b, 143
[Type-species: *Thyrina elegans* Poujade, 1886b, 143, by monotypy]

Larval host-plants: Vitaceae.

H. nigra (Leech, 1889a, 595) (*Procris*) (Figure 35)

Distribution: China, Japan (Horie, 2012, 23).

H. psychina (Oberthür, 1880, 28) (*Procris*)
sinensis partim (Kirby, 1892, 88) (*Illiberis*) (nec Walker, 1854, 280)
ussuriensis (Alberti, 1951, 137) (*Illiberis*)

Distribution: Russia (Far East (Pimorye Territory)), northeastern China (Shanxi, Hebei, Beijing) (Xue & Han, 2003, 263), Korea (Kim, et al, 2004, 246), Japan

H. consimilis (Leech, 1898, 334) (*Illiberis*)
hyalina partim (Jordan, 1907a, 15) (*Illiberis*) (nec Staudinger, 1887b, 169)
distinctus (Kardakoff, 1928, 415) (*Illiberis*)

Distribution: Russia (Far East (Khabarovsk Territory, Pimorye Territory)), northeastern China, Korea (Kim, Sohn & Cho, 2004, 247), Japan.

H. hyalina (Staudinger, 1887b, 169) (*Northia* (*Ino*))
transvena (Jordan, 1907a, 16) (*Illiberis*)
coreana (Matsumura, 1927, 77) (*Illiberis*)

Distribution: Russia (Far East (Khabarovsk Territory, Pimorye Territory)), China, Korea.

H. sinyaevi Mollet, 2016b, 28

Distribution: China (Shaanxi).

H. tenuis (Butler, 1877a, 394) (*Northia*) (Figure 8)
khasiana (Moore, 1879b, 12) (*Northia*)

Distribution: Russia (Far East (Khabarovsk Territory, Pimorye Territory)), northeastern India, China, Korea, Japan.

H. elegans (Poujade, 1886b, 143) (*Thyrina*)

Distribution: China (Sichuan, Guizhou, Hunan, Zhejiang). Literature data on the presence of *H. elegans* in the Russian Far East (e.g. Xue & Han, 2003, 262) are based on a misidentification of *Iliiberis pruni* Dyar, 1905a, by Jordan (in Seitz) (1907a, 7) (see Alberti, 1954, 232, 252).

H. serrata (Alberti, 1954, 254) (*Illiberis* (*Hedina*))

Distribution: southern China (Yunnan).

H. albiventris (Alberti, 1954, 254) (*Illiberis* (*Hedina*))

Distribution: central China (Shaanxi).

H. louisi (Efetov, 2010, 235) (*Illiberis* (*Hedina*))

Distribution: China (Shaanxi).

H. translucida (Poujade, 1884, 136) (*Procris*) (Figure 36)

Distribution: China (Sichuan, Hunan, Hubei, Zhejiang).

H. taiwana (Efetov, 1997b, 236) (*Illiberis* (*Hedina*))

Distribution: China (Taiwan).

H. annamita Mollet, 2017b, 135

Distribution: Vietnam.

H. vietnama (Efetov, 1997b, 240) (*Illiberis* (*Hedina*))

Distribution: southern China (Yunnan), northern Vietnam (Efetov, 2003, 27).

Genus ***Maculaia*** Mollet, 2019b, 141
[Type-species: *Maculaia danhi* Mollet, 2019b, 142, by original designation and monotypy]

Larval host-plants: unknown.

M. danhi Mollet, 2019b, 142

Distribution: southern Vietnam.

Genus ***Dubernardia*** Alberti, 1954, 257
[Type-species: *Phacusa djreuma* Oberthür, 1893, 21, by original designation and monotypy]

Larval host-plants: unknown.

D. djreuma (Oberthür, 1893, 21) (*Phacusa*) (Figure 37)

Distribution: southern China.

Genus ***Goazrea*** Mollet, 2016c, 33
[Type-species: *Goazrea lao* Mollet, 2016c, 35, by original designation and monotypy]

Larval host-plants: unknown.

G. lao Mollet, 2016c, 34 (Figure 38)

Distribution: northern Thailand, Laos.

Genus ***Gerrya*** Mollet, 2017, 63
[Type-species: *Gerrya radiatus* Mollet, 2017a, 64, by original designation and monotypy]

Larval host-plants: unknown.

G. radiatus Mollet, 2017, 64

Distribution: China (Hainan).

Genus ***Goe*** Hampson, 1893 ("1892"), 242 (as *Goë*) (see Efetov, 1998a, 50)
[Type-species: *Goe diaphana* Hampson, 1893 ("1892"), 242, by original designation and monotypy]
Kublaia Alberti, 1954, 255 (*Illiberis* subg.) (see Efetov, 1998a, 60)
[Type-species: *Illiberis heringi* Draeseke, 1926, 45, by original designation and monotypy]

Larval host-plants: unknown.

G. tarmanni Efetov, 1998a, 52

Distribution: China (Sichuan).

G. heringi (Draeseke, 1926, 45) (*Illiberis*)

Distribution: China (Sichuan).

G. diaphana Hampson, 1893, 242 (*Goë*)

Distribution: Myanmar (Burma).

G. dentata Efetov, 1998a, 57
heringi partim (sensu Alberti, 1954, 256 (*Illiberis* (*Kublaia*))) (nec Draeseke, 1926, 45)

Distribution: China (Shaanxi, Hunan).

Genus ***Zama*** Herrich-Schäffer, 1855, 87 (see Efetov & Tarmann, 2012, 23)
[Type-species: *Zama cyanecula* Herrich-Schäffer, 1855, 87, by monotypy]
Northia Walker, 1854, 141 (a junior homonym of *Northia* Gray, 1847, 140 - Mollusca).
[Type-species: *Glaucopis nigrigemma* Walker, 1854, 141, by monotypy]

Larval host-plants: Vitaceae.

Z. shensiensis (Alberti, 1954, 242) (*Illiberis* (*Zama*))

Distribution: central China (Shaanxi).

Z. nigrigemma (Walker, 1854, 141) (*Glaucopis*)
cyanecula Herrich-Schäffer, 1855, 87

Distribution: Myanmar (Burma), Laos, northern Vietnam, China.

Z. horni (Strand, 1915, 121) (*Phacusa*)

Distribution: China (Taiwan).

Z. arisana (Matsumura, 1927, 79) (*Phacusa*)

Distribution: China (Taiwan).

Z. endocyanea (Hampson, 1920a, 273) (*Illiberis*)

Distribution: India (Assam), Bhutan.

Z. cyanocera (Hampson, 1893, 241) (*Phacusa*)
ignea (Oberthür, 1894, 29) (*Northia*)

Distribution: Myanmar (Burma).

Genus ***Phacusa*** Walker, 1854, 150
[Type-species: *Glaucopis tenebrosa* Walker, 1854, 150, by monotypy]
Notioptera Butler, 1876, 355
[Type-species: *Syntomis dolosa* Walker, 1856, 1594]

Larval host-plants: Vitacae, Dilleniaceae (*Dillenia*) (Küppers & Buchsbaum, 2015).

Ph. tenebrosa (Walker, 1854, 150) (*Glaucopis*)
siamensis Oberthür, 1894, 31 (*Phacusa* sp.)

Distribution: northeastern India, Thailand.

Ph. nicobarica Hampson, 1920a, 272, **stat. rev. (C33)**

Distribution: Nicobare Islands.

Ph. crawfurdi (Moore, 1859, 327) (*Syntomis* sp.) (see Holloway, 2011, 16)
subtilis Hering, 1925a, 176

Distribution: Indonesia (Java, Borneo).

Ph. birmana (Oberthür, 1894, 30) (*Northia*)

Distribution: Myanmar (Burma), Thailand, Laos.

Ph. discoidalis (Swinhoe, 1903, 500) (*Illiberis*)
tonkinensis Alberti, 1954, 259

Distribution: Vietnam.

Ph. chalcobasis Hampson, 1920a, 272

Distribution: Indonesia (Sumatra).

Ph. dolosa (Walker, 1856, 1594) (*Syntomis*)

Distribution: northeastern India.

Ph. properta (Swinhoe, 1890, 400) (*Notioptera*)
dohertyi (Oberthür, 1894, 36) (*Northia* sp.)

Distribution: Myanmar (Burma).

Ph. janicornae Küppers & Buchsbaum, 2016, 148

Distribution: Thailand.

Ph. manilensis Hampson, 1920a, 272

Distribution: Philippines (Luzon).

Ph. strigosa (Walker, 1865, 69) (*Syntomis*)

Distribution: Indonesia (Sulawesi).

Genus ***Pseudophacusa*** Efetov & Tarmann, 2016, 82
[Type-species: *Pseudophacusa multidentata* Efetov & Tarmann, 2016, 82, by original designation and monotypy]

Larval host-plants: unknown.

P. multidentata Efetov & Tarmann, 2016, 82

Distribution: northern Myanmar (Burma).

Genus ***Funeralia*** Alberti, 1954, 264
[Type-species: *Funeralia transiens* Alberti, 1954, 264, by original designation and monotypy]

Larval host-plants: unknown.

F. transiens Alberti, 1954, 264

Distribution: eastern China (Zhejiang).

Genus ***Erythroclelea*** Efetov & Tarmann, 1995b, 70
[Type-species: *Laurion syfanicum* Oberthür, 1894, 25, by original designation and monotypy]

Larval host-plants: unknown.

E. syfanicum (Oberthür, 1894, 25) (*Laurion*)

Distribution: China (Sichuan).

Genus ***Praeprocris*** Alberti, 1954, 315 (*Rhagades* subg.) (see Efetov & Tarmann, 1999a, 17)
[Type-species: *Rhagades (Praeprocris) pseudomaerens* Alberti, 1954, 315, by original designation and monotypy]

Larval host-plants: unknown.

P. pseudomaerens (Alberti, 1954, 315) (*Rhagades*)

Distribution: China (Beijing).

Genus ***Theresimima*** Strand, 1917, 137
[Type-species: *Zygaena ampellophaga* Bayle-Barelle, 1809, 2, by monotypy (of *Theresia* Spuler, 1906)]

Theresia Spuler, 1906, 165 (a junior homonym of *Theresia* Robineau-Desvoidy, 1830, 325 - Insecta, Diptera. The objective replacement name is *Theresimima* Strand, 1917)
[Type-species: *Zygaena ampellophaga* Bayle-Barelle, 1809, 2, by monotypy]

Larval host-plants: Vitaceae: *Vitis vinifera* L., *Parthenocissus quinquefolia* (L.) Planch. (Embacher & Tarmann, 2002), hybrid *P. inserta* (A. Kerner) Fritsch x *P. quinquefolia* (L.) Planch. (Crimea: Efetov, 1990), *P. tricuspidata* (Siebold & Zucc.) Planch. (Crimea: Efetov, 1998a).

Th. ampellophaga (Bayle-Barelle, 1809, 2) (*Zygaena*)
ampelophaga [sic] (Hübner, 1822, figs 153, 154) (*Sphinx*), misspelling (see Efetov et al. 2023a)
vitis (Freyer, 1834, 48) (*Sphinx*)
astrapta (Dannehl, 1933, 147) (*Ino ampelophaga* [sic] "ab (?) rasse (?)")

Distribution: southern France, Italy (including Sicily), southeastern Austria, Slovenia, Croatia, Bosnia and Herzegovina (?), Serbia, Montenegro, Albania, Macedonia Greece (mainland and islands including Rhodes and Crete), Slovakia, Hungary, Romania (Dobrogea), Bulgaria, southern Ukraine, Moldova, Russia (southern European part including Crimea, Northern Caucasus), Georgia, Turkey, Cyprus, Syria, Lebanon, Israel. The historical occurrence in Algeria may have its origin in introduced specimens as they all come from Alger and surrounding places (no newer records known). No other records known from Africa. The occurrence in Spain is also doubtful and needs confirmation.

Genus ***Rhagades*** Wallengren, 1863, 110
[Type-species: *Sphinx pruni* [Denis & Schiffermüller], 1775, 308, by monotypy]

Larval host-plants: Rosaceae. In one species, *Rh. (Rh.) pruni*, larval host-plants can also belong to other families: Fagaceae (e.g. subsp. *chinensis*), Ericaceae, Cistaceae, Rhamnaceae, Salicaciae.

Subgenus ***Naufockia*** Alberti, 1954, 317
[Type-species: *Procris brandti* Alberti, 1938b, 398, by original designation and monotypy]

Larval host-plants: Rosaceae (*Prunus*, *Amygdalus*, *Cotoneaster*).

Rh. **(*N.*)** ***brandti*** (Alberti, 1938b, 398) (*Procris*)

Distribution: Iran (Zagros, southern Kuh-Rud).

Subgenus ***Wiegelia*** Efetov & Tarmann, 1995b, 66
[Type-species: *Procris amasina* Herrich-Schäffer, 1851, 42, by original designation]

Larval host-plants: Rosaceae (*Pyrus* (e.g. *Pyrus bourgaeana* Decne.), *Prunus* (e.g. *Prunus ramburii* Boiss., *Prunus spinosa* L., *Prunus cerasifera* Ehrh.) (Vives Moreno & Huertas-Dionisio, 1985; Murria-Beltrán, 2007; Efetov & Tarmann, 2020b), *Amygdalus*, *Cotoneaster*, *Crataegus*, *Malus*).

Rh. **(*W.*)** ***amasina*** (Herrich-Schaffer, 1851, 42) (*Procris*) (Figure 17)

Distribution: Greece (Islands of the Dodekanes and Rhodos), Bulgaria, Turkey, Syria, Lebanon.

Rh. **(*W.*)** ***predotae*** (Naufock, 1930, 107) (*Procris*) (Figure 9)

Distribution: Spain.

Rh. **(*W.*)** ***tarmanni*** Keil, 1999, 73

Distribution: Iran (Zagros).

Subgenus ***Rhagades*** Wallengren, 1863, 110
[Type-species: *Sphinx pruni* [Denis & Schiffermüller], 1775, 308, by monotypy]

Larval host-plants: Rosaceae (*Crataegus*, *Fragaria*, *Malus*, *Padellus*, *Potentilla*, *Poterium*, *Prunus*, *Pyrus*, *Rosa*, *Rubus*), Ericaceae (*Calluna*, *Erica*), Cistaceae (*Helianthemum*), Fagaceae (*Fagus*, *Quercus*), Rhamnaceae (*Rhamnus*), Salicaceae (*Populus*, *Salix*).

Rh.* (*Rh.*) *pruni ([Denis & Schiffermüller], 1775, 308) (*Sphinx*) **(C34)** (Figure 10)

Distribution: northeastern Spain, France, Belgium, Luxembourg, Netherlands, Denmark, Germany, Switzerland, Austria, northern Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Finland, Estonia, Latvia, Lithuania, Belarus, Ukraine, Moldova, Russia (northern, central and southern European part including Crimea, Northern Caucasus, Siberia), European Turkey, Georgia, Azerbaijan, Kyrgyzstan, Kazakhstan (subsp. *pruni*); Russia (Far East), China, North Korea (subsp. *chinensis*); Russia (Kuril Islands), Japan (subsp. *esmeralda*).

Rh.* (*Rh.*) *pruni pruni ([Denis & Schiffermüller], 1775, 308) (*Sphinx*)
callunae Spuler, 1906, 166 (*Rhagades pruni* "v. ? ")
Rh.* (*Rh.*) *pruni chinensis (Felder & Felder, 1862, 31) (*Ino* sp.)
tristis (Bremer, 1865, 97) (*Procris* sp.)
Rh.* (*Rh.*) *pruni esmeralda (Butler, 1877a, 394) (*Procris* sp.)

Genus ***Zygaenoprocris*** Hampson, 1900, 225 (see Efetov, 2001b, 41) **(C35)** (Figure 1)
[Type-species: *Zygaenoprocris chalcochlora* Hampson, 1900, 225, by original designation and monotypy]

Larval host-plants: Polygonaceae (Efetov, 1991b, 1994c; Keil, 2014, 2016b, 2020), Plumbaginaceae (Mollet & Tarmann, 2007; Keil, 2014, 2016b, 2020), Asteraceae (Mollet & Tarmann, 2007; Keil, 2014, 2016b, 2020).

Subgenus ***Zygaenoprocris*** Hampson, 1900, 225 **(C35)**
[Type-species: *Zygaenoprocris chalcochlora* Hampson, 1900, 225, by original designation and monotypy]

Larval host-plants: Plumbaginaceae (*Acantholimon*) (Mollet & Tarmann, 2007; Keil, 2014, 2016b, 2020), Asteraceae (*Cousinia*) (Mollet & Tarmann, 2007; Keil, 2014, 2016b, 2020).

Z.* (*Z.*) *chalcochlora Hampson, 1900, 225

Distribution: Afghanistan, Pakistan.

Z.* (*Z.*) *mystrocera (Püngeler, 1914, 52) (*Ino*) (comb.: Efetov, 2001b) **(C35)**

Distribution: northern central, northern and northeastern Iran (ssp. *mystrocera*), central Iran (Yazd) (ssp. *molleti*), and southern Iran (Kerman) (ssp. *valii*).

Z.* (*Z.*) *mystrocera mystrocera (Püngeler, 1914), **stat. rev.**
Z. **(*Z.*) *mystrocera molleti*** Keil, 2020, 89, **stat. nov.**
Z.* (*Z.*) *mystrocera valii Keil, 2020, 90, **stat. nov.**

Z.* (*Z.*) *khorassana (Alberti, 1939a, 3) (*Procris*) (see Efetov & Tarmann, 2012, 26, 46)

Distribution: northeastern Iran, Turkmenistan (Kopetdag).

Z.* (*Z.*) *hofmanni Mollet & Tarmann, 2007, 71

Distribution: northeastern Iran (Kuh-e Shavar).

Z.* (*Z.*) *efetovi Mollet & Tarmann, 2007, 69

Distribution: eastern Iran (Kuh-e Mirza Arab).

Subgenus ***Efetovia*** Mollet, 2001, 51
[Type-species: *Procris fredi* Alberti, 1939a, 4, by original designation and monotypy]

Larval host-plants: unknown.

Z.* (*E.*) *fredi (Alberti, 1939a, 4) (*Procris*) (comb.: Efetov, 2001b)

Distribution: northeastern Iran (Kuh-e Binaloud).

Subgenus ***Longiterna*** Efetov & Tarmann, **subgen. nov. (C36)**
[Type-species: *Procris rjabovi* Alberti, 1938c, 94, here designated]

Larval host-plants: Polygonaceae (*Polygonum*) (Keil, 2014).

Z.* (*L.*) *rjabovi (Alberti, 1938c, 94) (*Procris*) (comb., Efetov, 2001b)

Distribution: northeastern Iran (Shah-Kuh).

Z.* (*L.*) *eberti (Alberti, 1968, 249) (*Procris*) (comb.: Efetov, 2001b)

Distribution: Afghanistan (Koh-i-Baba).

Subgenus ***Keilia*** Efetov, 2001b, 47
[Type-species: *Adscita minna* Efetov, 1991b, 155, by original designation]

Larval host-plant: Polygonaceae (*Atraphaxis*) (Efetov, 1991b, 1994c; Efetov & Daricheva, 1992; Keil, 2014, 2016a).

Z.* (*K.*) *minna (Efetov, 1991b, 155) (*Adscita*) (comb.: Efetov, 2001b)

Distribution: Turkmenistan (Kopetdag), Iran (northern Khorāsān).

Z.* (*K.*) *albertii (Efetov, 1991b, 57) (*Adscita*) (comb.: Efetov, 2001b)

Distribution: Turkmenistan, Iran (northern Khorāsān-e Razawī).

Z.* (*K.*) *naumanni (Efetov, 1994a, 53) (*Adscita* (*Zygaenoprocris*)) (comb.: Efetov, 2001b)

Distribution: northern Afghanistan.

Subgenus ***Molletia*** Efetov, 2001b, 45 **(C35)**
[Type-species: *Procris taftana* Alberti, 1939a, 4, by original designation]

Larval host-plant: Polygonaceae (*Atraphaxis*, *Polygonum*) (Efetov, 1997d; Mollet, 2000; Keil, 2020).

Z.* (*M.*) *taftana (Alberti, 1939a, 4) (*Procris*) (comb.: Efetov, 2001b) (Figures 18, 39)

Distribution: Armenia, Iran.

Z.* (*M.*) *persepolis (Alberti, 1938b, 399) (*Procris*) (comb.: Efetov, 2001b)

Distribution: Iran: southern Zagros Mountains (subsp. *persepolis*); northern and central Zagros Mountains (subsp. *puschmanni*); central Quohrud Mountains (subsp. *schahdadiani*); southern Iran (Kerman) (subsp. *hasarani*).

Z.* (*M.*) *persepolis persepolis (Alberti, 1938b, 399) (*Procris*)
Z.* (*M.*) *persepolis puschmanni Keil, 2020, 94, **stat. nov.**
Z.* (*M.*) *persepolis schahdadiani Keil, 2020, 94, **stat. nov.**
Z.* (*M.*) *persepolis hasarani Keil, 2020, 96, **stat. nov.**

Z.* (*M.*) *duskei (Grum-Grshimailo, 1902, 197) (*Ino*) (comb.: Efetov, 2001b)

Distribution: Iran: central parts between Teheran and Esfahan (subsp. *kliri*); central (south of 33°N) and southern parts (subsp. *kermana*); Kuh-e Taftan (subsp. *duskei*); Mekran (subsp. *aerea*).

Z.* (*M.*) *duskei kliri Keil, 2002, 55 (*Zygaenoprocris* sp.) (see Efetov, 2004a, 113)
Z.* (*M.*) *duskei kermana (Alberti, 1967, 99) (*Procris* sp.) (see Efetov, 2001d, 154)
Z.* (*M.*) *duskei duskei (Grum-Grshimailo, 1902, 197) (*Ino*)
sengana (Alberti, 1939a, 28) (*Procris* sp.) (see Efetov, 1992b, 147)
Z.* (*M.*) *duskei aerea (Grum-Grshimailo, 1902, 198) (*Ino duskei* var.) (see Efetov & Tarmann, 1999a, 32, 71)
mekrana (Alberti, 1939a, 29) (*Procris* "sp. ?") (see Efetov & Tarmann, 1999a, 32)

Genus ***Adscita*** Retzius, 1783, 35 (Figure 2)
[Type-species: *Adscita turcosa* Retzius, 1783, 35, by subsequent designation by Kirby, 1892, 84]
Chrysaor Hübner, 1806, [1] (included in a work rejected for nomenclatural purposes by the International Commission on Zoological Nomenclature, 1926, Opinion 97, 19)
[Type-species: *Sphinx statices* Linnaeus, 1758, 495, by monotypy]
Procris [Fabricius in Illiger], 1807, 289 (see Taeger & Gaedike, 2001, 87)
[Type-species: *Sphinx statices* Linnaeus, 1758: 495, by subsequent designation by Latreille, 1810, 441]
Atychia Ochsenheimer, 1808, [9], [10], 11
[Type-species: *Sphinx statices* Linnaeus, 1758, 495, by subsequent designation by Tremewan, 1973, 119]
Ino Leach, 1815, 131
[Type-species: *Sphinx statices* Linnaeus, 1758, 495, by monotypy]
Bradyptesis Sodoffsky, 1837, 83 (unnecessary objective replacement name for *Atychia* Ochsenheimer, 1808)

Larval host-plants: Polygonaceae, Cistaceae, Geraniaceae. In some Cistaceae-feeding species host-plants can also be Rosaceae and Fabaceae. Some larvae can be leaf-mining but only in early instars.

Subgenus ***Procriterna*** Efetov & Tarmann, 2004a, 184
[Type-species: *Ino subtristis* Staudinger, 1887a, 68, by original designation]
Procrita Efetov & Tarmann, 1999a, 31, 63 (a junior homonym of *Procrita* Hendel, 1908, 59 - Insecta, Diptera. The objective replacement name is *Procriterna* Efetov & Tarmann, 2004a, 184)

[Type-species: *Ino subtristis* Staudinger, 1887a, 68, by original designation]

Larval host-plants: Polygonaceae (*Atraphaxis* spp.). Larva not leaf-mining (biology only known for *A. subtristis*).

A.* (*P.*) *subtristis (Staudinger, 1887a, 68) (*Ino*) (Figure 40)
dolosa (Staudinger, 1887a, 69) (*Ino*) (see Efetov & Tarmann, 1999a, 31)

Distribution: Uzbekistan, Tajikistan, Kyrgyzstan, southern Kazakhstan.

A.* (*P.*) *amaura (Staudinger, 1887a, 70) (*Ino*)
banghaasi (Alberti, 1938a, 119) (*Procris amaura* subsp.) (see Efetov & Tarmann, 1999a, 31)

Distribution: Uzbekistan, Tajikistan.

A.* (*P.*) *subdolosa (Staudinger, 1887a, 70) (*Ino dolosa* var.)
pamirensis (Hampson, 1920b, 433) (*Procris*)

Distribution: Uzbekistan, Tajikistan, Kyrgyzstan, southern Kazakhstan, Afghanistan.

A.* (*P.*) *pligori Efetov, 2012, 99

Distribution: Afghanistan.

Subgenus ***Afroterna*** Efetov & Tarmann, **subgen. nov. (C37)**
[Type-species: *Procris mauretanica* Naufock, 1932, 77, here designated]

Larval host-plants: Polygonaceae, Cistaceae. Larva leaf-mining only in early instars.

A.* (*Afr.*) *mauretanica (Naufock, 1932, 77) (*Procris*), **comb. nov.**

Distribution: Morocco (Middle Atlas and Rif), northwestern Algeria (subsp. *mauretanica*); Morocco (High Atlas) (subsp. *wiegeli*).

A.* (*Afr.*) *mauretanica mauretanica (Naufock, 1932, 77) (*Procris*)
bohigasi (Agenjo, 1940, 105) (*Procris mauretanica* var.)
meson Dujardin, 1973, 160
A.* (*Afr.*) *mauretanica wiegeli (Alberti, 1973a, 12) (*Procris*)
atlasica Dujardin, 1973, 159

Larval host-plants: Polygonaceae (*A. mauretanica wiegeli*), Cistaceae (*A. mauretanica mauretanica*).

Subgenus ***Adscita*** Retzius, 1783, 35
[Type-species: *Adscita turcosa* Retzius, 1783, 35, by subsequent designation by Kirby, 1892, 84]
Chrysaor Hübner, 1806, [1] (see above)
Procris [Fabricius in Illiger], 1807, 289 (see above)
Atychia Ochsenheimer, 1808, [9], [10], 11 (see above)
Ino Leach, 1815, 131 (see above)
Bradyptesis Sodoffsky, 1837, 83 (see above)

Larval host-plants: Polygonaceae (*Rumex* spp.). Larva leaf-mining only in early instars.

***jordani*-group** (see Efetov & Tarmann, 2012, 29)

Larval host-plants: Polygonaceae (*Rumex* spp.)

A.* (*A.*) *jordani (Naufock, 1921, 63) (*Procris*)

Distribution: Portugal, Spain.

***statices*-group** (see Efetov & Tarmann, 2012, 29)

Larval host-plants: Polygonaceae (*Rume*x spp.).

A.* (*A.*) *krymensis Efetov, 1994b, 267

Distribution: Crimea.

A.* (*A.*) *schmidti (Naufock, 1933b, 61) (*Procris*)
ariasae (Agenjo, 1975, 9) (*Procris schmidti* subsp.)

Distribution: Portugal, Spain.

A.* (*A.*) *alpina (Alberti, 1937a, 435) (*Procris*)
oblita (Rocci, 1937, 146) (*Procris* sp.)
viridis Verity, 1946, 148 (*Adscita alpina* "forma")
caerulea Verity, 1946, 148 (*Adscita alpina* "forma")
minuscula Verity, 1946, 151 (*Adscita alpina alpina* "sottorazza") (see Efetov, 2001c, 128)
bellissima Verity, 1946, 151 (*Adscita alpina* "razza")

Distribution: Alps (southeastern France, southern Switzerland, western Austria, northern Italy).

A.* (*A.*) *italica (Alberti, 1937a, 438) (*Procris*)

Distribution: central and southern Italy (including Sicily) (subsp. *italica*); eastern Turkey (subsp. *storaiae*).

A.* (*A.*) *italica italica (Alberti, 1937a, 438) (*Procris*) (Figures 11, 19)
A.* (*A.*) *italica storaiae (Tarmann, 1977a, 97) (*Procris*)

A.* (*A.*) *statices (Linnaeus, 1758, 495) (*Sphinx*) (Figure 41)

Distribution: northeastern Spain, Andorra, Ireland, Scotland, England, Wales, France, Belgium, Luxembourg, Netherlands, Germany, Switzerland, Austria, northern Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Denmark, Norway, Sweden, Finland, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Estonia, Latvia, Lithuania, Belarus, Ukraine (without Crimea), Moldova, Russia (European part, Northern Caucasus, Siberia), Georgia, Kyrgyzstan, Kazakhstan, Turkey, northwestern China.

Subsp. *statices.* Absent from most parts of the Iberian Peninsula where it is replaced by *A.* (*A.*) *schmidti*; absent from most parts of northern Italy where it is replaced by *A.* (*A.*) *alpina*; absent from central and southern Italy where it is replaced by *A.* (*A.*) *italica italica*; absent from the Crimea where it is possibly replaced by *A.* (*A.*) *krymensis*; absent from southern Balkans and western, central and southern Turkey where it is replaced by *A.* (*A.*) *statices drenowskii* (see below); absent from eastern Turkey where it is replaced by *A.* (*A.*) *italica storaiae*.

Subsp. *drenowskii.* Southern Balkans to central and southern Turkey.

A. (A.) statices statices (Linnaeus, 1758, 495) (*Sphinx*)
turcosa Retzius, 1783, 8 (*Adscita* sp.) (unnecessary objective replacement name for *Sphinx statices* Linnaeus, 1758)

micans (Freyer, 1833, 27) (*Sphinx* sp.)
uralensis (Grum-Grshimailo, 1893, 385) (*Ino statices* var.)
viridis Tutt, 1899, 390 (*Adscita statices* "ab.")
griseonigra (Hoffmann & Klos, 1923, 44) (*Ino statices* f.)
grisea (Niepelt, 1924, 50) (*Procris statices* f.)
extensa (Alberti, 1937b, 100) (*Procris*)
anomala Verity, 1946, 152 (*Adscita statices* "razza")
lutrinensis (Heuser, 1960, 28) (*Procris* sp.)
heuseri (Reichl, 1964, 100) (*Procris* sp.)
albis (Heuser, 1964, 68) (*Procris* sp.)
palatis (Heuser, 1964, 68) (*Procris* sp.)
talis (Heuser, 1964, 68) (*Procris* sp.)

A.* (*A.*) *statices drenowskii (Alberti, 1939b, 43) (*Procris* sp.)

Subgenus ***Obscuriterna*** Efetov & Tarmann, **subgen. nov. (C38)**
[Type-species: *Procris obscura* Zeller, 1847a, 15, here designated]

Larval host-plants: Cistaceae, Rosaceae and Fabaceae. Larva leaf-mining only in early instars.

A. (A.) obscura (Zeller, 1847a, 15) (*Procris*)

Distribution: Albania, Macedonia, Greece, Romania, Bulgaria, most parts of Turkey, Iraq, Iran (Elburs, Zagros) (subsp. *obscura*); southern Turkey (Mersin, Adana, Hatay), Syria, Lebanon, Israel, Jordan, northeastern Egypt (subsp. *pallida*); Russia (Northern Caucasus (Dagestan)), Georgia, Armenia, Azerbaijan, northeastern Turkey, northwestern Iran (subsp. *maxima*).

A.* (*A.*) *obscura obscura (Zeller, 1847a, 15) (*Procris*)
anceps (Staudinger, 1862, 355) (*Ino* sp.)
balcanica (Staudinger, 1862, 356) (*Ino obscura* "Localform")
pallida (Alberti, 1938a, 122) (*Procris*)

A.* (*A.*) *obscura maxima (Alberti, 1938a, 122) (*Procris*)

Subgenus ***Eurasiterna*** Efetov & Tarmann, **subgen. nov. (C39)**
[Type-species: *Adscita dujardini* Efetov & Tarmann, 2014b, 182, here designated]

Larval host-plants: Cistaceae, Geraniaceae. Larva leaf-mining only in early instars.

geryon-group (see Efetov & Tarmann, 2012, 30)

Larval host-plants: Cistaceae (*A. geryon* sometimes also on Geraniaceae).

A. (Eur.) capitalis (Staudinger, 1879, 317) (*Ino*)

Distribution: Macedonia, Greece, Turkey.

A.* (*Eur.*) *geryon (Hübner, 1813, pl. 28, figs 130, 131) (*Sphinx*)

Distribution: Spain, Andorra, England, Wales, France, Belgium, Germany, Switzerland, Austria, Italy (including Sicily), Greece (except north-west), Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, southern Ukraine, Moldova, Russia (southern European part, southern Crimea), northwestern Turkey (subsp. *geryon*); northeastern Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, northwestern Greece (subsp. *orientalis*); high mountains of eastern Switzerland, northern Italy, and central Austria (subsp. *chrysocephala*); central Italy (subsp. *acutafibra*).

A.* (*Eur.*) *geryon geryon (Hübner, 1813, pl. 28, figs 130, 131) (*Sphinx*)
minor (sensu Jordan, 1907a, 9 (*Procris*)) (nec Eversmann, 1844, 91)
caerulea Tutt, 1899, 401 (*Adscita geryon* "ab.")
viridis Tutt, 1899, 401 (*Adscita geryon* "ab.")
virescens (Agenjo, 1937, 311) (*Procris geryon* "forma")
aeris Verity, 1946, 154 (*Adscita geryon* "razza")

A.* (*Eur.*) *geryon chrysocephala (Nickerl, 1845, 93) (*Atychia* sp.)

A.* (*Eur.*) *geryon acutafibra Verity, 1946, 149 (*Adscita alpina* "forma") (see Efetov, 2001c, 128)

A.* (*Eur.*) *geryon orientalis (Alberti, 1938d, 54) (*Procris*)
hyalicolor Verity, 1946, 150 (*Adscita alpina* "razza") (see Efetov, 2001c, 128)

***albanica*-group** (see Efetov & Tarmann, 2012, 31)

Larval host-plants: Geraniaceae (Efetov, 1992a, 1999b).

A. (Eur.) dujardini Efetov & Tarmann, 2014b, 182

Distribution: southeastern France, Switzerland, Italy, Slovenia.

A. (Eur.) albanica (Naufock, 1926, (126)) (*Procris*)
jegorowi (Alberti, 1971, 76) (*Procris*) [nomen nudum]
accola Zolotuhin & Nedoshivina, 2020, 144 (*Adscita albanica* ssp.) (see Efetov & Tarmann, 2022)

Distribution: Serbia, Albania, Macedonia, Greece, Bulgaria, Ukraine, Russia (European part, Crimea, Northern Caucasus).

Subgenus ***Tarmannita*** Efetov, 2000f, 169
[Type-species: *Ino mannii* Lederer, 1853, 103, by original designation]

Larval host-plants: Cistaceae; for *A. mannii* also Rosaceae and Fabaceae, for *A. antoniovivesi* also Rosaceae.

A.* (*T.*) *mannii (Lederer, 1853, 103) (*Ino*) (Figure 42)
heydenreichii (Lederer, 1853, 103) (*Ino* sp.)
crassicornis (Staudinger, 1862, 358) (*Ino heydenreichii* "v.")
prasina (Rothschild, 1917, 345) (*Procris bellieri* subsp.)
superba (Rocci, 1937, 145) (*Procris micans* "f. p.")
atlantica (Alberti, 1937b, 98) (*Procris mannii* subsp.)
denticulata Verity, 1946, 140 (*Adscita mannii* "forma")
caerulea Verity, 1946, 143 (*Adscita mannii bellieri* "forma")
glauca Verity, 1946, 144 (*Adscita mannii* "razza")
gracilis Verity, 1946, 145 (*Adscita mannii crassicornis* "sottorazza")

pseudostatices Verity, 1946, 146 (*Adscita mannii* "razza")
heliocausta Dujardin, 1975, 39
micans (sensu Jordan, 1907a, 9 (*Procris*)) (nec Freyer, 1833, 27)

Distribution: northeastern Spain, France, southwestern Germany, southern Switzerland, southern Austria, Italy (including Sicily), Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Romania, Bulgaria, northwestern Turkey.

A. (T.) antoniovivesi Efetov & Tarmann, 2024, 10

Distribution: Spain.

A.* (*T.*) *bolivari (Agenjo, 1937, 314) (*Procris*)

Distribution: Portugal, Spain.

Genus ***Jordanita*** Verity, 1946, 134
[Type-species: *Sphinx chloros* Hübner, 1813, pl. 28, figs 128, 129; by original designation, name made available by designation of type species]
Jordanita Agenjo, 1940, 46 (without designation of type species; unavailable under Code, Article 13.3)

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

Subgenus ***Roccia*** Alberti, 1954, 326
[Type-species: *Ino budensis* Speyer & Speyer, 1858, 466, by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

***budensis*-group** (see Efetov & Tarmann, 2012, 32)

J.* (*R.*) *budensis (Speyer & Speyer, 1858, 466) (*Ino*)

Distribution: Spain, France, Austria, Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Slovakia, Hungary, Romania, Bulgaria, Russia (southern European part, southern Crimea, Northern Caucasus,), Georgia, Armenia, Azerbaijan, Turkey (subsp. *budensis*); Russia (southern Siberia, Far East (Amur Region)), Kazakhstan, Mongolia (subsp. *centralasiae*).

J. (R.) budensis budensis (Speyer & Speyer, 1858, 466) (*Ino*)
cuprea (Rambur, 1866, 186) (*Procris*)
J. (R.) budensis centralasiae (Alberti, 1937c, 87) (*Procris*)

J. (R.) paupera (Christoph, 1887, 162) (*Ino*) **(C40)**
hamifera (Jordan, 1907a, 8) (*Procris*)
tamerlana (Alberti, 1937c, 86) (*Procris hamifera* subsp.)
minor (Alberti, 1937c, 87) (*Procris hamifera* "f. (ssp. ?)") (a junior primary homonym of *Atychia statices* var. *minor* Eversmann, 1844, 91)
scintillosa Zolotuhin, 2020, 8 (replacement name for *Procris hamifera minor* Alberti, 1937c) (see Efetov et al. 2022; Efetov & Tarmann, 2022)
smaragdonna Zolotuhin, 2020, 9 (see Efetov et al. 2022; Efetov & Tarmann, 2022)

Distribution: Russia (southern European part, Northern Caucasus), Azerbaijan (including Nakhichevan), Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, Turkey, Jordan, northern Iran.

J. (R.) mollis (Grum-Grshimailo, 1893, 385) (*Ino budensis* var.) **(C41)**

Distribution: eastern Russia (southern Siberia and Far East), China, Korea.

***volgensis*-group** (see Efetov & Tarmann, 2012, 32)

J.* (*R.*) *volgensis (Möschler, 1862, 139) (*Ino*) (Figure 12)

Distribution: Ukraine (eastern part), Russia southern (European part, Crimea (Efetov & Savchuk, 2009), Northern Caucasus, southern Siberia), Kazakhstan (subsp. *volgensis*), Georgia, Armenia, Azerbaijan, northwestern Iran (subsp. *muelleri*), Turkey, Syria (subsp. *grandis*).

J.* (*R.*) *volgensis volgensis (Möschler, 1862, 139) (*Ino*)
J.* (*R.*) *volgensis muelleri (Alberti, 1973b, 387) (*Procris*)
J.* (*R.*) *volgensis grandis (Alberti, 1974, 49) (*Procris*)
monotona (Alberti, 1937c, 91) (*Procris volgensis* subsp. *hector* f.)

J.* (*R.*) *suspecta (Staudinger, 1887a, 71) (*Ino cognata* "var. ?")
globulariae partim (sensu Jordan, 1907a, 8 (*Procris*)) (nec Hübner, 1793, pl. 67)

Distribution: Uzbekistan, Kyrgyzstan.

***naufocki*-group** (see Efetov & Tarmann, 2012, 32)

J.* (*R.*) *tianshanica (Efetov, 1990, 8) (*Adscita*)

Distribution: Kyrgyzstan.

J.* (*R.*) *naufocki (Alberti, 1937c, 88) (*Procris*)

Distribution: Kyrgyzstan, Kazakhstan, northwestern China.

J.* (*R.*) *almatiensis Mollet, 2008, 57

Distribution: southeastern Kazakhstan.

J.* (*R.*) *kurdica (Tarmann, 1987, 1) (*Adscita*)

Distribution: southeastern Turkey, western and southern Iran.

***hector*-group** (see Efetov & Tarmann, 2012, 33)

J.* (*R.*) *hector (Jordan, 1907a, 8) (*Procris*)
staudingeri (Alberti, 1954, 328) (*Procris*)

Distribution: southern Turkey (Mersin, Nigde, Gaziantep, Hatay), Syria, Lebanon, Israel.

Subgenus ***Lucasiterna*** Alberti, 1961, 59
[Type-species: *Procris cirtana* Lucas, 1849, 374, by original designation]
Lucasia Alberti, 1954, 319 (a junior homonym of *Lucasia* Robineau-Desvoidy, 1863, 409 - Insecta, Diptera. The objective replacement name is *Lucasiterna* Alberti, 1961, 59)
[Type-species: *Procris cirtana* Lucas, 1849, 374, by original designation]

Larval host-plants: Asteraceae (Mollet, 2003).

J.* (*L.*) *cirtana (Lucas, 1849, 374) (*Procris*)
orana (Austaut, 1880, 284) (*Ino*)
orana (Bethune-Baker, 1888, 117) (*Ino*) (a junior primary homonym of *Ino orana* Austaut, 1880)
bakeri (Kirby, 1892, 82) (*Adscita*) (objective replacement name for *Ino orana* Bethune-Baker, 1888)

Distribution: Northern Algeria, Tunisia.

Subgenus ***Tremewania*** Efetov & Tarmann, 1999a, 42
[Type-species: *Atychia notata* Zeller, 1847b, 294, by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

J.* (*T.*) *notata (Zeller, 1847b, 294) (*Atychia*)
soror (Rambur, 1866, 187) (*Procris*)
chlorotica (Agenjo, 1937, 291) (*Procris globulariae* var.)
cyanotica (Agenjo, 1937, 291) (*Procris globulariae* var.)
superior (Rocci, 1937, 130) (*Rhagades notata* "f. p.")
globulariae partim (sensu Jordan, 1907a, 8 (*Procris*)) (nec Hübner, 1793, pl. 67)
globulariae (sensu Agenjo, 1937, 291 (*Procris*)) (nec Hübner, 1793, pl. 67)
globulariae (sensu Verity, 1946, 130 (*Procris*)) (nec Hübner, 1793, pl. 67)

Distribution: Portugal, Spain, France, Germany, Switzerland, Austria, Italy (including Sicily), Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece (including Crete), Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Ukraine, Russia (soouthern European part, Crimea, Northern Caucasus), Georgia, Armenia, Azerbaijan, Turkey, Iran.

J.* (*T.*) *splendens (Staudinger, 1887a, 68) (*Ino*) (Figure 43)
incerta (Staudinger, 1887a, 72) (*Ino*)
heringi (Alberti, 1937c, 78) (*Procris splendens* subsp.)
globulariae suspecta (sensu Jordan, 1907a, 8 (*Procris*)) (nec Staudinger, 1887a, 71)
acroptilon (Stshetkin & Stshetkin, 1993, 139) (*Procris*) [nomen nudum: unavailable under Code, Article 13.1]

Distribution: Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan.

J.* (*T.*) *ambigua (Staudinger, 1887a, 71) (*Ino*)

Distribution: Turkmenistan, southern Uzbekistan, western Tajikistan (subsp. *ambigua*); eastern Uzbekistan, Kyrgyzstan (subsp. *asiatica*); Iran (subsp. *schakuhensis*); Afghanistan, southeastern Tadjikistan (Pamirs) (subsp. *omotoi*).

J. (T.) ambigua ambigua (Staudinger, 1887a, 71) (*Ino*)
J. (T.) ambigua asiatica (Staudinger, 1887a, 73) (*Ino budensis* var.)
J. (T.) ambigua schakuhensis (Alberti, 1954, 328) (*Procris*)
J. (T.) ambigua omotoi (Alberti, 1965, 1) (*Procris* sp.)

Subgenus ***Gregorita*** Povolný & Šmelhaus, 1951, 159
[Type-species: *Procris hispanica* Alberti, 1937b, 87, by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

***hispanica*-group** (see Efetov & Tarmann, 2012, 34)

J.* (*G.*) *hispanica (Alberti, 1937b, 87) (*Procris*)
danieli (Alberti, 1937b, 89) (*Procris hispanica* subsp.)
soror (sensu Agenjo, 1937, 295 (*Procris*)) (nec Rambur, 1866, 187)
soror (sensu Povolný & Šmelhaus, 1951, 187 (*Procris*)) (nec Rambur, 1866, 187)

Distribution: Portugal, Spain, southern France.

***algirica*-group** (see Efetov & Tarmann, 2012, 34)

J.* (*G.*) *algirica (Rothschild, 1917, 345) (*Procris orana* subsp.)
reisseri (Naufock, 1932, 75) (*Procris*)
azrouica (Barragué, 1986, 324) (*Adscita algirica* subsp.)
taon (Barragué, 1986, 324) (*Adscita algirica* subsp.)
stena (Barragué, 1986, 325) (*Adscita algirica* subsp.)
intermedia (Barragué, 1986, 325) (*Adscita algirica* subsp.)

Distribution: Morocco, northern Algeria, Tunisia, Sicily (?).

J. (G.) minutissima (Oberthür, 1916, 240) (*Procris tenuicornis* "morphe")

Distribution: northern Algeria.

J. (G.) carolae (Dujardin, 1973, 157) (*Adscita rungsi* subsp.)

Distribution: Morocco (southern High Atlas).

J. (G.) rungsi (Dujardin, 1973, 155) (*Adscita*)

Distribution: Morocco (Middle Atlas).

***cognata*-group** (see Efetov & Tarmann, 2012, 35)

J.* (*G.*) *cognata (Herrich-Schäffer, 1847, pl. 13, figs 94, 95) (*Procris*) (Figure 44)
cognata (Lucas, 1849, 373) (*Procris*) (a junior primary homonym)
gigantea (Naufock, 1933a, 96) (*Procris*)

Distribution: northern Algeria, Tunisia.

J.* (*G.*) *benderi (Tarmann, 1985a, 17) (*Adscita*)
koriflana (Rungs, 1980, 140) (*Adscita cognata* subsp.) [nomen nudum: unavailable under Code, Article 13.1]

Distribution: Morocco (Middle Atlas, High Atlas).

J.* (*G.*) *maroccana (Naufock, 1937, 30) (*Procris*)

Distribution: Morocco (Middle Atlas, High Atlas).

Subgenus ***Jordanita*** Verity, 1946, 134
[Type-species: *Sphinx chloros* Hübner, 1813, pl. 28, figs 128, 129; by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

***graeca*-group** (see Efetov & Tarmann, 2012, 35)

J. (J.) syriaca (Alberti, 1937c, 94) (*Procris*)

Distribution: southern Turkey (?), Syria, Lebanon, Israel, Jordan.

J.* (*J.*) *graeca (Jordan, 1907a, 9) (*Procris*)

Distribution: eastern Austria, Croatia, Bosnia and Herzegovina (?), Serbia, Montenegro, Albania, Macedonia, Greece, Slovakia, Hungary, Romania, Bulgaria, Ukraine, Moldova, Russia (European part, Crimea, Northern Caucasus), Georgia, Azerbaijan, Turkey, Cyprus, northern Iraq (subsp. *graeca*); Armenia, Iran (subsp. *persica*).

J.* (*J.*) *graeca graeca (Jordan, 1907a, 9) (*Procris*)
sultana (Alberti, 1937c, 96) (*Procris*) (see Efetov, 2001d, 156)
J.* (*J.*) *graeca persica (Alberti, 1938a, 125) (*Procris* "ssp. ?")

***chloros*-group** (see Efetov & Tarmann, 2012, 35)

J.* (*J.*) *chloros (Hübner, 1813, pl. 28, figs 128, 129) (*Sphinx*)

Distribution: southern France, Germany, eastern Switzerland, eastern Austria, northern Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Ukraine, Russia (European part, Crimea, Northern Caucasus, southern Siberia), Georgia, eastern Kazakhstan, Turkey, northern Syria, northern Iraq (subsp. *chloros*); southern Macedonia, southwestern Bulgaria, Greece (subsp. *hades*).

J.* (*J.*) *chloros chloros (Hübner, 1813, pl. 28, figs 128, 129) (*Sphinx*)
sepium (Boisduval, 1834, 81) (*Procris* sp.)
minor (Eversmann, 1844, 91) (*Atychia statices* var.) (see Efetov & Tarmann, 1999a, 25)
haegeri (Alberti, 1973b, 386) (*Procris chloros* subsp.)
J.* (*J.*) *chloros hades (Alberti, 1970a, 82) (*Procris*)

J.* (*J.*) *chloronota (Staudinger, 1871, 100) (*Ino chloros* var.)
minima (Alberti, 1937c, 93) (*Procris chloronota* f.)

Distribution: Southern Turkey (Mersin, Adana).

***globulariae*-group** (see Efetov & Tarmann, 2012, 36)

J.* (*J.*) *tenuicornis (Zeller, 1847b, 293) (*Atychia*)

Distribution: central Italy (subsp. *tenuicornis*); southern Italy (including Sicily) (subsp. *turatii*).

J.* (*J.*) *tenuicornis tenuicornis (Zeller, 1847b, 293) (*Atychia*)
bellieri (Rambur, 1866, 184) (*Procris* sp.)
J.* (*J.*) *tenuicornis turatii (Bartel, 1906, 178) (*Ino* sp.)
translucens Verity, 1946, 136 (*Jordanita tenuicornis* "razza")

J.* (*J.*) *globulariae (Hübner, 1793, pl. 67) (*Sphinx*)
caerulea (Tutt, 1899, 408) (*Rhagades globulariae* var.)
viridis (Tutt, 1899, 408) (*Rhagades globulariae* "ab.")
azurea (Vorbrodt, 1914, 248) (*Procris globulariae* "Form") (see Efetov & Tarmann, 1999a, 26)
acanthophora (Agenjo, 1937, 302) (*Procris*)
bosniaca (Alberti, 1937b, 99) (*Procris globulariae* subsp.)
stricta (Verity, 1946, 134) (*Procris cognata* "forma")
aureoviridis (Verity, 1946, 134) (*Procris cognata* "forma")
caerulea (Verity, 1946, 134) (*Procris cognata* "forma")
urbis (Verity, 1946, 134) (*Procris cognata* "razza")
cognata (sensu Jordan, 1907a, 8 (*Procris*)) (nec Herrich-Schäffer, 1847, pl. 13)
cognata (sensu Agenjo, 1940, 48 (*Procris*)) (nec Herrich-Schäffer, 1847, pl. 13)
cognata (sensu Verity, 1946, 132 (*Procris*)) (nec Herrich-Schäffer, 1847, pl. 13)

Distribution: central and northern Spain, Andorra, southern England, France, Belgium, Luxembourg, central and southern Germany, Switzerland, Austria, northern and central Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Belarus, Ukraine, Russia (European part, Crimea, Northern Caucasus), northwestern Turkey.

J. (J.) fazekasi Efetov, 1998c, 183

Distribution: southern Hungary.

J. (J.) vartianae (Malicky, 1961, 216) (*Procris*)

Distribution: southeastern Spain.

Subgenus ***Praviela*** Alberti, 1954, 329
[Type-species: *Procris anatolica* Naufock, 1929, 94, by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

J. (P.) anatolica (Naufock, 1929, 94) (*Procris*) **(C42)**

Distribution: Greece (Dodekanes), Turkey, Cyprus, Syria, Lebanon, Israel, Jordan, Iraq, Iran (Zagros and Elburs), Armenia, Azerbaijan (Nakhichevan) (subsp. *anatolica*); northeastern Libya, northern Egypt (subsp. *kruegeri*)

J.* (*P.*) *anatolica anatolica (Naufock, 1929, 94) (*Procris*)
levantina (Jordan, 1931, 277) (*Procris* sp.)
pfeifferi (Naufock, 1935, 7) (*Procris* sp.)
J.* (*P.*) *anatolica kruegeri (Turati, 1930, 50) (*Ino* sp.)

J.* (*P.*) *rietzschi Keil, 2016b, 201 **(C42)**

Distribution: Iran (Kuh-e-Gebal Bares).

J.* (*P.*) *christinae Keil, 1998, 113 **(C42)**

Distribution: Iran (central Zagros).

Subgenus ***Solaniterna*** Efetov, 2004a, 33, 119
[Type-species: *Ino subsolana* Staudinger, 1862, 352, by original designation]

Larval host-plants: Asteraceae. Larva leaf-mining until hibernation, in last instars boring in stems of the host plant (only known for *J. subsolana*).

J.* (*S.*) *subsolana (Staudinger, 1862, 352) (*Ino cognata* "var. ?")
cognata (Rambur, 1858, pl. 3, fig. 1) (*Procris*) (a junior primary homonym of *Procris cognata* Herrich-Schäffer, 1847, pl. 13, figs 94, 95)
incognita (Staudinger, 1862, 359) (*Ino cognata* "fragliche Varietät") [nomen nudum]
ramburi (Praviel, 1938, 113) (*Procris subsolana* subsp.)
schuetzei (Alberti, 1940, 313) (*Procris subsolana* subsp.)
modesta (Verity, 1946, 129) (*Procris subsolana* "razza")
venusta (Verity, 1946, 129) (*Procris subsolana* "razza")
globulariae partim (sensu Jordan, 1907a, 8 (*Procris*)) (nec Hübner, 1793, pl. 67)

Distribution: Morocco (Rif), Portugal, Spain, France, Belgium, Germany, Switzerland, Austria, Italy (including Sicily), Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Albania, Macedonia, Greece, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Ukraine, Moldova, Russia (European part, Crimea, Northern Caucasus, southern Siberia), Georgia, Armenia, Azerbaijan, Kazakhstan, Turkey, northern Iran.

J.* (*S.*) *solana (Staudinger, 1887a, 72) (*Ino subsolana* "var. ?")
gouldschaensis (Alberti, 1937ca 81) (*Procris solana* subsp.) (see Efetov & Tarmann, 1999a, 25)

Distribution: Uzbekistan, Kyrgyzstan, southern Kazakhstan.

Subgenus ***Rjabovia*** Efetov & Tarmann, 1995b, 70
[Type-species: *Procris horni* Alberti, 1937c, 93, by original designation and monotypy]

Larval host-plants: Asteraceae. Larva leaf-mining, even in last instars.

J. (R.) horni (Alberti, 1937c, 93) (*Procris*)
armena (Alberti, 1970a, 79) (*Procris*) [nomen nudum]

Distribution: Armenia, Azerbaijan, Turkey, Iran.

Genus ***Saliunca*** Walker, 1865 ("1864"), 108 **(C29)**
[Type species: *Tipulodes thoracica* Walker, 1865 ("1864"), 108, by original designation]

Larval host-plants: unknown.

S. styx (Fabricius, 1775, 556) (*Zygaena*)

Distribution: Africa (Gulf of Guinea: Sierra Leone, Togo, Cameroon, Ecuatorial Guinea).

S. styx styx (Fabricius, 1775, 556) (*Zygaena*)
thoracica (Walker, 1865, 108) (*Tipulodes*)
latipennis Strand, 1913, 57
S. styx ealaensis Alberti, 1957, 299

S. pallida Alberti, 1957, 299

Distribution: Central Africa (Congo).

S. ventralis Jordan, 1907b, 123
analoga Alberti, 1957, 300 (*Saliunca ventralis* "mod. "), unavailable (infrasubspecific)

Distribution: Eastern Africa (Uganda).

S. rufidorsis (Plötz, 1880, 80) ("*Antichloris* ?")

Distribution: western central Africa (Cameroon).

S. cyanea Hampson, 1920a, 276

Distribution: Eastern Africa (Uganda).

S. vidua Rebel, 1914, 290

Distribution: Central Africa (Congo).

S. aurifrons Walker, 1864, 109

Distribution: western and Central Africa (subsp. *aurifrons*) and Eastern Africa (subsp. *ugandana*).

S. aurifrons aurifrons Walker, 1864, 109
aitcha (Vuillot, 1892, CXL) (as *aïtcha*) (*Naclia*)
S. aurifrons ugandana Jordan, 1909, 258

S. flavifrons (Plötz, 1880, 80) ("*Antichloris* ?")

Distribution: western Central Africa (Cameroon, Ecuatorial Guinea).

S. flavifrontis Bryk, 1936, 279
flavifrons Bethune-Baker, 1927: 333 (nec Plötz, 1880, 80)

Distribution: western Central Africa (Cameroon).

S. fulviceps Hampson, 1920a, 276
fulvicepes [sic] Bryk, 1936, 279, misspelling

Distribution: Eastern Africa.

S. cyanothorax Hampson, 1920a, 277

Distribution: Eastern Africa (Uganda).

S. solora (Plötz, 1880, 80) ("*Antichloris* ?") (Figure 47)

Distribution: western Central Africa (Cameroon, Ecuatorial Guinea).

S. sapphirina Hampson, 1920a, 2
saphirina [sic] Gaede, 1926, 31, misspelling

Distribution: Eastern Africa (Uganda).

S. meruana Aurivillius, 1910, 48

Distribution: Central and Eastern Africa (Congo, Ethiopia, Kenia, Uganda, Tanzania) (subsp. *meruana*), western Central Africa (Ecuatorial Guinea) (subsp. *tessmanni*).

S. meruana meruana Aurivillius, 1910, 48
S. meruana tessmanni Alberti, 1957, 302

S. anhyalina Alberti, 1957, 302

Distribution: Eastern Africa (Ethiopia).

S. chalconota Hampson, 1920a, 277

Distribution: Eastern Africa (Uganda).

S. homochroa (Holland, 1897, 409) ("*Charidea* ?") (Figure 46)

Distribution: Eastern Africa (Ethiopia, Kenya, Mozambique, Somalia, Uganda, Zimbabwe).

S. metacyanea Hampson, 1920a, 277

Distribution: Eastern Africa.

S. aenescens Hampson, 1920a, 277

Distribution: Eastern Africa (Uganda, Kenia).

S. mimetica Jordan, 1907, 123
nkolentangensis Strand, 1912, 57

Distribution: Africa (Nigeria to Congo).

S. kamilila Bethune-Baker, 1911, 575

Distribution: Eastern Africa.

S. egeria Bethune-Baker, 1913, 67

Distribution: Eastern Africa (Uganda).

S. ignicincta Andreini, 1912, 141

Distribution: Eastern Africa (Eritrea).

S. rubriventris Holland, 1919, 324

Distribution: Central Africa (Congo).

S. orphina Hering, 1931, 114

Distribution: Eastern Africa (Zaire).

Genus ***Syringura*** Holland, 1893, 394 **(C29)**
[Type species: *Syringura uranopetes* Holland, 1893, 394, by original designation]

Larval host-plants: unknown.

S. pulchra (Butler, 1876, 358) (*Tascia*) (Figure 48)

Distribution: Central and Eastern Africa.

S. triplex (Plötz, 1880, 79) (*Tascia*)
triplax [sic] (Kirby, 1892, 169), misspelling (*Tascia*)
uranopetes Holland, 1893, 394
triguttata (Aurivillius, 1925, 1347) (*Saliunca*)

Distribution: Africa (Togo, Sierra Leone, Cameroon).

Genus ***Tascia*** Walker, 1856, 1600 **(C29)**
[Type species: *Tascia chrysotelus* Walker, 1856, 1600, by monotypy]
Parasyntomis Distant, 1897, 15
[Type species: *Parasyntomis aethiops* Distant, 1897, 15, by monotypy]
Tassia [sic] Druce, 1910, 392, misspelling

Larval host-plants: unknown.

T. amata Druce, 1910, 402

Distribution: Eastern Africa (Ethiopia).

T. finalis (Walker, 1854, 245) (*Euchromia*) (Figure 49)
chrysotelus Walker, 1856, 1600
virescens Butler, 1876, 357
aethiops (Distant, 1897) (*Parasyntomis*)

Distribution: South Africa (Transvaal, Natal).

T. instructa (Walker, 1854, 254) (*Anycles* (*Euchromia*))
erythrogaster (Mabille, 1892, CXXXIX) ("*Naclia* ?")
erythropyga Gaede, 1926, 33

Distribution: Africa (Sierra Leone).

T. rhabdophora Vari, 2002, xi, pl. 1 (Figure 13)

Distribution: Africa (Zimbabwe).

Genus ***Astyloneura*** Gaede, 1914, 53 **(C29)**
[Type species: *Astyloneura trefurthi* Gaede, 1914, 53, by monotypy]

Larval host-plants: unknown.

A. trefurthi Gaede, 1914, 53
cyanopis (Hampson, 1920a, 278) (*Saliunca*)

Distribution: Southern Africa (Zimbabwe).

A. meridionalis (Hampson, 1920a, 278) (*Saliunca*) (Figure 50)

Distribution: eastern Central and Eastern Africa (from Kenia, Uganda, Tanzania, southwards to northern South Africa) (subsp. *meridionalis*), western Central Africa (Congo) (subsp. *centralis*).

A. meridionalis meridionalis (Hampson, 1920a, 278) (*Saliunca*)
A. meridionalis centralis Alberti, 1957, 306

A. incerta Alberti, 1957, 306

Distribution: Central Africa (Congo).

A. difformis (Jordan, 1907b, 122) (*Saliunca*)

Distribution: Central and Eastern Africa (Congo, Uganda, Tanzania).

A. cupreotincta (Hampson, 1920a, 279) (*Saliunca*)

Distribution: Eastern Africa.

A. esmeralda (Hampson, 1920a, 279) (*Saliunca*)

Distribution: Africa (from Nigeria to Uganda).

A. glennia (Jordan, 1907, 123) (*Saliunca*)

Distribution: Southern Africa (Zimbabwe).

A. biplagata (Bethune-Baker, 1911, 575) (*Saliunca*)
biplagiata [sic] Gaede, 1926, 33, misspelling

Distribution: Southern Africa (Zimbabwe).

A. assimilis (Jordan, 1907b, 122) (*Saliunca*)

Distribution: Southern Africa (Zimbabwe).

A. nitens (Jordan, 1907b, 122) (*Saliunca*)

Distribution: Eastern Africa (Uganda).

A. ostia (Druce, 1896, 350) (*Saliunca*)
ostea [sic] Gaede, 1926, 36, misspelling

Distribution: Eastern Africa.

A. chlorotica (Hampson, 1920a, 280) (*Saliunca*)

Distribution: Central Africa (Congo).

A. monotona Hering, 1931, 115

Distribution: Central Africa (Congo).

A. gaedei Alberti, 1957, 310

Distribution: Central Africa (Congo (W. Ruwenzori)).

A. bicolora Röber, 1929, 327

Distribution: Eastern Africa (Ethiopia).

Genus ***Acoloithus*** Clemens, 1861, 539
[Type species: *Acoloithus falsarius* Clemens, 1861, 539, by monotypy]

Larval host-plants: Vitaceae (*Vitis* spp.) (known for *A. falsarius*, *A. novaricus*, *A. rectarius*).

A. falsarius Clemens, 1861, 539
sanborni (Packard, 1864, 32) (*Harrisina*)

Distribution: eastern USA.

A. novaricus Barnes & McDunnough, 1913, 295

Distribution: eastern USA.

A. rectarius Dyar, 1898, 44 (Figure 51)

Distribution: western USA.

A. ruficollis (Druce, 1884, 37) (*Urodus*)

Distribution: Guatemala.

A. dyraspes (Druce, 1896, 330) (*Urodus*)

Distribution: Mexico.

A. rubrojugulatus (Alberti, 1954, 340) (*Gonioprocris*)

Distribution: eastern USA.

A. totusniger Alberti, 1954, 339

Distribution: Mexico.

A. opacus Jordan, 1913, 25

Distribution: Colombia.

Genus ***Gaedea*** Hering, 1924, 272
[Type species: *Gaedea separata* Hering, 1924, 273, by original designation and monotypy]

Larval host-plants: unknown.

G. separata Hering, 1924, 273

Distribution: Bolivia.

Genus ***Neoilliberis*** Tarmann, 1984b, 55
[Type species: *Pyromorpha fusca* H. Edwards, 1885, 43, by original designation]

Larval host-plants: Fabaceae (*Acacia* spp.) (known for *N. fusca*).

N. martenii (French, 1884, 13) (*Triprocris*)
barnea (Druce, 1896, 329) (*Procris*)

Distribution: southwestern USA, northern Mexico.

N. tarahumara Tarmann, 1984b, 58

Distribution: northern Mexico.

N. fusca (H. Edwards, 1885, 43) (*Pyromorpha*) (Figure 52)
landia (Druce, 1896, 329) (*Procris*)

Distribution: southwestern USA, northern Mexico.

N. mas (Dyar, 1918a, 137) (*Gingla*)

Distribution: northern Mexico.

N. raconica (Dyar, 1913, 316) (*Gingla*) Mexico
purpusi (Hering, 1924, 270) (*Malthaca*)

Distribution: northern Mexico.

N. thyesta (Druce, 1884, 37) (*Procris*)

Distribution: Guatemala, Costa Rica.

N. puebla Tarmann, 1984b, 59

Distribution: central Mexico.

N. kendalli Tarmann, 1984b, 60

Distribution: southern USA.

N. arizonica Tarmann, 1984b, 64

Distribution: southern USA.

N. ignorata (Hering, 1925, 157) (*Malthaca*)

Distribution: southern Mexico, Guatemala.

Genus ***Neofelderia*** Tarmann, 1984b, 65
[Type species: *Acreagris correbioides* Felder, 1874, pl. 83, by monotypy]

Felderia Kirby, 1892, 163 (a junior homonym of *Felderia* Walsingham 1887, 165 - Insecta, Lepidoptera. Tineidae. The objective replacement name is *Neofelderia* Tarmann, 1984b, 65)
Acreagris Felder, 1874, 83 (a junior homonym of *Acreagris* Koch & Berendt, 1854, 123 - Insecta, Collembola. The objective replacement name is *Felderia* Kirby, 1892, 163)
[Type species: *Acreagris correbioides* Felder, 1874, pl. 83, by monotypy]

Larval host-plants: Fabaceae.

N. rata (H. Edwards, 1882, 124) (*Lycomorpha*) (Figure 53)
xanthogramma (Hering, 1924, 268) (*Malthaca*)

Distribution: southern USA, Mexico.

N. correbioides (Felder, 1874, [83]) (*Acreagris*)
aurora (Dyar, 1918b, 366) (*Pyromorpha*)

Distribution: Mexico.

N. mexicana (Druce, 1884, 41) (*Lycomorpha*)
venadiocola (Dyar, 1920, 198) (*Triprocris*)

Distribution: Mexico.

N. eromena (Hering, 1924, 267) (*Malthaca*)
analoga (Hering, 1924, 268) (*Malthaca*)

Distribution: Mexico.

N. hoerwertneri Tarmann, 1984b, 67

Distribution: Guatemala.

Genus ***Neoalbertia*** Tarmann, 1984b, 68
[Type species: *Lycomorpha constans* H. Edwards, 1881, 81]

Larval host-plants: unknown.

N. constans (H. Edwards, 1881, 81) (*Lycomorpha*) (Figure 54)
sancta (Neumoegen & Dyar, 1894, 64) (*Triprocris constans* "forma")

Distribution: Southern USA.

N. brunnea (Alberti, 1954, 388) (*Malthaca*)

Distribution: Mexico.

N. variabilis Tarmann, 1984b, 70

Distribution: Mexico.

N. guatemalteca Tarmann, 1984b, 72

Distribution: Guatemala.

N. anacreon (Druce, 1884, 41) (*Procris*)

Distribution: Costa Rica.

Genus ***Procrisimilis*** Tarmann, 1984b, 73
[Type species: *Procrisimilis columbiana* Tarmann, 1984b, 74, by original designation and monotypy]

Larval host-plants: unknown.

P. columbiana Tarmann, 1984b, 74

Distribution: Colombia.

Genus ***Neoprocris*** Jordan, 1915, 300
[Type species: *Neoprocris saltuaria* Jordan, 1915, 300, by original designation]
Neoproctis [sic] Bryk, 1936, 302, 308, misspelling

Larval host-plants: Rosaceae (known for *N. aversa, N. floridana* and *N. prunivora*).

N. aversa (H. Edwards, 1884a, 13) (*Triprocris*) (Figure 55)
huachuca (Dyar, 1905b, 186) (*Parasa chloris* var.)

Distribution: southwestern USA.

N. floridana Tarmann, 1984b, 77

Distribution: southeastern USA (Florida).

N. prunivora Tarmann, 1984b, 80

Distribution: southern USA (Texas).

N. basalis (H. Edwards, 1887, 91) (*Triprocris*)

Distribution: Mexico.

N. flora (Schaus, 1911, 183) (*Propyria*)

Distribution: Costa Rica.

N. isochroa (Jordan, 1913, 25) (*Acoloithus*)
pusilla (sensu Druce, 1884, 37 (*Procris*)) (nec Walker, 1854, 112)

Distribution: Panama.

N. thyana (Druce, 1884, 37) (*Procris*)

Distribution: Guatemala.

N. seva (Hering, 1938, 432) (*Seryda*)

Distribution: Guatemala.

N. satanas (Hering, 1938, 432) (*Acoloithus*)

Distribution: Guatemala.

N. mirabilis Tarmann, 1984b, 82

Distribution: Costa Rica.

N. trismegistos (Hering, 1926, 112) (*Acoloithus*)

Distribution: Brazil.

N. viridis (Druce, 1906, 86) (*Procrimima*)
saltuaria Jordan, 1915, 300

Distribution: Brazil, Bolivia, Paraguay, Argentina.

N. gigantea (Hering, 1924, 272) (*Acoloithus*)

Distribution: Bolivia.

N. metallica (Schaus, 1892, 284) (*Ardonea*)

Distribution: Peru.

N. mimetica (Hering, 1928, 280) (*Tetraclonia*)

Distribution: Bolivia.

Genus ***Hoerwertneria*** Tarmann, 1984b, 84
[Type species: *Malthaca rubriventris* Hering, 1938, 406, by original designation and monotypy]

Larval host-plants: unknown.

H. rubriventris (Hering, 1938, 406) (*Malthaca*)

Distribution: Guatemala.

Genus ***Pseudoprocris*** Druce, 1884, 38
[Type species: *Pseudoprocris gracilis* Druce, 1884, 38, by subsequent designation by Kirby, 1892, 86]

Larval host-plants: Rosaceae (probably, see Tarmann 1984, 88).

P. dolosa Druce, 1884, 38

Distribution: Guatemala.

P. gracilis Druce, 1884, 38 (Figure 56)
morelia (Dyar, 1912a, 99) (*Adscita*)

Distribution: southern Mexico, Guatemala.

Genus ***Malamblia*** Jordan, 1907b, 124 (see Tarmann, 1985b, 341)
[Type species: *Malamblia durbanica* Jordan, 1907b, 125, by monotypy]
Chilioprocris Jordan, 1913, 24
[Type species: *Procris melas* Guérin-Méneville, 1839, 2, by original designation and monotypy]

Larval host-plants: Rosaceae (probably, see Tarmann 1984, 92).

M. melas (Guérin-Méneville, 1839, 2) (*Procris*) (Figure 57)
durbanica Jordan, 1907b, 125

Distribution: Chile.

Genus ***Pyromorpha*** Herrich-Schäffer, 1854, pl. 43
[Type species: *Pyromorpha dimidiata* Herrich-Schäffer, 1854, pl. 43, by monotypy]
Malthaca Clemens, 1861, 540
[Type species: *Malthaca perlucidula* Clemens, 1860, 541, by monotypy]
Coementa Druce, 1885, 123
[Type species: *Coementa timon* Druce, 1885, 123, by subsequent designation by Kirby, 1892, 287]

Larval host-plants: Fagaceae (*Quercus*).

Subgenus ***Gingla*** Walker, 1864, 128
[Type species: *Gingla radialis* Walker, 1864, 128, by monotypy]

Larval host-plants: unknown.

P. (G.) radialis (Walker, 1864, 128) (*Gingla*)

Distribution: Mexico (subsp. *radialis*); Guatemala (subsp. *drucei*); Guatemala (subsp. *crypta*).

P. (G.) radialis radialis (Walker, 1864, 128) (*Gingla*)
P. (G.) radialis drucei (Jordan, 1913, 22) (*Malthaca*)
P. (G.) radialis crypta (Hering, 1924, 270) (*Malthaca*)

P. (G.) synecha (Hering, 1924, 271) (*Malthaca*)

Distribution: Costa Rica, Panama, Colombia, Peru.

P. (G.) contermina (H. Edwards, 1884a, 13) (*Lycomorpha*)
aequalis (Druce, 1885, 123) (*Gingla*)

Distribution: Mexico.

P. (G.) perezi Tarmann, 1984b, 97

Distribution: Mexico.

P. (G.) josialis (Druce, 1885, 123) (*Gingla*)

Distribution: Guatemala.

P. (G.) timon (Druce, 1885, 123) (*Coementa*)

Distribution: Costa Rica.

P. (G.) tristeza Tarmann, 1984b, 99

Distribution: Colombia.

P. (G.) xanthura (Jordan, 1913, 23) (*Malthaca*)

Distribution: Ecuador.

P. (G.) semifulva (Druce, 1896, 332) (*Lycomorpha*) **(C43)**
basirei (Druce, 1896, 331) (*Lycomorpha*)

Distribution: Mexico.

P. (G.) morio (Druce, 1885, 123) (*Coementa*)

Distribution: Guatemala, Costa Rica.

P. (G.) monochroma (Hering, 1924, 270) (*Malthaca*)

Distribution: Bolivia.

Subgenus ***Euclimaciopsis*** Tremewan, 1973, 126
[Type species: *Gingla tortricalis* Druce, 1885, 120, by monotypy]
Euclimacia Jordan, 1913, 21 (a junior homonym of *Euclimacia* Enderlein, 1910, 342 - Insecta, Neuroptera. The objective replacement name is *Euclimaciopsis* Tremewan, 1973, 126)
[Type species: *Gingla tortricalis* Druce, 1885, 120, by monotypy]

Larval host-plants: unknown.

P. (E.) tortricalis (Druce, 1885, 120) (*Gingla*)

Distribution: Costa Rica.

Subgenus ***Pyromorpha*** Herrich-Schäffer**,** 1854, pl. 43
[Type species: *Pyromorpha dimidiata* Herrich-Schäffer, 1854, pl. 43, by monotypy]

Larval host-plants: Fagaceae (*Quercus*) (known for *P.* (*P.*) *dimidiata*, *P.* (*P.*) *cinniana*, *P.* (*P.*) *dyari, P.* (*P.*) *brueckneri*).

P. (P.) dimidiata Herrich-Schäffer, 1854, pl. 43 (Figure 59)
perlucidula (Clemens, 1861, 541) (*Malthaca*)

Distribution: eastern USA.

P. (P.) caelebs Blanchard, 1972, 79

Distribution: southern USA (Texas).

P. (P.) marginata (H. Edwards, 1884a, 13) (*Lycomorpha*)

Distribution: Mexico.

P. (P.) teos (Schaus, 1889, 88) (*Lycomorpha*)

Distribution: Mexico.

P. (P.) astora (Dyar, 1912a, 99) (*Gingla*)

Distribution: Mexico.

P. (P.) cinniana Druce, 1884, 40
tristrigata (Hering, 1926, 110) (*Tetraclonia*)

Distribution: southern Mexico, Guatemala.

P. (P.) dyari (Jordan, 1913, 24) (*Tetraclonia*) (Figure 60)
laterculae (Dyar, 1900, 32) (*Gingla*) (a junior primary homonym of *Lycomorpha latercula* H. Edwards, 1882, 124)

Distribution: southern USA, Mexico.

P. (P.) forreri (Druce, 1884, 37) (*Procris*)

Distribution: Mexico.

P. (P.) jordani (Hering, 1924, 226) (*Malthaca*)

Distribution: Mexico.

P. (P.) latercula (H. Edwards, 1882, 124) (*Lycomorpha*)
flavescens (Hering, 1924, 272) (*Tetraclonia latercula* "forma")
beovava (Dyar, 1918b, 366) (*Gingla*)
erythromelas (Jordan, 1913, 22) (*Malthaca*)

Distribution: southern USA, Mexico.

P. (P.) brueckneri (Hering, 1926, 109) (*Tetraclonia*)
mimica (Hering, 1926, 111) (*Seryda*)

Distribution: Guatemala.

P. (P.) centralis (Walker, 1854, 288) (*Lycomorpha*)
notha (H. Edwards, 1885, 128) (*Lycomorpha*)

Distribution: Mexico.

P. (P.) ursula (Hering, 1924, 267) (*Malthaca*)

Distribution: Mexico.

P. (P.) monotona (Hering, 1924, 266) (*Malthaca*)

Distribution: Mexico.

P. (P.) myrla (Dyar, 1912a, 99) (*Gingla*)

Distribution: Mexico.

P. (P.) flavibasalis (Hering, 1938, 431) (*Tetraclonia*)

Distribution: Guatemala.

P. (P.) brueckneriana (Hering, 1938, 405) (*Malthaca*)

Distribution: Guatemala.

P. (P.) costaricensis Tarmann, 1984b, 102

Distribution: Costa Rica.

P. (P.) cuchumatana Tarmann, 1984b, 100

Distribution: Guatemala.

P. (P.) ripena (Druce, 1906, 86) (*Ptychoglene*)
tetraclonioides (Hering, 1924, 269) (*Malthaca*)

Distribution: Bolivia, Peru.

Genus ***Tetraclonia*** Jordan, 1913, 24
[Type species: *Tetraclonia saucia* Jordan, 1913, 24, by original designation]

Larval host-plants: unknown.

T. nigrivena Hering, 1928, 280

Distribution: Peru.

T. zischkai Tarmann, 1984b, 105

Distribution: Bolivia.

T. saucia Jordan, 1913, 24

Distribution: Peru.

Genus ***Gonioprocris*** Jordan, 1913, 23
[Type species: *Gonioprocris xena* Jordan, 1913, 23, by original designation]

Larval host-plants: Fagaceae (*Quercus*) (probably, see Tarmann 1984, 110).

G. xena Jordan, 1913, 23

Distribution: Guatemala.

G. siruna Hering, 1938, 406 (Figure 58)

Distribution: Guatemala.

G. megalops (Druce, 1884, 38) (*Seryda*)

Distribution: Guatemala.

Genus ***Triprocris*** Grote, 1873, 35
[Type species: *Procris smithsoniana* Clemens, 1861, 540, by original designation and monotypy]

Larval host-plants: Nyctaginaceae (known for *T. smithsoniana, T. yampai, T. cyanea*).

T. smithsoniana (Clemens, 1861, 540) (*Procris*)

Distribution: western USA.

T. yampai Barnes, 1905, 215

Distribution: western USA.

T. cyanea Barnes & McDunnough, 1910, 162 (Figure 61)

Distribution: western USA.

T. lustrans Beutenmüller, 1894, 367

Distribution: western USA.

T. ruemelii (Druce, 1884, 40) (*Harrisina*)

Distribution: Mexico.

T. rosetta Dyar, 1918b, 366

Distribution: Mexico.

T. similissima Tarmann, 1984b, 112

Distribution: Mexico.

T. auchenochrysa (Dyar, 1912a, 99) (*Harrisina*)
flavithorax (Hering, 1925, 165) (*Harrisina*)

Distribution: Mexico.

T. flavipuncta Tarmann, 1984b, 114

Distribution: Brazil.

Genus ***Pampa*** Walker, 1854, 238
[Type species: *Euchromia mystica* Walker, 1854, 239. by subsequent designation by Kirby, 1892, 112]
Nesace Kirby, 1892, 112 (unnecessary objective replacement name for *Pampa* Walker, 1854, 238) [Type species: *Euchromia mystica* Walker, 1854, 239, by subsequent designation by Kirby, 1892, 112]

Larval host-plants: Vitaceae.

P. anisa (Hering, 1924, 275) (*Harrisina*)

Distribution: Bolivia.

P. boliviensis (Hering, 1924, 274) (*Harrisina*)

Distribution: Bolivia.

P. pseudovenata Tarmann & Drouet, 2015, 215

Distribution: French Guiana.

P. approximata (Hering, 1924, 275) (*Harrisina*)
prava (Hering, 1925, 166) (*Harrisina*)

Distribution: Columbia.

P. tersa (Druce, 1899, 232) (*Harrisina*)

Distribution: Mexico.

P. mystica (Walker, 1854, 239) (*Euchromia*)

Distribution: Honduras.

P. venata (Jordan, 1913, 28) (*Harrisina*)

Distribution: Brazil.

P. peritta (Hering, 1924, 274) (*Harrisina*)

Distribution: Brazil.

P. erythrogramma (Hering, 1924, 273) (*Harrisina*)

Distribution: Uruguay.

P. virescens (Hampson, 1907, 328) (*Nesace*)

Distribution: Brazil.

P. erroris Tarmann, 1984b, 119

Distribution: Brazil.

P. rubroventralis (Hering, 1932, 154) (*Harrisina*)

Distribution: Brazil.

P. hermieri Tarmann & Drouet, 2015, 214

Distribution: French Guiana.

P. splendens (Jordan, 1913, 29) (*Harrisina*)

Distribution: Peru.

P. smaragdina (Hering, 1941, 111) (*Harrisina*)

Distribution: Columbia, French Guiana.

P. janeira (Schaus, 1892, 272) (*Harrisina*)

Distribution: Brazil.

P. lepta (Jordan, 1913, 28) (*Harrisina*)

Distribution: Columbia.

P. mephisto (Jones, 1921, 356) (*Harrisina*)

Distribution: Brazil.

P. aidae Tarmann, 1984b, 123

Distribution: Brazil.

P. eminens (Schaus, 1892, 272) (*Harrisina*)

Distribution: Brazil.

P. incredibilis Tarmann, 1984b, 124

Distribution: Brazil.

P. esperanzae Tarmann, 1984b, 127

Distribution: Brazil.

P. zikani (Hering, 1932, 154) (*Harrisina*)

Distribution: Brazil.

P. anamariae Tarmann, 1984b, 132

Distribution: Brazil.

P. pseudoeminens Tarmann, 1984b, 133

Distribution: Paraguay.

P. proeminens (Jörgensen, 1932, 49) (*Harrisina*)

Distribution: Brazil.

P. fulvinota (Butler, 1876, 361) (*Harrisina*)

Distribution: Brazil.

P. brevistrigata (Hering, 1924, 276) (*Harrisina*)

Distribution: Brazil.

P. seitzi (Hering, 1932, 155) (*Harrisina*)

Distribution: Brazil.

P. innocens (Hering, 1925, 165) (*Harrisina*)

Distribution: Brazil.

P. ricara (Jörgensen, 1932, 49) (*Harrisina*)

Distribution: Paraguay.

Genus ***Stylura*** Burmeister, 1878, 391
[Type species: *Laemocharis forficula* Herrich-Schäffer, 1855, pl. 54, by monotypy]

Larval host-plants: Vitaceae.

S. forficula (Herrich-Schäffer, 1855, pl. 54) (*Laemocharis*)

Distribution: Brazil.

S. brasiliensis Costa Lima, 1928, 25 (Figure 14)

Distribution: Brazil.

S. cirama (Druce, 1896, 330) (*Harrisina*)

Distribution: Guatemala, Costa Rica.

S. guyanensis Tarmann & Drouet, 2015, 225

Distribution: French Guiana.

S. lamonti Tarmann & Cock, 2019, 155

Distribution: Trinidad.

Genus ***Harrisina*** Packard, 1864, 31
[Type species: *Aglaope americana* Guérin-Méneville, 1844, 501, by subsequent designation by Dallas, 1865, 499]
Harrisinula Hering, 1925, 158
[Type species: *Harrisinula infernalis* Hering, 1925, 153, 158, by original designation]

Larval host-plants: Vitaceae (known for *H. americana*, *H. coracina*, *H. metallica*, *H. guatemalena*).

H. americana (Guérin-Méneville, 1844, 501) (*Aglaope*)
texana Stretch, 1872, 181
australis Stretch, 1885, 102

Distribution: eastern and southern USA.

H. coracina (Clemens, 1861, 539) (*Aglaope*)
nigrina Graef, 1887, 41

Distribution: southern USA, northern Mexico.

H. metallica Stretch, 1885, 102 (Figure 62)
brillians Barnes & McDunnough, 1910, 162
coracina (sensu Neumoegen & Dyar, 1894, 65) (nec Clemens 1861, 539)
elongata Druce, 1896, 330
tessacans Dyar, 1912a, 100

Distribution: western USA, northern Mexico.

H. charax Druce, 1896, 330

Distribution: Mexico.

H. draudti Hering, 1925, 166

Distribution: Mexico.

H. chalcina Jordan, 1913, 28

Distribution: Mexico.

H. mexicana Schaus, 1889, 87, **stat. rev.** (**C44**)

Distribution: Mexico.

H. guatemalena (Druce, 1884, 40) (*Aglaope*)

Distribution: Guatemala, Costa Rica.

H. tergina Jordan, 1913, 28

Distribution: Colombia.

H. infernalis (Hering, 1925, 158) (*Harrisinula*)

Distribution: Brazil.

H. longicaulis Hering, 1925, 165

Distribution: Venezuela.

Genus ***Harrisinopsis*** Jordan, 1913, 26
[Type species: *Harrisinopsis robusta* Jordan, 1913, 26, by original designation and monotypy]
Monalita Tremewan, 1973, 134 (see Gernaat et al. 2022, 164)
[Type species: *Lamontia calibana* Kaye, 1923, 997, by monotpy]
Lamontia Kaye, 1923, 997 (a junior homonym of *Lamontia* Kirk, 1895, 289 - (Calcarea, Spongidae (now Baeriidae)).
The objective replacement name is *Monalita* Tremewan, 1973, 134)
[Type species: *Lamontia calibana* Kaye, 1923, 997, by monotpy]

Larval host-plants: Chrysobalanaceae (*Hirtella paniculata*) (Gernaat et al. 2022).

H. robusta Jordan, 1913, 26 (Figure 20)
tessmanni Hering, 1928, 281

Distribution: Peru, Brazil, French Guiana, Surinam.

H. calibana (Kaye, 1923, 997) (*Lamontia*)

Distribution: Trinidad.

H. faurei (Tarmann & Drouet, 2015, 227) (*Monalita*)

Distribution: French Guiana.

H. laguerrei (Tarmann & Drouet, 2015, 228) (*Monalita*)

Distribution: French Guiana.

Genus ***Setiodes*** Herrich-Schäffer, 1866, 106
[Type species*: Setiodes nana* Herrich-Schäffer, 1866, 106, by monotypy]
Formiculus Grote, 1866, 184
[Type species*: Formiculus pygmaeus* Grote, 1866, 185, by monotypy]

Larval host-plants: Vitaceae (*Vitis* spp.).

S. nana Herrich-Schäffer, 1866, 106

Distribution: Cuba (subsp. *nana*); Bahamas (subsp. *bahamensis*).

S. nana nana Herrich-Schäffer, 1866, 106
pygmaeus (Grote, 1866, 185) (*Formiculus*)
S. nana bahamensis Dyar, 1899, 100
albimacula (Hampson, 1904, 180) (*Nesaca*)

Genus ***Zikanella*** Hering, 1932, 153
[Type species: *Zikanella rubrivitta* Hering, 1932, 153, by original designation and monotypy]

Larval host-plants: unknown.

Z. rubrivitta Hering, 1932, 153

Distribution: Brazil.

Genus ***Urodopsis*** Jordan, 1913, 29
[Type species: *Urodus subcaeruleus* Dognin, 1910, 43, by original designation]

Larval host-plants: unknown.

U. subcaerulea (Dognin, 1910, 43) (*Urodus*)

Distribution: Colombia.

U. dryas Jordan, 1915, 301

Distribution: Brazil.

U. pusilla (Walker, 1854, 112) (*Procris*)

Distribution: Venezuela, Brazil.

U. melaenella (Hampson, 1919, 272) (*Pycnoctena*)
hyalina Hering, 1932, 155

Distribution: Brazil.

Genus ***Pycnoctena*** Felder, 1874, pl. 83
[Type species: *Pycnoctena angustula* Felder, 1874, pl. 83, by monotypy]

Larval host-plants: unknown.

P. angustula Felder, 1874, pl. 83

Distribution: Brazil, French Guiana.

P. invaria (Walker, 1854, 240) (*Euchromia*)

Distribution: Brazil.

P. tristis Hering, 1932, 153

Distribution: Brazil.

P. dantasi (Schaus, 1892, 272) (*Harrisina*)
uniformis (Hering, 1932, 153) (*Seryda*)

Distribution: Brazil.

Genus ***Seryda*** Walker, 1856, 1598
[Type species: *Seryda cincta* Walker, 1856, 1598, by monotypy]

Larval host-plants: unknown.

S. cincta Walker, 1856, 1598

Distribution: Brazil.

S. actinota Jordan, 1913, 26

Distribution: Colombia.

S. isa Jordan, 1913, 26

Distribution: Ecuador.

S. glaucotis (Hampson, 1907, 328) (*Caementa*)

Distribution: Guatemala.

S. gallardi Tarmann & Drouet, 2015, 231

Distribution: French Guiana.

S. confusa Tarmann & Drouet, 2015, 232

Distribution: French Guiana.

S. kairi Tarmann & Cock, 2019, 159

Distribution: Trinidad.

These three species cannot be placed

These three species definitely do not belong into the genera in which they have been placed so far. All are species described from a single specimen and have never been seen since. Type examinations have been done, dissections also. However, it is not possible to describe three new genera based on one single specimen each and without sufficient characters for a diagnosis and differential diagnosis.

Gingla phonicoruma Dyar, 1912b, 748 (Mexico)
Acoloithus erythrozona Dyar, 1912a, 100 (Mexico)
Procris? chalestra Druce, 1899, 231 (Costa Rica)

Comments

C01 The data of morphology and last DNA results showed that the genus *Thyrassia* forms an isolated monophyletic group within the subfamily Procridinae. We are describing here a new tribe Thyrassiini to reflect this situation.

Tribe Thyrassiini Efetov & Tarmann, tribus nov.
[Types-genus: *Thyrassia* Butler, 1876, 355]

Description. Habitus ctenuchid like, forewings triangular, brown, with transparent, white or yellow spots; hindwings extremely short, oval, brown, transparent or yellow with dark brown margin; head rounded, not compressed dorso-ventrally, with large compound eyes and a chaetosema that extends slightly but not completely between the compound eyes and the ocellus; chaetosema extended dorsomedially, the two ends of each side almost touching each other medially. The free space between the base of antenna, ocellus, compound eye and chaetosema and a narrow ring around the compound eye not smoothly scaled (as in all other Procridinae) but covered with a series of tiny hair-like scales (Tarmann 2004, p. 21, fig. 70). Antenna shortly bipectinate proximally, very shortly biserrate distally in both sexes (Tarmann, 2004, p. 22, figs 71-74). Legs short and robust; foretibia with epiphysis, tibial spurs absent. Frenulum a single spine in male and female. Abdomen without lateral evaginations on segments two and seven.

Male genitalia with short, stout, triangular, distally rounded uncus that is completely fused with the large tegumen; valva almost rectangular, without processes, central translucent part slightly fan-shaped; a long finger-like process inserted at the dorsal base of valva; this process forked basally, the short lateral process obviously representing an apodeme for a muscle to move the finger, the latter bent distally and bearing a brush of strong, short, backward-pointing spines. Aedeagus short, stout, strongly sclerotized, everted vesica without cornuti (Tarmann, 2004, p. 217, figs 423-424).

Female genitalia with the papillae anales fused to a short ovipositor; ostium and ductus bursae translucent, without antrum; praebursa absent. The insertion of the ductus seminalis into the bag-like translucent corpus bursae is situated at the very centre of the corpus. This indicates that a possibly earlier present praebursa may be fused with the corpus bursae as otherwise the ductus seminalis must insert at the point where the ducus bursae widens into the corpus (Tarmann, 2004, p. 217, fig. 425). See also Tarmann (2004, pp. 215-216). Larval host-plants: Vitaceae. Distribution. Southern and southeastern Asia, Australia.

C02 Most of Australian genera form a separate monophyletic branch of Procridinae that cannot be attributed to any hitherto known tribe. Therefore we are providing a description of a new tribe with the aim to accommodate this group.

Tribe Pollanisini Efetov & Tarmann, tribus nov.
[Type-genus: *Pollanisus* Walker, 1854, 114]

Description. Habitus variable, head dorsoventrally compressed, chaetosema extended between compound eye and ocellus (like in Artonini); foreleg without epiphysis, hindleg without medial spurs; genitalia male - valva fan-shaped without "*Artona*-finger"; genitalia female - praebursa absent or if present, translucent, without double row of spines; larval host-plants: Dilleniaceae, Myrtaceae, Vitaceae, Arecaceae. Distribution. Australia, Fiji (1 species), South Africa (1 species).

C03 The genus *Pollanisus* was revised recently by Mollet & Tarmann (2023). The taxonomy and systematic order given here is following this revision.

C04 The taxon *Pollanisus amethystina* (Meyrick, 1888) was synonymized with *P. empyrea* (Meyrick, 1888) by Tarmann (2004) on the base of genitalia similarity and the fact that both taxa occur in the

same regions of Western Australia and colour variations between more greenish, coppery or bluish shiny scales on the forewing upperside are not a significant character to distinguish species in the genus *Pollanisus*. However, new studies by Mollet (2019) have shown that these two taxa are in fact good species. Mollet reared both species from eggs to imagines, found that they live on different larval host-plants and have different habitats and distribution patterns. Consequently, he correctly reinstated *Pollanisus amethystina* as valid species.

C05 The phylogenetic position of *Levuana* Bethune-Baker, 1906, was cleared up by Nazari et al. (2019) by obtaining New Generation Sequencing (NGS)-results of historical material of *L. iridescens*, the type-species of *Levuana*. The DNA results and the morphological results were combined and show that this genus is close to the Australian genus *Myrtartona* Tarmann, 2004.

C06 After the exclusion of Thyrassiini, Pollanisini and Cleleini (see below) Artonini form a monophyletic group with important apomorphic character, viz. the presence of a movable process near the apex of sacculus ("*Artona*-finger"). All species with this character are included within Artonini Tarmann, 1994, for which redescription can be found below.

Tribe **Artonini** Tarmann, 1994, 120
[Type-genus: *Artona* Walker, 1854, 439]

Description. Habitus variable, head dorsoventrally compressed, chaetosema extended between compound eye and ocellus; foreleg with epiphysis, hindleg with single medial spur; genitalia male - valva with "*Artona*-finger", genitalia female - praebursa present, sclerotized, with double row of pointed spines; larval host-plants: Poaceae, Zingiberaceae, Pittosporaceae, Lauraceae, Musaceae, Arecaceae. Distribution. Australia, eastern, southern and southeastern Asia, tropical Africa.

C07 The genus *Artona* Walker, 1854, is still not sufficiently revised (see comment "C1" in Efetov & Tarmann 2012, p. 38) and the taxonomic situation at species level has not changed since. *Artona* still needs revising based on the entire type material but also with the inclusion of all the already known new species that have to be described and accommodated. The genus *Artona* is divided here into 5 subgenera: *Artona* Walker, 1854, *Zeuxippa* Herrich-Schäffer, 1855, **stat. nov.**, *Balataea* Walker, 1865, **stat. rev.**, *Pseudosesidia* Alberti, 1954, **stat. rev.**, and *Fuscartona* Efetov & Tarmann, 2012.

C08 The type-species of the genus *Artona,* viz. *A. discivitta* Walker, 1854, originates from the Nilgiris (Western Ghat Mountains, Tamil Nadu, southern India) and is a geographically very isolated species. It shows genitalic characters that are different from all other species that are currently included into the genus *Artona*. All these species share with *Artona discivitta* the characteristic black and yellow habitus, the characteristic sexual dimorphism in pattern and the larval host-plants from the family Poaceae. However, the "brush" at the end of the "*Artona*-finger" in the male genitalia is much stronger developed in all these species (except *A. martini* Efetov, 1997a, and *A. uniformis* (Alberti, 1954)) than in *A. discivitta* where it is almost absent and only represented by a few setae. The "*Artona*-finger" in *A. discivitta* is only weakly developed, shorter and more slender than in all other species. There are also significant differences in the female genitalia (i.e. different form of praebursa in *A. discivitta*). The authors are well aware of this situation but prefer not to separate all other black and yellow species that are currently included into the genus *Artona* from its type-species *A. discivitta*. However, we leave *A. discivitta* as only one species in the subgenus *Artona*. Other species of the genus are included in the subgenera *Zeuxippa*, *Balataea*, *Pseudosesidia* and *Fuscartona*.

C09 *Artona zebraica* and *A. fulvida* are described in the same paper by Butler (1876, p. 356). These two taxa show very well how problematic the taxonomic situation within the genus *Artona* is. There are several species known with the habitus of *A. zebraica* (i.e. black ground colour with yellow spots on

the forewing and some dark stripes in the hindwing and an abdomen that is narrowly ringed with yellow and black). These species are: *A. digitata*, *A. nigrescens*, *A. phaeoxantha*, *A. khasiana* (male), *A. hypomelas* (male), *A. walkeri* (male), *A. hainana* (male). However, most specimens with the habitus of *A. zebraica* are males whereas all specimens with the habitus of *A. fulvida* are females.

A. fulvida has the hindwing yellow with a dark margin and the abdomen always uniformly yellow with the first segment dark and the abdominal end also dark at least laterally. Species with *A. fulvida* habitus are: *A. confusa*, *A. diffusa*, *A. flaviciliata*, *A. hypomelas* (female), *A. khasiana* (female), *A. walkeri* (female), *A. hainana* (female). Species from the subgenera *Artona* and *Zeuxippa* (genus *Artona*) are sexually dimorphic. It is therefore possible that Butler in 1876 described males and females of the same species as two different taxa. However, most species of *Artona* (*Zeuxippa*) show this characteristic sexual dimorphism and this has already been mentioned by Jordan (1907a-1908) (e.g. for *A. khasiana* Jordan, 1908, *A. hypomelas* Jordan, 1908). There are good genitalic differences between the different taxa. However, we often do not know which males belong to which females. Moreover, there are also females with almost "male habitus" known and it seems that the sexual dimorphism is not equally strong in all species. The whole situation is pretty hopeless as long as we are dependent on historical museum material. Rearing experiments from egg would solve this problem. In addition, the comparison of DNA sequences of new material could bring us further. However, species of *Artona* (subgenera *Artona* and *Zeuxippa*) have rarely been collected in the last decades and little new material is available. Moreover, the early stages and the life histories of most species are unknown.

C10 *Artona nigrescens* Butler, 1876, is distributed in northern India. It has been treated as a subspecies of *A. walkeri* Butler, 1876, by Jordan (1908, p. 43). Bryk (1936, p. 252) followed this opinion. However, *A.* (*Zeuxippa*) *walkeri* (Moore, 1859) is endemic to Java and Bali (see comment **C11**). Therefore we have to raise *Artona nigrescens* Butler, 1876, back to species level until more information is available. The new status is: *Artona* (*Zeuxippa*) *nigrescens* Butler, 1876, **stat. rev.**

Artona neglecta Hering, 1925, is based on one single female (holotype). Hering describes it as "nahestehend *Artona walkeri*" (near to *A. walkeri*) and states that the pattern looks like that of *A. walkeri hainana*. However, we must take in account that *A.* (*Z.*) *walkeri* is endemic to Java and Bali (see comment **C11**) and *A.* (*Z.*) *hainana* is considered to represent a good species. *A. neglecta* is described from northern India and is almost certainly not conspecific with *A.* (*Z.*) *walkeri* or *A.* (*Z.*) *hainana*. We therefore treat *A.* (*Z.*) *neglecta* in this checklist again as a separate species as long as we cannot prove that it belongs to any other so far described species. The status is now: *Artona* (*Zeuxippa*) *neglecta*, **stat. rev.**

Artona guttata Snellen, 1892, has also been treated as a subspecies by Jordan (1908, p. 43) (like *A. nigrescens*) but of *A. zebraica* Butler, 1876. It occurs in central Sumatra. The female type deposited in NNML (Leiden, NL) and additional material from the BMNH (London, UK) show that this taxon is different from all *Artona* (*Zeuxippa*) species that are known from India, the SE Asian mainland and from the other Sunda Islands. We therefore treat *Artona guttata* Snellen, 1892, herewith again as a valid species. The status is now: *Artona* (*Zeuxippa*) *guttata*, **stat. rev.**

C11 Moore (1859) described *Syntomis walkeri* after male and female specimens from Java collected by Dr Horsefield. One male specimen in the BMNH has a round pin-label with red ring with the printed inscription "Type". As far as we know, a lectotype has never been designated. The attached type label must have been put on the pin later, presumably by Karl Jordan who treated the Zygaenidae in the volumes of Seitz (1907a, 1907c, 1908). We therefore designate this specimen herewith as the male **lectotype** and figure it (Figure 26).

Subsequently, *Artona walkeri* was mentioned from various south and southeast Asian countries between the Himalayas, southern China and the Sunda Islands and several taxa have been attached to this species as subspecies (Hampson, 1893; Jordan, 1907; Bryk, 1926; Alberti, 1854). However, as far as examined by us, *Artona* (*Zeuxippa*) *walkeri* (Moore, 1859) is restricted to the islands of Java and Bali. All specimens that are mentioned in the literature as *A. walkeri* but not originating from these two

islands have been misidentified. The genitalia of *A.* (*Z.*) *walkeri* are very characteristic (especially of the female) and cannot be mixed with other *Artona* species.

C12 *Artona pluristrigata* is only known from its female holotype. The habitus is different from most other species that are currently included into the genus *Artona*. Its generic position has to be verified and has already been doubted by Holloway (2011, p. 24, tab. 1, fig. 6).

C13 The recently described three female specimens from China, Guangdong as a new species *S. nanling* Owada & Wang, 2021, have no strong differences in characters from those of the holotype of *Bintha clathrata* Poujade, 1886a, a species known so far only from two female specimens (Huang & Efetov, 2021). It is difficult to judge whether the specimens described as *S. nanling* really belong to a species different from *S. clathrata*. More material is necessary to evaluate the character variability in this genus.]

C14 A number of species that have so far been treated as *Artona* Walker, 1854, and *Homophylotis* Turner, 1904, belong to the genus *Amuria* Staudinger, 1887, as they are congeneric with its type species *Amuria cyclops* Staudinger, 1887. The larvae of none of them feed on Poaceae, as far as the biology is known. The habitus is dominated by dark (mainly brown, purplish or bluish) colors. Some of these species are almost uniformly dark and if there is a pattern the dark colors contrast with white or light yellow markings. The typical black and yellow wing pattern of *Artona* s. str. (now subgenera *Artona* and *Zeuxippa*) is absent and the body is never ringed with yellow and black like in most *Artona* species. In the male genitalia the apex of the valva bears spiny prolongations (found also in *Balataea* but absent in the subgenera *Artona* and *Zeuxippa*). There are also differences in the female genitalia. In habitus, *Amuria* species are also similar to species of the subgenus *Pseudoamuria* Tarmann, 2004, and species of the genus *Homophylotis* Turner, 1904. At the moment we have to admit that we still have a great deficit in the knowledge of many of the existing species. More careful morphological examinations are necessary to give us an idea on the variability of characters. Fresh material would be important for DNA analyses. The knowledge of the biology may also give us important further information. However, most of the known species are only available in single specimens and many of them are more than 100 years old. See also comment **C16**.

C15 *Brachartona quadrisignata* Snellen, 1903 (on p. 234) and *Brachartona trisignata* Snellen, 1903 (on p. 235) are female and male of the same species as can be seen from extended reared material from Java that is deposited in "Naturalis, Natural History Museum, Leiden, Netherlands". The habitus described by Snellen for *B. quadrisignata* is that of the female, that described for *B. trisignata* that of the male. Consequently, we have to accept that these two names are synonyms. However, the name *Brachartona trisignata* Snellen, 1903, is much more often used in literature than *Brachartona quadrisignata* Snellen, 1903, especially in the literature on applied entomology (e.g. Tothill, et al. 1930). We therefore prefer to keep the name *Brachartona trisignata* Snellen, 1903, and synonymise *Brachartona quadrisignata* Snellen, 1903, **syn. nov.**, with *B. trisignata***.** This species is currently accommodated in the genus *Amuria* Staudinger, 1887.

C16 *Pseudoamuria* Tarmann, 2004, was described to accommodate the species *Pseudoamuria uptoni* Tarmann, 2004. There was a second species included in Tarmann (2004), viz. *Pseudoamuria neglecta* Tarmann, 2004. Both have similar habitus as *Homophylotis* Turner, 1904, but they lack the typical genitalia structures of *Homophylotis* (description see below). However, when Tarmann described this genus he had three males and one female of the type species *P. uptoni* Tarmann, 2004, with well-preserved genitalia but only one very bad female genitalia of the holotype of *Pseudoamuria neglecta* Tarmann, 2004. This specimen had been attacked by *Anthrenus* beetles earlier. Since then more material has become known from *P. neglecta* and also a well preserved female. Now we can see that the

female of *P. neglecta* has a well-developed praebursa with a prominent crest with dentations such as we find in *Amuria* Staudinger, 1887.

While examining more material from the Indo-Pacific region with the habitus of *Amuria, Pseudoamuria* and *Homophylotis* we found that there are more species involved where the praebursa lacks the characteristic crest with dentations. However, there is also more material available of species with genitalia of the "*Pseudoamuria neglecta* type". They cannot be mixed with *Homophylotis* as in this genus the female has a very characteristic autapomorphy, i.e. the translucent praebursa and the corpus bursae are fused to a single structure and the ductus seminalis inserts in the middle of this structure (at the place where the fusion has taken place) (see Tarmann, 2004, pp. 197-200, figs 385-401).

We therefore find three genitalia types in the females of *Amuria*, *Pseudoamuria* and *Homophylotis*:

1, praebursa well developed, strongly sclerotized, with a prominent crest that bears dentations (*Amuria*-type);
2, praebursa well-developed, translucent, without a prominent crest that bears dentations (*Pseudoamuria*; but not *P. neglecta* - with strongly sclerotized praebursa with dentations!);
3, praebursa and corpus bursae fused to a single, translucent structure (*Homophylotis*-type).

Only after an examination of all the type material and the additional material that is deposited in museum collections can we decide whether it will be necessary to describe more genera to accommodate all the known species (see comment **C07**). This work could not be completed so far.

Moreover, it seems highly uncertain that all species can be summarized in one genus or subgenus (e.g. *Pseudoamuria*) where the typical praebursa of the *Amuria*-type is not found and which cannot be placed under *Homophylotis* because their genitalia characters do not agree with the characters (see above) of that genus. The reduction of the sclerotized praebursa with the characteristic crest with dentations has most probably taken place several times independently in evolution.

Therefore, for the moment, as a compromise, we accommodate all Indo-Pacific species with the habitus of *Amuria*, *Pseudoamuria* or *Homophylotis* with a well-developed praebursa with a prominent crest that bears dentations into the genus *Amuria* Staudinger, 1887, but also all species that have this habitus and lack the praebursa with the dentate crest. All species that have praebursa and corpus bursae fused to a single structure (as described above) are accommodated under the genus *Homophylotis* Turner, 1904. An exception is *Palmartona* Tarmann, 2004, that has very special antennal and genitalic characters. This taxon is left separately and treated here as a genus.

C17 *Homophylotis melaleuca* Jordan, 1908, is treated as *Pseudoamuria melaleuca* (Jordan, 1908) in Tarmann (2004, p. 294, figs 403, 409) and its male genitalia is figured. However, the specimen taken for the figures has now shown to be an undescribed new species from New Guinea. Its larva lives on banana trees. (A description is postponed as a dissection of the type of *Homophylotis melaleuca* Jordan, 1908, deposited in BMNH (London) is essential for a proper differential diagnosis!).

C18 *Homophylotis aenea* Jordan, 1925, lacks the characters that are described as typical for *Homophylotis* Turner, 1904, by Tarmann (2004, p. 191) based on the examination of type material. This is (in the male) the very small and translucent valva without ventral processes distally and a stout aedeagus (phallus) without any cornuti or eversible spines but with a characteristic spiny surface on the vesica. *H. aenea* has a female genitalia with a well-developed praebursa that contains a slightly curved spiny crest with long dentations. We therefore transfer *Homophylotis aenea* Jordan, 1925, to the genus *Amuria* Staudinger, 1887. The new combination is: *Amuria aenea* (Jordan, 1925), **comb. nov.**

C19 *Homophylotis chalcosoma* Jordan, 1926, has also a well-developed praebursa with a row of dentations in the female genitalia. This species is therefore also transferred into the genus *Amuria*

Staudinger, 1887 (see also comment **C18**). The new combination is: *Amuria chalcosoma* (Jordan, 1926), **comb. nov.**

C20 *Tasema nigra* Hampson, 1893, *Artona albicilia* Hampson, 1900, *Homophylotis purpurata* Jordan, 1908, and *Pseudoamuria neglecta* Tarmann, 2004, are, for the moment, transferred to *Amuria* Staudinger, 1887, based on the arguments explained under **C16**. The new combinations are: *Amuria nigra* (Hampson, 1893), **comb. nov.**, *Amuria albicilia* (Hampson, 1900), **comb. nov.**, *Amuria purpurata* (Jordan, 1908), **comb. nov.,** *Amuria neglecta* (Tarmann, 2004), **comb. nov.**

C21 All the remaining species that were hitherto included into Artonini and cannot be attributed to Thyrassiini, Pollanisini and Artonini (sensu stricto, see definition above) form a group that is described here as the tribe Cleleini.

Tribe Cleleini Efetov & Tarmann, tribus nov.
[Type-genus: *Clelea* Walker, 1854, 465]

Description. Habitus variable, wings often of "*Procris*-type" sensu Alberti, 1954; foreleg with epiphysis (sometimes secondarily reduced), hindleg with single medial spur (sometimes secondarily reduced); genitalia male - valva without "*Artona*-finger", genitalia female – praebursa absent or if present without double row of pointed spines; larval host-plants: Vitaceae, Hydrangeaceae, Fabaceae, Rosaceae, Poaceae. Distribution. eastern, southern and southeastern Asia, tropical Africa.

C22 Owada (2021) published a study on the *Clelea formosana* complex from Taiwan and comes to the conclusion that *C. formosana* consists of the three different species: *C. formosana* Strand, 1915, *C. simplicior* Bryk, 1936, and *C. kanoi* Owada, 2021. In addition to habitus differences Owada found also small genitalic differences between these three taxa. All three taxa have a vicariant distribution. Based on the "concept for species and subspecies in this catalogue" (see introduction), we see these three taxa as good subspecies with geographical vicariant distribution and small genitalic differences and treat them in this catalogue as subspecies of *C. formosana*: *C. formosana formosana* Strand, 1915, *C. formosana simplicior* Bryk, 1936, **stat. nov.** and *C. formosana kanoi* Owada, 2021, **stat. nov.**

C23 After the description of *Thibetana witti* Efetov, 1997c, it became clear that the two taxa *Artona zebra* Elwes, 1890, and *Artona postalba* Elwes, 1890, do not belong to the genus *Artona* Walker, 1854. They belong to *Thibetana* Efetov & Tarmann, 1995 (Efetov & Tarmann, 2017b).

C24 We studied a specimen figured by Holloway, 2011, plate 1, fig. 26 as a male of "*Chrysartona pravata*" and found that it is a female of *Ch. hausmanni*.

C25 *Ch.* (*Ch.*) *murzini* Mollet, 2016a, was described on the base of one male holotype. Only female holotype is known from *Ch.* (*Ch.*) *efetovi* Parshkova, 2007, distributed in northeastern India. The possible conspecificity of these taxa could be proven on the basis of additional material. Moreover, *Ch.* (*Ch.*) *hausmanni* Efetov, 2006, is also known only from females.

C26 *Ch. (Chrystarm.) mineti* Efetov & Tarmann, 2013b, and *Ch.* (*Chrystarm.*) *antenor* Mollet, 2018, are very similar and both originate from Vietnam. Character variability in these two species in habitus as well as in the genitalia cannot be excluded. More material has to be examined to clear this.

C27 The genus *Piarosoma* was revised by Efetov & Tarmann (unpublished) and Owada et. al. (2022) simultaneously. Owada et al. (2022) finished their studies earlier and have therefore priority. However, we list here additional facts from our typescript to give the reader a more complete picture on this interesting group.

Hysteroscene Hering, 1925 is a junior synonym to *Piarosoma* Hampson, 1893 (Owada et al. 2022).

At the time of Hering (1925), Bryk (1936) and Alberti (1954) the family Zygaenidae was separated into seven subfamilies: Himantopterinae Rogenhofer, 1884 (now a separate family within the Zygaenoidea), Phaudinae Kirby, 1892 (now a separate family within the Zygaenoidea); Chalcosiinae Walker, 1865; Charideinae Butler, 1876 (now a separate subfamily within the Thyrididae); Anomoeotinae Hering, 1937 (now a separate family within the Zygaenoidea); Procridinae Boisduval, 1828; and Zygaeninae Latreille. Based on the contemporary classification, after the exclusion of the subfamily Phaudinae Kirby, 1892 (now it is the family Phaudidae) and description of a new subfamily Inouelinae Efetov & Tarmann, 2017a, the family Zygaenidae includes five subfamilies: Inouelinae Efetov & Tarmann, 2017a; Procridinae Boisduval, 1828; Chalcosiinae Walker, 1865; Callizygaeninae Alberti, 1954; and Zygaeninae Latreille, 1809 (Efetov, 1999, 2001b; Efetov et al. 2014b; Efetov & Tarmann, 2017a). The Procridinae are represented by five tribes: Thyrassiini Efetov & Tarmann, tribus nov., Pollanisini Efetov & Tarmann, tribus nov., Artonini Tarmann, 1994, Cleleini Efetov & Tarmann, tribus nov., and Procridini Boisduval, 1828 (Efetov, 1996, 1997a, 1997b, 1998, 2001a, 2006, 2010; Efetov et al. 2004, 2014a, 2014c, 2016; Efetov & Hayashi, 2008; Efetov & Tarmann, 1995, 2013a, 2013b, 2014a, 2014b, 2016a, 2016b, 2017b, this publication, Tarmann, 1994).

Piarosoma Hampson, 1893, as well as *Hysteroscene* Hering, 1925, were arranged in Zygaeninae by Bryk (1936). However, Alberti (1954) in his world revision of Zygaenidae, transferred many genera from Zygaeninae and Chalcosiinae to Procridinae Boisduval, 1828, amongst them *Piarosoma* and *Hysteroscene*. In the meantime the subfamily Procridinae of Zygaenidae has been proved to represent a well-separated monophyletic group divided into the five tribes (see above). *Piarosoma* Hampson, 1893 (syn. *Hysteroscene* Hering, 1925) is a Procridinae based on the fact that in the female the spermatheca (= receptaculum seminis) is not divided into a tube-like utriculus and a bulb-like lagena as in most other ditrysian Lepidoptera and all other Zygaenidae subfamilies but developed as one structure, the bursa utricularis (Efetov & Tarmann, 2017a).

Piarosoma has a spherical head capsule and a triangular chaetosema that is placed very dorsally and is only slightly extended anteriorly and does not fill the space between the dorsal edge of the compound eye and the ocellus - it therefore should belong to the tribe Procridini. A fan-like valva in the male genitalia is slightly developed and can be seen in some male genitalia preparations but only under special illumination. The protuberances on abdominal segments 2 and 7 are absent. A single third medial spur on hind tibia is developed. Summarising all these characters we include here *Piarosoma* into the tribe Cleleini Efetov & Tarmann, tribus nov.

Redescription of *Piarosoma*

Body with blackish ground colour with a bluish tinge in fresh specimens; thorax with white or creamy yellow patagia, forming a collar and a white or creamy yellow pattern on abdomen.

Head. Spherical, frons only slightly rounded, not proceeding dorsally; space between compound eye and ocellus without scales anteriorly but covered by a short extension of the triangular chaetosema posteriorly, labial palps short, slightly upcurved, not exceeding frons; antenna bipectinate in both sexes, pointed distally, with the length of the rami tapering towards apex. Proboscis well developed yellow or light brown.

Thorax. Patagia and tegulae well developed, patagia often coloured. Legs long, mid and hindleg almost as long as length of body. Foreleg with tibial epiphysis, hindleg with a pair of apical spurs and a single medial spur.

Wings with transparent areas, forewings one third longer than hindwing. Wing venation on forewing with R_2+R_3 stalked together, all other veins free from cell, medial stem only developed as a groove and not as a full vein, the posterior margin of cell is formed by the basal part of vein CuA_1 which is then running from the posterior edge of the cell in an upcurved way to the wing border, vein

CuA_2 is not fully developed, the basal part is completely reduced and the visible vein starts from a curved cross vein between CuA_1 and CuP that forms an edge where CuA_2 arises, CuP is fully developed and also 1A+2A; hindwing with Sc fused with the anterior part of cell for a short distance and free distally, all other veins free from cell, with three medial veins, medial stem only developed as a vein distally, CuP and the three anal veins 1A, 2A and 3A fully developed. Wing pattern very characteristic, with blackish and densely scaled parts and clear, completely scaleless, transparent "windows" that are arranged in groups on the wings and correspond in their margins with the exceptional wing venation of *Piarosoma*.

Abdomen without exceptional structures.

Genitalia male. Uncus strongly sclerotized, base triangular, apex short or long. Valva subquadrate or rounded, with or without process at the distal part of ventral margin (at the distal end of sacculus). Juxta triangularly rounded; transtilla prominent, consisting of a basal plate of different shape and a pair of "horns" dorsally. The translucent central part of the valva with smooth surface basally, but fan-shaped with parallel folds distally (not visible in all dissections). Aedeagus (outer sclerotized part of phallus) broad anteriorly, tapering towards the posterior end, at this distal end a heart-shaped, folded structure is present that is covered with hundreds of little spines. This structures is connected by a translucent band with the juxta. Vesica (translucent eversible part of phallus) with a long band-like structure that bears many small cornuti; if the vesica is not everted this structure appears as a serpentine-like band within the aedeagus, but if everted the vesica is a long, very narrow tube of ca. 4-times the length of the aedeagus and the spines are arranged in a long band with a single small plate of different shape at the distal end.

Genitalia female. Papillae anales small, oval, covered with short setae. Apophyses posteriores with a broad base and a short, very slender distal part that ends round and not pointed distally. 8th sternite and 8th tergite fused to a broad band-like ring. Apophyses anteriores short, developed as translucent, triangular edges. Ostium developed as a narrow sclerotized, oval ring; no sclerotized antrum developed and the translucent, narrow, folded and extremely long ductus bursae starts directly from the ostium ring and ends without forming a praebursa into the translucent, oval corpus bursae that has a large lateral oval appendix. Inner female genitalia with a receptaculum typical for Procridinae with a long ductus spiralis, a bag-shaped translucent utriculus, without a lagena (as is present in most Lepidoptera) and with a long and narrow accessory gland. The two "horns" of the glandula sebacea are long and tube-like, slightly asymmetrical, one longer and broader, the other shorter and more slender. Petersen's gland is well visible and developed as a very small translucent organ with two narrow ducts arising from the terminal end of the oviduct and each of them ending into a globular bulb (very difficult to see due to the fragility of this structure).

Differential diagnosis. The genus *Piarosoma* Hampson, 1893, is externally similar to *Phacusa* Walker, 1854. The exceptional wing venation in *Piarosoma* is unique. *Piarosoma* has a medial spur on the hind tibia that is absent in *Phacusa*. In *Phacusa* males the vesica bears between two to four cornuti, and at least two of them are hook-shaped whereas in *Piarosoma* many small cornuti are arranged along a very long band-like vesica seminalis. In the female genitalia *Phacusa* has a prominent praebursa with strongly sclerotized structures developed while in *Piarosoma* a praebursa is absent.

C28 *Phacusa sizala* Swinhoe, 1894, was removed from *Piarosoma* by Owada et al. (2022). However, as the systematic position of this species is unclear until the type investigation, we provisionally leave it in the genus *Piarosoma*.

C29 The afrotropical Zygaenidae had to be compiled without major revisional work. Based on the treatments of the group by Gaede (1926), Bryk (1936) and Alberti (1954, 1957), with the inclusion of some smaller contributions, e.g., Viette (1965, 1978), Tarmann (1985b, 2003), Vari, Kroon & Krüger (2002) etc. and after having undertaken only some preliminary own examinations this list has to be

seen as provisional. The following examinations are responsible for basic changes compared with earlier treatments:

1. Examination of the female genitalia proved that the receptaculum seminis consists of the utriculus only and lacks a lagena. However, the tube-like form of the utriculus (at the position where the lagena is situated in non procridine zygaenids and other Lepidoptera) is always slightly or prominently broadened in Procridinae, forming a bag-like structure. This unique structure represents a basic autapomorphy of the Procridinae and is described as "bursa utricularis" (Efetov & Tarmann, 2017a). Gaede (1926) placed the afrotropical Zygaenidae in Zygaeninae, Bryk (1936) in Chalcosiinae and Zygaeninae. Alberti (1954) treated the group as Procridinae but included the genera *Saliunca* Walker, 1864, *Syringura* Holland, 1893, *Tascia* Walker, 1856, and *Astyloneura* Gaede, 1914, within his tribe Callizygaenini (raised to Callizygaeninae by Tarmann, 1994) that has a well-developed lagena in receptaculum seminis like all other Zygaenidae. Our examinations showed that the African Procridinae do not belong to Callizygaeninae but are true Procridinae.
2. The examination of the head capsule, abdomen, legs and genitalia show that the genera *Chalconycles* Jordan, 1907, and *Neobalataea* Alberti, 1954, belong to the tribe Artonini Tarmann, 1994, the genera *Metanycles* Butler, 1876, *Aethioprocris* Alberti, 1954, *Sthenoprocris* Hampson, 1920, *Ankasocris* Viette, 1965, *Ischnusia* Jordan, 1928, *Alteramenelikia* Alberti, 1971, *Triacanthia* Romieux, 1937, *Xenoprocris* Romieux, 1937, *Madaprocris* Viette, 1978, *Afromalamblia* **gen. nov.** belong to the tribe Cleleini Efetov & Tarmann, **tribus nov.**, whereas *Saliunca* Walker, 1864, *Syringura* Holland, 1893, *Tascia* Walker, 1856, and *Astyloneura* Gaede, 1914, are here placed in Procridini Boisduval, 1828.
3. *Saliuncella* Jordan, 1907, with the only known species *S. marshalli* Jordan, 1907, is extraordinary as this species is the only African taxon that is closely related to the Australian *Pollanisus-Onceropyga*-group. The habitus is that of a *Pollanisus* in male and female. The female has an abdominal hairtuft. The genitalia are close to *Onceropyga*. The larval host-plants are Vitaceae like in *Onceropyga*. *S. marshalli* was reared from *Rhoicissus* sp. (Vitaceae) by N. J. Duke in 1994 from Swasiland (South Africa) (reference specimens in BMNH) (Fig. 45). Consequently, this species is here placed into the tribe Pollanisini Efetov & Tarmann, **tribus nov.**

Redescription of *Saliuncella marshalli* Jordan, 1907.

Body densely scaled, with dark greyish green ground colour and shiny blue scales that give the body and legs a strong bluish sheen or only a tinge of blue depending from the angle of the incoming light.

Head. Dorsoventrally compressed (like in *Pollanisus* and *Artona*), space between compound eye and ocellus covered with scales anteriorly, chaetosema triangular, anteriorly extended into the space between compound eye and ocellus but not exceeding this space. Labial palps well developed, curved upwards, slightly exceeding frons; maxillary palps very small; antenna with broad shaft, basal part in male strongly bipectinate, the last 5 segments biserrate, apex bluntly pointed, antenna in female biserrate, covered with shiny bluish scales at shaft (in fresh specimens). 28 antennal segments. Proboscis well developed, yellow. Compound eyes small, frons broader than compound eyes in frontal view. Distance between dorsal margin of compound eye and ocellus approximately as broad as diameter of ocellus.

Genitalia male. The male genitalia of *Saluncella marshalli* is similar to that of the eastern Australian species of *Onceropyga* (Tarmann, 2004, figs 273-282), although the habitus is very different. Uncus slender, 1/3 shorter than length of valva; tegumen and vinculum very translucent, slender; pulvinus very small, with a very long bundle of hairs that is coming off easily during preparation; valva translucent, strongly fan-shaped, without sclerotization dorsally, with narrow, straight ventral sclerotisation that exceeds the length of the ventral margin of the valva like in *Onceropyga anelia*, but

is almost as slender as that of *O. pulchra*; aedeagus very long and slender, tube-like, with a very narrow, needle-like, slightly twisted cornutus that has almost the length of the aedeagus.

Genitalia female. Ostium narrow, oval; ductus bursae slender, with a double spiral in the middle that is slightly sclerotised, inserting in a very translucent, bag-like corpus bursae; papillae anales weakly sclerotized, with very short setae, apophyses posteriors short and slender; apophyses anteriores also short and slender.

C30 The genus *Malamblia* Jordan, 1907, with its type-species *M. durbanica* Jordan, 1907, is removed from the African zygaenid list. Its type-species is a synonym to *Procris melas* Guérin-Méneville, 1839, for which Jordan described the genus *Chilioprocris* Jordan, 1913. This species is restricted to Chile (South America). The error had its origin in a misreading of the original label of the type specimen by Jordan (see Tarmann, 1985b). The other species included in *Malamblia* by Hampson (1910), Gaede (1926) and Bryk (1936) cannot be placed into a so far described genus. We therefore describe here the new genus *Afromalamblia* **gen. nov.** to accommodate these species.

***Afromalamblia* Efetov & Tarmann, gen. nov.**
Type species: *Malamblia flavipalpis* Hampson, 1910, 488, here designated.

Diagnosis (based on the female holotype and one male of *Malamblia flavipalpis* Hampson, 1910, *Brachartona unxia* Druce, 1896, and *Brachartona titoea* Druce, 1896, and one more undescribed species from Madagascar in the collection of the Natural History Museum, London).

Head dorsoventrally flattened, frons round, protruding dorsally, maxillary palps rudimentary, invisible, labial palps porrect, proboscis yellow, compound eyes small, black, frons 1.5 times broader than compound eye in frontal view, breadth of frons equal in male and female (no sexual dimorphism in this character), ocelli small, distance from compound eye 1.5 times the diameter of ocellus, chaetosema long, oval, strongly protruding forwards (as in *Pseudoamuria*). Foretibia with epiphysis, mid- and hindlegs with one pair of spurs (no third medial spur present!). Frenulum consisting of only one spine in female, retinaculum between base of CuP and posterior margin of cell visible as a small aggregation of specialized long, forward pointing scales.

The genitalia of *Malamblia flavipalpis* was dissected by Vari (No. 617) and one wing was also prepared by Vari on a slide. For more than two years a request to photograph the genitalia and the wing preparation on the slide has been sent to London. However, due to lack of resources this could not be done so far. A description of the genitalia has therefore to be postponed.

Derivatio nominis. The name is a construction compiled from *Malamblia* (now a genus valid for a South American species) and the term “Africa”.

C31 A redescription of the tribe Procridinae is provided below.

Tribe **Procridini** Boisduval, 1828, 38
[Type genus: *Procris* [Fabricius in Illiger], 1807, 289]

Description. Head capsule spherical, not compressed dorsoventrally, chaetosema not extended between compound eye and ocellus; foreleg with or without epiphysis, hindleg without medial spur; genitalia male - valva not fan-shaped, without “*Artona*-finger”; genitalia female - with or without praebursa; larval host-plants: Vitaceae, Rosaceae, Fagaceae, Polygonaceae, Asteraceae, Plumbaginaceae, Cistaceae, Geraniaceae and some others, a few species are polyphagous. Distribution. Europe, Asia, Africa, America.

C32 The genitalia of *Illiberis* (*Alterasvenia*) *paradistincta* Alberti, 1954, differs significantly from those of other species of *Alterasvenia*, including the type-species of this subgenus, viz. *Northia ulmivora* Graeser, 1888. The aedeagus in the male genitalia resembles that of species of the genus

Hedina Alberti, 1954, but the female genitalia of *Illiberis paradistincta* has no huge praebursa with rows of sclerotized spines as in *Hedina*. As this combination of characters is unique, we describe here a new genus *Pseudohedina* **gen. nov.** to accommodate *Illiberis paradistincta* (type-species of *Pseudohedina* by monotypy).

***Pseudohedina* Efetov & Tarmann, gen. nov.**
Type species: *Illiberis paradistincta* Alberti, 1954, 246, by original desigantion and monotypy.

Diagnosis: Adult with typical *Illiberis*-habitus with transparent wings and well visible veins. In male genitalia valvae without any processes on the ventral margin of sacculus; aedeagus broader distally, with a group of large, pointed, strongly sclerotized cornuti (like in *Hedina*). Female genitalia without strongly dilated praebursa, lacking rows of sclerotized spines. Corpus bursae globular, not asymmetric (as in *Hedina*) and not double lobed (as in *Alterasvenia*).

C33 Revisional work on *Phacusa* Walker, 1854, by the authors has shown that the genitalia of *Phacusa nicobarica* Hampson, 1920, are different from those of *Ph. tenebrosa* (Walker, 1854) and *Ph. nicobarica* is not a synonym of *Ph. tenebrosa* (synonymised by Efetov & Tarmann (2012)). As a consequence, *Phacusa nicobarica* Hampson, 1920, **stat. rev.** is here accepted as a good species.

C34 New material collected in European Turkey (Thrace) by Feza Can with the help of newly synthesised attractant from the series EFETOV-2 shows that *Rhagades pruni* ([Denis & Schiffermüller], 1775) occurs also in Turkey (Can Cengiz et al. 2016).

C35 In agreement with the concept of this catalogue how to treat species and subspecies (see chapter "The concept for species and subspecies in this catalogue" above) we feel obliged to change the status of some recently described taxa of *Zygaenoprocris* Hampson, 1900. This was not an easy decision as this genus has been extensively investigated in recent years by Keil (2002, 2014, 2016a, 2016b, 2016c, 2020) and most descriptions of new taxa are accompanied by biological and ecological data. Moreover, also first genetic results are available.

However, in comparison with other well-separated taxa that are treated in this catalogue as subspecies (e.g. *Adscita statices statices*, *A. statices drenowskii*, *A. geryon geryon*, *A. geryon orientalis*), some of the new taxa within *Zygaenoprocris* cannot be treated as separate species as they do not differ more from their nearest related taxa than in many other cases where we have accepted subspecific rank. We accept therefore here all taxa described by Keil as valid, but we group some together and treat only those taxa as species that have relevant genitalic differences (even if these differences can be small). Also considering our DNA results from the ZYGMO project in BOLD a clear picture is shown in two species, viz. *Z.* (*Molletia*) *persepolis* (Alberti, 1938) with four subspecies and *Z.* (*M.*) *duskei* (Grum-Grshimailo, 1902) with also four subspecies. In *Zygaenoproris* (*Zygaenoprocris*) the situation is more difficult as several taxa have been observed occurring syntopically (e.g. *Z.* (*Z.*) *mystrocera* and *Z.* (*Z.*) *efetovi*) (Keil, 2020), in addition, these taxa have stable genitalic differences) and have to be treated as species. Moreover, the taxonomic situation regarding *Z.* (*Z.*) *khorassana* in relation to *Z.* (*Z.*) *mystrocera* seems not completely clear. We therefore treat the latter for the moment as an independent species and *Z.* (*Z.*) *mystrocera* together with *Z.* (*Z.*) *molleti* and *Z.* (*Z.*) *valii* as one species with three well separated subspecies.

As was mentioned above, *Z.* (*M.*) *duskei* (Grum-Grshimailo, 1902) includes four subspecies. One of these subspecies, viz. *Z.* (*M.*) *duskei kliri* Keil, 2002, has been raised to species level by Keil (2023) without any comments. Here we consider this taxon as a subspecies of *Z.* (*M.*) *duskei*. Moreover, Keil (2023) mentioned erroneously two more species in the genus *Zygaenoprocris*, viz. *Zygaenoprocris statices* and *Z. obscura*, both correctly belonging to the genus *Adscita*.

C36 *Zygaenoprocris rjabovi* (Alberti, 1938c) and *Zygaenoprocris eberti* (Alberti, 1968) were placed

in the subgenus *Zygaenoprocris* until now. However, they have good morphological differences from *Zygaenoprocris chalcochlora* Hampson, 1900, the type species of this subgenus. New DNA data (Mirić et al. 2023) confirmed the isolated position of *Z. rjabovi* and *Z. eberti*. It has therefore been necessary to erect a new subgenus of the genus *Zygaenoprocris* to accommodate these two taxa (Figure 1).

Subgenus *Longiterna* Efetov & Tarmann, subgen. nov. (Figure 1)
[Type-species: *Procris rjabovi* Alberti, 1938c, 94, here designated]

Zygaenoprocris (*Longiterna*) *rjabovi* and *Zygaenoprocris* (*Longiterna*) *eberti* have forewings green with strong metallic sheen, long aedeagus with single strongly sclerotized cornutus in male and extremely long ductus bursae in female (Efetov & Tarmann, 1999, figs 109, 167, 168; Efetov et al. 2014a).

Differentional diagnosis. All remaining species of the subgenus *Zygaenoprocris* have the ductus bursae and the aedeagus much shorter and a weakly sclerotised cornutus. All species of the other subgenera of the genus *Zygaenoprocris* have strongly different genitalia structures (Efetov & Tarmann, 1999).

Etymology. The word "Longiterna" consists of two parts: "Longi" shows that these species have very long ductus bursae in female genitalia; the ending "terna" has been used already by B. Alberti to create a subgeneric name *Lucasiterna* (later the same principle was used for *Procriterna* Efetov & Tarmann and *Solaniterna* Efetov).

C37 *Adscita mauretanica* (Naufock, 1932) is the only *Adscita* species in northwestern Africa. Although this species is in habitus, antennal structures and biology a clear *Adscita*, its genitalia are strongly different from all *Adscita* known so far. Moreover, in the COI gene (barcoding tree) this species is far away from all other *Adscita* species. Its nearest neighbour *Adscita bolivari* shows ca. 7% genetic difference. All these characters show the unique position of *A. mauretanica* in *Adscita*. We therefore describe a new subgenus for this isolated species. Moreover, new genetic studies including nuclear genes confirm the position of *A. mauretanica* between *Adscita* and *Jordanita* (Mirić et al. 2023).

Subgenus *Afroterna* Efetov & Tarmann, subgen. nov. (Figure 2)
Type-species: *Procris mauretanica* Naufock, 1932, 77, here designated.

Diagnosis. Males and females are externally very similar to *Adscita statices*, the type species of the genus *Adscita* Retzius, 1783, with shiny green body and forewing upperside and with clubbed antennae. Antenna with pectinations in male, the last segments fused to plates; female without antennal pectinations. Male genitalia. Uncus slender, as long as tegumen. Valva long and slender, ventral margin of sacculus without process, apex of sacculus rounded. Phallus short and broad, ca. 3.5 times longer than broad, vesica with two strongly sclerotized, curved cornuti. Female genitalia. Caudal part of ductus bursae strongly dilated, forming a spherical or ovoid praebursa that has a ventral pocket-like evagination and bears sclerotized dentations (Efetov & Tarmann, 1999, p. 108, fig. 95, p. 123, fig. 157, Efetov, 2001f, p 161, plate 9, fig. 12, p. 209, plate 32, fig. 12).

The morphology of the early instars and their biology is not strongly different from those of other *Adscita* species. The larval host-plants are Polygonaceae and Cistaceae.

Etymology. The word "Afroterna" consists of two parts: "Afro" shows that this species is only found in Africa (North African distribution); for meaning of "terna" see above (comment **C36**).

C38 According to morphological, biological and molecular characters the subgenus *Adscita* Retzius, 1783, is a paraphyletic subgenus clearly consisting of three monophyletic units, viz. (*jordani*-group + *statices*-group), (*obscura*-group) and (*geryon*-group + *albanica*-group). In this catalogue we are describing two new subgenera with the aim to have three monophyletic subgenera.

Subgenus *Obscuriterna* Efetov & Tarmann, subgen. nov. (C38) (Figure 2)
[Type-species: *Procris obscura* Zeller, 1847a, 15, here designated]

Adscita (*Obscuriterna*) *obscura* has an isolated position in the genus. It has extraordinary genitalia structures and larvae feeding on at least three plant families. The characters of the new subgenus are an extremely long aedeagus (ratio of length to breadth is approximately 20) and also extremely long ductus bursae (ratio of length to breadth more than 60) (Efetov & Tarmann, 1999, figs 94, 156; Efetov, 2001f, plates 9, 33), the larvae feed on Cistaceae, Rosaceae and Fabaceae (and not on Polygonaceae).

Differentional diagnosis. All remaining species of the subgenus *Adscita* are oligophagous and have much shorter aedeagus and ductus bursae (Efetov & Tarmann, 1999, figs. 89-93. 95-107, 151-155, 157-165; Efetov, 2001f, plates 3-12, 28-32, 34-36).

Etymology. The word "Obscuriterna" consists of two parts: "Obscuri" shows that this subgenus is monotypic with one species *A. obscura*. For meaning of "terna" see above (comment **C36**).

C39
Subgenus *Eurasiterna* subgen. nov. (Figure 2)
[Type-species: *Adscita dujardini* Efetov & Tarmann, 2014b, 182, here designated]

Included species. *Adscita (Eurasiterna) capitalis* (Staudinger, 1879), *A*. (*Eur.*) *geryon* (Hübner, 1813), *A. (Eur.) dujardini* Efetov & Tarmann, 2014b, and *A. (Eur.) albanica* (Naufock, 1926).

All four species form one branch on a DNA-tree and have a much smaller ratio of length to breadth of aedeagus (less than 15) and also much smaller ratio of length to breadth of ductus bursae (less than 15) than in *A*. (*O.*) *obscura*. Larval host-plants belong to Geraniaceae and/or Cistaceae. Species of this subgenus form two groups, viz. *geryon*-group (ductus bursae tubular, without praebursa) and *albanica*-group (ductus bursae strongly delated formig a praebursa) (Efetov & Tarmann, 1999).

Differentional diagnosis. All remaining species of the subgenus *Adscita* have another combination of characters. The larvae of the representatives of the subgenus *Adscita* are feeding on Polygonaceae (*Rumex* species). For characters of *Afroterna* and *Obscuriterna* see above.

Etymology. The word "Eurasiterna" consists of two parts: "Eurasi" shows western Palaearctic distribution of all four included species (Europe and western Asia); for meaning of "terna" see above (comment **C36**).

C40 Different populations of *Jordanita* (*Roccia*) *paupera* (Christoph, 1887) (sometimes strongly geographically isolated from one another) can have DNA barcode distances. However, as there are no constant genitalic differences between these populations, we consider them as one species. Recently, Zolotuhin (2020) described two new taxa: *Jordanita* (*Roccia*) *scintillosa* Zolotuhin, 2020, and *J*. (*R*.) *smaragdonna* Zolotuhin, 2020. These two taxa are considered to be synonyms of *Jordanita* (*Roccia*) *paupera* (Christoph, 1887) (Efetov et al. 2022; Efetov & Tarmann, 2022).

C41 As shown in Efetov et al, (2019) *Ino budensis* var. *mollis* Grum-Grshimailo, 1893, described from China, and so far treated as a synonym of *Jordanita* (*Roccia*) *paupera* (Christoph, 1887) (Efetov & Tarmann, 2012), is a good species: *Jordanita* (*Roccia*) *mollis* (Grum-Grshimailo, 1893). This opinion is based on the presence of stable differences in the male genitalia and a significant difference in the DNA barcodes. This species is recorded for eastern Russia (Southern Siberia and Far East), China and Korea.

C42 *Jordanita (Praviela) anatolica* (Naufock, 1929) and *Jordanita (Praviela) christinae* Keil, 1998, are treated as two different species in Keil (2014). In Efetov & Tarmann (2012, p. 36) *J. anatolica christinae* is treated as a subspecies. The authors always had strong doubts that these two taxa are really different species. The reason for these doubts was the well-known variability in the male genitalia of *J. anatolica* (Efetov & Can, 2010) where combinations and forms of cornuti could be found in various

populations with the characters of those described and figured by Keil (1998, p. 113, fig. 1b) for *J. christinae*. Moreover, specimens with the habitus of *J. christinae* (reddish wings and body) could also be found as aberrations within other Iranian populations of *J. anatolica*. In his original description even Keil himself had doubts and described therefore the new taxon only as a subspecies of *J. anatolica* (Keil, 1998). However, Keil was secretly always convinced that the two taxa are different species and continued searching for arguments. He visited Iran and the type locality of *J. christinae* many times. Finally he found both colour forms syntopic in the type locality of *J. christinae* with a significant difference in the time of flight activity. Specimens with the characters of *J. anatolica* (green wings and body) were always earlier on the wing in the year than those with the characters of *J. christinae*. Keil reared both taxa from egg to imago and described their biology (Keil, 2014, pp. 140-147). In addition to the syntopic occurrence he observed oviposition of females of both taxa on different larval host-plants at the same locality. The larvae are also slightly different in coloration. The latter character was also known by the authors for several years but color variation in larvae of Procridinae are common and also this character did not convince us that both taxa are really good species. Keil (2014, pp. 140-147), in his work on the Zygaenidae of Iran, again summarizes all arguments and publishes figures on the biologies of *J. anatolica* and *J. christinae*.

Based on these data but also on our genetic data from our ZYGMO project in BOLD (the genetic distance between *J. christinae* and *J. anatolica* is larger than between all other *J. anatolica* populations that are so far examined) we now accept the specific status of *J. christinae*. However, specimens with intermediate characters in habitus and genitalia have been found around the type-locality of *J. christinae* in the Zagros mountains. This is a clear sign that both species are very closely related.

Jordanita (*Praviela*) *rietzschi* Keil, 2016, can be only a colour form of *J.* (*P.*) *anatolica* because these two "taxa" have no genitalic differences.

Further molecular and biologal investigations are necessary in the subgenus *Praviela* Alberti, 1954, and it also would be very important to find newer material of *J.* (*P.*) *anatolica kruegeri* (Turati, 1930) from North Africa which we here treat as a subspecies to *J. anatolica* based on its genitalic characters.

C43 In Tarmann (1984, p. 36) the date behind the author of *Pyromorpha* (*Gingla*) *semifulva* (Druce, 1896) is wrongly cited as "Druce, 1884". This error was discovered by Steve Nanc (New York, USA) in December 2016. It was an error by G. M. Tarmann in 1984 when he mixed *Dycladia semifulva* Druce, 1884 (now *Cosmosoma semifulva* (Druce, 1884), Erebidae, Ctenuchinae) with *Lycomorpha semifulva* Druce, 1896 (Zygaenidae, Procridinae). It would not make sense to change now also the synonymy between *Lycomorpha semifulva* Druce, 1896: 332, and *Lycomorpha basirei* Druce, 1896: 331, just because *L. basirei* was described one page earlier in the same paper. According to the principle of the first revising author we leave *Pyromorpha* (*Gingla*) *semifulva* (Druce, 1896) as valid species and *L. basirei* Druce, 1896 as its synonym.

C44 In Tarmann (1984, p 40) *Harrisina mexicana* Schaus, 1889, was synonymized with *Aglaope coracina* Clemens, 1861, due to almost no genitalic differences. More material has now shown that this was wrong and both taxa represent different spercies. *H. mexicana* is smaller and has longer pectination in the male antenna. The male genitalia are, as in many *Harrisina*, not significantly different. This species was described from one male from Mexico (Veracruz, Paso de San Juan). Females can only be attached to this species if they are reared and if also males from the same rearing are available. This has not been done so far. Sufficient DNA data are not available so far.

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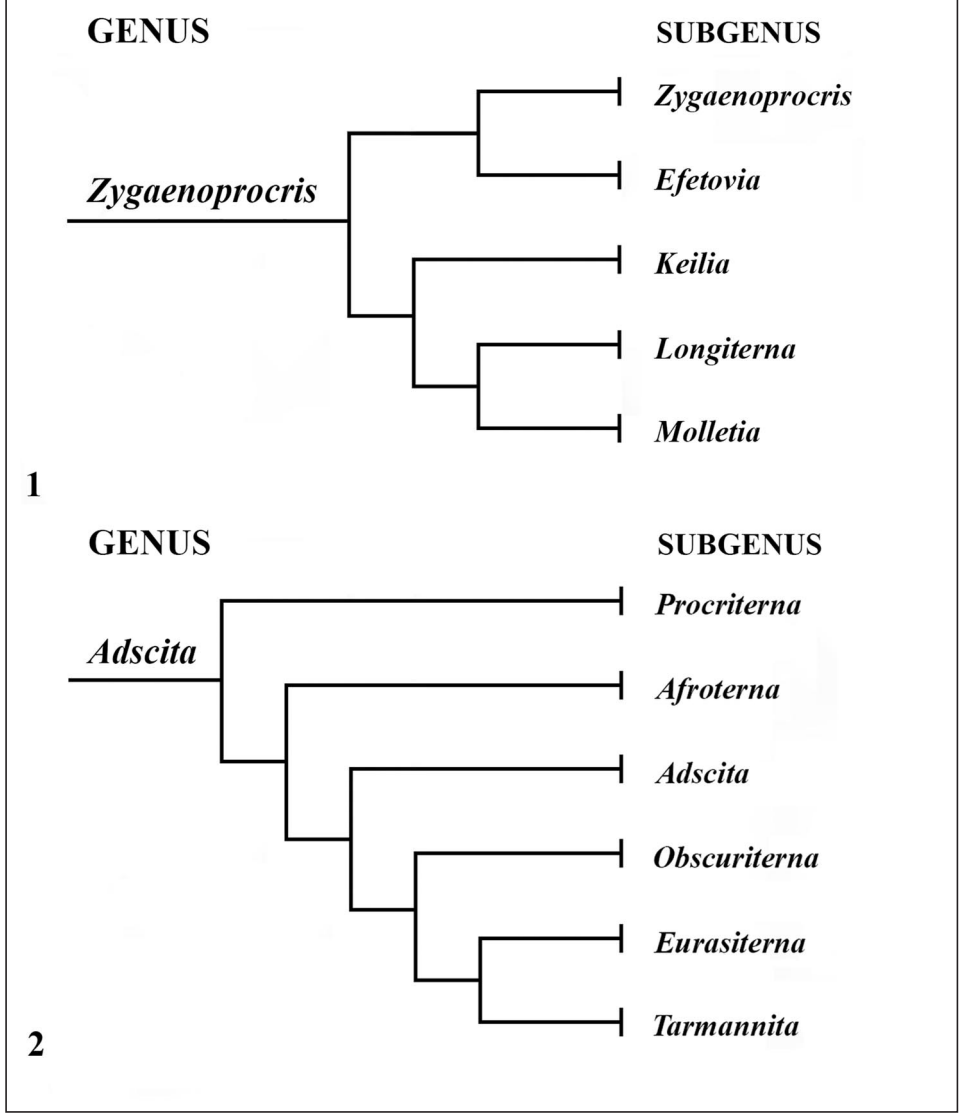

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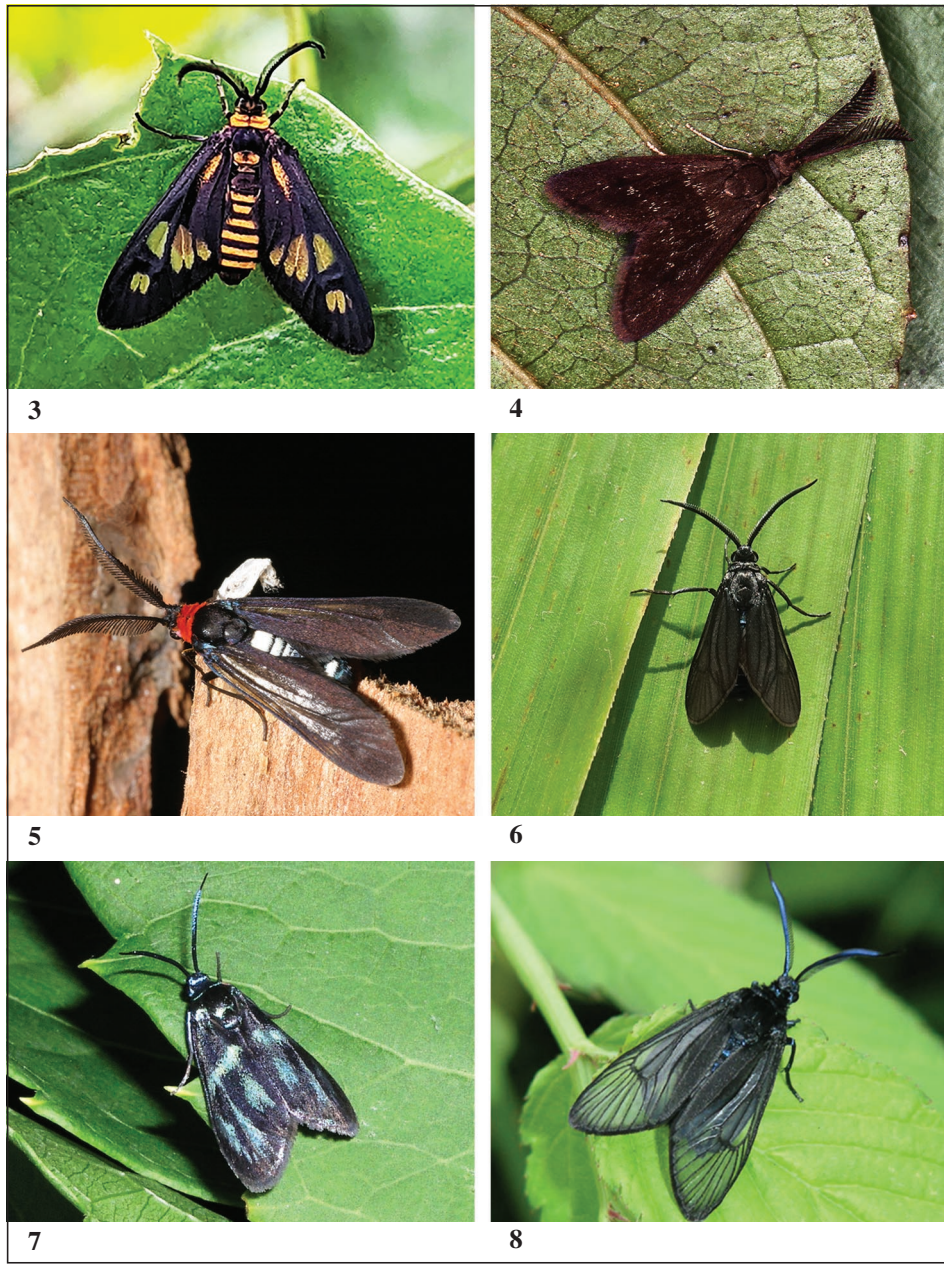

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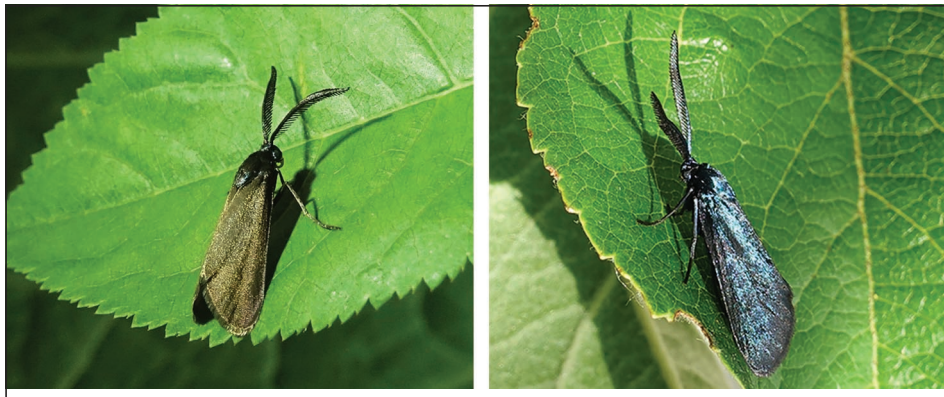

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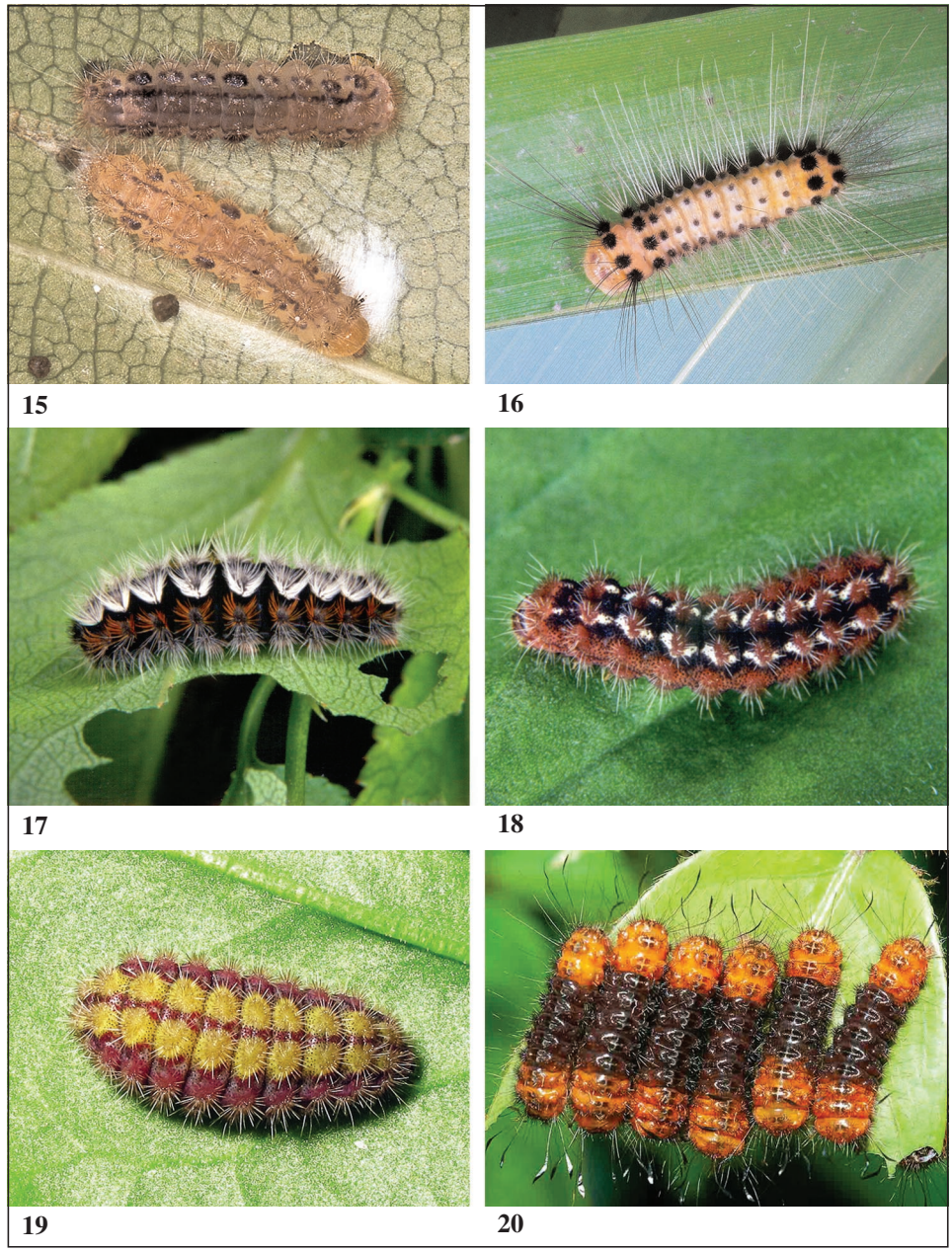

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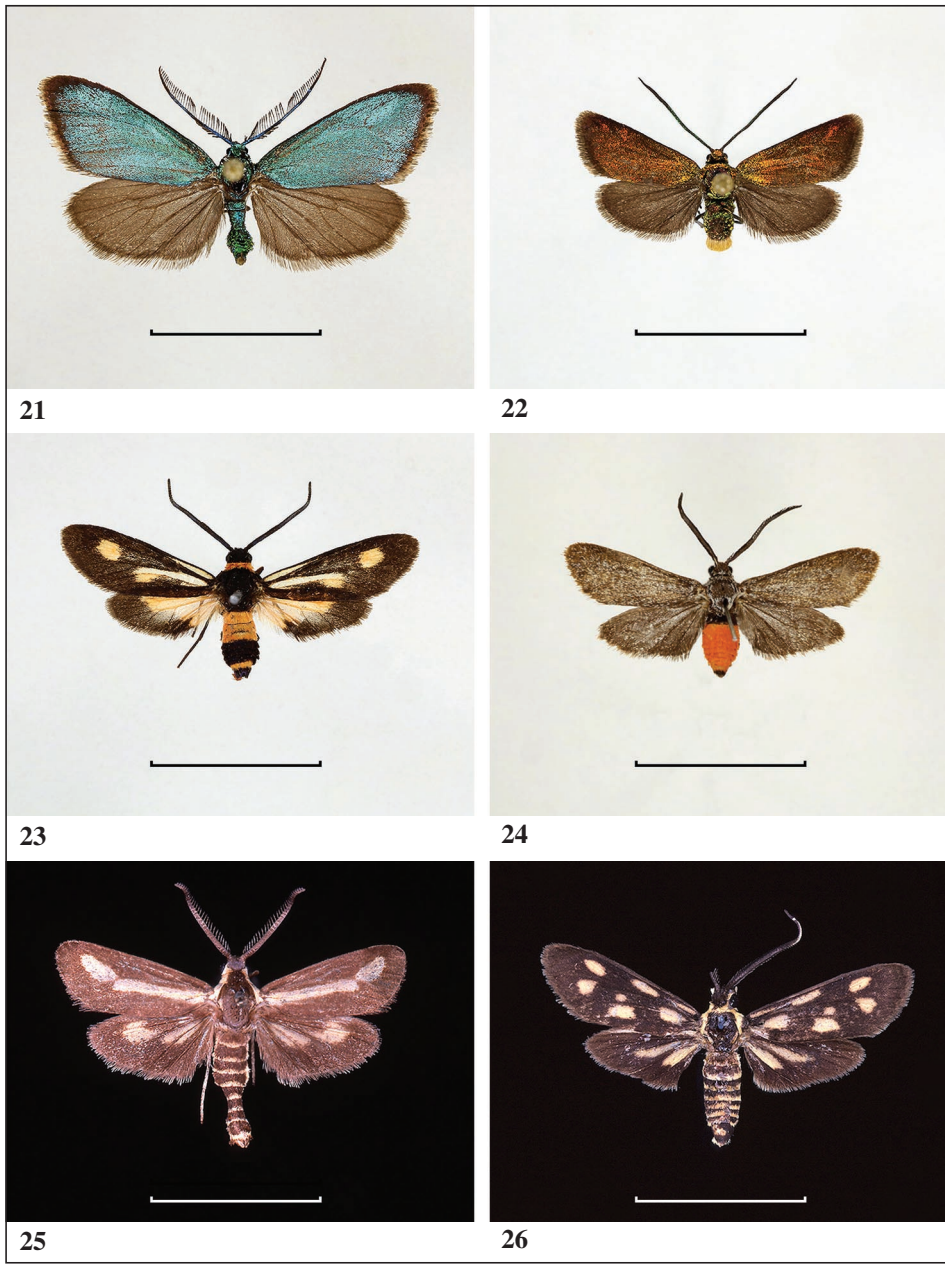

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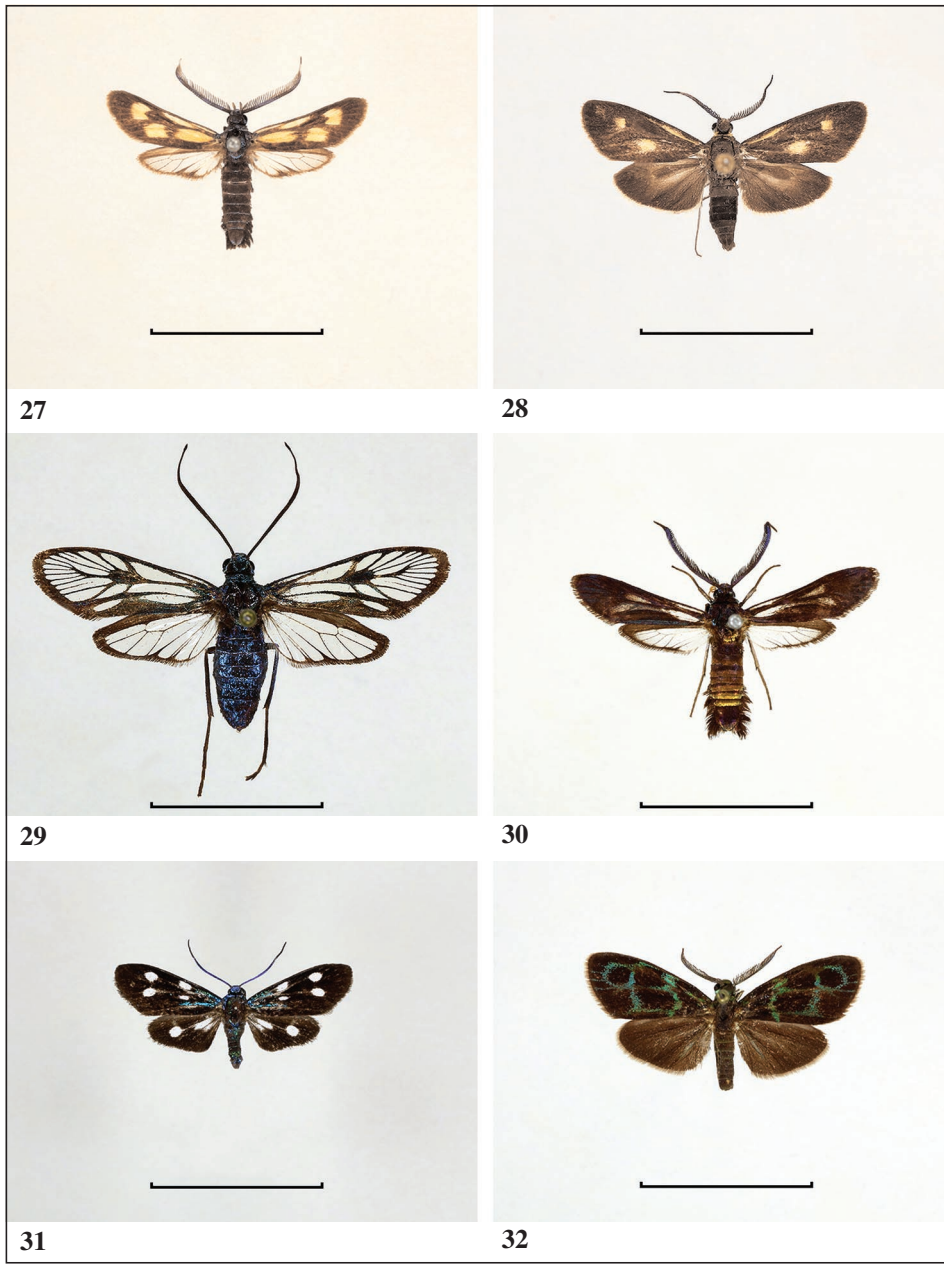

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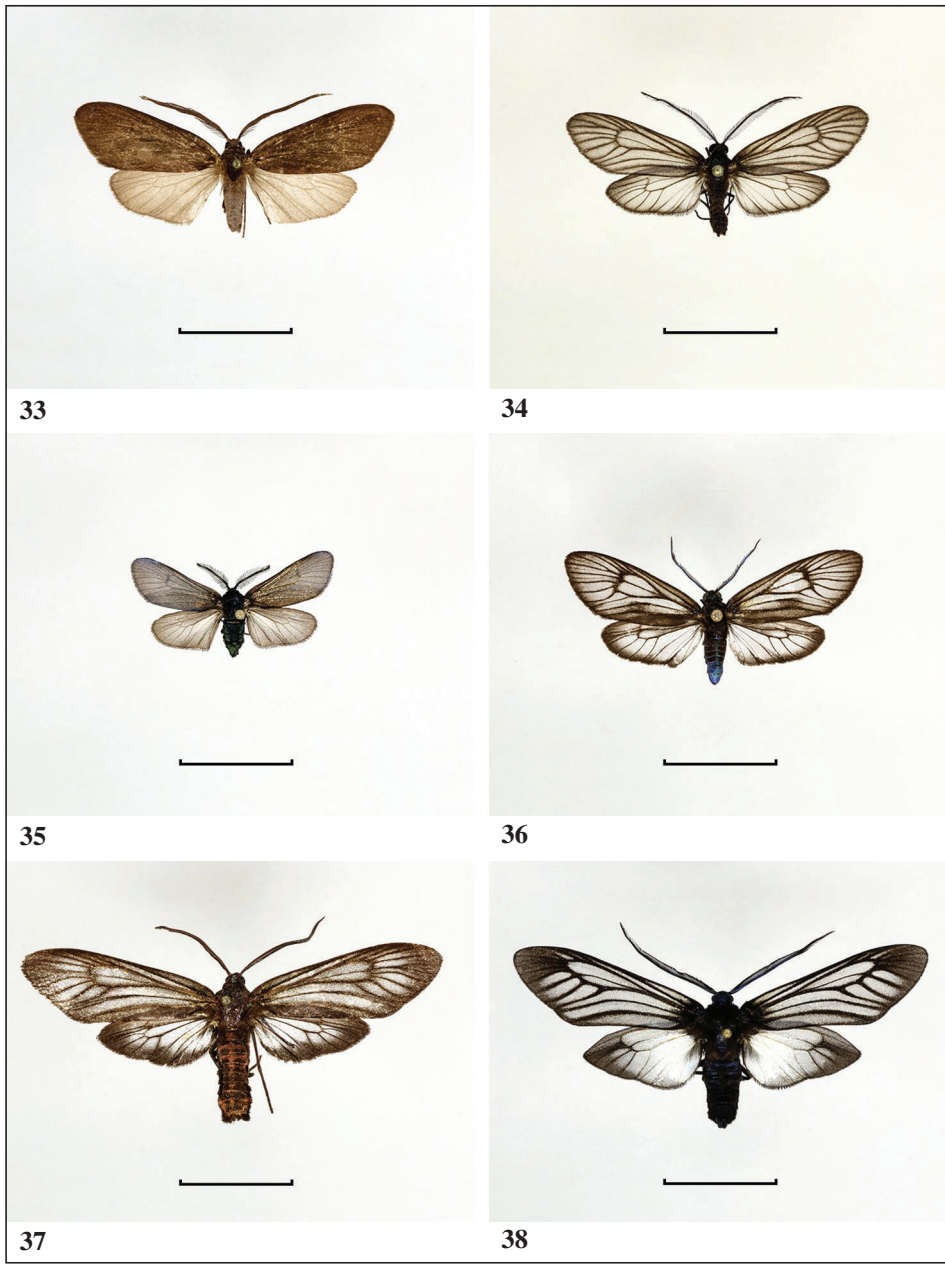

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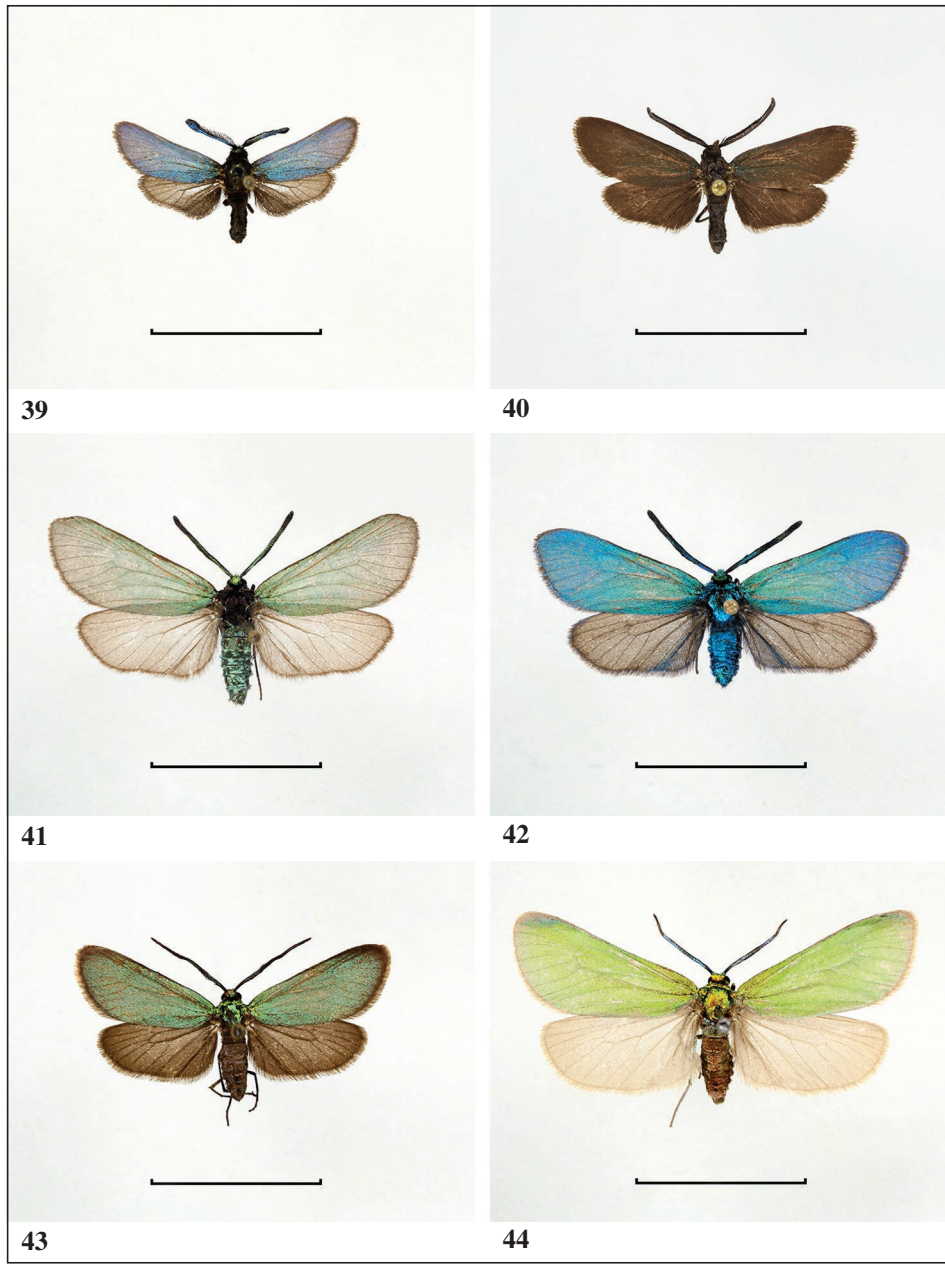

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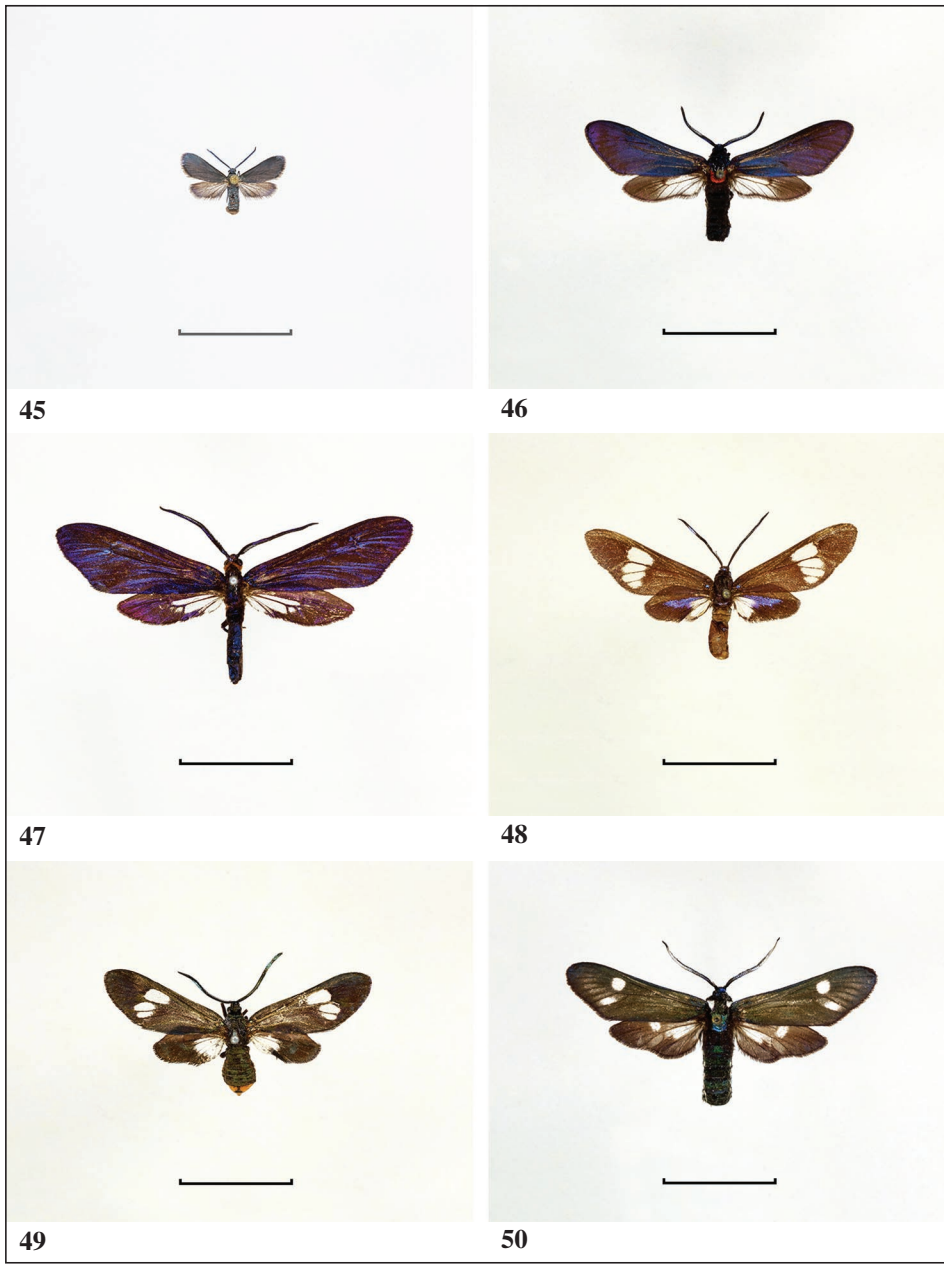

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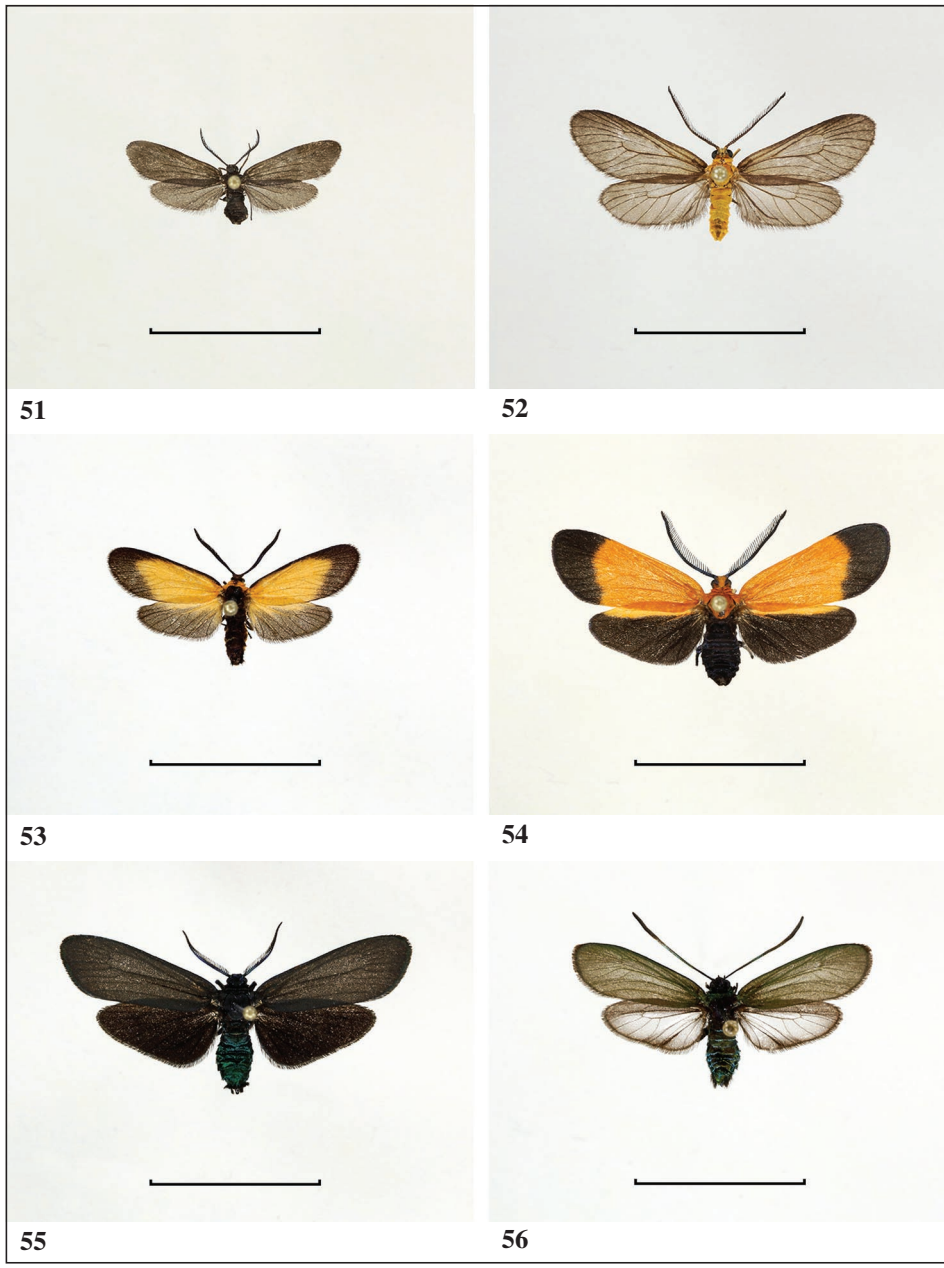

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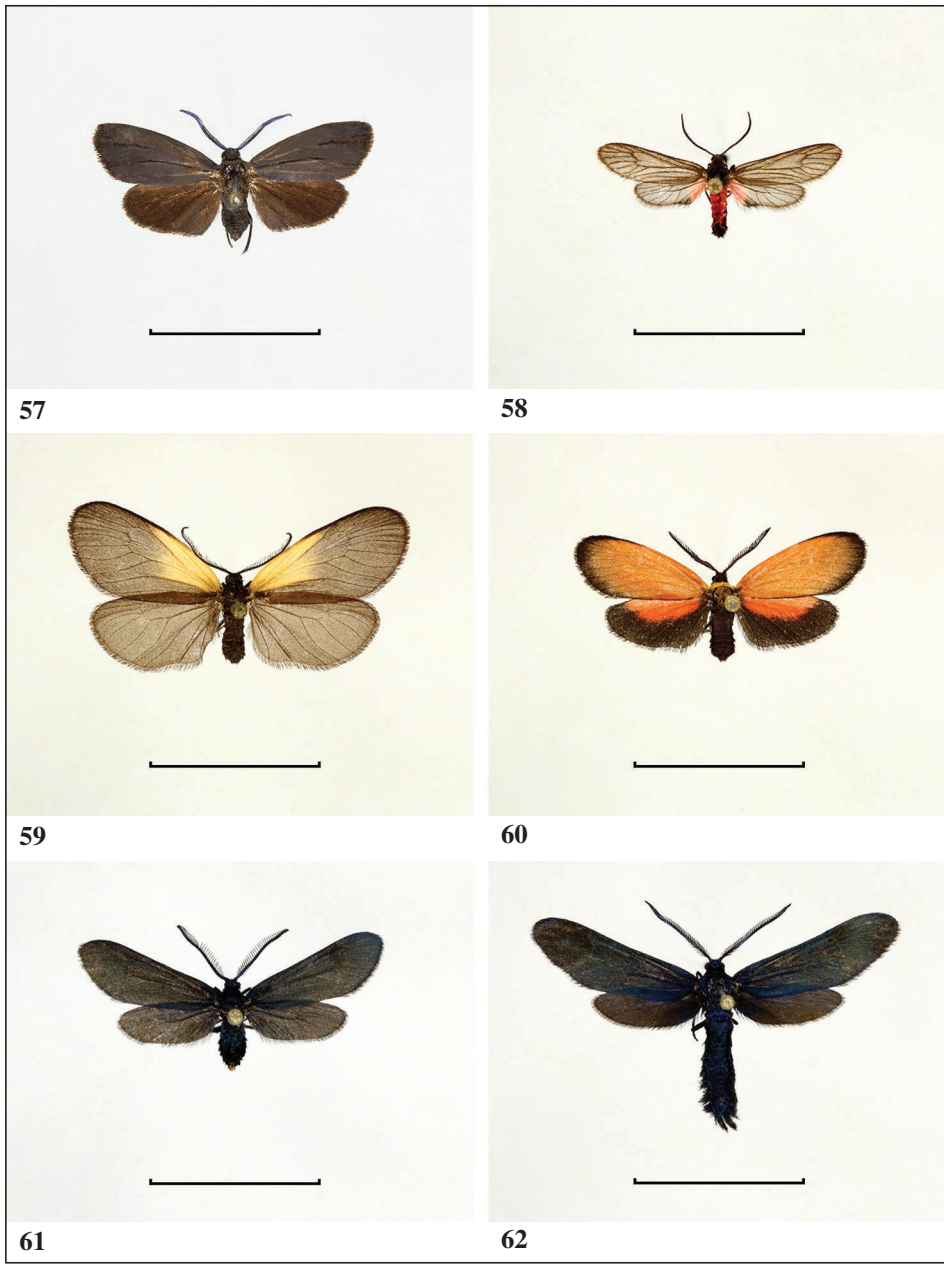

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First hostplant and last instar of *Hydropionea fenestralis* Barnes & McDunnough, 1914 in the Perote Valley, Mexico (Lepidoptera: Crambidae)

Rogelio Lara-González, Luis A. Lara-Pérez & Ángel I. Ortiz-Ceballos

Abstract

We identified *Hydropionea fenestralis* Barnes & McDunnough, 1914 feeding on seeds of fruits of *Agave salmiana* var. *ferox* (K. Koch) Gentry and *A. salmiana* subsp. *salmiana* (Asparagaceae), based on DNA barcode and adult-stage morphology. This is the first host plant record, the first record last instar, and also constitutes the first Lepidoptera seed borer associated with *Agave* species in Mexico. The *Agave* variety and subspecies are used for the production of traditional fermented beverages called *pulque*, the economic and cultural base of the region. The mean percentage of fruit damage ranges from 13.9±19.9% to 33.2±2% in *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana,* respectably. Molecular evidence confirms the distribution of *H. fenestralis* in central Mexico in the states of Veracruz and Puebla, expanding the known geographic range of the species. This record seems to be an unusual host plant for the current phylogenetic position of *H. fenestralis* within the Glaphyriinae subfamily, whose larvae feed preferably Brassicales plants.

Keywords: Lepidoptera, Crambidae, COI DNA barcode, seed feeder larvae, level of damage, Asparagales, *Hydropionea,* distribution, Mexico.

Primera planta nutricia y estado inmaduro de *Hydropionea fenestralis* Barnes & McDunnough, 1914 en el Valle de Perote, México (Lepidoptera: Crambidae)

Resumen

Identificamos *Hydropionea fenestralis* Barnes & McDunnough, 1914 alimentándose de semillas de frutas de *Agave salmiana* var. *ferox* (K. Koch) Gentry and *A. salmiana* subsp. *salmiana* (Asparagaceae), basándonos en el código de barras de ADN y la morfología en etapa adulta. Este es el primer registro de planta hospedera, último instar, y también constituye el primer lepidóptero barrenador de semillas asociado con especies de *Agave* en México. La subespecie y variedad de *Agave* se utilizan para la producción de bebidas fermentadas tradicionales llamadas pulque, que son la base económica y cultural de la región. El porcentaje promedio de daño en las frutas varía desde 13.9±19.9% hasta 33.2±2% en *A. salmiana* var. *ferox* y *A. salmiana* subsp. *salmiana*, respectivamente. La evidencia molecular confirma la distribución de *H. fenestralis* en el centro de México, en los estados de Veracruz y Puebla, ampliando el rango geográfico conocido de la especie. Este registro parece ser una planta hospedera inusual para la posición filogenética actual de *H. fenestralis* dentro de la subfamilia Glaphyriinae, cuyas larvas se alimentan preferentemente de plantas Brassicales.

Palabras clave: Lepidoptera, Crambidae, código de barras de ADN, barrenador de semillas, nivel de daño, Asparagales, *Hydropionea,* distribución, México.

Introduction

The superfamily Pyraloidea Latreille, 1809 is one of the most hyperdiverse Lepidoptera groups with over 16,000 described species (Nieukerken et al. 2011; Léger, 2020) and includes two families: Pyralidae Latreille, 1809 and Crambidae Latreille, 1810 (Munroe & Solis, 1999; Regier, 2012). The Pyraloidea has a worldwide geographical distribution with high diversity in the tropics and includes numerous important pests of crops, forests, stored foodstuffs, and ornamental plants (Solis, 2007). It is notable for the ecologically diverse moths it contains, which exhibit various adaptations to explore different sources, including detritivorous, coprophagous, parasitic, and aquatic habitats (Regier, 2012).

Hydropionea Hampson, 1917 genus belongs to the Crambidae family and recently, the genus was transferred from the subfamily Spilomelinae to Glaphyriinae based on morphological evidence (Mally et al. 2019). The *Hydropionea* genus comprises six valid species, and one undescribed species with distribution from North America and Central, Caribbean, and Sud America (Munroe et al. 1995; Janzen & Hallwachs, 2009; Nuss et al. 2003-2022; Scholtens & Solis, 2015; Landry et al. 2020; GBIF, 2024). The subfamily Glaphyriinae *sensu lato* comprises the 'mustard oil clade' whose larvae preferentially feed on Brassicales plants (Regier et al. 2012; Léger et al. 2021). Mustard oils are essential volatiles that use specialized insects to find their host (Hopkins et al. 2009).

For the *Hydropionea* genus, the only known host plant and immature stage are for an undescribed species from Costa Rica that feed on *Capparis uniflora* (Brassicales: Capparaceae) (Janzen & Hallwachs, 2009), which fits with the Glaphyriinae in the clade of Brasicales (Mally et al. 2019; Léger et al. 2021). However, for the remaining six species of *Hydropionea*, the host plants and immature stages are unknown.

During an investigation on the viability of seeds of *Agave* species, in September 2020, the first author found Microlepidoptera larvae feeding on seeds inside fruits of the culture of *A. salmiana* var. *ferox* (K. Koch) Gentry, and *A. salmiana* subsp. *salmiana* (Asparagales: Asparagaceae) in Perote Valley, Veracruz and in the state of Puebla, Mexico. The subspecies and the variety of *Agave* are planted in the boundary of the culture of beans and corn and are used to delimit property and to produce "pulque" (a fermented beverage) which is an economic incentive and cultural activity in the region (Delgado-Lemuset et al. 2014).

The objective of the present work is to identify larvae feeding on seeds of *Agave* fruits, using morphological and DNA barcoding approaches, and estimate seed levels of damage in *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana*.

Materials and Methods

Collecting Area, Rearing and Morphological Study

The collecting area is within the Perote Valley, the central western area of the state of Veracruz mainly, and in the El Carmen Basin in the state of Puebla, Mexico located between parallels 19º 22' and 19º 39' North latitude and the meridian 97º 06' and 97º 26' West longitude, 2,800 masl (Yañez-Garrido & Nava-Bringas, 2017). The *Agave* subspecies is locally known as Tepezorra and the variety as *Agave* Manso or Verde. The scientific accepted names are *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* (World Flora Online, 2024). We randomly collected *Agave* fruits of both variety and subspecies of *Agave salmiana* from September to November 2020. We inspected some fruits for seed borer larvae for ADN analysis. Four larvae were stored in 90% alcohol for DNA barcode. We also found last instar larvae or pupae inside fruits, which were placed in plastic containers in laboratory conditions until adult emergence. After emergence, we mounted the adults and let them dry for two weeks. We prepared genitalia by boiling abdomens for 15 minutes in 10% KOH solution in a test tube with 5 ml of water (Laguerre, 2014). Images were captured with a Nikon D7500 camera with an AF-S

Nikkor 85 mm macro lens and genitalia with a Leica DM3000 microscope (Leica, Wetzlar, Germany). Identification was based on the original description and illustrations provided by Barnes & McDunnough (1914) and Powell & Opler (2009). Specimens will be deposited in the Colección Lepidopterológica (Heterocera) del Museo de Zoología de ECOSUR/Chetumal (ECO-CH-LN).

DNA Extraction and Analysis

DNA was extracted from the dorsoventral tissue of the larva (2 mm) using the DNeasy Blood & Tissue Kit (QIAGEN, Düsseldorf, Germany), following the manual instructions. Amplified PCR products were submitted to Eurofins Genomics (USA) to forward and reverse Sanger sequencing, targeting the 658 bp barcode region of the mitochondrial cytochrome oxidase subunit I (COI) using the primers LepF and LepR (Hajibabaei et al. 2006). The forward and reverse sequences obtained were aligned, and the consensus sequence was assembled using Bioedit 7.2.5. software (Hall, 1999). Species identification was performed by comparing the consensus sequences against BOLD system (http://www.boldsystems.org/) and using the Blastn tool on the NCBI database (www.ncbi.nlm.nih.gov). Neighbor-Joining (Saitou & Nei, 1987) tree were calculated with MEGA version 11.0.13 (Tamura et al. 2021) using Kimura 2-parameters (Kimura, 1980) distance model to display divergences comparing our sequences with available sequences from NCBI and BOLD system databases. Bootstrap values (Felsenstein 1985) were used to estimate branch support.

Evaluation of *Agave* Seed Damage

To assess the level of damage by the seed borer we collected 10 closed fruits with eight repetitions of both *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana*. We compared the mean percentage with an ANOVA with normalized data with arcsine transformation and at 0.05 confidence interval.

Occurrence Records

The distribution maps were made in ArcMap 10.8 software using the field collection and data obtained from the Global Biodiversity Information Facility (GBIF 2022; www.gbif.org, accessed on 16 March 2023; https://doi.org/10.15468/dl.j6fz2q.

Results

We obtained adults from larvae seed borers raised on fruits of *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* used for pulque production (Figure 1A-D). Larvae were recorded from September to October and adults' emergence began on 19 September through November 2020. Fruits showed a characteristic small hole for the entrance/emergence of the larvae or adult (Figure 1E). As far as we could observe one larva caused damage to all seeds in the *Agave* fruits as reached the adult stage (Figure 1F). One adult emerges from a single fruit of *Agave*. The mean percentage of fruit damage was statistically higher in *A. salmiana* var. *ferox* compared with *A. salmiana* subsp. *salmiana* with 33.2±20.6 and 13.9±19.9%, respectably.

The seed borer was identified as *H. fenestralis,* based on DNA barcode and adult morphology. We generated three consensus sequences of 658 bp available at GenBank under accession numbers OQ092765-OQ092767, which match with one available sequence JF847159 in GenBank and the BOLD system with *H. fenestralis* assigned to the Barcode Index Number (BIN) BOLD: ADH9941. (Figure 2).Intraspecific *p*-distance ranging from 0.2% to 0.6% between specimens of central Mexico and Arizona, U.S. (state of the type locality).

The collecting area of *H. fenestralis* represents a new state record from Mexico in the states of Veracruz and Puebla (Figure 3) in a plantation of *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* at 2,800 altitudes. The region is semi-arid and predominates xerophytic shrubland vegetation.

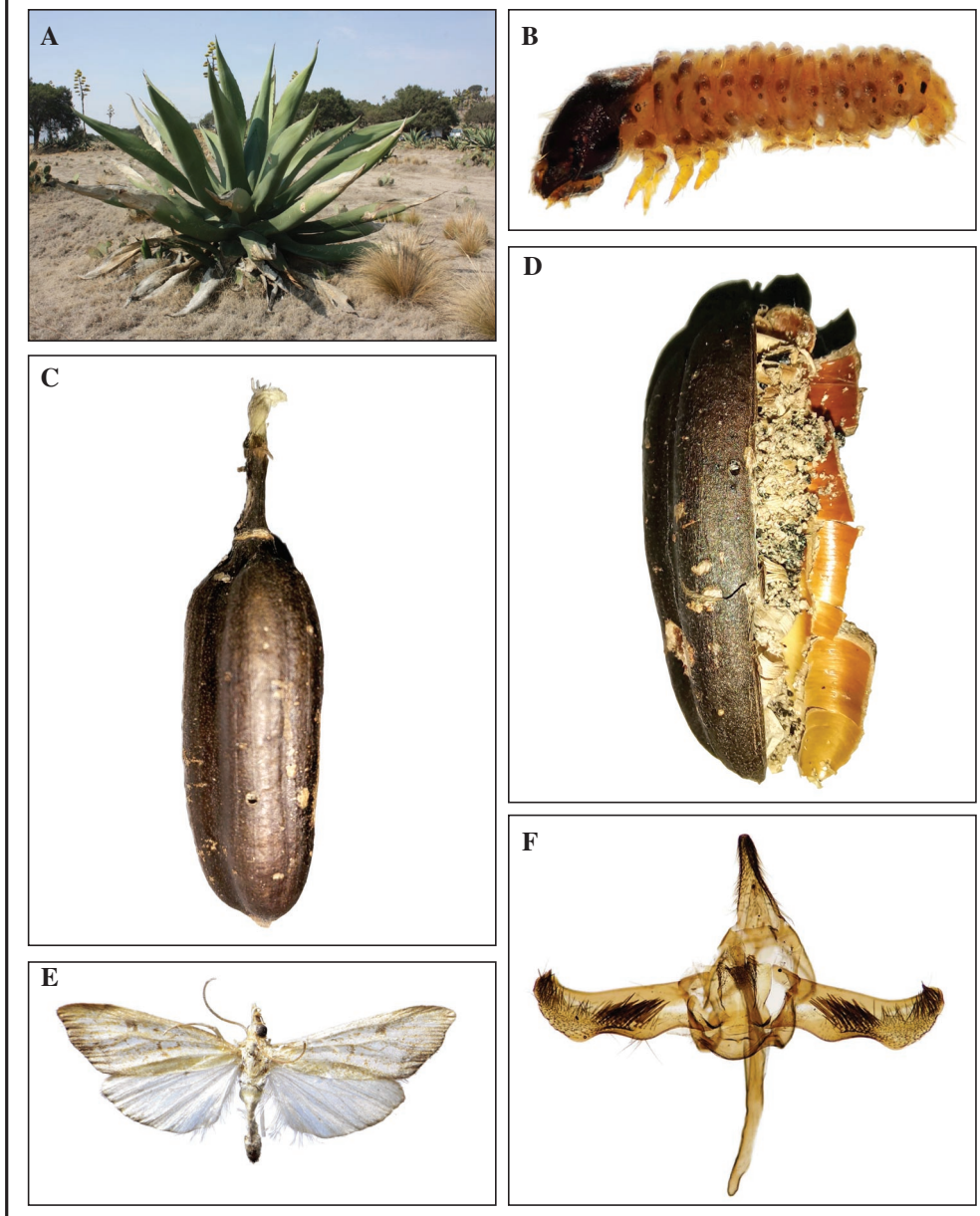

Figure 1. Natural history of *Hydropionea fenestralis* Barnes & McDunnough, 1914 in central Mexico. **A**) Habitat of *H. fenestralis* in *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* culture surrounded by xerophytic shrubland vegetation. **B**). Last instar of immature state of *H. fenestralis.* **C**) Fruit of *A. salmiana* var. *ferox* with small hole damage (arrow) and **D**) Internal damage of the seed of *A. salmiana* var. *ferox* by the larva of *H. fenestralis*. **E**) Dorsal habitus of *H. fenestralis* reared from larva in mature fruits of *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana*. **F**) *H. fenestralis* male genitalia with aedeagus attached.

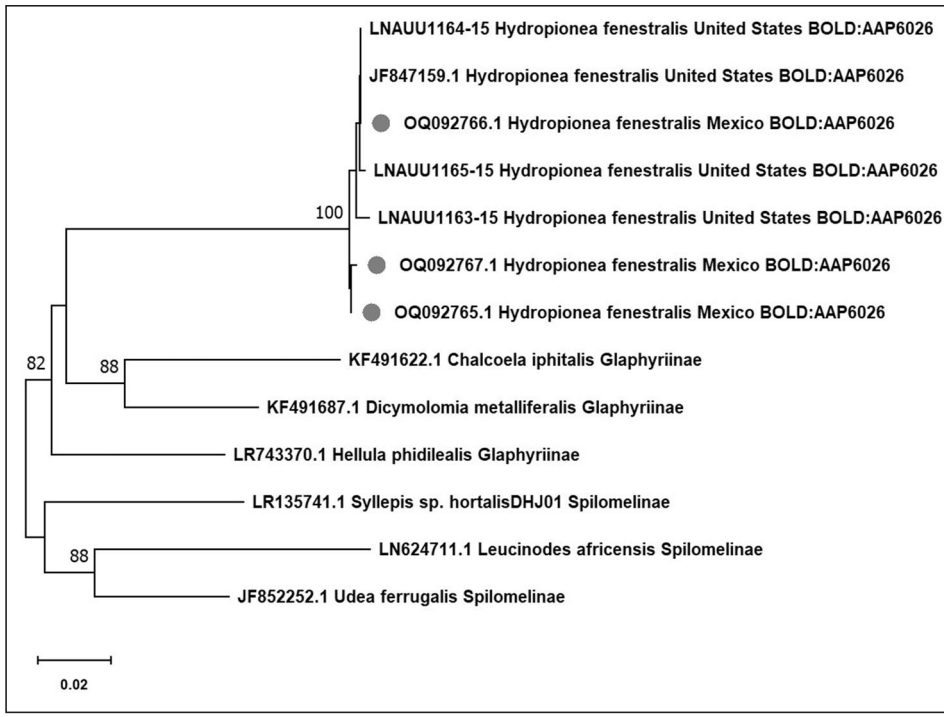

Figure 2. A Neigbor-Joining optimal tree was constructed with Mega 11 using the Kimura 2-parameter base on COI sequences (658 bp) with a gamma distribution using four shape parameters and pairwise deletion option. We used sequences obtained in this study (gray circle) and sequences of the species *Hydropionea fenestralis*, Spilomelinae, and Glaphyriinae subfamilies species from NCBI and BOLD. Bootstrap support values (1000 replications) higher than 70% are shown above the respective branches. *H. fenestralis* sequences include country and Barcode Index Number (BIN) from BOLD system database.

Discussion

We successfully identified the larvae feeding on fruits of *Agave salmiana* variety and subspecies as *Hydropionea fenestralis,* through morphological and DNA barcode analysis. This is the first record of *H. fenestralis* feeding on *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana,* and we also illustrate the last instar of *H. fenestralis* for the first time.

A. salmiana var. *ferox* and *A. salmiana* subsp. *salmiana* are among the main taxa used to produce alcoholic beverages, and the fermenting sap for the beverage called *pulque* is linked to the economy and the culture of the people of the region (Delgado-Lemuset et al. 2014; Trejo et al. 2020). The damage caused by *H. fenestralis* larvae can significantly reduce seed production, as the larvae consume or damage the whole seeds of fruits. The range of fruit damage is from 13.9±19.9% to 33.2±2% for *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* respectably.

Interaction between *H. fenestralis* with *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* could lead to detrimental consequences for both populations. The production of pulque involves harvesting *Agave* plants before they reach maturity (Martínez-Salvador et al. 2015), which might leave *H. fenestralis* larvae without fruits for their development. Conversely, a high population of *H. fenestralis* could reduce the availability of viable seeds in the few *Agave* individuals that can reach

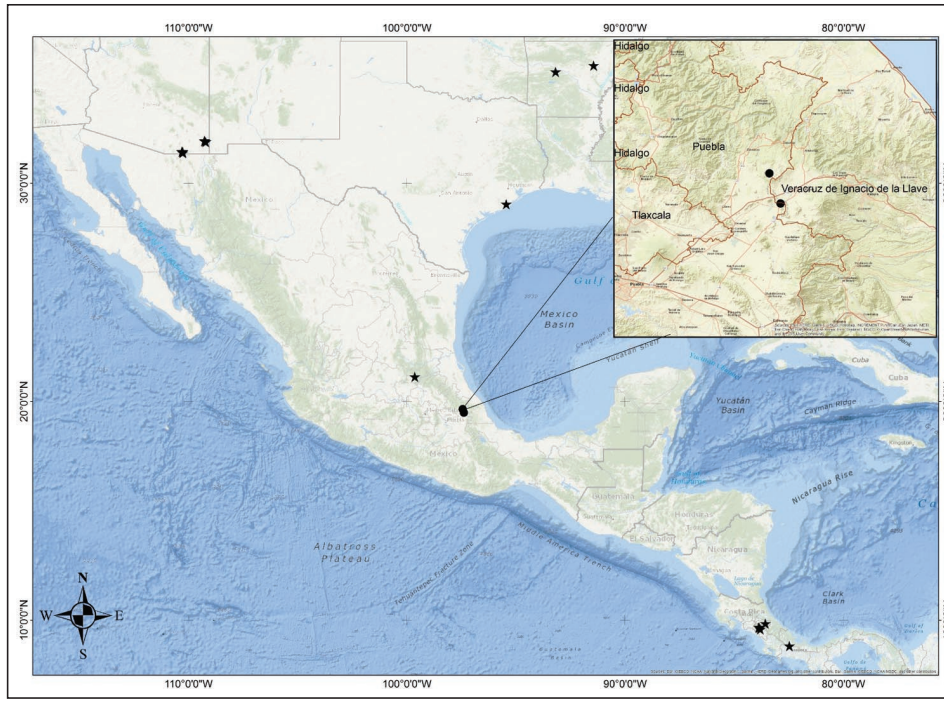

Figure 3. Geographical distribution of *Hydropionea fenestralis*. Previous records (stars), new records (circles).

maturity, thereby further impacting the genetic diversity of cultured variety and subspecies of *Agave* (Rojas et al. 2007; Vasconcelos et al. 2020).

This study is also the first record of a microlepidoptera from the Crambidae family feeding on *Agave* seeds in Mexico (Rodríguez et al. 2019). The *Agave* genus has various associations, both beneficial and detrimental with insects, only Mexico has registered 273 species of insects belonging to 63 families and 7 orders (Rodríguez et al. 2019). Among these species, *Peltophorus adustus* Fall and *Enoclerus zonatus* (Klug) are the only known ones that feed on *Agave* seeds (Figueroa-Castro et al. 2017; Rodriguez et al. 2019).

Our distribution record of *H. fenestralis* extends more than 1200 km from the type locality in Arizona, U.S., and north of Mexico to Puebla y Veracruz states (Barnes & McDunnough, 1914; Scholtens and Solis, 2015). DNA barcode reveals low intraspecific variation with less than 0.07% differences between specimens from Arizona and central Mexico. Additional distribution areas, as documented in the Global Biodiversity Information Facility (GBIF) database (http://www.gbif.org/), included the states of Texas and Arkansas U.S, Queretaro in Mexico, Central America, Costa Rica, and Panama.

The variety and subspecies of *Agave salmiana* grow in wild populations in the states of Durango, Hidalgo, Puebla, Querétaro, and San Luis Potosí and cultivated species extend from Coahuila and Nuevo León, Veracruz to Chiapas (Magallán-Hernández & Hernández-Sandoval, 2000; Reynoso-Santos, 2012). *Hydropionea fenestralis* may occur in the states with wild populations of *A. salmiana* and some cultivation areas for *pulque* production, as in the case of this study. Since *A. salmiana* var. *ferox* and *A. salmiana* subsp. *salmiana* are native to Mexico, *H. fenestralis* it is possible that *H.*

fenestralis might feed on another *Agave* species in the northernmost distribution in Arizona and south in Panama. The distribution of the *Agave* genus spans from the southern U.S. to Colombia, the Caribbean, and Venezuela (García-Mendoza, 2002). However, little is known about the distribution of *H. fenestralis* and further confirmation is needed to establish the specialist association between *H. fenestralis* with *Agave* species.

The only known host plant for the *Hydropionea* genus comes from an undescribed species raised on *C. uniflora*, which is a plant that produces mustard oil, congruent with the phylogenic clade of Glaphyriinae (Janzen & Hallwachs, 2009; Regier et al. 2012; Léger et al. 2021). Interestingly, the genus *Agave,* a monocotyledonous plant of the order Asparagales, does not fit the clade of Brassicales or mustard oil clade (Glaphyriinae sensu lato), where recently the genus *Hydropionea* was transferred (Mally et al. 2019). Glucosinolates are chemical compounds commonly found in Brassicales, that in the presence of myrosinase enzyme result in different hydrolytic products like isothiocyanates (mustard oils), which are essential volatiles in specialized insects that use them as host-finding cues (Hopkins et al. 2009). Although mustard oils are found mainly in the Brassicales clade, other plant species outside of the Brassicales also exhibit mustard oils such as *Drypetes* (Malpighiales: Putranjivaceae), which is the host plant of *Trischistognatha*, a species in the genus within the Glaphyriinae (Soltis & Soltis, 2004; Kala & Khan, 2020; Léger et al. 2021). This led to the suggestion of a host-plant switch from an ancestral Brassicales host plant to *Drypetes* (Léger et al. 2021). However, the occurrence of *H. fenestralis* in *Agave* may suggest a different evolutionary history, as the family Agavaceae and the order Asparagales are not recognized as glucosinolate or isothiocyanate-producing plants (Dahlgren, 1980; Rodman et al. 1998). Further ADN analysis using mitochondrial and nuclear genes will confirm the phylogenetic position of *Hydropionea* genus.

The *Agave* genus is endemic to America, and Mexico has the highest richness with 160 species and 130 endemic species, which represent 76 and 62% of the continental richness (Jimenez-Pérez et al. 2021). Additional investigations are needed targeting fruits of *Agave* species to discover new host plant species and new distribution areas for *H. fenestralis* or related species.

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First record of *Colotis amata* (Fabricius, 1775) in North Africa (Lepidoptera: Pieridae)

Abdelazize F. Bougaham, Abdellah Hadoun, Fayçal Seddiki & Walid Soukkou

Abstract

Colotis amata (Fabricius, 1775) is associated with desert habitats in the Afrotropical and Oriental biogeographic region. There is little information available on the Papilionoidea that live in the Saharan regions, as evidenced by the fact that this species was recently discovered in southern Algeria close to Timiaouine. The expansion of the distribution area towards the North may be explained by the presence of its host plant in this area and in the pattern of distribution of some species.
Keywords: Lepidoptera, Pieridae, *Colotis amata*, distribution range, Algeria.

Primera cita de *Colotis amata* (Fabricius, 1775) en el norte de África (Lepidoptera: Pieridae)

Resumen

Colotis amata (Fabricius, 1775) está asociada a hábitats desérticos en la región biogeográfica Afrotropical y Oriental. Se dispone de poca información sobre los Papilionoidea que viven en las regiones saharianas, como demuestra el hecho de que esta especie se haya descubierto recientemente en el sur de Argelia, cerca de Timiaouine. La expansión del área de distribución hacia el Norte puede explicarse por cambios en las principales rutas migratorias y en el patrón de distribución de algunas especies.
Palabras clave: Lepidoptera, Pieridae, *Colotis amata*, área de distribución, Argelia.

Premier signalement de *Colotis amata* (Fabricius, 1775) en Afrique du Nord (Lepidoptera: Pieridae)

Resumé

Colotis amata (Fabricius, 1775) est associé aux habitats désertiques de la région biogéographique Afrotropical et Oriental. Peu d'informations sont disponibles sur les Papilionoidea qui vivent dans les régions sahariennes, comme en témoigne le fait que cette espèce a été récemment découverte dans le sud de l'Algérie, près de Timiaouine. L'expansion de l'aire de répartition vers le Nord peut s'expliquer par la présence de sa plante hôte dans cette zone et par le schéma de répartition de certaines espèces.
Mots clés: Lepidoptera, Pieridae, *Colotis amata*, aire de distribution, Algérie.

Introduction

The Papilionoidea that inhabit the southern Mediterranean regions, with the exception of the

butterflies of Morocco (Pierre et al. 2008), are poorly studied, despite the fact that various studies on European ones have been carried out (e.g., Lafranchis, 2000; Tolman & Lewington, 2014; De Prins, 2016). Algeria, however, is starting to be an exception, with the regular appearance of publications since 2015 (Remini & Moulai, 2015; Kacha et al. 2017; Berkane et al. 2019, Haddad et al. 2020; Daunicht & Moulai, 2022), especially in the northeast of the country. In fact, remarkable discoveries or rediscoveries are still possible, such as those of *Cydalima perspectalis* (Walker, 1859) (Haddad et al. 2020), *Zygaena theryi* Joannis, 1908 (Daunicht & Moulai, 2022) and *Azanus jesous* (Guérin-Méneville, 1849) (Bougaham et al. 2023). The Saharan region is still largely unknown, with the exception of Speidel & Hassler (1989) study, which described the lepidopterological species in Hoggar and Tassili in Algeria.

The Afrotropical region is the distribution area to the majority of Genus *Colotis* Hübner, [1819]. This genus has 60 species, of which 44 are found in the Afrotropical regions and 11whose biogeographic origins are in the Palearctic and Oriental regions. In North Africa, there are four species (Tennent, 1996), namely *Colotis chrysonome* (Klug, 1829), *Colotis phisadia* (Godart, 1819), *Colotis liagore* (Klug, 1829), and *Colotis evagore* (Klug, 1829), and all four species are present in Algeria. However, *Colotis amata* (Fabricius, 1775) is not cited by Tennent (1996).

On November 2, 2022, at Timiaouine, Hadoun Abdellah photographed a *Colotis amata* (Fabricius, 1775) perched on the *Salvadora persica* L. plant while visiting Bordj Badji Mokhtar region of Southern Algeria (Figure 1). Throughout its distribution range, this species mainly consumes the same plant stated there (Larsen, 2005a). One of us (A. Hadoun) verified the identification after examining the synthesis studies done on butterfly species known from West Africa (Larsen, 2005a), which every time orientated him to *Colotis amata*. The two photos illustrated in Figure 2 (a, b) clearly show the upper side of the male has a salmon pink ground color, with a black spot at apex of cell (Figure 2a). Additionally, the underside of the wings has a greenish-yellow color (Figure 2b). The antennae, head, thorax, and abdomen are black, the antennae speckled with white, the head and thorax are covered with fuscous-green hairs (Figures 2a, b).This species was observed in the village of Tawendert, which is located in the southeast of the commune of Timiaouine (20º23’22.57”N, 2º5’58.74”E, 669 m.). This Saharan area is characterized by the following plants *Salvadora persica*, *Balanites aegyptiaca* (L.) Delile, and *Acacia* sp. (Figure 3). This discovery was made 15 kilometers from the border between Algeria and Mali.

This is the first observation of this species in North Africa, particularly in southern Algeria. It is widely distributed in Afro-tropical areas. In North Africa, the small salmon Arab is not observed, and could be explained by the fact that certain areas of this region, such as the Sahara, are unexplored and that this species has gone unnoticed.

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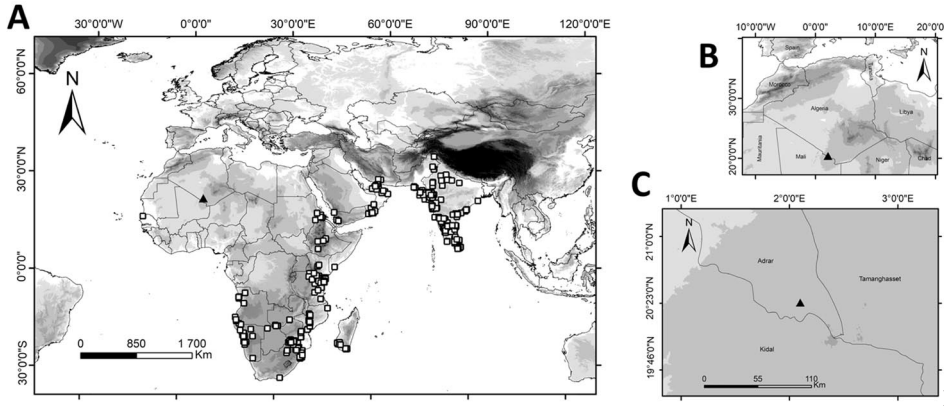

Figures 1-3. 1. *Colotis amata* (Fabricius, 1775) observed on *Salvadora persica* in Algeria. Photos by a. Hadoun. **2.** Distribution Map. **A.** worldwide distribution. **B.** distribution in North Africa. C. its position in Bordj Badji Mokhtar (Algeria). Squares represent occurrences from GBIF, the triangle represents the observation point in Algeria. *Colotis amata* observed in Bordj Badji Mokhtar, Algeria. Photos by A. Hadoun. **3.** *Colotis amata* observation site. Photo by F. Seddiki.

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First record of *Cnephidia serraticornella* (Zeller, 1839) in the Iberian Peninsula (Lepidoptera: Pyralidae, Phycitinae)

Manuel Garre, Rosa María Rubio, Juan José Guerrero,
John Girdley & Antonio S. Ortiz

Abstract

The presence of *Cnephidia serraticornella* (Zeller, 1839) in the Iberian Peninsula is confirmed through a single specimen collected in El Hondo Natural Park to the south of the Alicante province (Spain). This species was found in the lepidopteran collection of Dr J. A. de la Calle kept at the Department of Zoology in Murcia University.
Keywords: Lepidoptera, Pyralidae, Phycitinae, *Cnephidia serraticornella,* species distribution, collection review, Alicante, Spain.

Primera cita de *Cnephidia serraticornella* (Zeller, 1839) en la Península Ibérica (Lepidoptera: Pyralidae, Phycitinae)

Resumen

Se constata la presencia de la especie *Cnephidia serraticornella* (Zeller, 1839) en la Península Ibérica mediante un único ejemplar capturado en el Parque Natural El Hondo, localizado al sur de la provincia de Alicante (España). Este espécimen se encontraba en la colección lepidopterológica del Dr. J. A. de la Calle depositada en el Departamento de Zoología de la Universidad de Murcia.
Palabras clave: Lepidoptera, Pyralidae, Phycitinae, *Cnephidia serraticornella*, distribución, revisión de colección, Alicante, España.

Introduction

During recent studies carried out in the Noctuidae collection of Dr. José A. de la Calle, one specimen belonging to the genus *Cnephidia* Ragonot, 1893 was found.

In Europe, approximately 444 species belonging to the subfamily Phycitinae Zeller, 1839 are known of which 218 have been cited in the Iberian Peninsula (Vives Moreno 2014). *Cnephidia serraticornella* was described by Zeller (1839) as *Nephopterix serraticornella*, probably from southern Europe. The species has been assigned to different genera such as *Serrulacera* Amsel, 1955 (Amsel 1955), *Insalebria* Filipjev, 1924 (Leraut, 2014), and later, Slamka (2019) transferred it to the genus *Cnephidia* Ragonot, 1893. The nominal subspecies is distributed throughout the Balkan Peninsula, Slovakia, Hungary, Ukraine, Russia, Turkey, Syria, Iran, and part of Central Asia (Leraut 2014; Slamka 2019), while *C. serraticornella rungsella* (Lucas, 1942) is distributed in Morocco and *C. serraticornella kairouanensis* (Leraut, 2003) in Algeria and Tunisia (Leraut 2014; Slamka 2019).

In this paper, we recorded the first locality in the Iberian Peninsula providing its habitat features in southwestern Europe.

Material and Methods

The specimen was examined externally to evaluate possible differences in its coloration and wing shape and was dissected using standard procedures (Hausmann 2001) with minor modifications. The female adult image (Figure 1A) was taken with a Nikon D70 digital camera and z-stacked using the software Zerene. Female morphology of genital structures (Figure 1B) was studied using a Zeiss Stemi 508 stereomicroscope with a Zeiss Axiocam ICc5 digital camera. The specimen is deposited in the Research Collection of Animal Biology (RCBA-UMU) in the Department of Zoology and Physical Anthropology of Universidad de Murcia (Spain) where the lepidopteran collection of Dr J. A. de la Calle is stored.

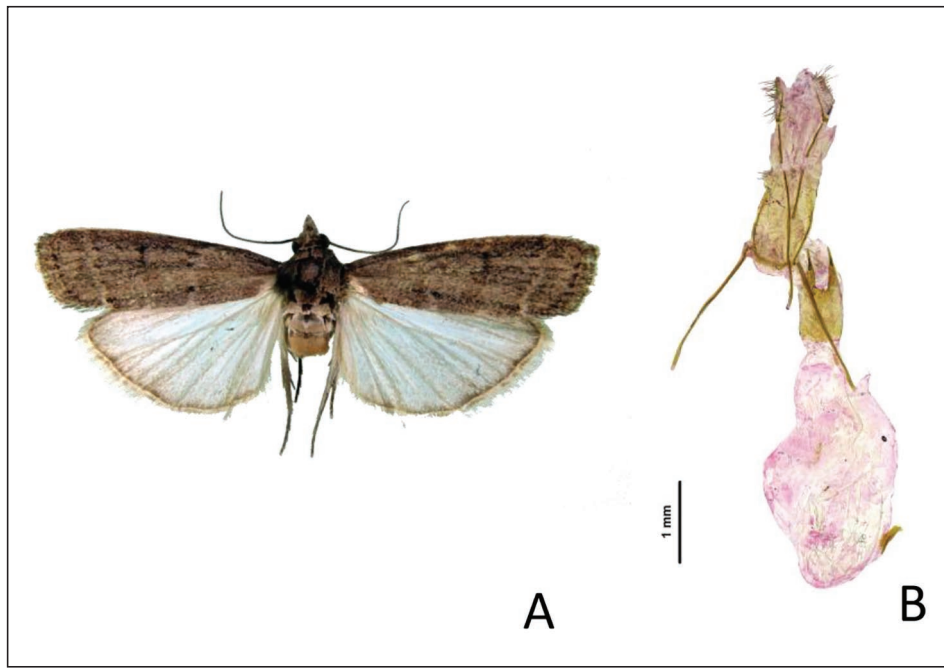

Figure 1. A. Female specimen of *Cnephidia serraticornella.* **B**. Female genitalia.

Results and Discussion

Specimen examined labeled as: SPAIN, Alicante, Elche, P.[antano] del Hondo, 5 m, 30SXH92, 1 ♀, 27-IX-1983, leg. J. A. de la Calle.

The wing pattern and morphology of the female genitalia of the specimen collected in the Alicante province match that illustrated in Leraut (2014) and Slamka (2019) (Figure 1). Female wingspan 28 mm. Forewings are beige, and lines and spots are barely visible. Antemedial line poorly defined, lighter than the background color and marked with two darker points. Postmedial line is also inconspicuous and serrated. Spots are dark, although poorly differentiated. Hindwings are whitish.

The specimen is differentiated from the subspecies *C. serraticornella rungsella* which is characterized by the bright orange-brown forewings, while that is similar to the subspecies *C.*

serraticornella kairouanensis that has light buff-brown forewings. However, Slamka (2019) considers these subspecies as forms of the typonominal species.

The specimen has been identified with a label that reads "Elche 8 km cerca del P.[antano] del Hondo, Alicante, 27-9-1983" ("Elche 8 km near the lagoon of El Hondo, Alicante, 9-27-1983"). After 40 years since its capture, it has not been possible to accurately determine the sampling station, although the surroundings of the lagoon are characterized by the presence of open spaces that are dry enough for the installation of the 125W mercury vapor lamp with which Dr. de la Calle usually worked. In the same entomological box, a female of the crambid *Agriphila tersella* (Lederer, 1855) labeled from the same locality was found. This species is known to fly in saline areas (Slamka 2008; Leraut 2012) like those surrounding the study area.

The El Hondo Natural Park, in the municipality of Elche, is located in the Bajo Vinalopó region in the south of the province of Alicante. The original wetland of the El Hondo lagoon occupied an alluvial plain into which the Vinalopó River and all the surrounding ravines flow, forming a large swampy area isolated from the Mediterranean Sea. In the 1940s, this wetland was converted into a regulatory reservoir to serve the extensive agricultural areas that surround it. The vegetation that colonizes the El Hondo lagoon is conditioned by the humidity and salinity of the soil. The permanent bodies of water, fresh or brackish, occupy a significant area of the park and are bordered by large expanses of reeds (*Phragmites australis* (Cav.) Trin. and *Bolboschoenus maritimus* (L.) Palla) and cattails (*Typha* spp.). The halophilic communities that thrive in soils with high concentrations of salt, highlighting the plants of the genera *Suaeda, Salicornia, Halocnemom, Polygonum, Limonium*, etc. are also important. The plant mosaic is completed, but with a residual character, by hygrophilous meadows, wastelands, reed beds of *Arundo donax* L. and introduced tree species such as palm (*Phoenix* sp.) and eucalyptus (*Eucalyptus* sp.).

The immature stages are unknown, and imagoes have been captured in steppe habitats flying between the months of March and September (Slamka 2019).

The study area has been sampled on the dates on which the specimen was captured without success, so it is not possible to offer information on the current situation of the species in study area.

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Agrotis endogaea punica Pinker, 1980 a new Noctuidae for Malta, including an updated Noctuoidea checklist for the Maltese Islands (Lepidoptera: Noctuidae)

Jonathan Agius

Abstract

Agrotis endogaea punica Pinker, 1980 is reported for the first time from Europe and the Maltese Islands. Notes on the distribution and habitat of the adult are included. A Maltese name is proposed for this new record.
Keywords: Lepidoptera, Noctuidae, Noctuinae, *Agrotis endogaea punica*, new record, Maltese Islands.

Agrotis endogaea punica **Pinker, 1980 un nuevo Noctuidae para Malta, incluyendo una lista actualizada de Noctuoidea para Malta (Lepidoptera: Noctuidae)**

Resumen

Agrotis endogaea punica Pinker, 1980 se cita por primera vez en Europa y en Malta. Se incluyen notas sobre la distribución y el hábitat del adulto. Se propone un nombre maltés para este nuevo registro.
Palabras clave: Lepidoptera, Noctuidae, Noctuinae, *Agrotis endogaea punica*, nuevo registro, Malta.

Introduction

The genus *Agrotis* Ochsenheimer, 1816 exhibits a global distribution spanning all biogeographical regions with 80 species recorded from the Palearctic region (Fibiger, 1990), 32 of which being present in Europe (Fibiger, 1990). In the Maltese Islands a total of 10 *Agrotis* species have been recorded so far with *Agrotis obesa* (Boisduval, 1829) and *Agrotis exclamationis* (Linnaeus, 1758) have been mentioned but not officially recorded (Sammut, 2000) leading to the assumption that these mentions were likely due to a mix-up with *Agrotis lata* Treitschke, 1835 and *Agrotis trux* (Hübner, [1824]) respectively owing to their striking similarities. Additionally, a specimen of *Euxoa canariensis mauretanica* (Bang-Haas, 1910) has been inaccurately recorded by the author as *Agrotis desertorum* Boisduval, 1840.

Typically, *Agrotis* species are characterized by a strongly or moderately bipectinate antennae in males and their capability to cover long distances during flight. In common parlance, the larvae of *Agrotis* species are often referred to as cutworms because some of these species are significant agricultural pests. Their larvae have a habit of concealing themselves during daylight hours and emerging at night to feed. The name “cutworm” alludes to the larvae’s tendency to cut down and partially consume garden and crop plants, as noted by Smit in 1964.

The larvae of *Agrotis endogaea punica* Pinker, 1980, have been observed feeding on *Genista* and *Melandrum* sp. in Tunisia. As for the adult moths, they are typically in flight from September to

October, with occasional sightings in May. Their preferred habitat consists of sandhills with sparse vegetation.

The nominate subspecies is distributed throughout Corsica and Sardegna whilst *A. e. graeca* Fibiger, 1997 is found in Greece. *Agrotis endogaea punica* Pinker, 1980 appears to be confined to Tunisia (Fibiger, 1990) however on the 12-IX-2002, a male specimen was recorded from Pachino in Sicily (Bella & Fibiger, 2009) which is in the southernmost tip of the island and consequently, there is a valid basis to assume that this specimen belongs to *Agrotis endogaea punica* Pinker, 1980. Outside the Mediterranean region, this species can also be found in the Canary Islands.

Material Studied

MALTA, Zurrieq, 1 ♂, 17-XI-2022 at 250W MV light, coll & leg. J. Agius.

Discussion

The arrival of North African species during mid-autumn is always associated with southern winds (Agius, 2022). In fact, over the years some interesting North African species have been recorded together such as *Euxoa capsensis* Chrétien, 1911, *Scythocentropus inquinata* (Mabille, 1888), *Cucullia biskrana* (Oberthür, 1918), *Cucullia syrtana* (Mabille, 1888), *Agrotis catalaunensis* (Millière, 1873), *Agrotis haifae* Staudinger, 1897 and *Agrotis herzogi* Rebel, 1911 amongst others.

With the addition of *Agrotis endogaea punica* Pinker, 1980 to the Maltese lepidopterofauna, the total Noctuoidea Latreille,1809 species correctly recorded from Malta as at the 30-X-2023 are 178 species.

The 178 confirmed Noctuoidea Latreille,1809 species sorted by the phylogenetic relationships among the noctuid lineages confirmed from the Maltese Islands are as follows:

Superfamily Noctuoidea Latreille,1809
- Family Nolidae Bruand, 184
  - Subfamily Nolinae Bruand, 1847
    - *Nola chlamitulalis* (Hübner, [1813])
  - Subfamily Chloephorinae Stainton, 1859
    - *Earias insulana* (Boisduval, 1833)
    - *Garella nilotica* (Rogenhofer, 1882)
    - *Xanthodes albago* (Fabricius, 1794)
- Family Erebidae Leach, 1815
  - Subfamily Rivulinae Grote, 1895
    - *Zebeeba falsalis* (Herrich-Schäffer, 1839)
  - Subfamily Hypeninae Herrich-Schäffer, [1851]
    - *Hypena lividalis* (Hübner, 1790)
    - *Hypena obsitalis* (Hübner, [1813])
  - Subfamily Lymantriinae Hampson, 1893
    - *Casama innotata* (Walker, 1855)
    - *Euproctis chrysorrhoea* (Linnaeus, 1758)
    - *Lymantria dispar* (Linnaeus, 1758)
    - *Ocneria atlantica* (Rambur, 1837)
    - *Orgyia trigotephras* Boisduval, [1828]
  - Subfamily Arctiinae Leach, 1815
    - *Arctia konewkaii* (Freyer, [1831])
    - *Cymbalophora pudica* (Esper, [1785]
    - *Dysauxes famula* (Freyer, [1836])
    - *Eilema caniola* (Hübner, [1808])
    - *Eilema marcida* (Mann, 1859)
    - *Eilema rungsi* (Toulgöet, 1960)
    - *Hyphantria cunea* (Drury, 1773)
    - *Lithosia quadra* (Linnaeus, 1758)
    - *Phragmatobia fuliginosa melitensis* Bang-Haas, 1927
    - *Utetheisa pulchella* (Linnaeus, 1758)
  - Subfamily Herminiinae Leach, [1815]
    - *Nodaria nodosalis* (Herrich-Schäffer, [1851])
    - *Polypogon plumigeralis* (Hübner, [1825])
  - Subfamily Toxocampinae Guenée, 1852
    - *Anumeta hilgerti* (Rothschild, 1909)
    - *Autophila dilucida* (Hübner, [1808])
    - *Autophila maura* (Staudinger, 1888)
    - *Autophila rosea* (Staudinger, 1888)
    - *Tathorhynchus exsiccata* (Lederer, 1855)
  - Subfamily Hypenodinae Forbes, 1954
    - *Schrankia costaestrigalis* (Stephens, 1834)
  - Subfamily Boletobiinae Guenée, [1858]
    - *Araeopteron ecphaea* (Hampson, 1914)
    - *Eublemma cochylioides* (Guenée, 1852)
    - *Eublemma deleta* (Staudinger, 1901)
    - *Eublemma deserta* (Staudinger, 1900)
    - *Eublemma ostrina* (Hübner, [1808])
    - *Eublemma parva* (Hübner, [1808])
    - *Eublemma scitula* (Rambur, 1833)
    - *Metachrostis velocior* (Staudinger, 1892)

Metachrostis velox (Hübner,
Odice pergrata (Rambur, 1858)
Odice suava (Hübner, [1813])
Subfamily Erebinae Leach, [1815]
Drasteria philippina (Austaut, 1880)
Pandesma robusta (Walker, [1858])
Subfamily Catocalinae Boisduval, 1828
Catocala coniuncta (Esper, [1787])
Catocala elocata (Esper, [1787])
Catocala nymphaea (Esper, [1787])
Catocala nymphagoga (Esper, [1787])
Cerocala algiriae Oberthür, 1876
Clytie illunaris (Hübner, [1813])
Clytie sancta (Staudinger, 1898)
Dysgonia algira (Linnaeus, 1767)
Dysgonia torrida (Guenée, 1852)
Grammodes bifasciata (Petagna, 1786)
Grammodes stolida (Fabricius, 1775)
Heteropalpia acrosticta (Püngeler, 1904)
Ophiusa tirhaca (Cramer, [1777])
Family Euteliidae Grote, 1882
Subfamily Euteliinae Grote, 1882
Eutelia adulatrix (Hübner, [1813])
Family Noctuidae Latreille,1809
Subfamily Plusiinae Boisduval, 1829
Abrostola triplasia (Linnaeus, 1758)
Autographa gamma (Linnaeus, 1758)
Chrysodeixis chalcites (Esper, 1789)
Cornutiplusia circumflexa (Linnaeus, 1758)
Ctenoplusia accentifera (Lefèbvre, 1827)
Thysanoplusia circumscripta (Freyer, 1831)
Thysanoplusia daubei (Boisduval, 1840)
Thysanoplusia orichalcea (Fabricius, 1775)
Trichoplusia ni (Hübner, [1803])
Subfamily Pantheinae Smith, 1898
Chloantha hyperici ([Denis & Schiffermüller], 1775)
Subfamily Dilobinae Aurivillius, 1889
Diloba caeruleocephala (Linnaeus, 1758)
Subfamily Metoponiinae Herrich-Schäffer, 1851
Aegle semicana (Esper, [1798])
Synthymia fixa (Fabricius, 1787)
Tyta luctuosa ([Denis & Schiffermüller], 1775)
Subfamily Eustrotiinae Grote, 1882
Pseudozarba bipartita (Herrich-Schäffer, [1850])
Subfamily Acontiinae Guenée, 1841
Acontia lucida (Hufnagel, 1766)
Acontia trabealis (Scopoli, 1763)
Aedia leucomelas (Linnaeus, 1758)
Subfamily Cuculliinae Herrich-Schäffer, 1850
Cucullia biskrana (Oberthür, 1918)
Cucullia calendulae (Treitschke, 1835)

Cucullia lychnitis (Rambur, 1833)
Cucullia syrtana (Mabille, 1888)
Cucullia thapsiphaga Treitschke, 1826
Cucullia verbasci (Linnaeus, 1758)
Subfamily Oncocnemidinae Forbes & Franclemont, 1954
Calophasia platyptera (Esper, 1788)
Cleonymia chabordis (Oberthür, 1876)
Rhabinopteryx subtilis (Mabille, 1888)
Subfamily Amphipyrinae Guenée, 1838
Amphipyra tragopoginis (Clerck, 1759)
Subfamily Psaphidinae Grote, 1896
Valeria oleagina ([Denis & Schiffermüller], 1775)
Subfamily Heliothinae Boisduval, 1829
Helicoverpa armigera (Hübner, [1808])
Heliothis nubigera Herrich-Schäffer, [1851]
Heliothis peltigera (Denis & Schiffermüller, 1775)
Protoschinia scutosa ([Denis & Schiffermüller], 1775)
Subfamily Condicinae Poole, 1995
Condica viscosa (Freyer, [1831])
Subfamily Eriopinae Herrich-Schäffer, 1851
Callopistria latreillei (Duponchel, [1828])
Subfamily Bryophilinae Guenée, 1852
Bryophila raptricula ([Denis & Schiffermüller], 1775)
Bryopsis segunai (Fibiger, Steiner & Ronkay, 2009)
Cryphia algae (Fabricius, 1775)
Cryphia pallida (Bethune-Baker, 1894)
Subfamily Xyleninae Guenée, 1852
Agrochola lychnidis ([Denis & Schiffermüller], 1775)
Agrochola ruticilla (Esper, 1791)
Aporophyla canescens (Duponchel, [1827])
Aporophyla chioleuca sammuti Fibiger, Yela, Zilli & Ronkay, 2010
Aporophyla nigra (Haworth, 1809)
Aporophyla nigra cinerea (Staudinger, 1901)
Athetis hospes (Freyer, [1831])
Caradrina clavipalpis (Scopoli, 1763)
Caradrina flava Oberthür, 1876
Caradrina flavirena Guenée, 1852
Caradrina germainii (Duponchel, 1835)
Caradrina proxima Rambur, 1837
Caradrina selini djebli Rungs, 1972
Caradrina vicina castrensis Berio, 1981
Denticucullus pygmina (Haworth, 1809)
Dryobotodes tenebrosa (Esper, 1789)
Episema grueneri Boisduval, 1837
Eremohadena roseonitens (Oberthür, 1887)
Eremopola lenis magnifica (Rothschild, 1914)
Gortyna xanthenes (Germer, 1842)
Hoplodrina ambigua ([Denis & Schiffermüller], 1775)
Luperina dumerilii (Duponchel, [1827])
Mesapamea secalella Remm, 1983
Mniotype deluccai (Berio, 1976)

Mormo maura (Linnaeus, 1758)
Nonagria typhae (Thunberg, 1784)
Oria musculosa (Hübner, [1808])
Phlogophora meticulosa (Linnaeus, 1758)
Scythocentropus inquinata (Mabille, 1888)
Sesamia cretica Lederer, 1857
Sesamia nonagrioides (Lefèbvre, 1827)
Spodoptera cilium Guenée, 1852
Spodoptera exigua (Hübner, [1808])
Spodoptera littoralis (Boisduval, 1833)
Thalpophila vitalba (Freyer, [1834])
Xylena exsoleta maltensis Fibiger, Sammut, Seguna & Catania, 2006

Subfamily Hadeninae Guenée, 1837

Anarta deserticola (Hampson, 1905)
Anarta sabulorum pulverata (Bang-Haas, 1907)
Anarta trifolii (Hufnagel, 1766)
Brithys crini (Fabricius, 1775)
Hadena capsincola ([Denis & Schiffermüller], 1775)
Hadena sancta trisagittata (Rothschild, 1914)
Hecatera weissi (Draudt, 1934)
Lacanobia oleracea (Linnaeus, 1758)
Leucania loreyi (Duponchel, 1827)
Leucania punctosa (Treitschke, 1825)
Leucania putrescens vallettai Boursin 1952
Leucania zeae (Duponchel, [1828])
Luteohadena luteago ([Denis & Schiffermüller], 1775)
Mamestra brassicae (Linnaeus, 1758)
Mythimna albipuncta ([Denis & Schiffermüller], 1775)
Mythimna l-album (Linnaeus, 1767)
Mythimna languida (Walker, 1858)
Mythimna prominens (Walker, 1856)
Mythimna sicula (Treitschke, 1835)
Mythimna umbrigera (Saalmüller, 1891)
Mythimna unipuncta (Haworth, 1809)
Mythimna vitellina (Hübner, [1808])

Subfamily Noctuinae Latreille, 1809

Agrotis catalaunensis (Millière, 1873)
Agrotis endogaea punica Pinker, 1980
Agrotis haifae Staudinger, 1897
Agrotis herzogi Rebel, 1911
Agrotis ipsilon (Hufnagel, 1766)
Agrotis lasserrei (Oberthür, 1881)
Agrotis lata Treitschke, 1835
Agrotis puta (Hübner, [1803])
Agrotis segetum ([Denis & Schiffermüller], 1775)
Agrotis spinifera (Hübner, [1808])
Agrotis trux (Hübner, [1824])
Axylia putris (Linnaeus, 1761)
Cerastis faceta (Treitschke, 1835)
Euxoa canariensis mauretanica (Bang-Haas, 1910)
Euxoa capsensis Chrétien, 1911

Euxoa distinguenda (Lederer, 1857)
Noctua comes Hübner, [1813]
Noctua janthe (Borkhausen, 1792)
Noctua pronuba (Linnaeus, 1758)
Noctua tirrenica Biebinger, Speidel & Hanigk, 1983
Ochropleura leucogaster (Freyer, [1831])
Peridroma saucia (Hübner, [1808])
Xestia c-nigrum (Linnaeus, 1758)
Xestia xanthographa ([Denis & Schiffermüller], 1775)

Conclusion

The species is new to the Maltese lepidopterofauna. The author proposes the Maltese name Agrotis tat-Tuneżija, after the country from where the female holotype to describe the subspecies was collected.

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COMITÉ PARA LA PROTECCIÓN DE LA NATURALEZA, PROYECTO DE INVESTIGACIÓN CIENTÍFICA DE SHILAP / *COMMITTEE FOR THE PROTECTION OF NATURE, SHILAP SCIENTIFIC RESEARCH PROJECT*

Solicitud de autorización para recoger Lepidoptera con fines científicos en España

Las solicitudes cumplirán las siguientes condiciones:

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Applications must abide by the following conditions:

1.– The Society's annual fee must be paid before applying for the permits.

2.– To send an electronic mail the General Secretary of SHILAP, with all the personal data, including name, surname, address, ID card number or Passport number, telephone number (with country code and prefix) and electronic mail address. These data must reach the General Secretary at least 45 days in advance of the foreseen collecting activity.

3.– The collecting area to be visited by the applicant should also be detailed (province and/or region), expected dates (days, months, or the whole year), collecting method (entomological net, generator, etc.), taxonomical groups of interest to be collected (species, genera, families and/or superfamilies); any other data the applicant wishes to add.

4.– All members of SHILAP who apply for these permits to collect Lepidoptera in Spain with scientific purposes, will be included in the Scientific Research Project created by the Society and called: *"Lepidopterological Fauna of the Iberian Peninsula, Balearic Islands and Macaronesian region"*.

5.– In order to contribute to this Scientific Project, it is requested to send to SHILAP, **either a copy by electronic mail (e-mail), with the listing of materials collected in EXCEL** (- only in this format, please), indicating the Family, Subfamily, Tribe, name of the species (genera, species, author's name and year), town, UTM (1 X 1) or GPS coordinates, province, dates of capture, collector and numbers of males and females captured (**only 5 specimens per taxon and locality, maximum**). Please, use only the *"Catálogo sistemático y sinonímico de los Lepidoptera de la Península Ibérica, de Ceuta, de Melilla y de las islas Azores, Baleares, Canarias, Madeira y Salvajes (Insecta: Lepidoptera)* (A. VIVES MORENO, 2014)". This list is necessary for this Scientific Project of SHILAP and for new authorizations.

6.– It's obligatory to publish in *SHILAP Revista de lepidopterología*, the new species or subspecies that are discovered and to remit to SHILAP **a part of the TYPE material**, for later incorporation into the Lepidoptera Collection of the National Museum Natural Sciences, Madrid, Spain.

7.– All members are kindly reminded of the obligation to be duly authorized for collecting Lepidoptera, with scientific purposes, in Spain and that it is forbidden all type of commercial activity, with the captured material.

8.– To know about the scientific aims of SHILAP and to commit to pay the expenses of participation in this Scientific Project, that the Board of Directors considers at any given moment.

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A new record of the genus *Pelochrista* Lederer, 1859 from Türkiye (Lepidoptera: Tortricidae)

Kesran Akın & Erdem Seven

Abstract

Tortricidae is a big family over 11,000 described species. The large flat papilla anales on the female genitalia are the only known apomorphic characteristic of the family. In this study, *Pelochrista huebneriana* (Lienig, 1846, *in* Lienig & Zeller, 1846) is recorded from Türkiye for the first time. Thus, a contribution was made to the distribution of the species. In addition to the adult individual of the species, a male genital photograph is included.
Keywords: Lepidoptera, Tortricidae, *Pelochrista huebneriana*, new record, Türkiye.

Un nuevo registro del género *Pelochrista* Lederer, 1859 de Turquía (Lepidoptera: Tortricidae)

Resumen

Tortricidae es una gran familia con más de 11.000 especies descritas. Las grandes papilas anales planas de la genitalia de la hembra son la única característica apomórfica conocida de la familia. En este estudio, *Pelochrista huebneriana* (Lienig, 1846, *in* Lienig & Zeller) se registra por primera vez en Turquía. De este modo, se hizo una contribución a la distribución de la especie. Además del individuo adulto de la especie, se incluye una fotografía de la genitalia del macho.
Palabras clave: Lepidoptera, Tortricidae, *Pelochrista huebneriana*, nuevo registro, Turquía.

Introduction

Tortricidae family has approximately 11,365 species worldwide, consisting of 22 tribes within 3 subfamilies (Chlidanotinae, Olethreutinae and Tortricinae) (Huang et al. 2023). This family includes many species that are economically harmful. Tortricidae are also notable for their use as biological agents and in genetic, evolutionary and pheromone studies (Regier et al. 2012). Although many family-specific morphological characters have been described, the only known apomorphic character is the large flat papilla anales on the female genitalia (Horak, 1999). In the first detailed molecular phylogenetic study of Tortricidae, Reiger et al. (2012) reported that the taxa Tortricinae and Olethreutinae are strongly monophyletic and are also sister groups, while the subfamily Chlidanotinae contains the earliest diverging tortricid lineages. Horak (1999) mentioned the following characters for the Olethreutinae subfamily in the key he created for the subfamilies within the Tortricidae family: Antennae are mostly short-ciliated and bear a ring of scales on each segment; juxta, caulis and aedeagus are fused in the male genitalia; sterigma is not connected to the anterior apophyses in the female genitalia and cubital pecten is usually visible.

Koçak & Kemal (2018) listed 507 taxa (505 species, 2 genera) belonging to the Tortricidae family from Türkiye. Kemal et al. (2019) added the species *Eana andreana* (Kennel, 1919) to the fauna of

Türkiye. Then, in 2020, Kemal & Koçak (2020) described a new species (*Thiodia uyghurica*) in the Tortricidae. In this case, the number of Tortricidae species can be expressed as 507 in Türkiye.

In this study, a new species *Pelochrista huebneriana* (Lienig, 1846 *in* Lienig & Zeller) is recorded for Tortricidae in the Turkish fauna.

Material and methods

The available material was collected from Central Anatolia of Türkiye, Sivas prov., in 2015. The sample was caught by UV light traps and equipment that consisted of UV LED strip lights, 12 volts and 7 ampere battery, killing bottle (ethyl acetate) and a funnel box. The trap was positioned at the trapping sites before sunset and were taken back in the early hours of the morning. After killing the specimen with ethyl acetate, it was pinned and labelled. Specimen was identified according to their external characters and genital structure. Genital dissection was performed following Robinson (1976). Approximately 10% potassium hydroxide (KOH) was used to macerate the entire abdomen. The cleaned abdominal segments and genital organs were dehydrated overnight in 96% ethanol before mounting on Euparal. Adult specimen of the species was photographed with a Nikon D7100 camera, and the genitalia of male was dissected and prepared under a Leica S8APO stereo microscope by the first author. The material was stored in the Zoology Research Laboratory of Bitlis Eren University.

Results

Family Tortricidae Latreille, 1803
Subfamily Olethreutinae Walsingham, 1895
Tribus Eucosmini Meyrick, 1909

Genus *Pelochrista* Lederer, 1859
Pelochrista Lederer, 1859, *Wien. ent. Monats., 3*, 331
= *Callimosema* Clemens, 1865; *Eucosmoides* Obraztsov, 1946; *Pseudeucosma* Obraztsov, 1946; *Pygolopha* Lederer, 1859 (Gilligan et al. 2013).

Pelochrista larvae, most of the species of which are distributed in the Holoarctic region, feed commonly on species belonging to the Asteraceae family (Gilligan et al. 2013). Koçak & Kemal (2006) listed 84 species belonging to this genus. Later, Gilliagan & Wright (2013) presented a total of 311 taxa, 85 of which were synonyms. In "Tortricid.net", an important online platform for Tortricidae, there are 341 names in the genus *Pelochrista* (Gilligan et al. 2018). Koçak & Kemal (2018) mentioned 12 species concerning *Pelochrista* genus in Türkiye. These are; *Pelochrista agrestana* (Treitschke, 1830); *P. arabescana* (Eversmann, 1844); *P. caecimaculana* (Hübner, [1799]); *P. dagestana* Obraztsov, 1949; *P. griseolana* (Zeller, 1847); *P. hepatariana* (Herrich-Schäffer, [1851]); *P. infidana* (Hübner, [1824]); *P. invisitana* Kuznetsov, 1986; *P. labyrinthicana* (Christoph, 1872); *P. medullana* (Staudinger, 1880); *P. modicana* (Zeller, 1847) and *P. praefractana* (Kennel, 1901). The type locality of two of these species (*P. invisitana* (type loc.: Mardin), *P. medullana* (type loc.: İzmir)) is Türkiye (Gilliagan & Wright, 2013). The species *Pelochrista praefractana* listed by Koçak & Kemal (2018) was described by Kennel in 1901 in the genus *Epiblema* based on 1 female specimen in Staudinger's collection. The type locality was stated as "Itmasia". Gilliagan & Wright (2013) presented the species *P. praefractana* Kennel, 1901 under the title "Eucosmini unplaced" in their catalog of the genera *Eucopina*, *Eucosma*, *Pelochrista*, *Phaneta* and gave the type locality as Russia: Amasia. LEPIFORUM e. V. (2024) stated that the type locality of this species was mistakenly written as "Itmasia" and the correct one is Amasya and presented the species in the genus *Epiblema*. This species is currently included in the genus *Epiblema* in "Fauna Europaea" (De Jong, 2016).

Pelochrista huebneriana (Lienig, 1846 *in* Lienig & Zeller) (Figure 1)
Paedisca huebneriana Lienig, 1846 *in* Lienig & Zeller. *Isis von Oken, 1846*(3), 237-238

LT: [LATVIA, Livlandia (East Balticum).
= *Grapholitha chanana* Staudinger, 1900. *Dt. ent. Iris, 12*, 349

Material: 1 ♂ Türkiye, Sivas province, Mescidli village, 08-IX-2015. leg. Akın & Seven.

Distribution: China, Mongolia, Kazakhstan, Sweden, Finland, the Baltics, Poland, Russia, Slovakia, Austria, and Türkiye (this study) (Razowski, 2003; Kopp & Brägger, 2017).

Considering European countries in the distribution of the species, the record in Türkiye constitutes the southernmost record in the distribution of the species.

Host-plant: Unknown, but as mentioned above, larvae of most species of this genus feed on Asteraceae plants.

Diagnosis: In the identification of the species, the dorso-postbasal blotch and the subtornal blotch on the forewing of the adult stand out. In the male genitalia, the shape of the cucullus and the spine it bears, the shape of the sacculus and the basal cavity are prominent.

As a result of this study, *Pelochrista huebneriana* (Lienig, 1846 *in* Lienig & Zeller) is presented as a new record for the Tortricidae fauna of Türkiye. According to the literature evaluated above, the species *P. praefractana* (Kennel, 1901), which is included in the genus *Pelochrista* in the Lepidoptera list of Türkiye, should be included in the genus *Epiblema*. Together with the new record of *P. huebneriana* (Lienig, 1846 *in* Lienig & Zeller), the number of *Pelochrista* species in Türkiye should be considered as twelve.

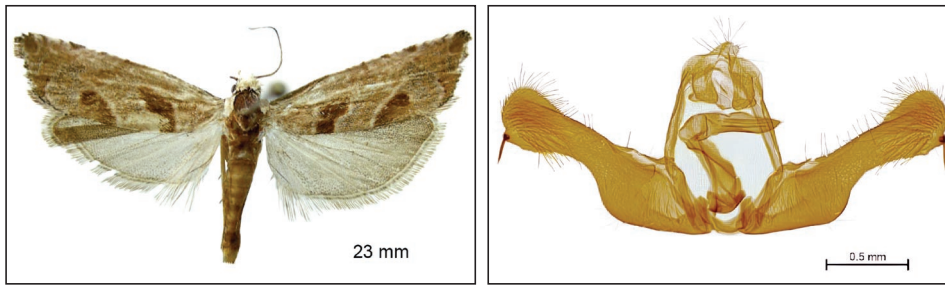

Figure 1. *Pelochrista huebneriana*, left: Adult, right: male genital (G.P. 394 K. Akın).

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Lepidoptera collected in southern and southwestern Mongolia during expeditions in Mongolian Altai and Gobi Altai in 2022-2023 (Lepidoptera: Bombycoidea, Noctuoidea)

Ilya A. Makhov, Alexej Yu. Matov &Vladimir A. Lukhtanov

Abstract

A brief historical outline of lepidopterological research in Mongolia is presented. An annotated checklist of Sphingidae, Notodontidae, Erebidae, Nolidae and Noctuidae collected during 2022 and 2023 in southern and southwestern Mongolia is provided. In total 6 species of Sphingidae, 2 species of Notodontidae, 37 species of Erebidae, 1 species of Nolidae and 119 species of Noctuidae are recorded. Eleven species are recorded as new for the fauna of Mongolia: *Hypocala subsatura* Guenée, 1852, *Eublemma fugitiva* (Christoph, 1877), *Nola acutula* Püngeler, 1902, *Cucullia aksuana* Draudt, 1934, *C. vicina* A. Bang-Haas, 1912, *Lacanobia praedita* (Hübner, [1813]), *Hadena intensa* Boursin, 1962, *H. filograna* (Esper, 1788), *Lasionycta buraetica* Kononenko, 1988, *Dichagyris ulrici* (Corti & Draudt, 1933), *Euxoa uigurica* Gyulai, Ronkay & Varga, 2002. Habitus is illustrated for ten of these species. Four Noctuidae species were DNA-barcoded, COI sequence of *Xenophysa sharhu* Varga, 1989 is published for the first time.
Keywords: Lepidoptera, Bombycoidea, Noctuoidea, new records, Mongolian Altai, Gobi Altai, Mongolia.

Lepidoptera recolectados en el sur y suroeste de Mongolia durante las expediciones en el Altay mongol y Gobi Altay en 2022-2023 (Lepidoptera: Bombycoidea, Noctuoidea)

Resumen

Se presenta una breve reseña histórica de la investigación lepidopterológica en Mongolia. Se proporciona una lista anotada de Sphingidae, Notodontidae, Erebidae, Nolidae y Noctuidae recolectadas durante 2022 y 2023 en el sur y suroeste de Mongolia. En total se registran 6 especies de Sphingidae, 2 especies de Notodontidae, 37 especies de Erebidae, 1 especie de Nolidae y 119 especies de Noctuidae. Once especies son nuevas para la fauna de Mongolia: *Hypocala subsatura* Guenée, 1852, *Eublemma fugitiva* (Christoph, 1877), *Nola acutula* Püngeler, 1902, *Cucullia aksuana* Draudt, 1934, *C. vicina* A. Bang-Haas, 1912, *Lacanobia praedita* (Hübner, [1813]), *Hadena* Boursin, 1962, *H. filograna* (Esper, 1788), *Lasionycta buraetica* Kononenko, 1988, *Dichagyris ulrici* (Corti & Draudt, 1933), *Euxoa uigurica* Gyulai, Ronkay & Varga, 2002. Se ilustra el hábitat de diez de estas especies. Se ha codificado el ADN de cuatro especies de Noctuidae y se publica por primera vez la secuencia COI de *Xenophysa sharhu* Varga, 1989.
Palabras clave: Lepidoptera, Bombycoidea, Noctuoidea, nuevos registros, Altay Mongol, Gobi Altay, Mongolia.

Introduction

Mongolia appears to be an important center of diversification for some characteristic xeromontane and eremic Lepidoptera taxa. The boundaries of some major faunal types with antagonistic dynamics,

some of which overlap, run through the country (Varga et al. 1989). These factors make the Mongolian lepidopterous fauna an attractive research subject to this day. Well-known collectors of the late XIX and early XX centuries (e.g. Hans Leder, Grigory Grum-Grshimailo, Fritz Dörries) were pioneers in entomological research of Mongolia. The material collected by them, and other collectors was examined by O. Staudinger, S. Alphéraky and G. Ye. Grum-Grshimailo, who published several papers at the end of the XIX century (Staudinger, 1892, 1895, 1896; Alphéraky, 1888, 1885; Grum-Grshimailo, 1906, 1911). Detailed historical reviews of entomological studies in Mongolia until the second half of the XX century (including those relating to Lepidoptera) were published by Cendsuren (1972) and Kerzhner (1972).

A large-scale and systematic study of the fauna of Mongolian Lepidoptera began only in the second half of the XX century. The foundation for this long-term work was laid through two international projects: Dr. Kaszab expeditions to Mongolia, under the aegis of the Mongolian and the Hungarian Academy of Sciences between 1963-1968, and the Soviet-Mongolian joint zoological expeditions between 1967-1978 (after 1969 - Joint Soviet-Mongolian complex biological expeditions).

Six expeditions of the former general director of the Hungarian Natural History Museum, Dr. Zoltán Kaszab resulted in more than one thousand collecting events, detailed information on which is available in special series of publications (Kaszab, 1963, 1965a, b, 1966, 1967, 1968). The late Dr. Kaszab himself collected an enormous amount of insect material, including about 41,000 specimens of Lepidoptera (Peregovits, 1989). The taxonomic and faunistic results of the treatment of the material collected during these expeditions have been published in a long series (more than five hundred) of scientific papers (Bálint et al. 2006). Numerous new taxa described from materials collected during these expeditions, were named in honor of Z. Kaszab.

The Kaszab expeditions were followed by a “second wave” of Hungarian entomologists most of the participants of which were lepidopterists (L. Peregovits, G. Fábián, P. Gyulai, M. Hreblay, G. Ronkay, Z. Varga, A. Orosz, T. Stéger and C. Szabóky). Their trips took place between 1986-1988. During these expeditions more than 50,000 samples were collected and then identified (Peregovits, 1989), a number of faunistic reports were subsequently published based on these materials.

Joint Soviet-Mongolian expeditions were led by employees of the Zoological Institute of the Russian Academy of Sciences A. F. Emelyanov (in 1967, 1968, 1970 and 1971), I. M. Kerzhner (in 1969) and I. A. Kozlov (in 1975, 1976, 1978 and 1980). During these travels, more than 850 collecting events were conducted and approximately 26000 Lepidoptera specimens were collected (Emelyanov et al. 1968, 1973, 1977; Kerzhner et al. 1982; Emelyanov & Kozlov, 1980). The results of entomological research of joint Soviet-Mongolian expeditions were published in various periodicals, as well as in the 11 volumes of the book series “Insects of Mongolia” (1972-1990), where about 50 articles devoted to Lepidoptera were published (e. g. Sukhareva, 1974, 1980; Derzhavets, 1977, 1979).

Over the past three decades, both works reflecting the results of individual expeditions (Gyulai & Ronkay, 1999; Bálint et al. 2006; Bálint & Benedek, 2009; Benedek & Bálint, 2013; Korsun et al. 2012; Morozov et al. 2016; Knyazev et al. 2020; Gorbunov, 2023), and general summaries on Mongolian Heterocera (Efetov et al. 2012; Yakovlev, 2015; Yakovlev et al. 2015; Enkhtur et al. 2021a, c; Gorbunov, 2024) have been published. However, despite significant progress in the study of the Lepidoptera fauna of Mongolia, the knowledge of this territory (especially the western part of the country) remains insufficient.

In 2019, 2022 and 2023, V. Lukhtanov, I. Makhov and E. Pazhenkova organized and carried out three expeditions to central (2019), southwestern (2022) and southern (2023) Mongolia. The purpose of these expeditions was to study the lepidopteran fauna of Mongolia and the Gobi Altai. The results of the first expedition (2019) have been published (Knyazev et al. 2020). This work included a review of 8 families of Macroheterocera. The results of the second expedition were presented last year (Makhov et al. 2023) and concerned the findings of geometrid moths. This paper reports the faunal results of the 2022 and 2023 expeditions and examines the five families of Bombycoidea (1) and Noctuoidea (4). We reviewed all available literature data on occurrences of representatives of these families and included relevant references in the provided checklist to identify previously unknown taxa in this area.

Figure 1. Map of collecting localities. Red circles - the first trip (2022); green circles - the second trip (2023); white circles - administrative centers of the aimags.

Material and methods

Material sampling

The moths were sampled by the first author using standard methods. The vast majority of lepidopterans was collected at night (usually since twilight coming to 4-5 am) with a Sylvania HSL-BW 250W E40 mercury vapor lamp powered from a FUBAG TI 1000 petrol generator, and a portable

screen made of white cotton canvas. The small part of moths was caught at daytime by an entomological net. All collected moth are deposited in the Zoological Institute of the Russian Academy of Sciences (Saint Petersburg, Russia).

DNA BARCODING

For some noctuid moths, namely several *Athaumasta* specimens and one *Xenophysa* specimen, we obtained DNA barcodes to verify our identifications. For DNA extraction we used the dry material; three legs of each specimen were used. The legs were crushed before lysis, and the lysis reaction proceeded overnight. DNA extraction was carried out using the DNeasy Blood & Tissue Kit (μIAGEN, Germany), according to the manufacturer's protocol. DNA elution was performed with 150 μL elution buffer. Amplification of a 658-bp-long COI fragment was performed using the primers HCO2198 (5'-TAAACTTCAGGGTGACCAAAAAATCA-3') (Folmer et al. 1994) and LCO1490 (5'-GGTCAACAAATCATAAAGATATTGG-3') (Folmer et al. 1994). The polymerase chain reaction (PCR) profile used for this marker was as follows: 95 ºC for 3 min, 95 ºC for 30 s, 50 ºC for 45 s, 72 ºC for 1 min (steps 2-4 cycled 34 times) and 72 ºC for 10 min. The samples were sequenced at Evrogen JSC (Moscow).

Obtained COI sequences were blasted against the complete sequence database of the Barcode of Life Data systems (BOLD) in order to infer the closest matches using the BOLD Identification Engine (http://www.boldsystems.org/index.php/IDS_OpenIdEngine). All sequences obtained were uploaded to GenBank; their accession numbers are provided in the annotated checklist (in the parentheses next to the corresponding specimens).

Results

In the species list below, we provide the data on the findings of Bombycoidea and Noctuoidea made in 2022 and 2023 in 24 localities of southern and southwestern Mongolia (Table 1). The taxonomic order follows the one presented in Classification of Erebidae and Noctuidae based on the classification of European fauna (Witt & Ronkay, 2011) and compilative classifications in the books on Noctuidae of Central Asia (Korb et al. 2017; Radzhabova & Matov, 2020). Literature references are given for each species with the corresponding combination. In the section "Material" the data on the location, the number of collected moths and their sex are given. Species new for Mongolia are marked with an asterisk. For these taxa we give updated information on their distribution in a separate section.

Checklist of species

SPHINGIDAE

Marumba gaschkewitschii (Bremer & Grey, 1853)
Marumba gaschkewitschi: Daniel, 1965, 98
Marumba gaschkewitschi discreta Derzhavets, 1977, 643; 1984, 610; Bálint et al. 2006, 100
Marumba gaschkewitschii: Knyazev et al. 2020, 194; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: UVB2 - 17 ♂, US2 - 1 ♂, 1 ♀.

Sphinx ligustri Linnaeus, 1758
Sphinx ligustri constricta Butler, 1885: Daniel, 1967, 206; Derzhavets, 1977, 643
Sphinx ligustri: Derzhavets, 1984, 606; Bálint et al. 2006, 100; Mühlenberg et al. 2011, 207; Yakovlev et al. 2015, 469; Knyazev et al. 2020, 194; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 375
Material: KB3 - 3 ♂, US2 - 2 ♀, UVB1 - 1♂.

Hyles exilis Derzhavets, 1979
Hyles chuvilini Eitschberger, Danner & Surholt, 1998: Danner et al. 1998, 275; Saldaitis & Ivinskis, 2006, 321; Enkhtur et al. 2021a, Supplementary material (Table S2)
Hyles exilis: Zolotuhin & Saldaitis, 2011, 74; Yakovlev et al. 2015, 470
Hyles chivulini [sic!]: Enkhtur et al. 2021b, Supplementary material (Table S2)
Material: KD - 2 ♂; UMB1 - 10 ♂, 2 ♀.

Hyles livornica (Esper, 1780)
Hyles livornica: Yakovlev et al. 2015, 471
Material: KB1 - 1 ♀.

Hyles zygophylli (Ochsenheimer, 1808)
Celerio zygophylii [sic!]: Daniel, 1970, 198
Celerio zygophylli xanthoxyli Derzhavets, 1977, 647
Hyles zygophylli: Derzhavets, 1984, 619; Saldaitis & Ivinskis, 2006, 321; Yakovlev et al. 2015, 472; Knyazev et al. 2020, 194
Material: KB1 - 1 ♂.

Choerocampa porcellus (Linnaeus, 1758)
Pergesa porcellus: Alberti, 1957, 6
Deilephila porcellus: Mühlenberg et al. 2011, 207; Yakovlev et al. 2015, 472
Deilephila pocellus [sic!]: Enkhtur et al. 2021c, 375
Material: KB1 - 1 ♂, KB3 - 3 ♂.

NOTODONTIDAE

Pterotes eugenia (Staudinger, 1896)
Pteroma eugenia: Staudinger & Rebel, 1901, 111; Daniel, 1965, 98; Viidalepp, 1979, 36
Pterosoma eugenia: Daniel, 1967, 207; 1969, 274; 1970, 198
Pterotes eugenia: Zolotuhin, 1994, 22; Schintlmeister, 2008, 385; Knyazev et al. 2020, 194
Pterostoma eugeniae [sic!]: Bálint et al. 2006, 100
Material: KA - 1 ♂, KB2 - 1 ♂, KD - 1 ♂, UVB2 - 1 ♂, UVK - 1 ♂, KE - 1 ♂, G-AY - 6 ♂.

Cerura przewalskii (Alphéraky, 1882)
Cerura przewalskii: Daniel, 1969, 273; Bálint et al. 2006, 100; Schintlmeister, 2008, 117; Mühlenberg et al. 2011, 207
Material: KA - 2 ♂, 1 ♀.

EREBIDAE

Thylacigyna antiquoides (Hübner, [1822])
Thylacigyna antiquoides: Knyazev et al. 2020, 194; Gorbunov, 2024, 51
Material: US2 - 2 ♂.

Teia dubia (Tauscher, 1806)
Orgyia dubia: Knyazev et al. 2020, 194
Teia dubia: Gorbunov, 2024, 51
Material: KB1 - 1 ♂.

Gynaephora kaszabi (Daniel, 1969)
Dasychira kaszabi Daniel, 1969, 269; Bálint et al. 2006, 101

Gynaephora kaszabi: Gorbunov, 2024, 53
Material: KA - 10♂, KU - 1♂.

Gynaephora angelus (Tschetverikov, 1904)
Dasychira fascelina angelus: Daniel, 1965, 96; 1967, 205; 1969, 271; 1970, 197; Bálint et al. 2006, 101
Olene angelus: Viidalepp, 1979, 29
Gynaephora angelus: Knyazev et al. 2020, 194; Gorbunov, 2024, 52
Dicallomera angelus: Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 370
Material: KD - 1 ♂.

Gynaephora fascelina (Linnaeus, 1758)
Dasychira fascelina obscurata Staudinger, 1900: Daniel, 1969, 271
Dasychira fascelina: Staudinger & Rebel, 1901, 115
Dasychira fascelina moto Bryk, 1949: Daniel, 1969, 271
Olene fascelina: Viidalepp, 1979, 29
Calliteara fascelina: Zolotuhin, 1994, 122
Gynaephora fascelina: Gorbunov, 2024, 52
Material: KM2 - 1 ♂, BS - 2 ♀, UMG1 - 2 ♂, 1 ♀, US1 - 2 ♂ 1♀.

Euproctis kargalika (Moore, 1878)
Euproctis kargalika: Daniel, 1969, 272; Gorbunov, 2024, 55
Material: KB3 - 2 ♂.

Setina irrorella (Linnaeus, 1758)
Setina irrorella insignata Staudinger, 1881: Staudinger, 1892, 343; Daniel, 1969, 266; Bálint et al. 2006, 100
Setina irrorella: Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: KA - 1 ♂, KB2 - 1 ♂.

Stigmatophora micans (Bremer & Grey, 1852)
Stigmatophora micans: Staudinger, 1895, 350; Daniel, 1967, 202; 1969, 266; Bálint et al. 2006, 100; Knyazev et al. 2020, 194; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 369
Material: UMG1 - 1 ♂, 1 ♀.

Coscinia cribraria (Linnaeus, 1758)
Emydia cribrum sibirica Staudinger, 1892, 346
Coscinia cribraria sibirica: Daniel, 1969, 267; Bálint et al. 2006, 101
Coscinia cribraria: Knyazev et al. 2020, 194
Material: KA - 2 ♂, BS - 3 ♀.

Arctia flavia (Fuessly, 1779)
Arctia flavia sartha Staudinger, 1886: Staudinger, 1895, 350
Arctia flavia: Daniel, 1965, 96; Knyazev et al. 2020, 194; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Arctia flavia lederi Bang-Haas, 1927: Daniel, 1967, 204; 1969, 269; 1970, 197; Bálint et al. 2006, 101
Material: BS - 1 ♂.

Eucharia festiva (Hufnagel, 1766)
Arctia festiva: Alberti, 1957, 6
Arctia hebe interrogationis (Ménétriés, 1863): Daniel, 1965, 96; 1969, 269; 1970, 197
Arctia hebe Linnaeus, 1767: Alberti, 1971, 370
Ammobiota festiva interrogationis: Zolotuhin, 1994, 121
Arctia festiva interrogationis: Bálint et al. 2006, 101
Eucharia festiva: Knyazev et al. 2020, 194
Material: US2 - 1 ♂.

Centrarctia mogolica (Alphéraky, 1888)
Micrarctia mogolica: Daniel, 1965, 94; 1967, 203; 1969, 268; Alberti, 1971, 375; Zolotuhin, 1994, 122; Bálint et al. 2006
? *Chelis mongolica*: Enkhtur et al. 2021a, Supplementary material (Table S2)
Material: BS - 1 ♂, US2 - 1 ♂.

Phragmatobia fuliginosa (Linnaeus, 1758)
Phragmatobia fuliginosa pulverulenta (Alphéraky, 1889): Daniel, 1967, 203; 1969, 268
Phragmatobia fuliginosa: Zolotuhin, 1994, 121
Arctia fuliginosa: Mühlenberg et al. 2011, 200
Material: KA - 3 ♂, UVB2 - 1 ♂.

Hypena obesalis Treitschke, 1829
Hypena obesalis: Ronkay, 1983, 243; Gyulai & Ronkay, 1999, 711; Bálint et al. 2006, 107; 2014, 119; Mühlenberg et al. 2011, 205; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Material: G-AY - 1 ♂.

* *Hypocala subsatura* Guenée, 1852
Material: UVB2 - 1 ♂ (Figure 7A); UMB2 - 1 ex. (visual observation).
Distribution: East, South and South-East Asia (from India, China and Russian Far East to Malaysia and Indonesia), Mongolia.

Eublemma uniformis (Staudinger, 1878)
‡*Porphyrinia uniformis* ab. *subrosea* Wiltshire, 1969, 131
Eublemma uniformis: Bálint et al. 2014, 102
Material: KB1 - 5 ♂, 2 ♀, UMG2 - 3 ♂, G-ATg - 2 ♂, 4 ♀.

* *Eublemma fugitiva* (Christoph, 1877)
Material: KB1 - 1 ♂, UMG2 - 1 ♀.
Distribution: Transcaucasia (Armenia, Azerbaijan), Central Asia (Kazakhstan, Turkmenistan, Uzbekistan), Mongolia.

Eublemma gratiosa (Eversmann, 1854)
Porphyrinia gratiosa: Alberti, 1971, 373; Sukhareva, 1980, 409
Eublemma gratiosa: Bálint et al. 2006, 107; 2014, 101
Material: KU - 1 ♂, KB4 - 1 ♀, KB3 - 2 ♂, 1 ♀.

Eublemma porphyrina (Freyer, 1844)
Porphyrinia porphyrina: Sukhareva, 1980, 408
Eublemma porphyrina: Knyazev et al. 2020, 194
Material: KB2 - 2 ♂, 4 ♀.

Eublemma rosea (Hübner, 1790)
Porphyrinia rosea: Sheljuzhko, 1967, 223; Sukhareva, 1980, 408

Eublemma rosea: Ronkay, 1983, 229; Bálint & Benedek, 2009, 7; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Eublemma rosea decolorata Wagner, 1913: Bálint et al. 2014, 102
Material: KB2 - 2 ♂, 4 ♀, KM2 - 1 ♂, KA - 1 ♂, KB4 - 1 ♀.

Catocala remissa Staudinger, 1892
Catocala remissa: Sukhareva, 1980, 410; Ronkay, 1983, 232; Gyulai & Ronkay, 1999, 710; Bálint et al. 2006, 107; Sviridov, 2008, 96; Bálint & Benedek, 2009, 5; Bálint et al. 2014, 76; Knyazev et al. 2020, 194
Material: UMG1 - 38 ♂, BS - 2 ♂.

Drasteria langi (Erschoff, 1874)
Drasteria langi obscurata (Staudinger, 1882): Matov & Korb, 2019, 24
Material: KB3 - 14 ♂, 1 ♀.

Drasteria chinensis (Alphéraky, 1892)
Leucanitis chinensis: Staudinger & Rebel, 1901, 243
Drasteria chinensis: Ronkay, 1983, 234; Gyulai & Ronkay, 1999, 711; Bálint et al. 2006, 107; 2014, 95; Bálint & Benedek, 2009, 7; Benedek & Bálint, 2013, 150; Matov & Korb, 2019, 49; Knyazev et al. 2020, 196; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: KB2 - 1 ♂, KB1 - 1 ♀, BS - 1 ♀, UMG1 - 3 ♂, 2 ♀, UMG2 - 1 ♂, UMB1 - 4 ♂, 5 ♀, US1 - 1 ♂, 1 ♀, US2 - 7 ♂, 5 ♀, UMB2 - 2 ♂, 10 ♀, UVB2 - 2 ♂.

Drasteria antiqua (Staudinger, 1889)
Drasteria antiqua: Matov & Korb, 2019, 65
Material: UMG2 - 1 ♂.

Drasteria rada (Boisduval, 1848)
Drasteria roda (Herrich-Schäffer, 1845): Sheljuzhko, 1967, 224; Ronkay, 1983, 234; Gyulai & Ronkay, 1999, 711
Leucanitis roda: Remm & Viidalepp, 1979, 76
Leucanitis rada: Sukhareva, 1980, 411
Drasteria rada: Bálint et al. 2006, 107; Bálint & Benedek, 2009, 7; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 370; Knyazev et al. 2020, 196
Drasteria rada sibirica (Kozhantschikov, 1925): Bálint et al. 2014, 96
Drasteria rada altivaga Alphéraky, 1894: Matov & Korb, 2019, 34
Material: KM1 - 4 ♂, 1 ♀, KM2 - 13 ♂, 4 ♀, KB2 - 1 ♂, KB1 - 1 ♂, UMG1 - 1 ♂, BS - 1 ♂, US1 - 1 ♂, US2 - 1 ♂.

Drasteria caucasica (Kolenati, 1848)
Drasteria caucasica: Ronkay, 1983, 238; Bálint & Benedek, 2009, 7
Material: KB1 - 1 ♂.

Drasteria mongoliensis Wiltshire, 1969
Drasteria mongoliensis Wiltshire, 1969, 133; Bálint & Benedek, 2009, 57; Bálint et al. 2014, 95; Matov & Korb, 2019, 73
Material: UVB2 – 2 ♂.

Clytie gracilis (A.Bang-Haas, 1907)

Clytie syriaca suppura Wiltshire, 1969, 133; Ronkay, 1983, 233; Bálint et al. 2014, 81
Clytie syriaca, nec (Bugnion, 1837): Sukhareva, 1980, 411
Clytie gracilis sp. suppura: Hacker, 2001, 331
Clytie gracilis: Knyazev et al. 2020, 196
Material: KB1 - 2 ♂, 1 ♀.

Clytie sublunaris (Staudinger, 1889)
Clytie sublunaris: Hampson, 1913, 295; Ronkay, 1983, 232; Gyulai & Ronkay, 1999, 710; Hacker, 2001, 332; Bálint et al. 2014, 81
Material: UMG2 - 6 ♂.

Anumeta dentistrigata (Staudinger, 1877)
Anumeta dentistrigata languida Warren, 1913: Bálint et al. 2014, 60
Material: KB2 - 1 ♂.

Anumeta fractistrigata (Alphéraky, 1882)
Anumeta fractistrigata mongolica Ronkay, 1983, 239; Gyulai & Ronkay, 1999, 711; Bálint et al. 2014, 60
Material: UMG2 - 1 ♂, US2 - 2 ♂.

Anumeta cestis (Ménétriés, 1849)
Anumeta cestis: Ronkay, 1983, 239; Bálint et al. 2014, 60
Material: UMG2 - 2 ♂.

Lygephila lubrica (Freyer, 1846)
Toxocampa lubrica var. *sublubrica* Staudinger, 1896, 271; Staudinger & Rebel, 1901, 252
Lygephila lubrica sublubrica: Sheljuzhko, 1967, 225; Ronkay, 1983, 241; Gyulai & Ronkay, 1999, 711; Bálint et al. 2014, 127
Lygephila lubrica: Bálint et al. 2006, 107; Bálint & Benedek, 2009, 9; Knyazev et al. 2020, 196
Material: KB1 - 2 ♂.

Autophila tetrastigma Boursin, 1940
Autophila tetrastigma: Sheljuzhko, 1967, 220; Ronkay, 1983, 243; Gyulai & Ronkay, 1999, 711; Bálint et al. 2006, 107; 2014, 67; Bálint & Benedek, 2009, 5; Ronkay et al. 2014, 67; Knyazev et al. 2020, 196
Material: KB2 - 3 ♂, KB4 - 1 ♂.

Autophila asiatica (Staudinger, 1888)
Autophila asiatica: Bálint & Benedek, 2009, 5; Knyazev et al. 2020, 196
Material: KE - 2 ♂, G-AY - 2 ♂.

Autophila glebicolor (Erschoff, 1874)
Spintherops glebicolor: Staudinger, 1896, 269
Autophila glebicolor: Sheljuzhko, 1967, 220; Sukhareva, 1980, 404; Ronkay, 1983, 241; Gyulai & Ronkay, 1999, 711; Bálint et al. 2006, 107; Bálint & Benedek, 2009, 5; Ronkay et al. 2014, 25; Knyazev et al. 2020, 196
Material: KB1 - 1 ♂, UMB2 - 1 ♂.

Autophila vespertalis (Staudinger, 1896)
Spintherops vespertalis Staudinger, 1896, 270
Apopestes vespertalis: Staudinger & Rebel, 1901, 151

Autophila vespertalis: Ronkay, 1983, 239; Gyulai & Ronkay, 1999, 711; Bálint & Benedek, 2009, 5; Bálint et al. 2014, 67; Ronkay et al. 2014, 30; Knyazev et al. 2020, 196.

Material: BS - 1 ♂.

NOLIDAE

* *Nola acutula* Püngeler, 1902

Material: KU - 1 ♂, KB3 - 1 ♂, 1 ♀.

Distribution: Central Asia (Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, W. China), Mongolia.

NOCTUIDAE

Abrostola kaszabi Dufay, 1971

Abrostola kaszabi Dufay, 1971, 269; Ronkay, 1987, 218; Bálint et al. 2006, 106; 2014, 49; Bálint & Benedek, 2009, 4; Knyazev et al. 2020, 196

Material: UMB1 - 1 ♂.

Acontia trabealis (Scopoli, 1763)

Emmelia trabealis: Sheljuzhko, 1967, 223; Sukhareva, 1980, 409; Bálint et al. 2006, 107; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)

Acontia trabealis: Enkhtur et al. 2021c, 372

Material: KB1 - 2 ♂.

Armada panaceorum (Ménétriés, 1849)

Tarachephia panaceorum: Ronkay, 1983, 239; Bálint et al. 2014, 63

Material: UVB1 - 1 ♂; US2 - 1 ♂ (Figure 7B).

Simyra nervosa ([Denis & Schiffermüller], 1775)

Simyra nervosa argentacea Herrich-Schäffer, [1848]: Staudinger & Rebel, 1901, 134

Simyra nervosa expressa A.Bang-Haas, 1912: Alberti, 1971, 373; Varga, 1976, 184; Gyulai, 1989, 108; Gyulai & Ronkay, 1999, 708; Bálint et al. 2006, 101

Simyra nervosa: Knyazev et al. 2020, 196; Enkhtur et al. 2021b, Supplementary material (Table S2); Enkhtur et al. 2021c, 372

Material: KM2 - 1 ♂, G-AY - 3 ♂.

Simyra splendida Staudinger, 1888

Simyra splendida: Varga, 1976, 184; Sukhareva, 1980, 404; Gyulai & Ronkay, 1999, 708; Bálint et al. 2014, 161

Material: US2 - 1 ♂.

Acronicta hemileuca Püngeler 1899

Acronicta hemileuca: Bálint et al. 2006, 101; Knyazev et al. 2020, 196

Material: UVB1 - 1 ♂, UVB2 - 3 ♂, 1 ♀, UVB2 - 1 ♀.

Cucullia absinthii (Linnaeus, 1761)

Cucullia absinthii: Bálint & Benedek, 2009, 6; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)

Material: KB3 - 1 ♂.

Cucullia tescorum Pungeler, 1909

Cucullia tescorum: Sheljuzhko, 1967, 219; Alberti, 1971, 372; Varga, 1976, 177; Gyulai & Ronkay, 1999, 706; Bálint et al. 2006, 103; 2014, 87; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 49; Benedek & Bálint, 2013, 150, 151; Knyazev et al. 2020, 197

Material: KD - 1 ♂, KE - 2 ♂, BS - 4 ♂, US1 - 3 ♂, US2 - 7 ♂.

Cucullia infuscata Tshetverikov, 1925
Cucullia cineracea, nec Freyer, 1841: Staudinger, 1896, 268; Staudinger & Rebel, 1901, 215
Cucullia cineracea infuscata: Sheljuzhko, 1967, 219; Varga, 1976, 178; Gyulai & Ronkay, 1999, 705; Bálint et al. 2006, 102; 2014, 85
Cucullia infuscata: Bálint & Benedek, 2009, 6; Ronkay & Ronkay, 2009, 54; Knyazev et al. 2020, 196

Material: KB3 - 2 ♂, BS - 3 ♂, UMB1 - 1 ♂, UMB2 - 1 ♂, UVB1 - 1 ♂, UVB2 - 1 ♂, UVK - 1 ♂.

Cucullia splendida (Cramer, 1777)
Cucullia splendida: Staudinger, 1896, 269; Staudinger & Rebel, 1901, 217; Sheljuzhko, 1967, 218; Varga, 1976, 176; Sukhareva, 1980, 402; Gyulai & Ronkay, 1999, 705; Bálint et al. 2006, 102; 2014, 87; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 56; Korsun et al. 2012, 22; Benedek & Bálint, 2013, 149; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021b: 372; Knyazev et al. 2020, 196
Argyromata splendida: Alberti, 1971, 372

Material: G-AT - 1 ♂, BS - 2 ♂, 2 ♀.

Cucullia biradiata W. Kozhantschikov, 1925
Cucullia biradiata: Varga, 1976, 178; Remm & Viidalepp, 1979, 61; Sukhareva, 1980, 403; Gyulai, 1989, 108; Bálint et al. 2006, 102; 2014, 85; Bálint & Benedek, 2009, 6; Ronkay & Ronkay, 2009, 62; Knyazev et al. 2020, 196; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)

Material: G-AY - 2 ♂, US1 - 1 ♂, US2 - 1 ♂, UVB2 - 2 ♂.

Cucullia biornata Fischer von Waldheim, 1840
Cucullia biornata: Varga, 1976, 178; Bálint et al. 2006, 102; Bálint & Benedek, 2009, 6; Ronkay & Ronkay, 2009, 71; Benedek & Bálint, 2013, 153

Material: KA - 1 ♂; UVB2 - 1 ♂.

Cucullia papoka G. Ronkay & L. Ronkay, 1986
Cucullia papoka: Ronkay & Ronkay, 1986, 354; Gyulai & Ronkay, 1999, 706; Bálint et al. 2006, 102; 2014, 86; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 75; Benedek & Bálint, 2013, 150; Knyazev et al. 2020, 196

Material: KM1 - 2 ♂, KA - 2 ♂, KD - 2 ♂, G-AT - 2 ♂, KM2 - 2 ♂, BS - 3 ♂, UMG1 - 2 ♂, UMB1 - 2 ♀, UMB2 - 1 ♂, UVB1 - 6 ♂, UVK - 2 ♂ 1 ♀, KE - 2 ♂.

Cucullia hannemanni Varga, 1976
Cucullia hannemanni Varga, 1976, 179; Gyulai & Ronkay, 1999, 706; Bálint et al. 2006, 102; 2014, 86; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 78; Knyazev et al. 2020, 196

Material: KM1 - 6 ♂, KM2 - 3 ♂, 1 ♀, G-AT - 9 ♂, G-ATs - 2 ♂, UMB1 - 4 ♂, UMB2 - 1 ♂, UVB1 - 3 ♂, 1 ♀, UVK - 1 ♂, 6 ♀, KE - 1 ♂.

Cucullia maracandica Staudinger, 1888
Cucullia maracandica: Bálint et al. 2006, 102; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 78; Knyazev et al. 2020, 196

Material: KM1 - 3 ♂, KB1 - 1 ♂, G-AT - 1 ♂, KM2 - 3 ♂, 1 ♀, G-ATs - 4 ♂, BS - 5 ♂, 1 ♀, US2 - 1 ♂, UVB2 - 1 ♂, KE - 1 ♂, G-AY - 2 ♂.

Cucullia umbristriga Alphéraky, 1892
Cucullia umbristriga: Bálint et al. 2006, 103; Bálint & Benedek, 2009, 7; Ronkay & Ronkay, 2009, 87; Knyazev et al. 2020, 197
Material: KM2 - 3 ♂; KM1 - 1 ♂, UMG1 - 1 ♂, UMB1 - 1 ♂, UMB2 - 4 ♂, 3 ♀.

Cucullia duplicata Staudinger, 1882
Cucullia duplicata: Staudinger, 1896, 268; Sheljuzhko, 1967, 218; Varga, 1976, 177; Sukhareva, 1980, 402; Gyulai & Ronkay, 1999, 705; Bálint et al. 2006, 103; 2014, 85; Bálint & Benedek, 2009, 6; Ronkay & Ronkay, 2009, 88; Benedek & Bálint, 2013, 150, 151; Knyazev et al. 2020, 196
Material: KM1 - 10 ♂, KD - 2 ♂, G-AT - 1 ♂, KU - 2 ♂, KB3 - 1 ♂, KB2 - 1 ♂, KA - 3 ♂, BS - 1 ♂, UMB1 - 1 ♂, UMB2 - 1 ♂, UVK - 1 ♂.

* *Cucullia aksuana* Draudt, 1934
Material: KU - 3 ♂ (Figure 7C), 1 ♀; KA - 1 ♂.
Distribution: Central Asia (Kyrghyzstan, Tajikistan), Pakistan, Mongolia.

Cucullia dimorpha Staudinger, 1896
Cucullia eumorpha var.? *dimorpha* Staudinger, 1896, 268
Copicucullia dimorpha: Alberti, 1971, 372
Pseudocopicucullia dimorpha: Varga, 1976, 175
Cucullia dimorpha: Gyulai & Ronkay, 1999, 706; Bálint et al. 2006, 103; 2014, 85; Bálint & Benedek, 2009, 6; Ronkay & Ronkay, 2009, 92; Benedek & Bálint, 2013, 149, 151; Knyazev et al. 2020, 196
Material: KA - 1 ♂; KE - 1 ♂.

* *Cucullia vicina* A. Bang-Haas, 1912
Material: KB3 - 2 ♂ (Figure 7D).
Distribution: Central Asia (Kazakhstan, Kyrghyzstan, Tajikistan, W. China), Mongolia.

Cucullia turkestana L. Ronkay & G. Ronkay, 1987
Cucullia implicata Ronkay & Ronkay, 1987, 471
Cucullia turkestana sp. *implicata* G. Ronkay et L. Ronkay, 2009, 107
Cucullia turkestana: Knyazev et al. 2020, 197
Material: KU - 6 ♂; KB3 - 5 ♂; KB2 - 1 ♂, 1 ♀, BS - 7 ♂, UMB1 - 4 ♂, US1 - 3 ♂, US2 - 3 ♂.

Cucullia amota Alphéraky, 1887
Cucullia amota: Varga, 1976, 181; Bálint et al. 2006, 103; 2014, 85; Kononenko, 2016, 29
Material: UVB1 - 1 ♂.

Calophasia lunula (Hufnagel, 1766)
Calophasia lunula: Varga, 1976, 181; Sukhareva, 1980, 403; Gyulai, 1989, 108; Bálint et al. 2014, 73
Material: UMB1 - 1 ♂.

Lophoterges varians Ronkay, 2005
Lophoterges varians Ronkay, 2005, 28
? *Lophoterges centralasiae* (Staudinger, 1901): Varga, 1976, 181; Bálint et al. 2006, 103
Material: KB1 - 1 ♂, KB3 - 2 ♂, 4 ♀.

Aedophron eos Varga & L. Ronkay, 1991
Aedophron eos: Varga & Ronkay, 1991b, 263
Material: KU - 2♂.

Pyrrhia umbra (Hufnagel, 1766)
Pyrrhia umbra: Varga, 1976, 186; Bálint et al. 2014, 156; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: KB3 - 1 ♂.

Protoschinia scutosa ([Denis & Schiffermüller], 1775)
Chloridea scutosa: Sheljuzhko, 1967, 223
Protoschinia scutosa: Varga, 1976, 186; Sukhareva, 1980, 408; Bálint et al. 2014, 154; Knyazev et al. 2020, 197; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: UVB2 - 2 ♂, UVB1 - 2 ♂, 1 ♀.

Heliothis adaucta Butler, 1878
Chloridea maritima centralasiae Draudt, 1938: Varga, 1976, 186; Gyulai & Ronkay, 1999, 696
Heliothis maritima centralasiae: Bálint & Benedek, 2009: 8
Heliothis adaucta: Knyazev et al. 2020, 197; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Material: UVB2 - 1 ♂.

Helicoverpa armigera (Hübner, [1808])
Helicoverpa armigera: Gyulai & Ronkay, 1999, 696; Bálint et al. 2014, 115; Knyazev et al. 2020, 197
Material: KA - 2 ♂.

Bryophila kaszabi Pekarsky, Volynkin & Matov, 2014
Bryophila kaszabi Pekarsky, Volynkin & Matov, 2014: Pekarsky et al. 2014, 145
Material: KB2 - 7 ♂ (Figures 7F), KU - 1 ♂ (Figures 7E).

Bryophila orthogramma (Boursin, 1954)
Cryphia orthogramma: Sheljuzhko, 1967, 220; Varga, 1976, 185; Gyulai & Ronkay, 1999, 709; Bálint et al. 2006, 101; 2014, 84; Bálint & Benedek, 2009, 6; Benedek & Bálint, 2013, 152, 153; Mühlenberg et al. 2011, 204
Bryophila orthogramma: Knyazev et al. 2020, 197; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: KB1 - 1 ♂, KB2 - 1 ♂, US1 - 1 ♂.

Victrix fabiani Varga & Ronkay, 1989
Victrix fabiani: Bálint et al. 2006, 101; 2014, 170
Material: KA - 10 ♂, KM2 - 6 ♂, UMG1 - 1 ♂.

Victrix bogdoana Matov, Fibiger et Ronkay, 2009
«*Micromima bogdoana* Alphéraky, 1895»: Bálint et al. 2006, 101
Victrix bogdoana Matov, Fibiger et Ronkay, 2009: Fibiger et al. 2009, 308
Material: KB2 - 1 ♂ (Figure 7G).

Athaumasta arida Volynkin & Saldaitis, 2019
Athaumasta arida: Volynkin et al. 2019, 17
Material: G-AY - 13 ♂, KB3 - 6 ♂ (GenBank ID: OR864686-OR864688) 1 ♀, G-AT - 6 ♂, KM1 - 1 ♂, KE - 2 ♂, UVK - 4 ♂, 1 ♀, UMB2 - 3 ♂, G-ATs - 1 ♂.
Remark: Delimitation of the some *Athaumasta* species based on external features and even on the characteristics of the male genitalia is extremely difficult. We used molecular data obtained from *Athaumasta* samples collected from several locations. The results of comparison of COI sequences with

sequences obtained by Volynkin and co-authors (2019) were decisive in identification of the moths from the *expressa* species-group.

Athaumasta splendida O. Bang-Haas 1927
Athaumasta splendida: Bálint et al. 2006, 101; Bálint & Benedek, 2009, 5
Material: G-AT - 2 ♂, KB3 - 5 ♂, KA - 1 ♂, KM1 - 2 ♂.

Athaumasta golomto Volynkin & Gyulai, 2018
Athaumasta golomto Volynkin & Gyulai, 2018, 594; Volynkin et al. 2019, 3
Material: KA - 4 ♂ (Figure 7H, GenBank ID: OR864682-OR864685), KB3 - 1 ♂.
Remark: The results of comparison of COI sequences with sequences obtained by Volynkin and co-authors (2019) were decisive in identification of the moths from the *pekarskyi* species-group.

Athaumasta dzhungarica Volynkin & Saldaitis, 2019
Athaumasta dzhungarica Volynkin & Saldaitis, 2019: Volynkin et al. 2019, 4
Material: G-AY - 1 ♂; UVK - 3 ♂; KB3 - 2 ♂ (GenBank ID: OR864689).
Remark: The results of comparison of COI sequences with sequences obtained by Volynkin and co-authors (2019) were decisive in identification of the moths from the *pekarskyi* species-group.

Caradrina petraea Tengström, 1869
Caradrina grisea (Eversmann, 1848): Varga, 1982, 221
Platyperigea grisea: Gyulai & Ronkay, 1999, 705
Platyperigea grisea sp. *fuscifusa* Varga et Ronlay, 1991: Varga & Ronkay, 1991b, 303; Bálint et al. 2014, 151
Material: KB3 - 1 ♂.

Caradrina albina Eversmann, 1848
Caradrina quadripunctata var. *congesta* (Lederer, 1853): Staudinger, 1896, 265
Caradrina albina: Varga, 1982, 221; Gyulai, 1989, 109; Knyazev et al. 2020, 197
Platyperigea albina: Gyulai & Ronkay, 1999, 705; Bálint & Benedek, 2009, 9; Benedek & Bálint, 2013, 150; Mühlenberg et al. 2011, 206; Bálint et al. 2014, 151
Material: KA - 1 ♂, KB4 - 1 ♂, 1 ♀.

Caradrina montana Bremer, 1861
Caradrina cinerascens apatetica Püngeler, 1914: Varga, 1982, 221; Gyulai, 1989, 109; Gyulai & Ronkay, 1999, 705
Platyperigea montana: Bálint et al. 2006, 102; 2014, 151; Bálint & Benedek, 2009, 9
Platyperigea montana apatetica: Mühlenberg et al. 2011, 206
Caradrina montana: Knyazev et al. 2020, 197; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: UVK - 1 ♂.

Chilodes distracta (Eversmann, 1848)
? Senta distracta: Staudinger, 1896, 265
Chilodes distracta: Varga, 1982, 220; Bálint et al. 2014, 79
Material: UMB2 - 1 ♂, 4 ♀.

Athetis funesta (Staudinger, 1888)
Athetis funesta: Varga, 1982, 223; Bálint & Benedek, 2009, 5; Kononenko, 2016, 102; Knyazev et al. 2020, 197
Athetis funesta centralasiatica L. Ronkay & G. Ronkay, 2023: Ronkay et al. 2023: 78
Material: UMB1 - 1 ♂, UVB1 - 2 ♀, UVB2 - 1 ♂, US1 - 1 ♀, UMG1 - 1 ♂, 1 ♀.

Apamea leucodon (Eversmann, 1837)
Hadena leucodon: Staudinger & Rebel, 1901, 173
Apamea leucodon: Sheljuzhko, 1967, 220; Sukhareva, 1980, 405; Varga, 1982, 209; Gyulai, 1989, 109; Bálint et al. 2006, 102; 2014: 61; Bálint & Benedek, 2009, 5; Knyazev et al. 2020, 197
Material: KB3 - 1 ♂.

Apamea ingloria (A. Bang-Haas, 1912)
Apamea ingloria: Varga, 1982, 210; Bálint et al. 2006, 102; Bálint & Benedek, 2009, 5; Knyazev et al. 2020, 197
Material: G-AT - 6 ♂, G-ATs - 1 ♂.

Apamea furva ([Denis & Schiffermüller], 1775)
Apamea furva: Varga, 1982, 209; Gyulai, 1989, 109; Bálint et al. 2006, 101; 2014, 61
Material: KB3 - 5 ♂, 1 ♀, UMB1 - 2 ♂.

Resapamea vulpecula (Eversmann, 1852)
Hadena subornata Staudinger, 1896, 262; Staudinger & Rebel, 1901, 174
Sidemia subornata: Alberti, 1971, 373
Apamea subornata: Sukhareva, 1980, 405
Mesapamea hedeni (Graeser, 1888): Varga, 1982, 210; Gyulai, 1989, 109; Gyulai & Ronkay, 1999, 703; Mühlenberg et al. 2011, 205; Bálint et al. 2014, 130
Resapamea hedeni: Varga & Ronkay, 1992, 114; Bálint et al. 2006, 102; Bálint & Benedek, 2009, 10; Benedek & Bálint, 2013, 149, 150
Resapamea vulpecula: Knyazev et al. 2020, 197; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Risapamea [sic!] *hedeni*: Enkhtur et al. 2021c, 374
Material: KB3 - 2 ♂, 1 ♀, G-ATs - 1 ♂.

Boursinia kaszabi (Boursin, 1967)
Luperina kaszabi Boursin, 1967, 96; Varga, 1982, 215
Boursinia kaszabi: Knyazev et al. 2020, 197
Material: KA - 5 ♂, UMG1 - 1 ♂, BS - 4 ♂, UVB1 - 1 ♂, UVB2 - 10 ♂, 4 ♀.

Rhiza laciniosa (Christoph, 1887)
Chloanta laciniosa: Staudinger, 1896, 264; Staudinger & Rebel, 1901, 183; Sukhareva, 1980, 407
Pseudohadena laciniosa: Alberti, 1971, 373.
Pseudohadena laciniosa odontographa Ronkay & Varga, 1989, 344
Graphantha laciniosa odontographa, Gyulai & Ronkay, 1999, 702; Bálint et al. 2006, 103
Rhiza laciniosa odontographa: Bálint & Benedek, 2009, 10; Bálint et al. 2014, 157
Material: US2 - 1 ♂.

Eremohadena adscripta (Püngeler, 1914)
Pseudohadena adscripta: Alberti, 1971, 373
Pseudohadena siri adscripta: Varga, 1982, 214
Eremohadena adscripta: Gyulai & Ronkay, 1999, 703; Bálint et al. 2006, 103; Knyazev et al. 2020, 197
? *Pseudohadena siri*: Staudinger, 1896, 262
Material: KB4 - 1 ♀, KB2 - 1 ♀, G-AT - 1 ♂, 6 ♀; KB1 - 1 ♀, G-ATs - 12 ♂, 1 ♀.

Polymixis acharis (Püngeler, 1901)
Polymixis acharis: Bálint et al. 2006, 103

Eremophysa acharis: Bálint & Benedek, 2009, 7
Material: KB3 - 1 ♀.

Mniotype lama (Staudinger, 1900)
Mniotype lama: Mühlenberg et al. 2011, 205
Mniotype lama sp. *etugen* Volynkin, Matov & Behounek, 2014: Volynkin et al. 2014, 4
Material: KB3 - 1 ♂, 1 ♀, KB2 - 1 ♀, G-AT - 1 ♂, G-AY - 1 ♀, KE - 1 ♀.

Mniotype adusta (Esper, 1790)
Mniotype adusta: Bálint et al. 2014, 131; Volynkin et al. 2014, 6
Material: UMB1 - 1 ♀.

Anarta insolita (Staudinger, 1889)
Hadula insolita: Varga, 1974, 300
Hadula insolita uigurica Hacker, 1998: Bálint et al. 2006, 103; 2014, 113
Anarta insolita: Knyazev et al. 2020, 199
Material: KM1 - 4 ♂, 5 ♀, G-AT - 1 ♂, 1 ♀; KA - 1 ♀, G-ATs - 2 ♂, G-AY - 1 ♀.

Anarta sabulorum (Alphéraky, 1882)
Hadula sabulorum: Gyulai & Ronkay, 1999, 699; Hacker et al. 2002, 23; Benedek & Bálint, 2013, 150; Bálint et al. 2014, 113
Hadula sabulorum distincta Hacker, 1998: Bálint et al. 2006, 103; Bálint & Benedek, 2009, 8
Material: KM1 - 4 ♂, KE - 2 ♂, UMG1 - 1 ♂, BS - 1 ♂, KE - 2 ♂.

Anarta ptochica (Püngeler, 1900)
Mamestra ptochica: Sukhareva, 1974, 231
Hadula ptochica: Varga, 1974, 298; Gyulai & Ronkay, 1999, 699; Benedek & Bálint, 2013, 151; Bálint et al. 2014, 113
Material: KB1 - 1 ♂, UMG2 - 1 ♂.

Anarta odontites (Boisduval, 1829)
Discestra marmorosa (Borkhausen, 1792): Varga, 1974, 296
Material: KM1 - 3 ♂, G-AT - 1 ♂, 1 ♀, KD - 1 ♂, KM2 - 1 ♂, 4 ♀, G-ATs - 4 ♂.

Anarta farnhami (Grote, 1873)
Mamestra furca Eversmann, 1852: Staudinger, 1896, 255
Discestra furca: Sheljuzhko, 1967, 213; Varga, 1974, 296; Gyulai, 1989, 106
Hadula farnhami palaearctica Hacker, 1998: Bálint et al. 2006, 103
Material: G-ATs - 1 ♂.

Anarta imperspicua (Hacker, 1998)
Hadula imperspicua mandschurica Hacker, 1998: Bálint et al. 2006, 103; Bálint & Benedek, 2009, 8
Hadula imperspicua: Bálint et al. 2014, 113
Material: KA - 4 ♂, 1 ♀, UMB2 - 1 ♂, 1 ♀, G-AY - 1 ♂, UMB2 - 1 ♂.

Anarta dianthi (Tauscher, 1809)
Discestra dianthi: Sheljuzhko, 1967, 213; Sukhareva, 1974, 229; Varga, 1974, 295; Remm & Viidalepp, 1979, 53
Hadula dianthi lukhtanovorum Hacker, 1998: Gyulai & Ronkay, 1999, 699; Bálint et al. 2006, 103
Anarta dianthi: Knyazev et al. 2020, 199
Material: KM2 - 4 ♂, 2 ♀, BS - 2 ♂, 1 ♀, KE - 1 ♀.

Anarta trifolii (Hufnagel, 1766)
Mamestra trifolii: Staudinger, 1896, 256
Discestra trifolii: Sheljuzhko, 1967, 213; Sukhareva, 1974, 228; Varga, 1974, 297; Mühlenberg et al. 2011, 204; Bálint et al. 2014, 95
Hadula trifolii: Bálint et al. 2006, 103; Mühlenberg et al. 2011, 205
Anarta trifolii: Korsun et al. 2012, 22; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); Knyazev et al. 2020, 199
Anarta trifoli [sic!]: Enkhtur et al. 2021c, 372
Material: KM1 - 1 ♂, KB1 - 1 ♂, KM2 - 1 ♀, G-AT - 1 ♀, BS - 1 ♂, UMG2 - 1 ♂, US1 - 1 ♀, UVK - 1 ♀, KE - 1 ♂.

Cardepia irrisoria (Erschoff, 1874)
Cardepia sociabilis irrisoria: Sheljuzhko, 1967, 213; Varga, 1973, 218; 1974, 293
Cardepia irrisor [sic!]: Alberti, 1971, 372
Cardepia irrisoria nigrescens Hacker, 1998: Gyulai & Ronkay, 1999, 699; Bálint et al. 2006, 103; 2014: 74; Bálint & Benedek, 2009, 5; Benedek & Bálint, 2013, 150
Material: KA - 2 ♂, KM2 - 1 ♂, 1 ♀, KD - 1 ♂, KB4 - 1 ♂, KB2 - 3 ♂, BS - 2 ♂, UMG2 - 1 ♂, US2 - 2 ♂, UVB1 - 2 ♂, KE - 6 ♂.

Cardepia kaszabi Sukhareva & Varga, 1973
Cardepia kaszabi Sukhareva & Varga, 1973: Varga, 1973, 215; Sukhareva, 1974, 229; Varga, 1974, 294; Gyulai & Ronkay, 1999, 699; Bálint et al. 2006, 103; 2014, 74; Benedek & Bálint, 2013, 150
Material: KD - 1 ♂; UVB1 - 3 ♂, UMG2 - 1 ♂, UVB1 - 1 ♂, UVB2 - 1 ♂.

Polia bombycina (Hufnagel, 1766)
Mamestra advena var. (ab.) *adjuncta* Staudinger, 1888: Staudinger, 1892, 364
Mamestra advena var. *mongolica* Staudinger, 1896, 253; Staudinger & Rebel, 1901, 155
Polia bombycina: Sukhareva, 1974, 230; Korsun et al. 2012, 23; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Polia bombycina mongolica: Varga, 1974, 302; Gyulai & Ronkay, 1999, 700; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 10; Mühlenberg et al. 2011, 206
Polia bombycina sp. *psammochroa* Varga, 1974, 302; Gyulai & Ronkay, 1999, 700
Polia bombycina advenina (Bryk, 1949): Varga, 1974, 302; Gyulai, 1989, 106; Gyulai & Ronkay, 1999, 700
Polia bombycina amurensis (Staudinger, 1892): Bálint et al. 2014, 152
Material: KB3 - 2 ♀.

Polia subcontigua (Eversmann, 1852)
Mamestra altaica (Lederer, 1853): Staudinger, 1892, 365; 1896, 255; Staudinger & Rebel, 1901, 156
Polia altaica monotona (A.Bang-Haas, 1912): Sheljuzhko, 1967, 214; Varga, 1974, 304; Gyulai, 1989, 106; Gyulai & Ronkay, 1999, 700; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 10; Mühlenberg et al. 2011, 206
Polia altaica: Sukhareva, 1974, 230; Bálint et al. 2014, 152; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Polia subcontigua: Knyazev et al. 2020, 199
Material: G-AT - 1 ♂, UMB2 - 1 ♂.

Polia serratilinea Ochsenheimer, 1816
Polia serratilinea sp. *eremorealis* Varga, 1974, 306; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 10
Material: KB3 - 4 ♂, 3 ♀, KD - 1 ♂, UMG1 - 1 ♂.

Pachetra sagittigera (Hufnagel, 1766)
Pachetra sagittigera bombycina (Eversmann, 1847): Sheljuzhko, 1967, 215; Gyulai, 1989, 106; Bálint et al. 2014, 145
Pachetra sagittigera: Varga, 1974, 308; Hacker et al. 2002, 58
Material: KB2 - 1 ♂.

Ctenoceratoda scotosparsa Varga, Ronkay & Ronkay 2018
Ctenoceratoda scotosparsa: Varga et al. 2018, 63
Material: KM1 - 1 ♂, 1 ♀, KM2 - 10 ♂ (Figures 8A, 8B), 10 ♀ (Figures 8C-8F), KE - 1 ♂.

Ctenoceratoda cyanochrea Varga, Gyulai, Ronkay & Ronkay, 2018
Ctenoceratoda cyanochrea: Varga et al. 2018, 63
Material: KB1 - 2 ♂, 2 ♀, KB3 - 1 ♂ (Figure 8G), 1 ♀, KB4 - 5 ♂, 1 ♀, KA - 1 ♂.

Ctenoceratoda persephone Varga, Ronkay & Ronkay, 2018
Ctenoceratoda persephone: Varga et al. 2018, 59
Material: KA - 1 ♂ (Figure 8H).

Ctenoceratoda peregovitsi Varga & Gyulai, 1999
Ctenoceratoda peregovitsi: Varga & Gyulai, 1999, 174
Material: G-AT - 1 ♂, KB1 - 1 ♂, 1 ♀, KU - 1 ♀, KB2 - 1 ♀, KD - 1 ♂, 1 ♀, KM2 - 1 ♂, KM1 - 2 ♂, 2 ♀, KA - 5 ♂, 2 ♀, BS - 2 ♂, 2 ♀, UMB1 - 2 ♀, UMB2 - 2 ♀, KE - 1 ♂, 1 ♀.

Ctenoceratoda argyrea Varga, 1992
Ctenoceratoda argyrea Varga, 1992, 98; Bálint & Benedek, 2009, 6; Benedek & Bálint, 2013, 150; Bálint et al. 2014, 84; Knyazev et al. 2020, 199
Material: BS - 2 ♂, 1 ♀, UMG1 - 4 ♂, US2 - 15 ♂, 2 ♀.

Lasianobia lauta (Püngeler, 1900)
Lasianobia lauta sajanensis (Kononenko, 1996): Bálint et al. 2006, 104
Material: G-AY - 2 ♀.

Lacanobia suasa ([Denis & Schiffermüller], 1775)
Mamestra suasa: Sheljuzhko, 1967, 216; Sukhareva, 1974, 231; Varga, 1974, 312
Lacanobia suasa: Behounek, 1992, 57; Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104
Dianobia suasa: Bálint et al. 2014, 89
Material: KD - 1 ♂.

Lacanobia aliena (Hübner, [1808])
Lacanobia aliena: Varga, 1974, 312; Behounek, 1992, 38; Bálint et al. 2006, 103; Mühlenberg et al. 2011, 205; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Diataraxia aliena: Bálint et al. 2014, 91
Material: KA - 2 ♂, KB3 - 1 ♂.

* *Lacanobia praedita* (Hübner, [1813])
Material: KA - 1 ♂ (Figure 9A).

Distribution: Europe, Caucasus, Transcaucasia, Middle and Near East, Iran, Central Asia, Afghanistan, Pakistan, North India, Mongolia.

Papestra biren (Goeze, 1781)
Mamestra biren: Varga, 1974, 313
Papestra biren: Bálint et al. 2006, 104; 2014, 147; Mühlenberg et al. 2011, 206
Material: G-ATs - 1 ♂.

Cornutifera simplex (Staudinger, 1889)
Sideridis simplex: Sheljuzhko, 1967, 215; Sukhareva, 1974, 230; Varga, 1974, 308; Gyulai, 1989, 106
Cornutifera simplex: Varga & Ronkay, 1991a, 166; Bálint et al. 2006, 104; 2014, 83; Bálint & Benedek, 2009, 6
Material: KM2 - 2 ♂; KM1 - 3 ♀, G-ATs - 21 ♂, UMB1 - 4 ♂, 4 ♀, UMB2 - 6 ♂, 5 ♀, KE - 2 ♂.

Sideridis egena (Lederer, 1853)
Mamestra egena: Staudinger, 1896, 255
Mamestra albicolon v. *egena*: Staudinger & Rebel, 1901, 156
Trichoclea egena: Alberti, 1971, 372
Sideridis egena: Varga, 1974, 309; Gyulai, 1989, 106; Varga & Ronkay, 1991a, 164; Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104; 2014, 160; Bálint & Benedek, 2009, 10; Knyazev et al. 2020, 199; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: G-AT - 1 ♂, 1 ♀, KB4 - 1 ♀, KM2 - 2 ♂, KM1 - 1 ♂, 1 ♀, KU - 1 ♀, G-ATs - 4 ♂, 4 ♀, UVB1 - 6 ♂, 2 ♀, UVB2 - 1 ♂, G-AY - 3 ♂, 1 ♀, US2 - 1 ♀, UMG1 - 2 ♂, KE - 2 ♂.

Sideridis turbida (Esper, 1790)
Mamestra albicolon (Hübner, [1813]): Staudinger, 1896, 255; Staudinger & Rebel, 1901, 156
Sideridis albicolon: Sheljuzhko, 1967, 215; Sukhareva, 1974, 230; Varga, 1974, 308; Gyulai & Ronkay, 1999, 701; Mühlenberg et al. 2011, 206
Trichoclea albicolon: Alberti, 1971, 372
Sideridis turbida: Bálint et al. 2014, 160; Knyazev et al. 2020, 199; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: G-ATs - 1 ♂, US2 - 1 ♂, UVB1 - 1 ♀.

Heliophobus mongoliensis Simonyi, 2015
? *Mamestra reticulata* var. *unicolor* (Alphéraky, 1889): Staudinger, 1896, 256; Staudinger & Rebel, 1901, 159; Bálint et al. 2014, 115
? *Heliophobus reticulata unicolor*: Sheljuzhko, 1967, 216; Gyulai, 1989, 108; Gyulai & Ronkay, 1999, 701
Heliophobus reticulata (Goeze, 1781): Sukhareva, 1974, 230
? «*Hadena reticulata* Vill.»: Alberti, 1971, 372
? *Heliophobus unicolor*: Bálint et al. 2006, 104; Bálint & Benedek, 2009, 8
? *Sideridis reticulatus*: Mühlenberg et al. 2011, 206
Heliophobus mongoliensis: Simonyi et al. 2015, 167; Knyazev et al. 2020, 199
? *Sideridis reticulata*: Enkhtur et al. 2021c, 373
Material: KA - 3 ♂, 1 ♀, KM2 - 1 ♀.

Saragossa demotica (Püngeler, 1902)
Sideridis peculiaris demotica: Sheljuzhko, 1967, 215
Sideridis demotica: Varga, 1974, 310
Saragossa demotica: Hacker et al. 2002, 87

Material: KA - 4 ♂ (Figure 9B), KB2 - 1 ♂, 2 ♀, KB3 - 2 ♂, KB4 - 1 ♂.

Saragossa incerta (Staudinger, 1896)
Dianthoecia (*Mamestra?*) *incerta* Staudinger, 1896, 258
Saragossa incerta: Sheljuzhko, 1967, 214; Varga, 1974, 292; Gyulai, 1989, 106; Varga & Ronkay, 1991a, 167; Gyulai & Ronkay, 1999, 697; Bálint et al. 2006, 104; 2014, 159; Bálint & Benedek, 2009, 10; Knyazev et al. 2020, 199
Material: G-AT - 5 ♂, KM2 - 1 ♂, 1 ♀, UMG1 - 2 ♂, US1 - 1 ♂, US2 - 2 ♂, UVK - 1 ♂.

Conisania leineri (Freyer, 1836)
Mamestra leineri var. *albina* Staudinger, 1896, 254; Staudinger & Rebel, 1901, 158
Material: G-AT - 2 ♂, KA - 7 ♂, 1 ♀, KB3 - 1 ♂, KM2 - 1 ♀, KB1 - 2 ♂.

Conisania arida (Lederer, 1855)
Mamestra arida: Staudinger, 1896, 255
Conisania arida: Sheljuzhko, 1967, 216; Varga, 1974, 310; Gyulai, 1989, 106; Varga & Ronkay, 1991a, 171; Bálint et al. 2014, 81; Knyazev et al. 2020, 199; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Trichoclea arida: Alberti, 1971, 372
Material: KU - 1 ♀, UMB1 - 3 ♂, 1 ♀, UVB1 - 5 ♂, 2 ♀, UVB2 - 11 ♂, 1 ♀, UVK - 3 ♂, 1 ♀, UMB1 - 2 ♂, UMG1 - 2 ♂.

Enterpia picturata (Alphéraky, 1882)
Enterpia picturata: Gyulai & Ronkay, 1999, 701; Hacker et al. 2002, 109; Bálint et al. 2006, 104
Material: KA - 1 ♂, 1♀, KU - 1 ♂, KB2 - 1 ♂.

Hadena magnolii (Boisduval, [1828])
Hadena magnolia: Bálint et al. 2006, 104
Material: KA - 1 ♀, KB3 - 2 ♂, 1 ♀.

Hadena confusa (Hufnagel, 1766)
Dianthoecia nana (Rottemburg, 1776): Staudinger, 1892, 365; Staudinger & Rebel, 1901, 162
Hadena confusa nana: Mühlenberg et al. 2011, 204; Enkhtur et al. 2017, Supplementary data (Table A1); 2021c, 372
Material: UMB1 - 2 ♂, 3 ♀, UMB2 - 1 ♀.

Hadena albimacula (Borkhausen, 1792)
Hadena albimacula: Bálint et al. 2006, 104; Bálint & Benedek, 2009, 8; Mühlenberg et al. 2011, 204
Material: KB3 - 1 ♂.

* *Hadena intensa* Boursin, 1962
Material: KB3 - 3 ♀ (Figure 9C).
Distribution: Central Asia (Kazakhstan, Kyrghyzstan, Tajikistan, W. China), Mongolia.

* *Hadena filograna* (Esper, 1788)
Material: KB3 - 2 ♀ (Figure 9D).
Distribution: Europe, North Africa (Morocco), Caucasus, Transcaucasia, Asia Minor, Central Asia (Kazakhstan, Kyrghysztan), SW Siberia, Mongolia.

Hadena corrupta (Herz, 1898)
Hadena corrupta: Sheljuzhko, 1967, 216; Varga, 1974, 314; Gyulai, 1989, 108; Hacker, 1992, 298; Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 8; Mühlenberg et al. 2011, 204; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 372
Anepia corrupta: Bálint et al. 2014, 85
Material: G-AT - 1 ♂, UMB1 - 1 ♂, 3 ♀, UMB2 - 1 ♂, UVB1 - 1 ♂.

Hadena aberrans (Eversmann, 1856)
Hadena aberrans: Sheljuzhko, 1967, 217; Varga, 1974, 314; Hacker, 1992, 272; Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 8; Benedek & Bálint, 2013, 150; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 372; Knyazev et al. 2020, 199
Anepia aberrans: Bálint et al. 2014, 85
Material: BS - 1 ♂, UVK - 2 ♂, 2 ♀.

Hadena strouhali (Boursin, 1955)
Hadena strouhali oxygrapha Hacker et Ronkay, 1992: Hacker, 1992, 319; Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104; 2014, 85; Bálint & Benedek, 2009, 8
Hadena strouhali: Knyazev et al. 2020, 199
Material: KM2 - 7 ♂, 2 ♀, KM1 - 5 ♂, 3 ♀, KA - 4 ♂, KB3 - 2 ♂, KB1 - 2 ♂, G-AT - 6 ♂, UMB1 - 7 ♂, 5 ♀, UMG1 - 8 ♂, 9 ♀, G-ATs - 1 ♂, UMB2 - 2 ♂, 1 ♀, UVK - 4 ♂, 1 ♀, KE - 4 ♂, 7 ♀.

Mythimna anderreggii (Boisduval, 1840)
Mythimna anderreggii: Bálint et al. 2014, 132
Material: KB3 - 1 ♂.

Mythimna opaca (Staudinger, 1900)
Mythimna opaca: Sheljuzhko, 1967, 217; Varga, 1974, 319; Gyulai, 1989, 108; Bálint et al. 2006, 105; 2014, 135; Mühlenberg et al. 2011, 205; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2).
Material: KA - 1 ♀, KB3 - 1 ♂, 5 ♀, KB2 - 4 ♀.

Lasionhada orientalis (Alphéraky, 1882)
Dianthoecia proxima var. *uniformis* Staudinger, 1896, 256
Lasionycta orientalis: Gyulai & Ronkay, 1999, 701; Bálint et al. 2006, 104; Bálint & Benedek, 2009, 9
Material: KB3 - 1 ♂, 4 ♀, KU - 1 ♀.

* *Lasionycta buraetica* Kononenko, 1988
Material: G-ATs - 1 ♂ (Figure 9E).
Distribution: S. Siberia, Mongolia.

Actebia laetifica (Staudinger, 1889)
Agrotis laetifica: Staudinger, 1896, 247; Staudinger & Rebel, 1901, 144
Rhyacia laetifica: Alberti, 1971, 371
Parexarnis laetifica: Kovács & Varga, 1971, 317; Sukhareva, 1980, 400; Gyulai & Ronkay, 1999, 693; Bálint et al. 2006, 105; Bálint & Benedek, 2009, 9
Actebia laetifica: Knyazev et al. 2020, 199

Material: KA - 1 ♂, 1 ♀, KM2 - 1 ♀, G-AT - 2 ♀, KB3 - 1 ♂, KD - 2 ♀, G-ATs - 1 ♂, 3 ♀.

Actebia squalida (Guenée, 1852)
Agrotis squalida: Staudinger & Rebel, 1901, 136
Protexarnis squalida: Zolotarenko, 1970, 274; Sukhareva, 1980, 400; Gyulai & Ronkay, 1999, 693; Bálint et al. 2006, 105
Actebia squalida: Knyazev et al. 2020, 199; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Material: KM2 - 1 ♀, KB4 - 2 ♂, G-AT - 1 ♂, KB3 - 2 ♂, KB2 - 2 ♂, KB1 - 1 ♂.

Actebia poecila (Alphéraky, 1888)
Agrotis poecila Alphéraky, 1888, 67; Staudinger & Rebel, 1901, 144
Agrotis superba Staudinger 1889: Staudinger, 1896, 246
Parexarnis poecila: Sheljuzhko, 1967, 211; Kovács & Varga, 1971, 316; Gyulai & Ronkay, 1999, 693; Bálint et al. 2006, 105; 2014, 148; Bálint & Benedek, 2009, 9; Benedek & Bálint, 2013, 151
Rhyacia poecila: Alberti, 1971, 371
Parexarnis poecilia [sic!]: Sukhareva, 1980, 400
Actebia poecila: Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373; Knyazev et al. 2020, 199
Material: KA - 1 ♀, G-AT - 1 ♀, KB2 - 1 ♀, KB4 - 1 ♀, UMB2 - 1 ♀.

Actebia obumbrata (Staudinger, 1889)
Parexarnis obumbrata: Kovács & Varga, 1971, 317; Bálint et al. 2006, 105; Bálint & Benedek, 2009, 9
Material: KB3 - 1 ♂, 1 ♀, KB4 - 1 ♀, KB2 - 1 ♂, KB1 - 1 ♂ (Figure 9F), 3 ♀, KE - 1 ♂, G-ATs - 1 ♂, 1♀.

Dichagyris candelisequa ([Denis & Schiffermüller], 1775)
Dichagyris candelisequa: Volynkin, 2012, 165
Material: KB3 - 3 ♀.

Dichagyris kaszabi Varga, 1973
? *Rhyacia umbrifera*: Alberti, 1971, 371
? «*Dichargyris kaszabi*»: Kovács & Varga, 1971, 308
Dichagyris kaszabi Varga, 1973, 195; Gyulai & Ronkay, 1999, 692; Bálint et al. 2006, 105; 2014, 92; Bálint & Benedek, 2009, 7; Knyazev et al. 2020, 199
Material: KA - 3 ♂, KB1 - 1 ♂, KB4 - 1 ♂, KU - 2 ♂, BS - 8 ♂, 1 ♀, UMG1 - 6 ♂, 1 ♀, US1 - 1 ♀ , US2 - 2 ♂, 1 ♀, UMB2 - 2 ♂.

Dichagyris pudica (Staudinger, 1895)
Agrotis pudica Staudinger, 1895, 351; Staudinger, 1896, 247; Staudinger & Rebel, 1901, 143
Dichargyris [sic!] *pudica*: Kovács & Varga, 1971, 308
Dichagyris pudica: Bálint et al. 2014, 83
Material: KA - 3 ♂, BS - 8 ♂, UMG1 - 1 ♂, UMB2 - 1 ♂, US1 - 2 ♂, US2 - 4 ♂, 1 ♀.

Dichagyris multicuspis (Eversmann, 1852)
Ochropleura (Dichagyris) multicuspis aequicuspis (Staudinger, 1899): Sheljuzhko, 1967, 211
Euxoa multicuspis: Alberti, 1971, 371
Dichargyris [sic!] *multicuspis aequicuspis* Kovács & Varga, 1971, 311

Dichagyris multicuspis: Bálint et al. 2006, 105; Knyazev et al. 2020, 199
Dichagyris multicuspis aequicuspis: Bálint et al. 2014, 92
Material: KA - 1 ♂, KB1 - 2 ♂, 4 ♀, KB2 - 1 ♂, KB4 - 1 ♂, UMG1 - 1 ♀, US1 - 4 ♂, 4 ♀, US2 - 4 ♂, 7 ♀, UVB1 - 1 ♂, UVB2 - 1 ♂.

* *Dichagyris ulrici* (Corti & Draudt, 1933)
Material: KB4 - 1 ♂ (Figure 9G).
Distribution: Central Asia (Kazakhstan, Uzbekistan, Kyrghyzstan, Tajikistan), Mongolia.

Euxoa phantoma I. Kozhantshikov, 1928
Euxoa phantoma: Volynkin, 2012, 169; Enkhtur et al. 2017, Supplementary data (Table A1); 2021c, 373; Knyazev et al. 2020, 201
Material: KB1 - 2 ♂, KB3 - 1 ♀, UMB1 - 1 ♂.

Euxoa adumbrata (Eversmann, 1842)
Agrotis adumbrata: Staudinger, 1896, 251
Euxoa lidia adumbrata: Sheljuzhko, 1967, 210; Kovács & Varga, 1971, 289; Sukhareva, 1980, 396; Gyulai & Ronkay, 1999, 689; Bálint et al. 2006, 105; Bálint & Benedek, 2009, 8
Euxoa adumbrata: Mühlenberg et al. 2011, 204; Knyazev et al. 2020, 199
Material: KB2 - 1 ♂, KB3 - 1 ♀, KB1 - 1 ♂, UMB - 1 ♂.

Euxoa cursoria (Hufnagel, 1766)
Agrotis cursoria currens Staudinger, 1896, 249; Staudinger & Rebel, 1901, 148
Euxoa cursoria: Zolotarenko, 1970, 368; Remm & Viidalepp, 1979, 52; Sukhareva, 1980, 397; Korsun et al. 2012, 23; Bálint et al. 2014, 106; Enkhtur et al. 2017, Supplementary data (Table A1); 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373; Knyazev et al. 2020, 199
Euxoa cursoria currens: Kovács & Varga, 1971, 295; Gyulai, 1989, 105
Euxoa currens: Gyulai & Ronkay, 1999, 690
Material: UMB1 - 1 ♂.

* *Euxoa uigurica* Gyulai, Ronkay & Varga, 2002
Material: G-ATs - 1 ♂ (Figure 9H).
Distribution: Central Asia (W. China), Mongolia.

Rhyacia electra (Staudinger, 1888)
Rhyacia electra: Bálint et al. 2006, 106
Material: KB2 - 2 ♂ (Figure 10A).

Agrotis clavis (Hufnagel, 1766)
Agrotis vestigialis amurensis Staudinger, 1892, 362
Scotia clavis amurensis: Sheljuzhko, 1967, 210; Kovács & Varga, 1971, 301
Agrotis clavis: Sukhareva, 1980, 398; Bálint et al. 2014, 52; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2); 2021c, 373
Agrotis clavis amurensis: Gyulai, 1989, 105; Gyulai & Ronkay, 1999, 692; Bálint et al. 2006, 105; Bálint & Benedek, 2009, 4; Benedek & Bálint, 2013, 153; Mühlenberg et al. 2011, 203
Material: G-AT - 1 ♀.

Agrotis desertorum Boisduval, 1840
Agrotis ripae var. *desertorum*: Staudinger, 1896, 249; Staudinger & Rebel, 1901, 148
Scotia ripae albovenosa (Tshetverikov, 1925): Sheljuzhko, 1967, 211
Agrotis ripae: Zolotarenko, 1970, 342; Sukhareva, 1980, 399
Scotia ripae: Kovács & Varga, 1971, 304
Agrotis desertorum: Korsun et al. 2012, 23; Knyazev et al. 2020, 201
Material: KD - 6 ♂, G-AT - 1 ♂, 1 ♀, KM2 - 2 ♂, KB1 - 1 ♂.

Agrotis ipsilon (Hufnagel, 1766)
Agrotis ypsilon [sic!]: Sukhareva, 1980, 398; Gyulai & Ronkay, 1999, 692
Agrotis ipsilon: Gyulai, 1989, 105; Bálint et al. 2014, 53; Knyazev et al. 2020, 201; Enkhtur et al. 2021a, Supplementary material (Table S2); 2021b, Supplementary material (Table S2)
Material: G-ATs - 1 ♂, US2 - 1 ♂, UVB1 - 1 ♂, 1 ♀.

Xestia senescens (Staudinger, 1881)
Pachnobia senescens: Kovács & Varga, 1971, 336
Xestia senescens: Bálint et al. 2006, 106; Bálint & Benedek, 2009, 11
Material: G-ATs - 1 ♂, 1 ♀.

Xestia herrichschaefferi (Alphéraky, 1895)
Agrotis herrich-schaefferi Alphéraky, 1895, 19; Staudinger, 1896, 245; Staudinger & Rebel, 1901, 142
Estimata herrichschaefferi: Kovács & Varga, 1971, 340; Sukhareva, 1980, 401; Gyulai & Ronkay, 1999, 696; Bálint et al. 2006, 106; Bálint & Benedek, 2009, 7
Estimaja herrichschaefferi: Remm & Viidalepp, 1979, 45
Xestia herrichschaefferi: Bálint et al. 2014, 174
Material: G-ATs - 1 ♂.

Ammogrotis suavis Staudinger, 1895
Ammogrotis suavis Staudinger, 1895, 358; 1896, 261; Zolotarenko, 1970, 272; Gyulai & Ronkay, 1999, 695; Bálint et al. 2006, 106; 2014, 54; Bálint & Benedek, 2009, 5; Knyazev et al. 2020, 201
Eugraphe suavis: Kovács & Varga, 1971, 332
Material: KA - 5 ♂, KB3 - 3 ♂, KM2 - 1 ♂, BS - 3 ♂, UMG1 - 3 ♂.

Xenophysa sharhu Varga, 1989
Xenophysa sharhu: Varga, 1989, 10; Bálint et al. 2006, 106; Bálint & Benedek, 2009, 10; Varga, 2011, 9.
Material: KM2 - 11 ♂ (Figures 10B-10D, 10F, GenBank ID: OR864690), 1 ♀ (Figure 10E), G-AT - 2 ♂, KB3 - 6 ♀.
Remark:The DNA barcode obtained by us from *X. sharhu* had no matches in any of the databases. COI sequence for this species is published for the first time.

Isochlora herbacea Alphéraky, 1895
Isochlora herbacea Alphéraky, 1895, 195; Varga, 1976, 187; Gyulai & Ronkay, 1999, 696; Bálint et al. 2006, 106; 2014, 121
Material: G-ATs - 62 ♂ (Figure 6C).

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Table 1. List of collection sites (in chronological order). The reference to figures in our previous paper (Makhov et al., 2023) are marked with asterisk. The reference to figures (in this article) illustrated collection localities in 2023 are in bold.

Abbr.	Locality	Coordinates	Date	Figure
KM1	Khovd aimag, Must Sum, 16 km NWW of Must, dry hills	46.7274700N, 92.5920415E	5.VI.2022	6C*
KA	Khovd aimag, Altai Sum, 22 km NNW of Altai, 1552 m.a.s.l.	46.006623N 92.356425E	6.VI.2022	3A*
KB1	Khovd aimag, Bulgan Sum, 36 km S of Bulgan, desert	45.7812698N, 91.1355541E	7.VI.2022	4C*
KU	Khovd aimag, Uyench Sum, 10 km NNE of Burenkhairkhan	46.1866290N, 91.6003534E	9.VI.2022	5C*
KB2	Khovd aimag, Bulgan Sum, 27 km NNW of Burenkhairkhan	46.3372557N, 91.4698368E	10.VI.2022	4A*
KB3	Khovd aimag, Bulgan Sum, 30 km NNE of Bulgan	46.4021527N, 91.1830443E	11.VI.2022	4B*
KB4	Khovd aimag, Bulgan Sum, 19 km NE of Bulgan, dry steppe	46.2548970N, 91.2569036E	12.VI.2022	3B*, 3C*
KM2	Khovd aimag, Must Sum, 16 km NWW of Must, 2280 m	46.7274700N, 92.5920415E	13.VI.2022	6A*, 6B*
G-AT	Govi-Altay aimag, Tonkhil Sum, 11 km W of Tonkhil village	46.2979918N, 93.7575660E	15.VI.2022	2A*, 2B*
KD	Khovd aimag, Darvi Sum, 14 km NWW of Darvi village, dry hills	46.958009N, 93.435621E	17.VI.2022	5A*, 5B*
KE	Mongolian Altai, Khovd Aimag, Erdenebüren Sum, 50 km NW of Khovd	48.344370N, 91.152424E	9.VI.2023	**2A**
G-AY	Mongolian Altai, Govi-Altai Aimag, Yesönbulag Sum, 15 km NWW of Altai city	46.4250239N, 96.0726805E	10.VI.2023	-
UVK	Gobi Altai, Övörkhangai Aimag, Khairkhandulaan Sum, 117 km SW of Arvaikheer	45.5246957N, 101.6923948E	12.VI.2023	**2B**
UVB1	Gobi Altai, Övörkhangai Aimag, Bogd Sum, 14 km SE of Bogd, Arts-Bogd Mts. ridge	44.5697605N, 102.2884893E	16.VI.2023	**2C**
UVB2	Gobi Altai, Övörkhangai Aimag, Bogd Sum, 30 km SEE of Bogd, Arts-Bogd ridge	44.5365397N, 102.5125336E	17.VI.2023	**3A**
US1	Gobi Altai, Ömnögovi Aimag, Servei Sum, 7,5 km NW of Servei	43.6357291N, 102.1156652E	19.VI.2023	**3B**
US2	Gobi Altai, Ömnögovi Aimag, Servei Sum, 37 km SEE of Servei, Zöölöngiin nuru	43.5066757N, 102.6328658E	20.VI.2023	**3C**
UMB1	Gobi Altai, Ömnögovi Aimag, Bayandalai Sum, 32 km NEE of Bayandalai	43.7592101N, 103.5698007E	21.VI.2023	**4A**
UMB2	Gobi Altai, Ömnögovi Aimag, Bayandalai Sum, 26 km NE of Bayandalai	43.6530916N, 103.7037193E	22.VI.2023	**4B**
UMG1	Gobi Altai, Ömnögovi Aimag, Gurvan tes Sum, 36 km W of Gurvan tes	43.1754582N, 100.5989524E	25.VI.2023	**4C**
UMG2	Gobi Altai, Ömnögovi Aimag, Gurvan tes Sum, 92 km SWW of Gurvan tes	43.1244064N, 99.9253519E	26.VI.2023	**5A**
BS	Gobi Altai, Bayankhongor Aimag, Shinejinst Sum, 27 km SE of Shinejinst	44.3717738N, 99.5200808E	29.VI.2023	**5B**
G-ATs	Gobi Altai, Govi-Altai Aimag, Tsogt Sum, 36 km NEE of Tsogt, 2840 m.a.s.l.	45.4266563N, 97.0989775E	1.VII.2023, 3.VII.2023	**5C** **6A**
G-ATg	Gobi Altai, Govi-Altai Aimag, Tögrög Sum, 70 km SWW of Tseel, foot of the hill, in daytime	45.3697830N, 94.9856093E	5.VII.2023	**6B**

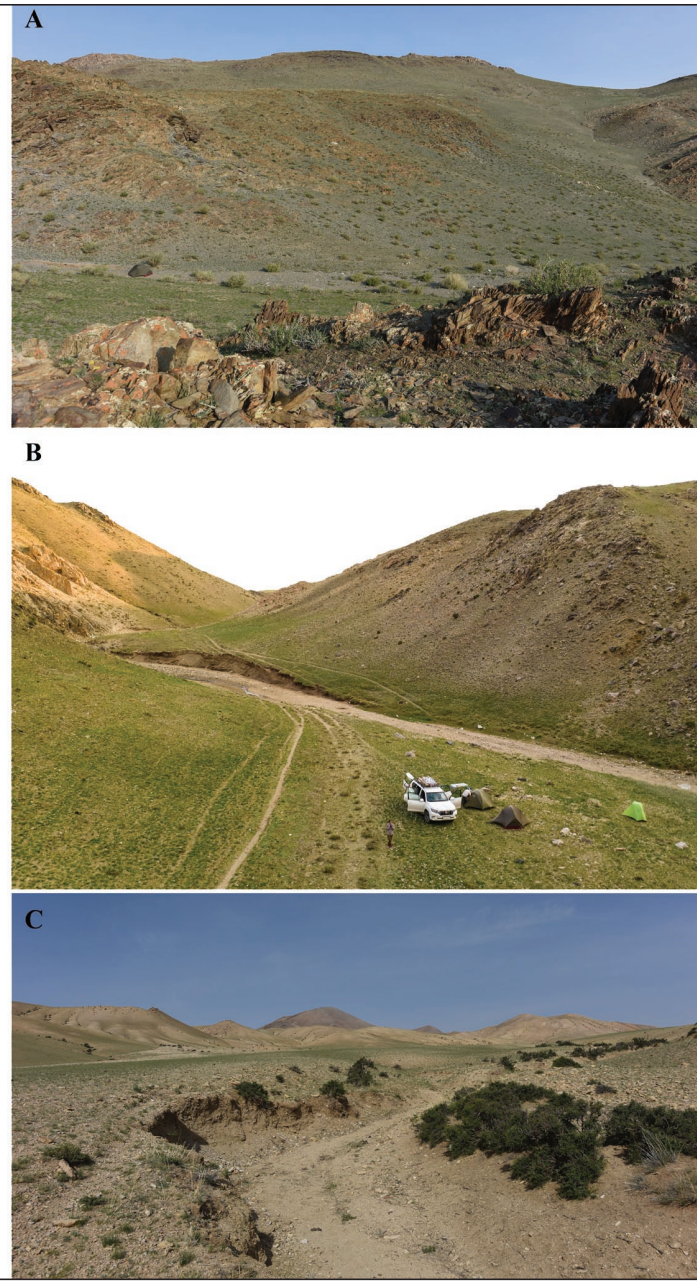

Figure 2. Habitats of the second travel. **A.** Khovd Aimag, Erdenebüren Sum, 50 km NW of Khovd. **B.** Övörkhangai Aimag, Khairkhandulaan Sum, 117 km SW of Arvaikheer (photo by E. Pazhenkova). **C.** ditto, Bogd Sum, 14 km SE of Bogd, Arts-Bogd Mts. ridge.

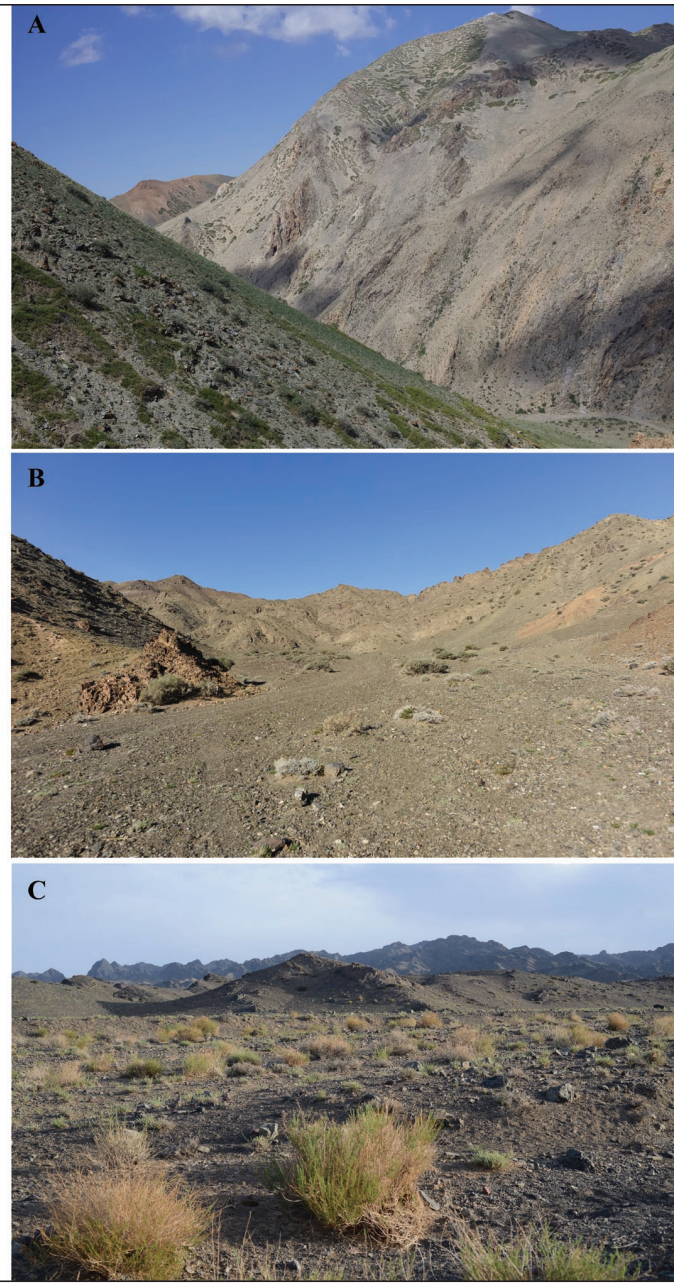

Figure 3. Habitats of the second travel. **A.** Övörkhangai Aimag, Bogd Sum, 30 km SEE of Bogd, Arts-Bogd ridge (photo by E. Pazhenkova). **B.** Ömnögovi Aimag, Servei Sum, 7,5 km NW of Servei. **C.** ditto, Servei Sum, 37 km SEE of Servei, Zöölöngiin nuru.

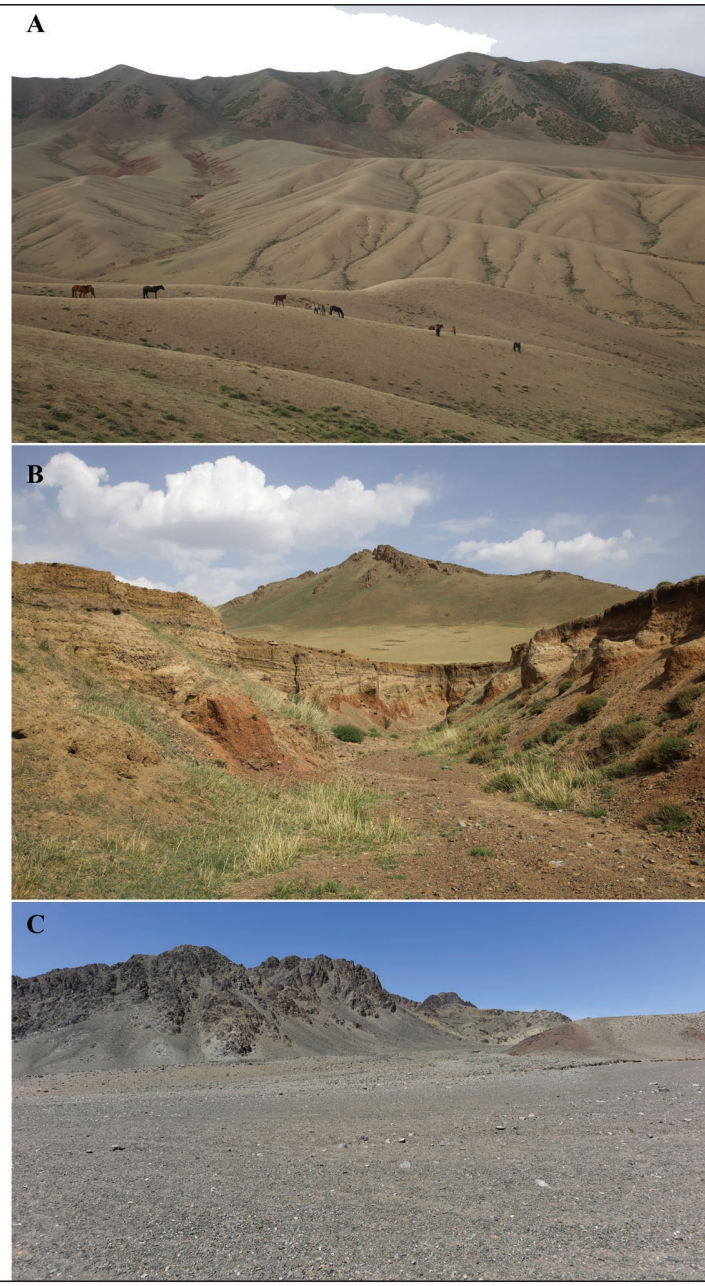

Figure 4. Habitats of the second travel, Ömnögovi Aimag. **A.** Bayandalai Sum, 32 km NEE of Bayandalai (photo by E. Pazhenkova). **B.** ditto, 26 km NE of Bayandalai (photo by E. Pazhenkova). **C.** Gurvan tes Sum, 36 km W of Gurvan tes.

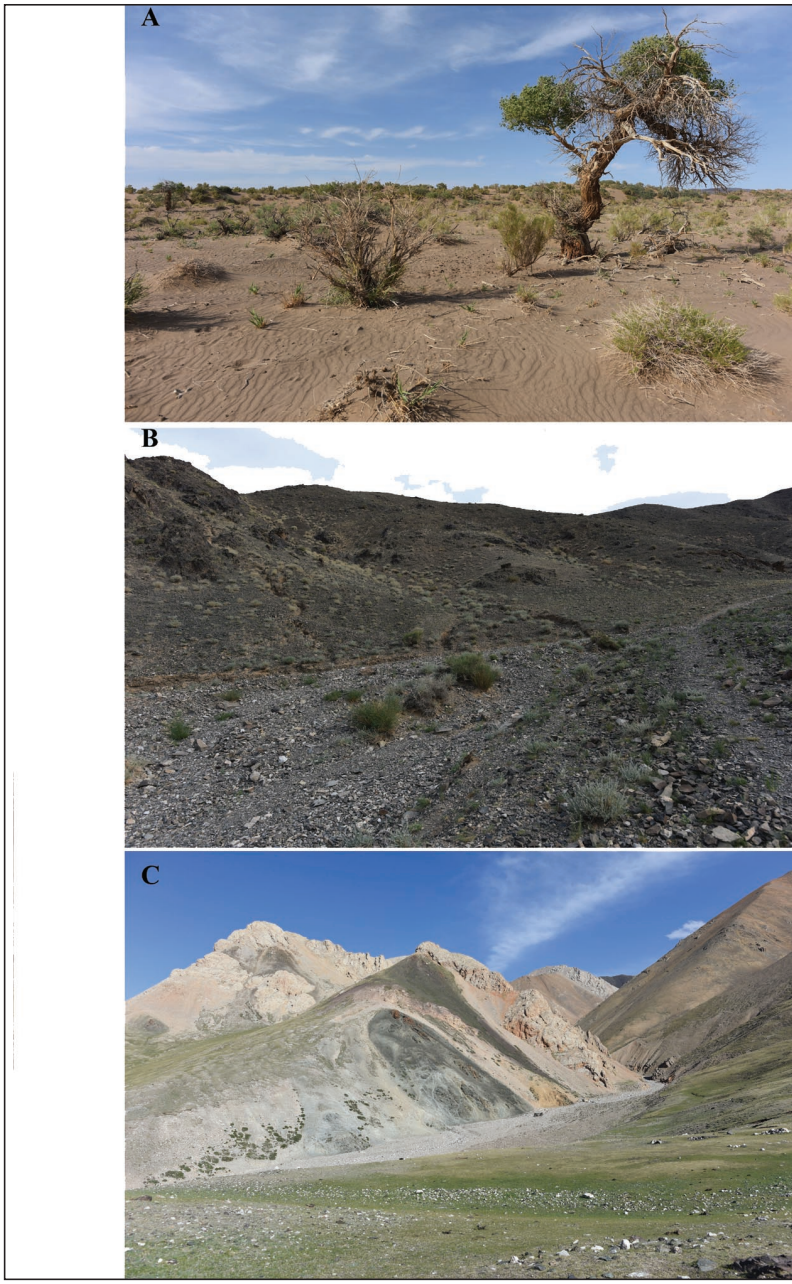

Figure 5. Habitats of the second travel. **A.** Ömnögovi Aimag, Gurvan tes Sum, 92 km SWW of Gurvan tes. **B.** Bayankhongor Aimag, Shinejinst Sum, 27 km SE of Shinejinst. **C.** Govi-Altai Aimag, Tsogt Sum, 36 km NEE of Tsogt, 2840 m.a.s.l.

Figure 6. Habitats of the second travel, Govi-Altai Aimag. **A.** Tsogt Sum, 36 km NEE of Tsogt, 2840 m.a.s.l. **B.** Tögrög Sum, 70 km SWW of Tseel, foot of the hill. **C.** *Isochlora herbacea*, Govi-Altai Aimag, Tsogt Sum, 36 km NEE of Tsogt, 2840 m.a.s.l., 1-VII-2023

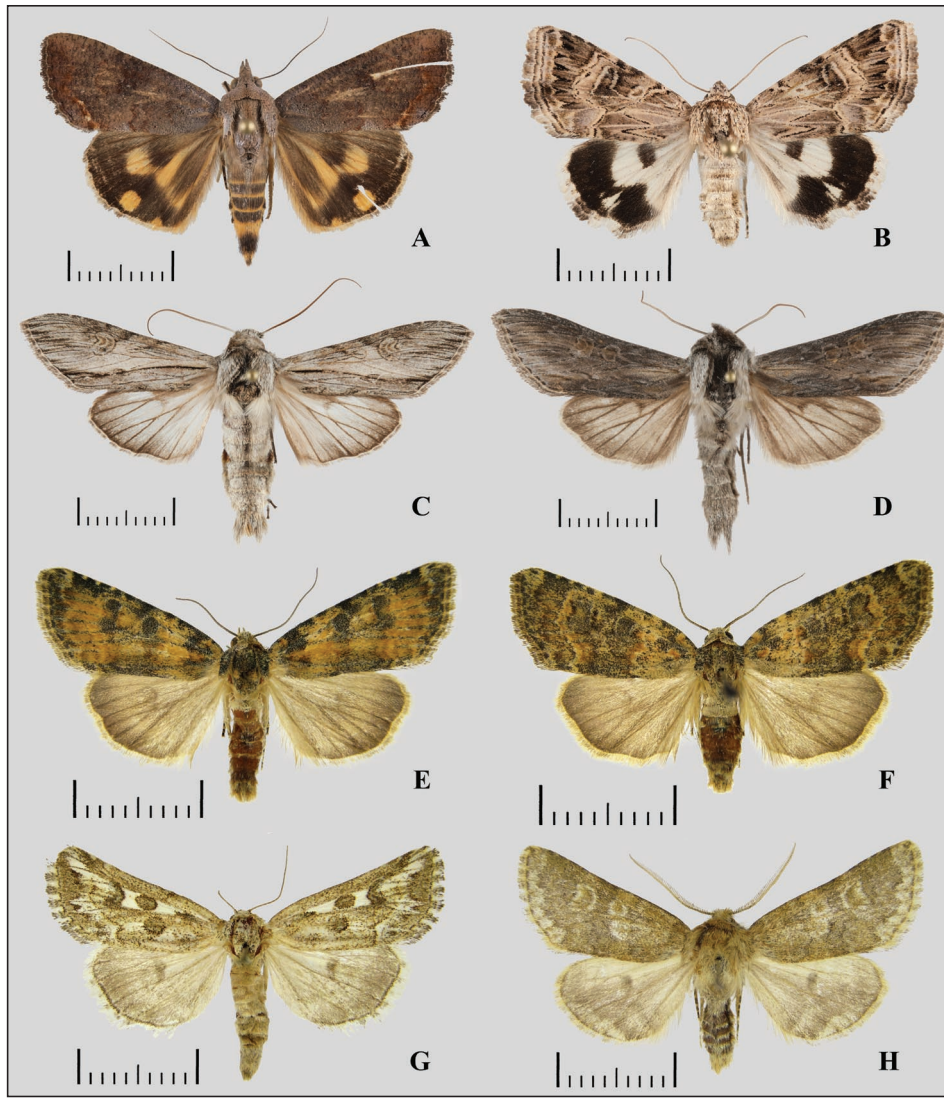

Figure 7. Adults of Mongolian Erebidae and Noctuidae. **A.** *Hypocala subsatura*, male. **B.** *Armada panaceorum*, male. **C.** *Cucullia aksuana*, male. **D.** *C. vicina*, male. **E, F.** *Bryophila kaszabi*, males. **G.** *Victrix bogdoana*, male. **H.** *Athaumasta golomto*, male.

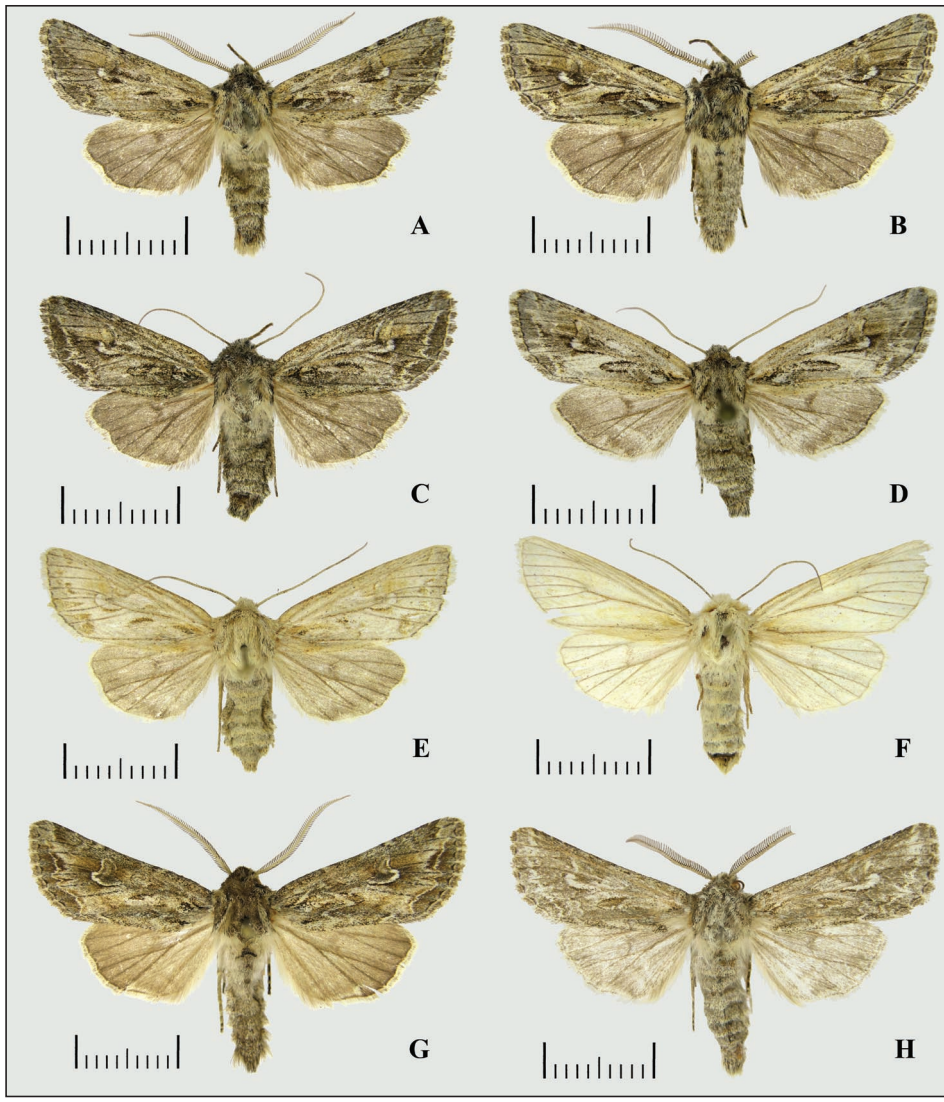

Figure 8. Adults of Mongolian Noctuidae. **A, B.** *Ctenoceratoda scotosparsa*, males. **C, D, E, F.** ditto, females. **G.** *Ctenoceratoda cyanochrea*, male. **H.** *C. persephone*, male.

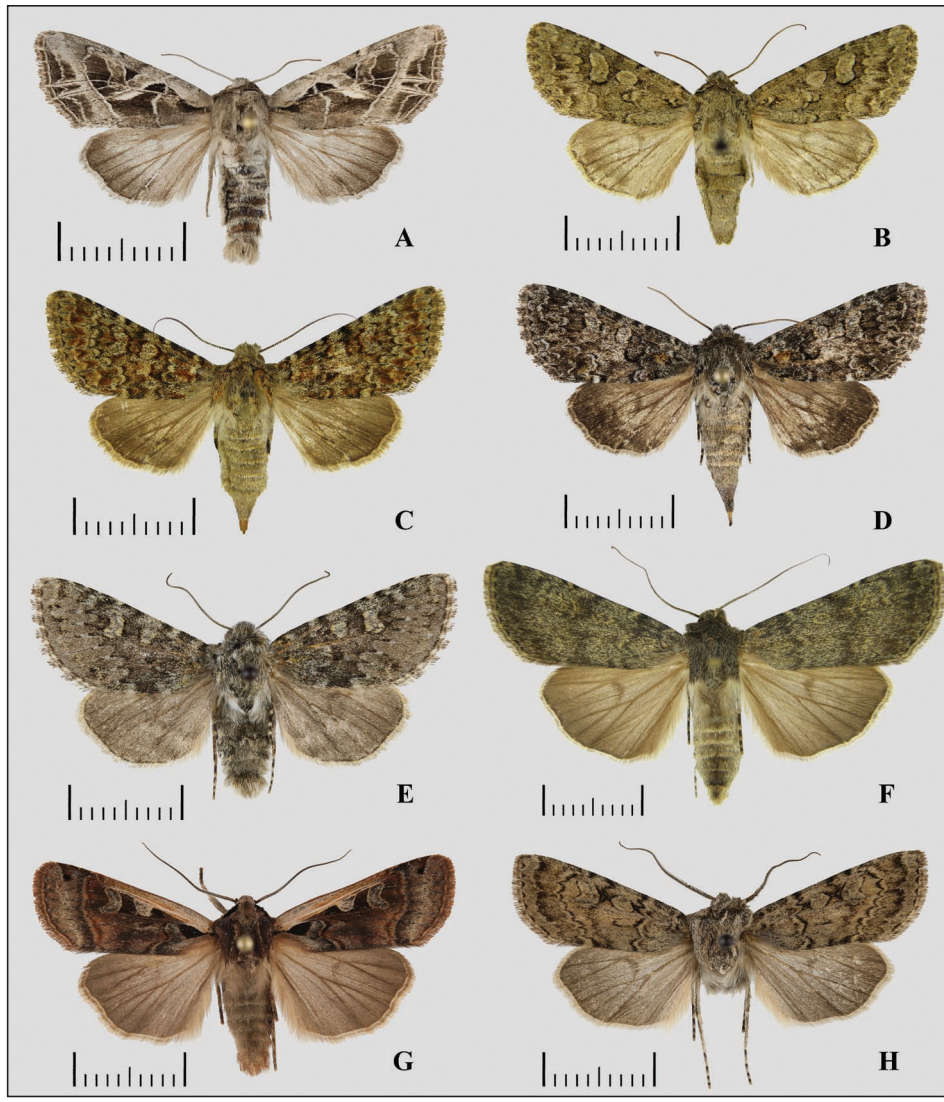

Figure 9. Adults of Mongolian Noctuidae. **A.** *Lacanobia praedita*, male. **B.** *Saragossa demotica*, male. **C.** *Hadena intensa*, female. **D.** *H. filograna*, female. **E.** *Lasionycta buraetica*, male. **F.** *Actebia obumbrata*, male. **G.** *Dichagyris ulrici*, male. **H.** *Euxoa uigurica*, male.

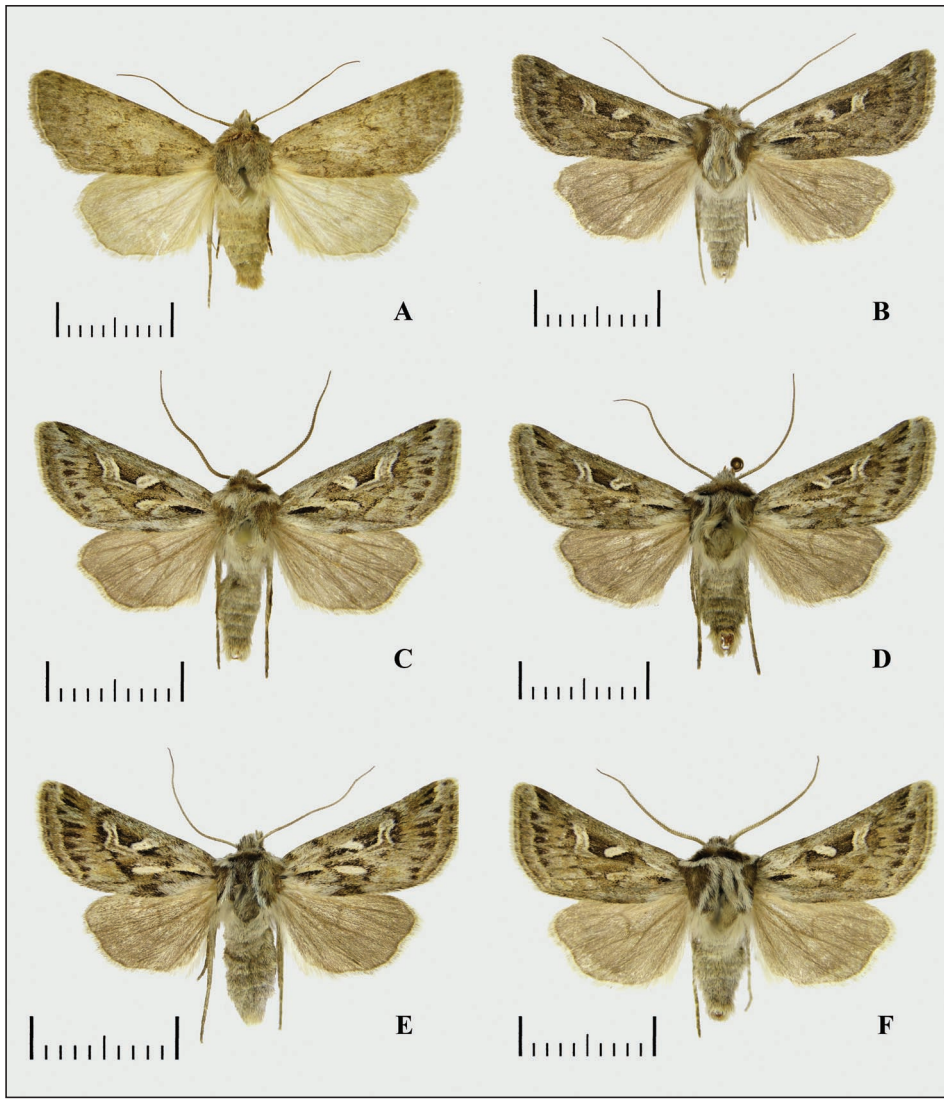

Figure 10. Adults of Mongolian Noctuidae. **A.** *Rhyacia electra*, male. **B, C, D, F.** *Xenophysa sharhu*, males. **E.** ditto, female.

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NOTICIAS GENERALES / *GENERAL NEWS*

SHILAP REVISTA DE LEPIDOPTEROLOGÍA* EN LOS ÍNDICES DE IMPACTO INTERNACIONALES 2023 / SHILAP REVISTA DE LEPIDOPTEROLOGIA *IN THE INTERNATIONAL IMPACT INDEXES 2023*.–** Según SCOPUS en su Índice SJR 2023 de *SCImago Journal Rank*, aparecemos con un **Indicador SJR: 0.358** FI, **Índice H: 14**, **Categoría: Ciencia Animal y Zoología: 243/492 (Q2), Ecología, Evolución, Comportamiento y Sistemática: 419/722 (Q3), Ciencia de los insectos: 101/184 (Q3)**. Según CLARIVATE ANALYTICS en su Índice JCR 2023 de *Journal Citation Indicator*, aparecemos con un **Índice de Impacto: 0,2, Categoría: 107/109 (Q4, Entomología)**, el **Influencia del artículo: 0,050**, el **Índice de inmediatez: 0,1**, el **Eigenfactor: 0,00014** y la **Categoría Eigenfactor: Ecología y Evolución. /** *According to SCOPUS in their Index SJR 2023 of* SCImago Journal Rank*, we appear with a* ***SJR Indicator: 0.358 *FI,* ***H Index: 14****,* ***Rank: Animal Science and Zoology 243/492 (Q2), Ecology, Evolution, Behavior and Systematic: 419/722 (Q3), Insect Science: 101/184 (Q3)****. According to CLARIVATE ANALYTICS in their Index JCR 2023 of* Journal Citation Reports*, we appear with an* ***Impact Index: 0,2****,* ***Rank: 107/109 (Q4, Entomology)****,the* ***Article influence: 0,050****, the* ***Inmediacy Index: 0,1****, the* ***Eigenfactor: 0,00014****, and the* ***Eigenfactor Category: Ecology and Evolution*****.- DETALLES / *DETAILS*:** SHILAP; Apartado de correos, 331; E-28010 Madrid; ESPAÑA / *SPAIN* (E-mail: avives1954@outlook.es).

SHILAP REVISTA DE LEPIDOPTEROLOGÍA, AHORA DISPONIBLE EN VERSIÓN ELECTRÓNICA / *SHILAP REVISTA DE LEPIDOPTEROLOGÍA, NOW AVAILABLE IN ELECTRONIC VERSION*.– *SHILAP Revista de lepidopterología*, desde 1973 solo estaba publicándose en versión impresa (ISSN: 0300-5267) y desde el año 2022, ya dispone de la versión electrónica (eISSN: 2340-4078) en la siguiente dirección **https://shilap.org**, consideramos que es un paso muy importante al superar los 50 años de existencia. / *SHILAP Revista de lepidopterología, since 1973 was only published in printed version (ISSN: 0300-5267) and from this year 2022, already has an electronic version (eISSN: 2340-4078) in the following address* ***https://shilap.org****, we consider it a very important step over the age of 50 years of existence*.- **DETALLES / DETAILS**: SHILAP, Apartado de correos, 331; E-28080 Madrid, ESPAÑA / *SPAIN* (E-mail: avives1954@outlook.es).

ALFILERES ENTOMOLÓGICOS PRECIO ESPECIAL PARA LOS SOCIOS DE SHILAP.– En estos momentos SHILAP pone a disposición de sus socios alfileres entomológicos pavonados en negro y fabricados en la República Checa con una excelente calidad y de dos marcas diferentes a elegir AUSTERLITZ y MORPHO / SPHINX (la marca MORPHO ha cambiado de nombre y se denomina SPHINX), los precios y los números disponibles en estos momentos son:

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A estos precios hay que incluir los gastos de envío.– **DETALLES / *DETAILS*:** SHILAP; Apartado de correos, 331; E-28080 Madrid, ESPAÑA / *SPAIN* (E-mail: avives1954@outlook.es).

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