

## Research article

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## New world lampyrid types at the Zoological Institute of the Russian Academy of Sciences

William LIMA<sup>1,\*</sup>, Alexey G. MOSEYKO<sup>2</sup> & Luiz Felipe Lima DA SILVEIRA<sup>3</sup><sup>1</sup>Laboratório de Sistemática e Ecologia de Coleoptera (LASEC), Instituto Nacional de Pesquisas da Amazônia (INPA). Av. Bem-Te-Vi, 8-406 – Campus II, Petrópolis, 69067-001, Manaus, AM, Brazil.<sup>2</sup>Laboratory of Insect Systematics, Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, 199034 St. Petersburg, Russia.<sup>3</sup>Biology Department, Western Carolina University, 535 Apodaca Building, 1 University Drive Cullowhee, NC 28723, USA.\*Corresponding author: [willgolima@gmail.com](mailto:willgolima@gmail.com)<sup>2</sup>Email: [chrysolesha@mail.ru](mailto:chrysolesha@mail.ru)<sup>3</sup>Email: [silveira.lfl@gmail.com](mailto:silveira.lfl@gmail.com)<sup>1</sup>[urn:lsid:zoobank.org:author:72D0D809-D41B-4E49-B544-0FA705E50B95](https://zoobank.org/author:72D0D809-D41B-4E49-B544-0FA705E50B95)<sup>2</sup>[urn:lsid:zoobank.org:author:04E0214F-C257-4211-B1AD-68F7EEA83637](https://zoobank.org/author:04E0214F-C257-4211-B1AD-68F7EEA83637)<sup>3</sup>[urn:lsid:zoobank.org:author:8C11F007-55CB-4769-96D7-82D221203B3B](https://zoobank.org/author:8C11F007-55CB-4769-96D7-82D221203B3B)

**Abstract.** New World lampyrid taxonomy faces severe taxonomic impediments. Most species remain known from original taxonomic descriptions only, often insufficient for accurate identification. Therefore, the study of type specimens is critical to ensure proper identification. The Russian entomologist Viktor Ivanovich Motschulsky was one of the most important authors of firefly (Coleoptera: Lampyridae) taxonomy during the XIX<sup>th</sup> century, and his work is still relevant today. Part of his material, including the type specimens of several species, is deposited at the Zoological Institute of the Russian Academy of Sciences. Unlike their European, Asian, and Oceanian counterparts, the taxonomy of Neotropical fireflies is still in its infancy, partly due to largely outdated literature and difficulties in accessing type specimens. Here, we review the type specimens of 38 firefly species deposited at ZIN, 15 of which are holotypes and 7 are lectotypes. For each specimen, the name-bearing status, condition of preservation, as well as the associated label data are provided. Lectotypes are designated for the following species described by Motschulsky: *Bicellonycha lividipennis*, *Ellychnia californica*, *Lychnuris klugii*, *Macrolampis longipennis*, *Pseudolychnuris suturalis*, *Telephoroides lineaticollis*, *Telephoroide occidentalis*.

**Keywords.** Firefly, Lampyrinae, Amydetinae, Cladodinae, Photurinae.

Lima W., Moseyko A.G. & Silveira L.F.L. 2024. New world lampyrid at the Zoological institute of Russia Academy of Sciences. *European Journal of Taxonomy* 943: 24–58. <https://doi.org/10.5852/ejt.2024.943.2575>

## Introduction

Investigation of type material is critically important for any taxonomic work. Unfortunately, information on centuries-old type specimens may be hard to obtain for several reasons. Type specimens may have been destroyed or are poorly labelled, or their depository institution has not been clearly given. All these problems are relevant for the type material of Viktor Ivanovich Motschulsky (1810–1871, also known as Motchoulsky, de Motschoulsky), Russian amateur entomologist, who described numerous insect taxa (nearly 5000 according to Motschoulsky 1869), especially in the order Coleoptera, since the late 1830s. His last works were published after his death, until 1875. Despite Motschulsky's remarkable entomological knowledge, he was sometimes not very thorough in his work. His descriptions were often very short, and type specimens were not always explicitly mentioned, sometimes not discussed at all, or even containing misleading information (e.g. attributing wrong type localities; see Bousquet 1997). Since he deposited types in multiple institutions, including his private collection, Motschulsky's types are often difficult to find. Most of his type specimens are now in the Zoological Museum of Moscow State University (Moscow, Russia). However, many of his types are in the Zoological Institute of the Russian Academy of Sciences (St. Petersburg), among other places.

Motschulsky's work is particularly relevant to Lampyridae taxonomy because he described several of the genus- and species-level names in this family (Motschulsky 1853). However, his original taxonomic descriptions lacked illustrations of diagnostic features and are often insufficient for the accurate identification of fireflies. Since then, such limitations have been largely overcome by past or ongoing taxonomic work in many parts of the world: North America (e.g., Fender 1970), Europe (e.g., Geisthardt 1982), Oceania and Eastern Asia (e.g., Ballantyne *et al.* 2019). However, with the notable exception of Zaragoza-Caballero's team in Mexico (cf. Perez-Hernandez *et al.* 2022), little taxonomy on Neotropical lampyrids has occurred since their original descriptions. Yet, type specimens are still critical for the identification of Neotropical fireflies (e.g., Silveira & Mermudes 2014; Silveira *et al.* 2016; 2019). Documentation of the whereabouts and state of preservation of type specimens from the Neotropical region is crucial to the continued improvement of firefly taxonomy worldwide.

Most of Motschulsky's descriptions of Lampyridae were published continuously from 1852 up to 1854 in his *Études Entomologiques*. During this time, Motschulsky was living in St. Petersburg, Russia, where he joined a group of amateur entomologists assembled around Édouard Ménétries (1802–1861). The latter was a curator of the entomological collection in the Zoological Museum of the Imperial Academy of Sciences (in St. Petersburg, Russia), which would become the Zoological Institute of the Russian Academy of Sciences (ZIN) in 1931. Members of this amateur group helped Ménétries prepare specimens, often taking some to their private collections. The subsequent curator of the ZIN collection, August Morawitz, discouraged this practice of taking specimens from the ZIN holdings (Krivokhatsky 2013).

Vasiliy Fomich Grey (ca 1815–1864, William Grey, Basile Grey), a gardener and member of the aforementioned entomological group (Reiman 1999), also had a private entomological collection. After Grey's death, his collection – which included some Lampyridae types described by Motschulsky – was added to the ZIN holdings after a period of unknown whereabouts. It is thought that Grey's collection was incorporated into ZIN via some other private collections (e.g., some specimens have also the label "ex. Tulinov coll."). Other parts of Motschulsky's collection were directly deposited in ZIN or thought to have been incorporated after his death, transferred to St. Petersburg in two boxes including types (Krivokhatsky 2013). All these materials are kept in ZIN.

Kazantsev & Nikitsky (2008) recently catalogued the Lampyridae types described by Motschulsky deposited in the Zoological Museum of Moscow Lomonosov University (Moscow, Russia). However,

Motschulsky's types in St. Petersburg, are still not catalogued, several of which are even not recognized. Here, we fill this gap by cataloguing the New World Lampyridae species described by Motschulsky. We provide detailed information about type specimens of 38 lampyrid species and their respective labels, in an important step to facilitate research on New World lampyrids.

## Material and methods

For taxonomic hierarchy, we followed the classification system from Martin *et al.* (2019). We list each species under its original combination and indicate the current valid name. A list of synonyms for all 70 New World lampyrids species described by Motschulsky is provided in Table 1.

We provide, for each specimen, habitus pictures and report the name-bearing status, condition of preservation (e.g., complete or with any missing parts), and any label data. Label data is given as follows: double quotes (“ ”) for label data quoted verbatim, double forward slashes (//) to separate labels; double comma (,,) for line breaks, and square brackets [ ] for our comments or notes.

When the handwriting could be assigned to a writer, their name is listed. However, since Motschulsky's types came to ZIN in different ways, they were labelled inconsistently. Only in some cases, there are original handwritten labels of Motschulsky. Most of the types have labels written by some technician, particularly in Ménétries or Morawitz's time, and later pinned under the beetles. Some specimens bear handwritten labels by Ménétries and other handwritten labels of unknown origin, probably added to the specimens from Grey's collection before they reached ZIN. Specimens with all 4 label types can be assigned with certainty to Motschulsky's descriptions. If a type specimen is the only known specimen of that species to have been studied by Motschulsky, we considered it a holotype. For species whose lectotypes were designated by Kazantsev & Nikitsky (2008), we list paralectotypes.

Motschulsky often cited some species attributed to other authors, but never published by them. In these cases, Motschulsky is considered the author of these species. Consider for example *Costalampys klugii* (Motschulsky, 1854): Motschulsky attributes the authorship of the original combination *Lychnuris klugii* to Dejean, but Motschulsky should be regarded as the author since Dejean never described it. Likewise, specimens identified by Motschulsky are deemed type specimens of these species. Some of the types were recognized and separated earlier, probably by G.G. Jacobson, who was a curator of Coleoptera in ZIN from 1897 to 1926. These types were placed in a small box and lent to a French specialist, interpreted here to be E. Olivier, who added bluish and reddish labels with his opinions on the status of the specimens before returning them. These specimens remained in this small box, most likely since the 1910s.

Regarding the fact that Motschulsky's publications often have two different dates (one on first page, one on cover), we followed Griffin's (1936) dates based on information retrieved from the Moscow's Imperial Society of Naturalists.

Photos were taken with a Leica MZ 9.5 dissecting microscope coupled with a Leica DFC290 camera. The images were stacked using Helicon Focus software (Helicon Soft Ltd., Kharkiv, Ukraine). Images were edited in Adobe Lightroom® CC 2021 Software for light and contrast adjustment, and plates were assembled in Adobe Photoshop® CC 2021.

The following abbreviations are used for the collections mentioned in this paper: ZIN = Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia); ZMMU = Zoological Museum of Moscow State University (Moscow, Russia).

**Table 1** (continued on next 2 pages). List of New World Lampyridae species described by Motschulsky. (V=Valid; S=Synonym; H=Homonym).

Subfamily	List of New World Lampyridae species described by Motschulsky	Current status	V, S, or H?	ZIN	ZMMU
Amydetinae	<i>Amydetes fucata</i>	<i>Amydetes fucata</i>	V	Holotype	–
Photurinae	<i>Bicellonycha deleta</i>	<i>Bicellonycha deleta</i>	V	–	Syntype Ø
Photurinae	<i>Bicellonycha lividipennis</i>	<i>Bicellonycha lividipennis</i>	V	Lectotype ♂	Paralectotype Ø
Photurinae	<i>Bicellonycha melanura</i>	<i>Bicellonycha melanura</i>	V	–	Syntype ♂
Photurinae	<i>Blattomorpha lateralis</i>	<i>Photuris lateralis</i>	V	–	–
Lampyrinae	<i>Calyptocephalus stipulicornis</i>	<i>Calyptocephalus stipulicornis</i>	V	–	Syntype Ø
Lampyrinae	<i>Cassidomorphus silphoides</i>	<i>Cassidomorphus silphoides</i>	V	–	Lectotype ♂
Lampyrinae	<i>Cratomorphus fuscipennis</i>	<i>Cratomorphus fuscipennis</i>	V	–	Syntype Ø
Lampyrinae	<i>Dilychnia basalis</i>	<i>Dilychnia guttula</i>	S	Syntype Ø	Syntype ♂
Lampyrinae	<i>Dilychnia ruficollis</i>	<i>Dilychnia ruficollis</i>	V	–	Lectotype ♀
Photurinae	<i>Dryptomorpha latefascia</i>	<i>Photuris latefascia</i>	V	–	–
Lampyrinae	<i>Ellipolampis cinctella</i>	<i>Photinus cinctellus</i>	V	–	Lectotype ♀
Lampyrinae	<i>Ellipolampis elongata</i>	<i>Photinus elongatus</i>	V	Paralectotype ♂	Lectotype ♂
Lampyrinae	<i>Ellipolampis impressicollis</i>	<i>Photinus impressicollis</i>	V	–	–
Lampyrinae	<i>Ellipolampis lateralis</i>	<i>Photinus lateralis</i>	S	Holotype ♂	–
Lampyrinae	<i>Ellipolampis limbella</i>	<i>Photinus limbellus</i>	V	Paralectotype ♂	Lectotype ♀
Lampyrinae	<i>Ellipolampis suturella</i>	<i>Photinus suturellus</i>	V	Paralectotype ♂	Lectotype Ø
Lampyrinae	<i>Ellychnia albilatera</i>	<i>Photinus albilaterus</i>	V	Holotype ♀	–
Lampyrinae	<i>Ellychnia californica</i>	<i>Photinus californicus</i>	V	Lectotype ♀	Paralectotype ♂
Lampyrinae	<i>Ellychnia latipennis</i>	<i>Photinus latipennis</i>	S	Holotype ♀	–
Lampyrinae	<i>Ellychnia mexicana</i>	<i>Photinus mexicanus</i>	V	Holotype ♀	–
Lampyrinae	<i>Erythrolychnia Dimidiatipennis</i>	<i>Erythrolychnia Dimidiatipennis</i>	S	–	Lectotype ♀
Lampyrinae incertae sedis	<i>Ethra axillaris</i>	<i>Ethra axillaris</i>	V	–	Syntype Ø
Lampyrinae	<i>Lychnaeris (sic) triguttula</i>	<i>Lychnacris triguttula</i>	V	Holotype ♀	–
Lampyrinae	<i>Lamprocera trimaculata</i>	<i>Lamprocera trimaculata</i>	V	–	–
Lampyrinae	<i>Lychnogaster angustatus</i>	<i>Lychnogaster angustatus</i>	V	–	Lectotype Ø
Lampyrinae	<i>Lychnogaster cinctus</i>	<i>Lychnogaster cinctus</i>	V	Paralectotype Ø	Lectotype Ø
Lampyrinae	<i>Lychnuris klugii</i>	<i>Costalampys klugii</i>	V	Lectotype ♂	–
Lampyrinae	<i>Macrolampis cincta</i>	<i>Photinus circumcincta</i>	H	Paralectotype ♂	Lectotype ♂

**Table 1** (continued). List of New World Lampyridae species described by Motschulsky. (V=Valid; S=Synonym; H=Homonym).

Subfamily	List of New World Lampyridae species described by Motschulsky	Current status	V, S, or H?	ZIN	ZMMU
Lampyrinae	<i>Macrolampis infuscata</i>	<i>Photinus infuscatus</i>	V	–	Syntype Ø
Lampyrinae	<i>Macrolampis longipennis</i>	<i>Photinus longipennis</i>	V	Lectotype ♂	Paralectotype ♂
Lampyrinae	<i>Macrolampis longula</i>	<i>Photinus longulus</i>	V	Holotype ♂	–
Lampyrinae	<i>Macrolampis velutina</i>	<i>Photinus velutinus</i>	V	–	Lectotype ♀
Lampyrinae	<i>Mesolampis pectinicornis</i>	<i>Lucidota pectinicornis</i>	S	–	–
Amydetinae	<i>Megalophthalmus cinctus</i>	<i>Magnoculus cinctus</i>	V	–	–
Cladodinae	<i>Nyctocrepis demoulini</i>	<i>Nyctocrepis demoulini</i>	V	Holotype ♂	–
Cladodinae	<i>Nyctocrepis flabellicornis</i>	<i>Cladodes flabellicornis</i>	V	Holotype ♂	–
Cladodinae	<i>Nyctocrepis lamellicornis</i>	<i>Brasilocladodes lamellicornis</i>	S	Paralectotype ♂	Lectotype ♂
Lampyrinae	<i>Nyctophanes bisignata</i>	<i>Aspisoma bisignatum</i>	V	Holotype ♀	–
Lampyrinae	<i>Nyctophanes bremeri</i>	<i>Aspisoma bremeri</i>	V	Syntype ♀	–
Lampyrinae	<i>Nyctophanes cassidea</i>	<i>Aspisoma cassidea</i>	V	Holotype Ø	–
Lampyrinae	<i>Nyctophanes impressipennis</i>	<i>Aspisoma impressipenne</i>	V	–	Lectotype ♀
Lampyrinae	<i>Nyctophanes lineolata</i>	<i>Aspisoma lineolatum</i>	V	Holotype ♂	–
Lampyrinae	<i>Nyctophanes nitida</i>	<i>Aspisoma nitidum</i>	V	–	–
Lampyrinae	<i>Nyctophanes palliata</i>	<i>Aspisoma palliatum</i>	V	Holotype ♀	–
Lampyrinae	<i>Nyctophanes pellucida</i>	<i>Aspisoma pellucidum</i>	V	Holotype ♀	–
Lampyrinae	<i>Nyctophanes sexpunctata</i>	<i>Aspisoma sexpunctatum</i>	V	–	Syntype Ø
Lampyrinae	<i>Nyctophanes vittula</i>	<i>Aspisoma vittulum</i>	V	–	Lectotype ♀
Lampyrinae	<i>Pachylychnia lunata</i>	<i>Lucidota lunata</i>	V	–	Syntype, ♂
Photurinae	<i>Photuris columbina</i>	<i>Photuris columbina</i>	V	–	–
Photurinae	<i>Platystes axillaris</i>	<i>Photuris axillaris</i>	V	–	–
Lampyrinae	<i>Pseudolychnuris vittata</i>	<i>Pseudolychnuris vittata</i>	V	Paralectotype ♂	Lectotype ♂
Lampyrinae	<i>Pseudolychnuris suturalis</i>	<i>Pseudolychnuris suturalis</i>	V	Lectotype ♂	Paralectotype ♂
Lampyrinae	<i>Pygolampis blanda</i>	<i>Pygolampis blanda</i>	V	Syntype ♂	–
Lampyrinae	<i>Pygolampis interrupta</i>	<i>Heterophotinus interruptus</i>	S	Syntype ♀	–
Lampyrinae	<i>Pygolampis quadrinotata</i>	<i>Heterophotinus quadrinotatus</i>	V	Paralectotype ♂	Lectotype ♀
Lampyrinae	<i>Pyractomena vitticolis</i>	<i>Pyractomena vitticolis</i>	V	Syntype ♂	–
Lampyrinae	<i>Pyrectomena dorsalis</i>	<i>Pyractomena dorsalis</i>	V	–	–
Photurinae	<i>Pyrogaster dilatatus</i>	<i>Pyrogaster dilatatus</i>	V	–	Syntype Ø
Photurinae	<i>Pyrogaster grylloides</i>	<i>Pyrogaster grylloides</i>	V	–	Syntype Ø
Lampyrinae	<i>Pyropyga californica</i>	<i>Pyropyga californica</i>	S	–	–

**Table 1** (continued). List of New World Lampyridae species described by Motschulsky. (V=Valid; S=Synonym; H=Homonym).

Subfamily	List of New World Lampyridae species described by Motschulsky	Current status	V, S, or H?	ZIN	ZMMU
Lampyrinae	<i>Pyropyga tarda</i>	<i>Pyropyga tarda</i>	V	–	Lectotype ♀
Photurinae	<i>Telephoroides fruticola</i>	<i>Photuris fruticola</i>	S	Paralectotype ♂	Lectotype ♂
Photurinae	<i>Telephoroides lineatocollis</i>	<i>Photuris lineatocollis</i>	V	Lectotype ♂	Paralectotype Ø
Photurinae	<i>Telephoroides occidentalis</i>	<i>Photuris occidentalis</i>	S	Lectotype ♀	Paralectotype ♀
Photurinae	<i>Telephoroides pallida</i>	<i>Photuris pallida</i>	S	Paralectotype ♂	Lectotype ♂
Photurinae	<i>Telephoroides vittigera</i>	<i>Photuris vittigera</i>	S	–	Type Ø
Lampyrinae	<i>Trilychnia flavipes</i>	<i>Lucidota flavipes</i>	V	Holotype Ø	–
Lampyrinae	<i>Trilychnia ruficollis</i>	<i>Lucidota ruficollis</i>	V	Syntype Ø	Syntype ♀
Photurinae	<i>Triplonycha vittipennis</i>	<i>Photuris vittipennis</i>	V	–	–

## Results

### Taxonomy

Class Insecta Linnaeus, 1758  
 Order Coleoptera Linnaeus, 1758  
 Suborder Polyphaga Emery, 1886  
 Superfamily Elateroidea Leach, 1815  
 Family Lampyridae Rafinesque, 1815  
 Genus *Amydetes* Illiger, 1807

*Amydetes fucata* Motschulsky, 1854b  
 Figs 1–4

*Amydetes fucata* Motschulsky, 1854b: 25.

### Type material examined

#### Holotype

BRAZIL • ♂; “fucatus Motsch., Brisil [sic]”; ZIN.

### Preservation status

One antenna missing, elytra damaged, abdomen missing, otherwise well-preserved.

### Remarks

Motschulsky listed Deyrolle, a famous insect dealer of the 19<sup>th</sup> century (e.g., Deyrolle 1879), as the source of the specimen, from Santa Catarina, Brazil.

### Current status

*Amydetes fucatus* Motschulsky, 1854b.



*Bicellonycha lividipennis* Motschulsky, 1854b  
Figs 5–7

*Bicellonycha lividipennis* Motschulsky, 1854b: 58.

**Type material examined**

**Lectotype** (designated here)

BRAZIL • ♂; “Bicellonych [probably cut through without the “a” at the end of the genus name], livida,, Motsch., Brasil” // “Serra da Stella” // “ ” [red label left in blank]; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

One of the labels says “livida Motsch. Brasil”, as seen in another syntype of *Bicellonycha lividipennis* Motschulsky, 1854b (Kazantsev & Nikitsky 2008). Moreover, this specimen bears a red label, and fits the description given for *Bicellonycha lividipennis* Motschulsky, 1854b. Together, we interpret this as evidence that this specimen is a male syntype of *Bicellonycha lividipennis* Motschulsky, 1854b, which we hereby designate as lectotype. “Serra da Stella” probably refers to the Serra da Estrela Mountain, part of the Serra do Mar Mountain range, Southeastern Brazil. Several European naturalists set foot at the Serra da Estrela, where the diplomat and “academic extraordinary” baron Georg Heinrich von Langsdorff had a property, named “Fazenda da Mandioca” (Portuguese for “Cassava farm”) (Papavero 1971). Langsdorff in fact shipped many specimens to ZIN (Papavero 1971). Therefore, it is reasonable to attribute “Serra da Stella” to the piedmont of the Brazilian Serra da Estrela, in today’s Magé Municipality, Rio de Janeiro State, Brazil.

**Current status**

*Bicellonycha lividipennis* Motschulsky, 1854b: 58.

*Dilychnia basalis* Motschulsky, 1853  
Figs 8–10

*Dilychnia basalis* Motschulsky, 1853: 30.

**Type material examined**

**Syntype**

FRENCH GUYANA • sex undetermined; “basalis,, M. Par. Cayn.” // “Typ” // “Dilychnia,, basalis,, Motsch.” [E. Olivier handwriting] // “Guyana.”; ZIN.

**Preservation status**

Damaged, missing one antenna, terminalia, genitalia.

**Remarks**

Kazantsev & Nikitsky (2008) designated a syntype from ZMMU. Here we designate a second syntype. Motschulsky (1853: 30) described *Dilychnia* and only listed *Dilychnia basalis* in the publication, without providing a separate description for the species. A description for *Dilychnia basalis* was given by Motschulsky in a later publication (1854a: 7). Rendering *D. basalis* invalid would threaten the stability of this genus, since no other species were listed by the author. However, the article

12.2.6 of the International Code for Zoological Nomenclature (ICZN 1999) ensures combined descriptions for monotypic genera and their respective species described before 1961. Therefore, by the provisions of article 12.2.6, the publication date of *Dilychnia basalis* is 1853, and not 1854 as given in Vaz *et al.* (2020).

#### **Current status**

Synonym of *Dilychnia guttula* (Fabricius, 1801).

#### ***Ellychnia albilatera* Motschulsky, 1854a** Figs 11–13

*Ellychnia albilatera* Motschulsky, 1854a: 3.

#### **Type material examined**

##### **Holotype**

MEXICO • ♀; “*Ellychnia*, *albilatera*, *Motsch*” [E. Olivier handwriting] // “Typ” // “*albilaterus*, *Motsch*” [with what it looks like “*Lyb*” crossed out] // “*albilatris*” // “Mexico.”; ZIN.

#### **Preservation status**

Complete, well-preserved.

#### **Current status**

*Photinus albilaterus* (Motschulsky, 1854a).

#### ***Ellychnia californica* Motschulsky, 1854a** Figs 14–16

*Ellychnia californica* Motschulsky, 1854a: 3.

#### **Type material examined**

##### **Lectotype** (designated here)

USA • ♀; “*Ellychnia*, *californica*, *Motsch*” [E. Olivier handwriting] // “Typ” // “*californica*, *M. P.*” // “Nov. Helvet.”; ZIN.

#### **Preservation status**

Complete, well-preserved.

#### **Remarks**

Kazantsev & Nikitsky (2008) found a male syntype from ZMMU, which was missing its head, as well as its pro and mesothorax. Here, we designate a female lectotype from ZIN, which renders the ZMMU specimen a paralectotype. “Nov. Helv.” (New Switzerland) probably refers to present-day Sacramento, California.

#### **Current status**

*Photinus californicus* (Motschulsky, 1854a).





**Figs 1–7.** 1–4. *Amydetes fucatus* Motschulsky, 1854b, holotype, ♂. 1. Habitus, dorsal view. 2. Habitus, ventral view. 3. Antenna, lateral view. 4. Labels. 5–7. *Bicellonycha lividipennis* Motschulsky, 1854b, lectotype, ♂. 5. Habitus, dorsal view. 6. Habitus, ventral view. 7. Labels.



**Figs 8–13.** 8–10. *Dilychnia basalis* Motschulsky, 1853, syntype, sex undetermined. 8. Habitus, dorsal view. 9. Habitus, ventral view. 10. Labels. 11–13. *Ellychnia albilatera* Motschulsky, 1854a, holotype, ♀. 11. Habitus, dorsal view. 12. Habitus, ventral view. 13. Labels.

*Ellychnia latipennis* Motschulsky, 1854a  
Figs 17–19

*Ellychnia latipennis* Motschulsky, 1854a: 3.

**Type material examined**

**Holotype**

USA • ♀; “Typ” // “latipennis,, Motsch”// “Amer. bor.” // “Ellychnia,, corrusca,, L” [E. Olivier handwriting]; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

Motschulsky listed Harris as the provider of this specimen. “Amer. bor.” should refer to North America.

**Current status**

Synonym of *Photinus corrusca* (Linnaeus, 1767) (junior synonym: *Photinus latipennis* (Motschulsky, 1854a)).

*Ellychnia mexicana* Motschulsky, 1854a  
Figs 20–22

*Ellychnia mexicana* Motschulsky, 1854a: 3.

**Type material examined**

**Holotype**

MEXICO • ♀; “Ellychnia,, mexicana,, Motsch” [E. Olivier handwriting] // “Typ” // “mexicana,, M. P.”// “Mexico.”; ZIN.

**Preservation status**

Complete, well-preserved.

**Current status**

*Photinus mexicanus* (Motschulsky, 1854a).

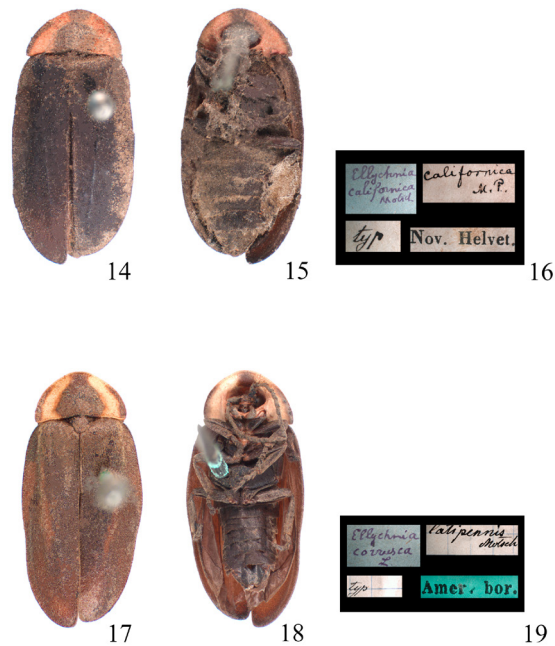
*Ellipolampis elongata* Motschulsky, 1854a  
Figs 23–25

*Ellipolampis elongata* Motschulsky, 1854a: 35.

**Type material examined**

**Paralectotype** (designated here)

CARIBBEAN, COUNTRY UNKNOWN • ♂; “Lampyris,, elongata,, mihi,, n. sp.” // “Typ” // “Etiquette,, faussa!” [E. Olivier handwriting]; ZIN.



**Figs 14–19.** 14–16. *Ellychnia californica* Motschulsky, 1854a, lectotype, ♀. 14. Habitus, dorsal view. 15. Habitus, ventral view. 16. Labels. 17–19. *Ellychnia latipennis* Motschulsky, 1854a, holotype, ♀. 17. Habitus, dorsal view. 18. Habitus, ventral view. 19. Labels.



**Figs 20–25.** 20–22. *Ellychnia mexicana* Motschulsky, 1854a, holotype, ♀. 20. Habitus, dorsal view. 21. Habitus, ventral view. 22. Labels. 23–25. *Ellipolampis elongata* Motschulsky, 1854a, paralectotype, ♂. 23. Habitus, dorsal view. 24. Habitus, ventral view. 25. Labels.

**Preservation status**

Fairly well-preserved, antennae and metatarsi lacking.

**Remarks**

Motschulsky listed Mannerheim as the provider of specimens for this species. Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Here, we designate a paralectotype from ZIN. A note added to the specimen suggests that the identification label is false (“Etiquette faussa!”). While we can’t tell if the label is false or not, the specimen matches the original description, particularly for its unique pubescence covering its pronotum and elytra.

**Current status**

*Photinus elongatus* (Motschulsky, 1854a).

*Ellipolampis lateralis* Motschulsky, 1854a

Figs 26–28

*Ellipolampis lateralis* Motschulsky, 1854a: 35.

**Type material examined**

**Holotype**

BRAZIL • ♂; “Ellipolampis,, lateralis Grey,, Bras” // “Ellipolampis,, lateralis Grey,, Bras.” // “ ” [red label, left in blank]; ZIN.

**Preservation status**

Fairly well-preserved, lacking tarsi of pro, meso and metalegs.

**Remarks**

Motschulsky listed Grey as the provider of this specimen.

**Current status**

Synonym of *Photinus luctuosus* Laporte, 1840 (junior synonym: *Photinus lateralis* (Motschulsky, 1854a)).

*Ellipolampis limbella* Motschulsky, 1854a

Figs 29–31

*Ellipolampis limbella* Motschulsky, 1854a: 36.

**Type material examined**

**Paralectotype** (designated here)

BRAZIL • ♂; “limbellus,, Motsch” // “Typ” // “Photinus,, limbellus,, Motsch.” [E. Olivier handwriting] // “Brasil.”; ZIN.

**Preservation status**

Complete, well-preserved.

### Remarks

Motschulsky listed Mannerheim as the provider of specimens for this species. Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Thus, the ZIN specimen is a paralectotype.

### Current status

*Photinus limbellus* (Motschulsky, 1854a).

### *Ellipolampis suturella* Motschulsky, 1854a Figs 32–34

*Ellipolampis suturella* Motschulsky, 1854a: 36.

### Type material examined

#### Paralectotype (designated here)

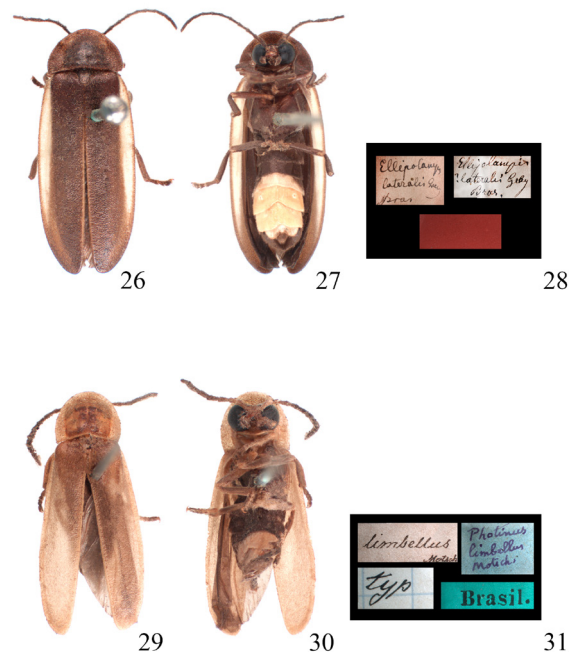
FRENCH GUYANA • ♂; “Photinus,, suturellus,, Motsch” [E. Olivier handwriting] // “suturellus Motsch” // “Guyana”; ZIN.

### Preservation status

Complete, well-preserved.

### Remarks

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU, therefore the ZIN specimen is a paralectotype.



**Figs 26–31.** 26–28. *Ellipolampis lateralis* Motschulsky, 1854a, holotype, ♂. 26. Habitus, dorsal view. 27. Habitus, ventral view. 28. Labels. 29–31. *Ellipolampis limbella* Motschulsky, 1854a, paralectotype, ♂. 29. Habitus, dorsal view. 30. Habitus, ventral view. 31. Labels.

**Current status**

*Photinus suturellus* (Motschulsky, 1854a).

***Lychnacris triguttula*** Motschulsky, 1854a  
Figs 35–37

*Lychnacris triguttula* Motschulsky, 1854a: 11 (as “Lychnaeris”, a lapsus calami).

**Type material examined**

**Holotype**

BRAZIL • ♀; “Hyas ,, triguttula,, Motsch.” [E. Olivier handwriting]// “typ”// “triguttula,, M. P.” // “Brasil sept.”; ZIN.

**Preservation status**

Complete, well-preserved.

**Current status**

*Lychnacris triguttula* Motschulsky, 1854a.

***Lychnogaster cinctus*** Motschulsky, 1854a  
Figs 38–40

*Lychnogaster cinctus* Motschulsky, 1854a: 8.

**Type material examined**

**Paralectotype** (designated here)

BRAZIL • sex undetermined; “Lychnogaster,, cinctus M.” [E. Olivier handwriting]// “typ”// “cinctus,, Motsch” // “Brasil mer.”; ZIN.

**Preservation status**

Significantly damaged: broken elytra, lacking antennae, one mesoleg, two metalegs, and the abdomen.

**Remarks**

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Thus, the ZIN specimen is a paralectotype. The original description lists “Brazil” as the type locality of *Lychnogaster cinctus*, whereas the ZIN paralectotype examined here has a label saying “Brasil. Mer.”, interpreted here as Southern Brazil.

**Current status**

*Lucidota cincta* (Motschulsky, 1854a).

***Lychnuris klugii*** Motschulsky, 1854a  
Figs 41–43

*Lychnuris klugii* Motschulsky, 1854a: 4.



### Type material examined

#### Lectotype (designated here)

BRAZIL • ♂; “Lychnuris,, klugii,, M.” [E. Olivier handwriting] // “typ” // “klugii,, Dej. Bras” // “Brasil.”; ZIN.

### Preservation status

Complete, well-preserved.

### Remarks

As pointed out by Silveira *et al.* (2021), Motschulsky misattributed the authorship of *Lychnuris klugii* to Dejean. Since Motschulsky, the rightful author, didn’t determine the depository of his type specimens, the ZIN specimen is considered a syntype, and we designate it here as a lectotype of *Lychnuris klugii*.

### Current status

*Costalampys klugii* (Motschulsky, 1854a).

### *Macrolampis cincta* Motschulsky, 1854a Figs 44–46

*Macrolampis cincta* Motschulsky, 1854a: 37.

### Type material examined

#### Paralectotype (designated here)

COUNTRY UNKNOWN • ♂; “Macrolampis,, circumcincta,, Gemm.” [E. Olivier handwriting] // “cinctus,, Motsch” // “Typ” // “Bog.”; ZIN.

### Preservation status

Lacking antennae, otherwise well-preserved.

### Remarks

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU, therefore the ZIN specimen is a paralectotype.

### Current status

Synonym of *Macrolampis circumcincta* (Gemming, 1870) (senior homonym) (junior homonym: *Photinus cinctus* (Motschulsky, 1854a)).

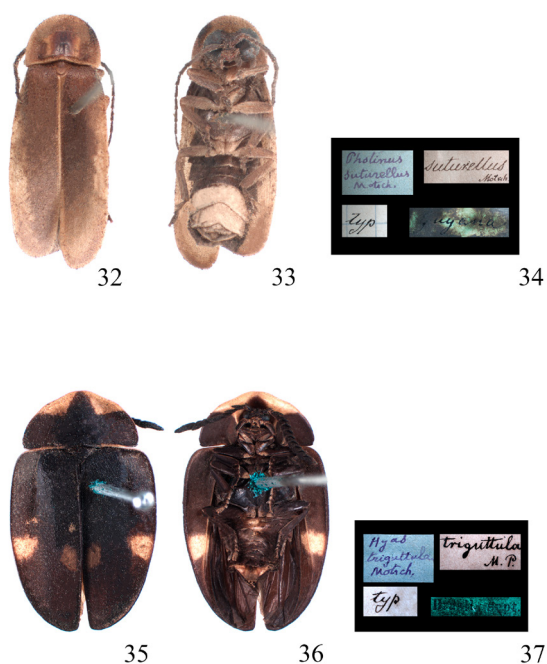
### *Macrolampis longipennis* Motschulsky, 1854a Figs 47–49

*Macrolampis longipennis* Motschulsky, 1854a: 37.

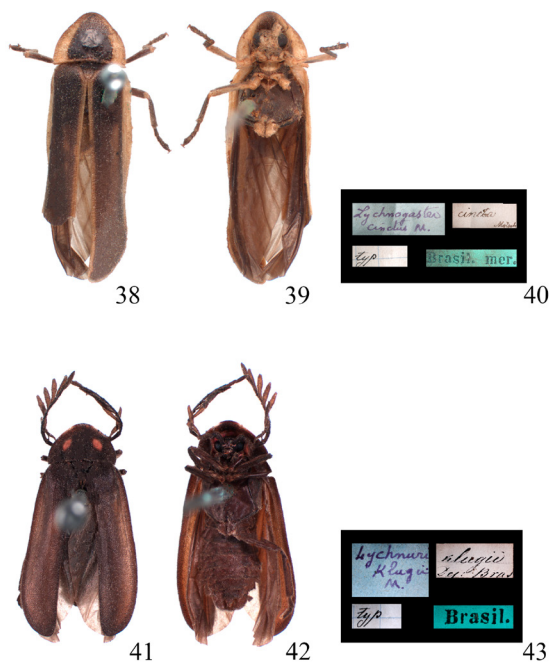
### Type material examined

#### Lectotype (designated here)

COLOMBIA • ♂; “Macrolampis,, longipennis,, Motsch.” [E. Olivier handwriting] // “Macrolampis,, longipennis,, Motsch.” // “Typ” // “Columbia.”; ZIN.



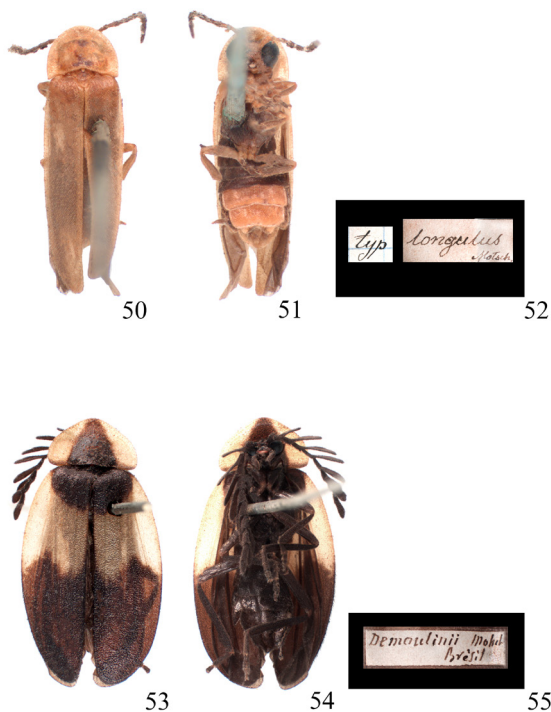
**Figs 32–37.** 32–34. *Ellipolampis suturella* Motschulsky, 1854a, paralectotype, ♂. 32. Habitus, dorsal view. 33. Habitus, ventral view. 34. Labels. 35–37. *Lychnacris triguttula* Motschulsky, 1854a, holotype, ♀. 35. Habitus, dorsal view. 36. Habitus, ventral view. 37. Labels.



**Figs 38–43.** 38–40. *Lychnogaster cinctus* Motschulsky, 1854a, paralectotype, sex undetermined. 38. Habitus, dorsal view. 39. Habitus, ventral view. 40. Labels. 41–43. *Lychnuris klugii* Motschulsky, 1854a, lectotype, ♂. 41. Habitus, dorsal view. 42. Habitus, ventral view. 43. Labels.



**Figs 44–49.** 44–46. *Macrolampis cincta* Motschulsky, 1854a, paralectotype, ♂. 44. Habitus, dorsal view. 45. Habitus, ventral view. 46. Labels. 47–49. *Macrolampis longipennis* Motschulsky, 1854a, lectotype, ♂. 47. Habitus, dorsal view. 48. Habitus, ventral view. 49. Labels.



**Figs 50–55.** 50–52. *Macrolampis longula* Motschulsky, 1854a, holotype, ♂. 50. Habitus, dorsal view. 51. Habitus, ventral view. 52. Labels. 53–55. *Nyctocrepis demoulini* Motschulsky, 1853, holotype, ♂. 53. Habitus, dorsal view. 54. Habitus, ventral view. 55. Labels.

**Preservation status**

Fairly well-preserved, lacking antennae, one mesoleg and one metaleg.

**Remarks**

Kazantsev & Nikitsky (2008) found a male syntype at ZMMU, which was “badly damaged”, missing its head, as well as its pro and mesothorax. Here, we designate a male lectotype from ZIN, which renders the ZMMU specimen a paralectotype.

**Current status**

*Photinus longipennis* (Motschulsky, 1854a).

*Macrolampis longula* Motschulsky, 1854a  
Figs 50–52

*Macrolampis longula* Motschulsky, 1854a: 38.

**Type material examined**

**Holotype**

BRAZIL • ♂; “typ”// “longulus,, Motsch”; ZIN.

**Preservation status**

Well-preserved, but lacking a mesoleg and one of the metatarsi.

**Remarks**

Motschulsky listed Mannerheim as the provider of this specimen.

**Current status**

*Photinus longula* (Motschulsky, 1854a).

*Nyctorepis demoulini* Motschulsky, 1853  
Figs 53–55

*Nyctorepis demoulini* Motschulsky, 1853: 33.

**Type material examined**

**Holotype**

BRAZIL • ♂; “Demoulinii [sic] Motsch,, Brésil”; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

Motschulsky listed Deyrolle as the source of the type material from Brazil. This species is known from Southern Brazil, including Santa Catarina (Bocakova *et al.* 2022). Since Deyrolle provided other lampyrid specimens to Motschulsky from this region, the holotype is possibly from Southern Brazil. Motschulsky (1853: 33) described *Nyctorepis* and only listed *Nyctorepis demoulini* in the publication, without providing a separate description for the species. A description for *Nyctorepis demoulini* was

given by Motschulsky in a later publication (1854a: 10). Rendering *Nyctocrepis demoulini* invalid would threaten the stability of this genus, since no other species were listed by the author. However, the article 12.2.6 of the International Code for Zoological Nomenclature (ICZN 1999) ensures combined descriptions for monotypic genera and their respective species described before 1961. Therefore, by the provisions of article 12.2.6, the publication date of *Nyctocrepis demoulini* is 1853, and not 1854 as given in Bocakova *et al.* (2022).

**Current status**

*Nyctocrepis demoulini* Motschulsky, 1853.

*Nyctocrepis flabellicornis* Motschulsky, 1854a  
Figs 56–58

*Nyctocrepis flabellicornis* Motschulsky, 1854a: 10.

**Type material examined**

**Holotype**

BRAZIL • ♂; “Cladodes,, flabellicornis,, Motsch” // “Typ” // “Cladodes,, stellatus,, Gorh.” [E. Olivier handwriting] // “Brasil.”; ZIN.

**Preservation status**

Well-preserved.

**Current status**

*Cladodes flabellicornis* (Motschulsky, 1854a).

*Nyctocrepis lamellicornis* Motschulsky, 1854a  
Figs 59–61

*Nyctocrepis lamellicornis* Motschulsky, 1854a: 10.

**Type material examined**

**Paralectotype** (designated here)

BRAZIL • ♂; “lamellicornis Motsch,, Lacordairei O[?] Brésil”; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Therefore, the ZIN specimen is a paralectotype.

**Current status**

Junior synonym of *Brasilocladodes illigeri* (Kirby 1832) (senior homonym).

*Nyctophanes bisignata* Motschulsky, 1854a  
Figs 62–64

*Nyctophanes bisignata* Motschulsky, 1854a: 12.

**Type material examined**

**Holotype**

BRAZIL • ♀; “bisignatum,, Motsch” // “Typ” // “Aspisoma,, bisignatum,, M” [E. Olivier handwriting]  
// “Brasil.”; ZIN.

**Preservation status**

Well-preserved, missing one antenna.

**Remarks**

Motschulsky listed Mannerheim as the provider of the type specimen for this species.

**Current status**

*Aspisoma bisignatum* (Motschulsky, 1854a).

*Nyctophanes bremeri* Motschulsky, 1854a  
Figs 65–67

*Nyctophanes bremeri* Motschulsky, 1854a: 13.

**Type material examined**

**Syntype**

BRAZIL • ♀; “Bremeri,, Bresil Deyrolle” // “Typ” // “Aspisoma,, Bremeri,, M.” [E. Olivier handwriting]  
// “Cayenn.”; ZIN.

**Preservation status**

Fairly well-preserved, missing one elytron.

**Remarks**

Motschulsky (1854) listed Deyrolle as the source of the specimen from Santa Catarina, Brazil. The type specimen analysed here has a label saying “Brazil Bremeri Deyrolle”. However, it has another label saying “Cayenn.”. Because of the confusion with the labels, we decided to interpret this specimen as a syntype. We also note that McDermott (1966) misspelled the species name as *Aspisoma bremeri*, which should be considered a lapsus calami and not an available name.

**Current status**

*Aspisoma bremeri* (Motschulsky, 1854a).

*Nyctophanes cassidea* Motschulsky, 1854a  
Figs 68–70

*Nyctophanes cassidea* Motschulsky, 1854a: 14.



**Type material examined**

**Holotype**

BRAZIL • ♂; “cassideum,, Motsch” // “Typ” // “Aspisoma,, cassideum,, M.” [E. Olivier handwriting] // “Brasil.”; ZIN.

**Preservation status**

Fairly well-preserved, abdomen missing.

**Current status**

*Aspisoma cassideum* (Motschulsky, 1854a).

*Nyctophanes lineolata* Motschulsky, 1854a

Figs 71–73

*Nyctophanes lineolata* Motschulsky, 1854a: 12.

**Type material examined**

**Holotype**

BRAZIL • ♂; “lineolatum,, Motsch” // “Typ” // “Aspisoma,, bisignatum,” [E. Olivier handwriting] // “Brasil. sept.”; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

Motschulsky listed Mannerheim as the provider of this specimen. The original description lists Brazil as the type locality, but with a question mark. The provenance label on the holotype says that it came from Northern Brazil.

**Current status**

*Aspisoma lineolatum* (Motschulsky, 1854a).

*Nyctophanes palliata* Motschulsky, 1854a

Figs 74–76

*Nyctophanes palliata* Motschulsky, 1854a: 13.

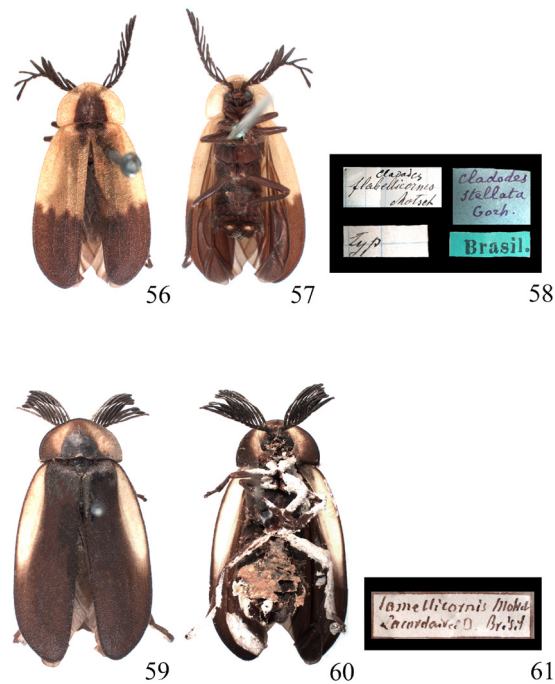
**Type material examined**

**Holotype**

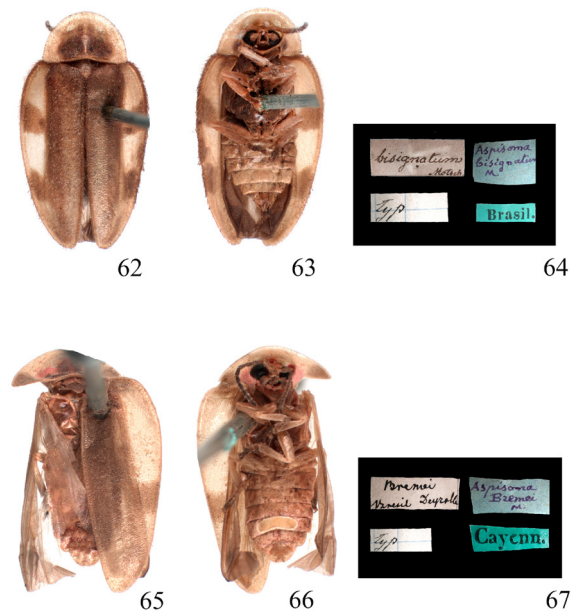
BRAZIL • ♀; “palliatus,, Motsch” // “Typ” // “etiquette faussa,, Aspisoma,, pallidum,, Oliv.” [E. Olivier handwriting] // “Brasil.”; ZIN.

**Preservation status**

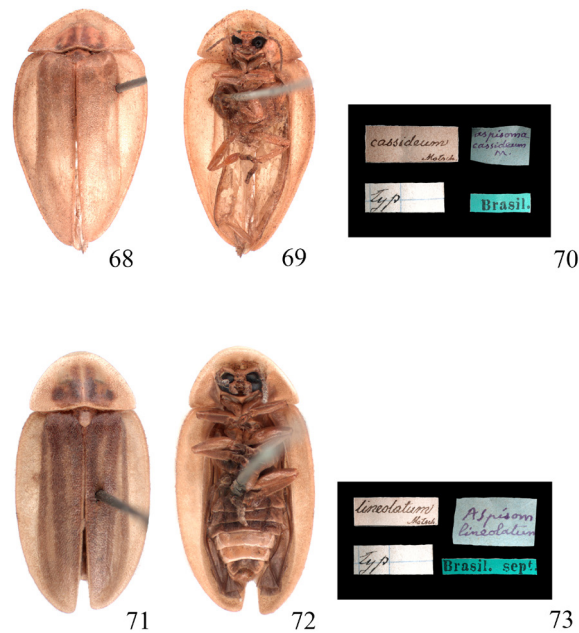
Complete, well-preserved.



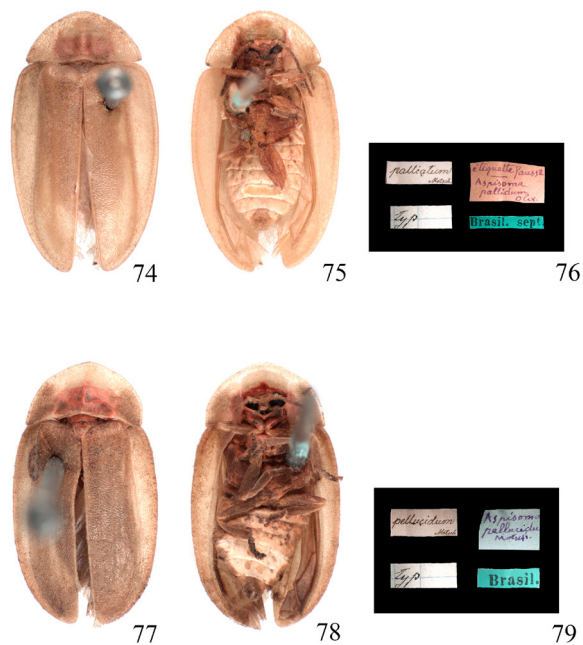
**Figs 56–61.** 56–58. *Nyctocrepis flabellicornis* Motschulsky, 1854a, holotype, ♂. 56. Habitus, dorsal view. 57. Habitus, ventral view. 58. Labels. 59–61. *Nyctocrepis lamellicornis* Motschulsky, 1854a, paralectotype, ♂. 59. Habitus, dorsal view. 60. Habitus, ventral view. 61. Labels.



**Figs 62–67.** 62–64. *Nyctophanes bisignata* Motschulsky, 1854a, holotype, ♀. 62. Habitus, dorsal view. 63. Habitus, ventral view. 64. Labels. 65–67. *Nyctophanes bremeri* Motschulsky, 1854a, syntype, ♀. 65. Habitus, dorsal view. 66. Habitus, ventral view. 67. Labels.



**Figs 68–73.** 68–70. *Nyctophanes cassidea*, 1854a, holotype, sex undetermined. 68. Habitus, dorsal view. 69. Habitus, ventral view. 70. Labels. 71–73. *Nyctophanes lineolata* Motschulsky, 1854a, holotype, ♂. 71. Habitus, dorsal view. 72. Habitus, ventral view. 73. Labels.



**Figs 74–79.** 74–76. *Nyctophanes palliata* Motschulsky, 1854a, holotype, ♀. 74. Habitus, dorsal view. 75. Habitus, ventral view. 76. Labels. 77–79. *Nyctophanes pellucida* Motschulsky, 1854a, holotype, ♀. 77. Habitus, dorsal view. 78. Habitus, ventral view. 79. Labels.

**Remarks**

E. Olivier added a label written “false label” for unclear reasons, and identified this specimen as *Aspisoma pallidum* Olivier.

**Current status**

*Aspisoma palliatum* (Motschulsky, 1854a).

*Nyctophanes pellucida* Motschulsky, 1854a  
Figs 77–79

*Nyctophanes pellucida* Motschulsky, 1854a: 12.

**Type material examined**

**Holotype**

BRAZIL • ♀; “pellucidum,, Motsch” // “Typ” // “Aspisoma,, pellucidum,, Motsch.” [E. Olivier handwriting] // “Brasil.”; ZIN.

**Preservation status**

Well-preserved, but with one broken antenna.

**Remarks**

E. Olivier added a label written “false label” for unclear reasons, and identified this specimen as *Aspisoma pallidum* Olivier.

**Current status**

*Aspisoma pellucidum* (Motschulsky, 1854a).

*Pseudolychnuris suturalis* Motschulsky, 1854a  
Figs 80–82

*Pseudolychnuris suturalis* Motschulsky, 1854a: 9.

**Type material examined**

**Lectotype** (designated here)

COLOMBIA • ♂; “suturalis,, Motsch” // “Typ” // “Bog.” // “Pseudolychn., sutural [abruptly abbreviated]” [E. Olivier handwriting] // “♀,, ved [?] antenom.,, filiform.”; ZIN.

**Preservation status**

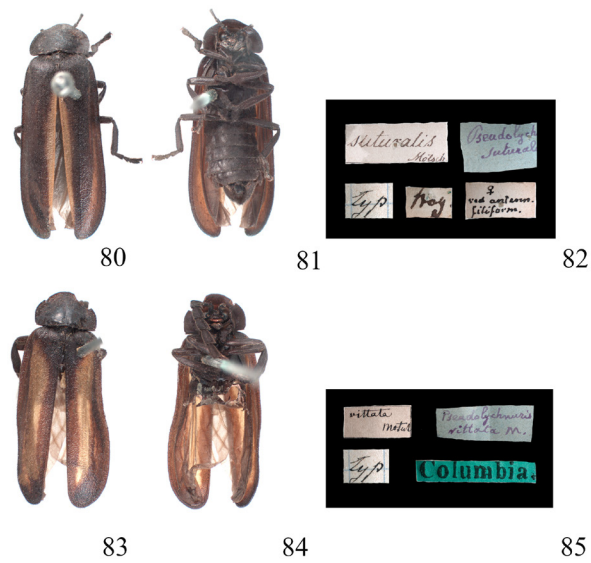
Well-preserved, except for damaged antennae.

**Remarks**

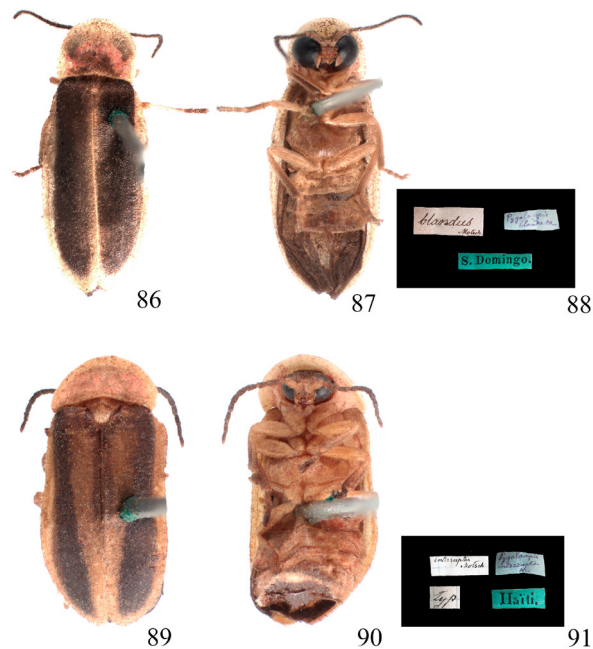
Kazantsev & Nikitsky (2008) found a syntype at ZMMU. The label says “♀”, but it is clearly a male. We hereby designate the ZIN specimen as a lectotype, rendering the ZMMU specimen a paralectotype.

**Current status**

*Alychnus suturalis* Motschulsky, 1854a (reviewed in Ladino-Peñuela *et al.*, 2022).



**Figs 80–85.** 80–82. *Pseudolychnuris suturalis* Motschulsky, 1854a, lectotype, ♂. 80. Habitus, dorsal view. 81. Habitus, ventral view. 82. Labels. 83–85. *Pseudolychnuris vittata* Motschulsky, 1853, paralectotype, ♂. 83. Habitus, dorsal view. 84. Habitus, ventral view. 85. Labels.



**Figs 86–91.** 86–88. *Pygolampis blanda* Motschulsky, 1854b, Syntype, ♂. 86. Habitus, dorsal view. 87. Habitus, ventral view. 88. Labels. 89–91. *Pygolampis interrupta* Motschulsky, 1854b, syntype, ♀. 89. Habitus, dorsal view. 90. Habitus, ventral view. 91. Labels.

*Pseudolychnuris vittata* Motschulsky, 1853  
Figs 83–85

*Pseudolychnuris vittata* Motschulsky, 1853: 9.

**Type material examined**

**Paralectotype** (designated here)

COLOMBIA • ♂; “vittata,, Motsch” // “Typ” // “Columbia.” // “Pseudolychnuris,, vittata M.” [E. Olivier handwriting]; ZIN.

**Preservation status**

Antennae, metalegs, and abdomen lacking.

**Remarks**

Kazantsev & Nikitsky (2008) designated a lectotype at ZMMU. Therefore, the ZIN specimen is a paralectotype. Kazantsev & Nikitsky (2008) designated a lectotype at ZMMU. Therefore, the ZIN specimen is a paralectotype. Motschulsky (1853: 30) described *Pseudolychnuris* and only listed *Pseudolychnuris vittata* in the publication, without providing a separate description for the species. A description for *Pseudolychnuris vittata* was given by Motschulsky in a later publication (1854a: 9). Rendering *P. vittata* invalid would threaten the stability of this genus, since no other species were listed by the author. However, the article 12.2.6 of the International Code for Zoological Nomenclature (ICZN 1999) ensures combined descriptions for monotypic genera and their respective species described before 1961. Therefore, by the provisions of article 12.2.6, the publication date of *Pseudolychnuris vittata* is 1853, and not 1854 as given in Ladino-Peñuela *et al.* (2022).

**Current status**

*Pseudolychnuris vittata* Motschulsky, 1853 (reviewed in Ladino-Peñuela *et al.* 2022).

*Pygolampis blanda* Motschulsky, 1854b  
Figs 86–88

*Pygolampis blanda* Motschulsky, 1854b: 25.

**Type material examined**

**Syntype**

HISPANIOLA, probably Dominican Republic • ♂; “blandus,, Motsch” // “S. Domingo” // “Pygolampis,, blanda M” [E. Olivier handwriting]; ZIN.

**Preservation status**

Fairly well-preserved, terminalia missing.

**Remarks**

*Pygolampis blanda* Motschulsky, 1854b (nec. *Photinus blandus* Jaquelin Du Val 1857) is currently listed as Lampyridae incertae sedis (McDermott 1966). This species was described from “St. Domingo”, currently Hispaniola. Motschulsky lists Dejean as the author of the species, but the former must be recognized as author, since Dejean’s name is in litteris. Lacordaire (1857) mentions *P. blanda* Dejean as from Brazil, which probably misled McDermott to list it from this country in his catalogue (McDermott 1966: 123). Based on its brief description and its type locality, *P. blanda* could be allied



to *Robopus* Motschulsky, 1853, but if transferred, it would cause a homonymy with *Robopus blanda* (Jaquelin Du Val, 1857), currently a junior synonym of *Robopus nefarius* (E. Olivier, 1912; see Keller & Branham 2021). Since *Robopus* is yet to be reviewed, and it is beyond the scope of this work to resolve this matter, we refrain from pursuing nomenclatural acts.

#### Current status

*Pygolampis blanda* Motschulsky, 1854b (incertae sedis lampyrid species according to McDermott 1966).

#### *Pygolampis interrupta* Motschulsky, 1854b Figs 89–91

*Pygolampis interrupta* Motschulsky, 1854b: 24.

#### Type material examined

##### Syntype

HAITI • ♀; “vittata,, Motsch” // “Typ” // “Columbia.” // “Pseudolychnuris,, vittata M.” [E. Olivier handwriting]; ZIN.

#### Preservation status

Complete, well-preserved.

#### Remarks

Motschulsky listed Mannerheim as the provider of specimens for this species.

#### Current status

*Pseudolychnuris vittata* Motschulsky, 1854b (reviewed in Ladino-Peñuela *et al.* 2022).

#### *Pygolampis quadrinotata* Motschulsky, 1854b Figs 92–94

*Pygolampis quadrinotata* Motschulsky, 1854b: 24.

#### Type material examined

##### Paralectotype (designated here)

HAITI • ♂; “var., quadrinotatus,, Motsch” // “Typ” // “Pygolampis,, 4notatus M” [E. Olivier handwriting] // “Haiti”; ZIN.

#### Preservation status

Complete, well-preserved.

#### Remarks

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Therefore, the ZIN specimen is a paralectotype.

#### Current status

*Heterophotinus quadrinotatus* (Motschulsky, 1854b).

*Pyractomena vitticollis* Motschulsky, 1854a  
Figs 95–97

*Pyractomena vitticollis* Motschulsky, 1854a: 38.

**Type material examined**

**Syntype**

HAITI • ♂; “vitticollis, Manh. St [superscript] Dom” // “Typ” // “Lecontea,, vitticollis,, M.” [E. Olivier handwriting] // “S. Domingo”; ZIN.

**Preservation status**

Complete, well-preserved.

**Remarks**

Motschulsky listed Mannerheim as the provider of specimens for this species. The original description lists “Antilles” as the type locality. We note that Motschulsky used *Pyractomena* (misspelling of *Pyractomena*) several times in his work.

**Current status**

*Pyractomena vitticollis* Motschulsky, 1854a.

*Telephoroides fruticola* Motschulsky, 1854b  
Figs 98–100

*Telephoroides fruticola* Motschulsky, 1854b: 60.

**Type material examined**

**Paralectotype** (designated here)

ARGENTINA • ♂; “Photuris,, fulvipes,, Blanch..” [E. Olivier handwriting] // “typ” // “fruticola,, Eschsh. Bras.” // “Buenos Ayres”; ZIN.

**Preservation status**

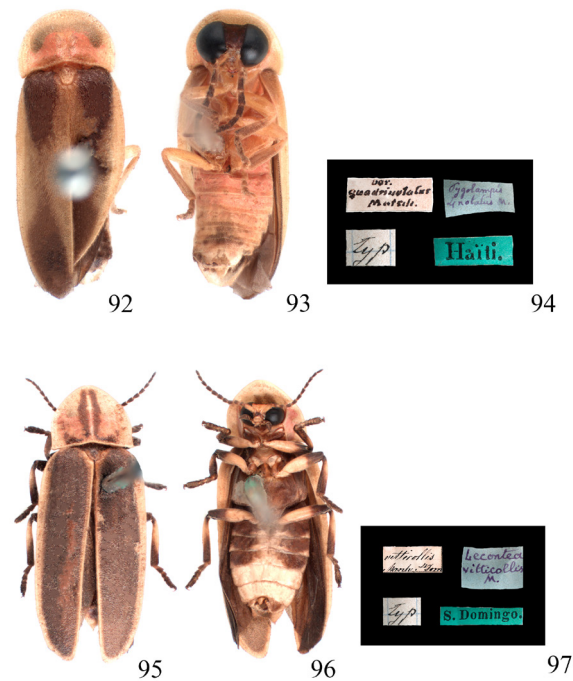
Head fallen from thorax, lacking one of the protarsus and one mesoleg.

**Remarks**

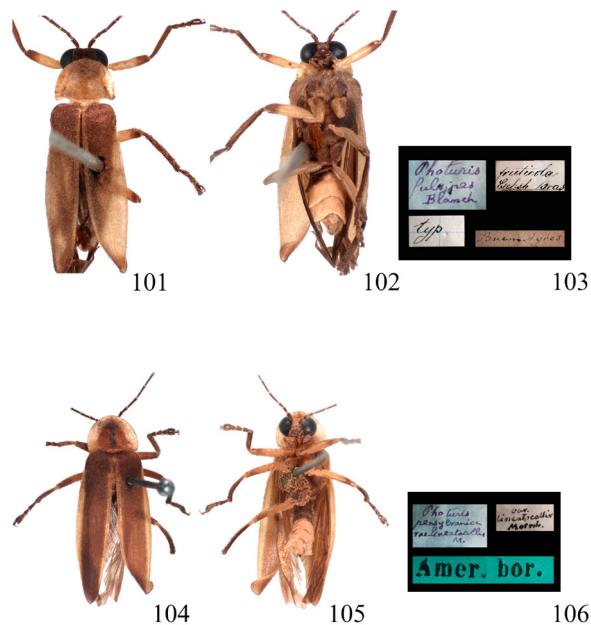
Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. Therefore the ZIN specimen is a paralectotype. Motschulsky listed Eschscholtz as the provider of specimens for this species.

**Current status**

*Photuris fruticola* (Motschulsky, 1854b) is a junior synonym of *Photuris femoralis* Curtis, 1839 (senior synonym). Other junior synonyms of the latter are *Photuris fulvipes* (Blanchard, 1845), *Photuris occidentalis* (Motschulsky, 1854b), *Photuris pallida* (Motschulsky, 1854b), and *Photuris trivialis* Boheman, 1858.



**Figs 92–97.** 92–94. *Pygolampis quadrinotata* Motschulsky, 1854b, paralectotype, ♂. 92. Habitus, dorsal view. 93. Habitus, ventral view. 94. Labels. 95–97. *Pyractomena vitticollis* Motschulsky, 1853, syntype, ♂. 95. Habitus, dorsal view. 96. Habitus, ventral view. 97. Labels.



**Figs 98–103.** 98–100. *Telephoroides fruticola* Motschulsky, 1854b, paralectotype, ♂. 98. Habitus, dorsal view. 99. Habitus, ventral view. 100. Labels. 101–103. *Telephoroides lineatocollis* Motschulsky, 1854b, lectotype, ♂. 101. Habitus, dorsal view. 102. Habitus, ventral view. 103. Labels.

*Telephoroides lineatocollis* Motschulsky, 1854b  
Figs 101–103

*Telephoroides lineatocollis* Motschulsky, 1854b: 59.

**Type material examined**

**Lectotype** (designated here)  
NORTH AMERICA, COUNTRY UNKNOWN • ♂; “var. lineatocollis,, Motsch.” // “Photuris,, pensylvanica [sic],, var. lineatocollis,, M.” [E. Olivier handwriting]// “Amer. bor.”; ZIN.

**Preservation status**

Head fallen from thorax, lacking one of the protarsus and one mesoleg.

**Remarks**

Motschulsky misattributed the authorship of *Telephoroides lineaticollis* to Dejean. However, Motschulsky (1854) is the rightful author. Kazantsev & Nikitsky (2008) found a female syntype at ZMMU. Here, we found another syntype, male, from ZIN, which we designate as a lectotype.

**Current status**

*Photuris lineatocollis* (Motschulsky, 1854b).

*Telephoroides occidentalis* Motschulsky, 1854b  
Figs 104–106

*Telephoroides occidentalis* Motschulsky, 1854b: 60.

**Type material examined**

**Lectotype** (designated here)  
COUNTRY UNKNOWN (original description lists French Guyana and Brazil) • ♀; “occidenta-,, lis,, Oliv.” // “Photuris,, fulvipes,, Blanch.” [E. Olivier handwriting]// “typ”; ZIN.

**Preservation status**

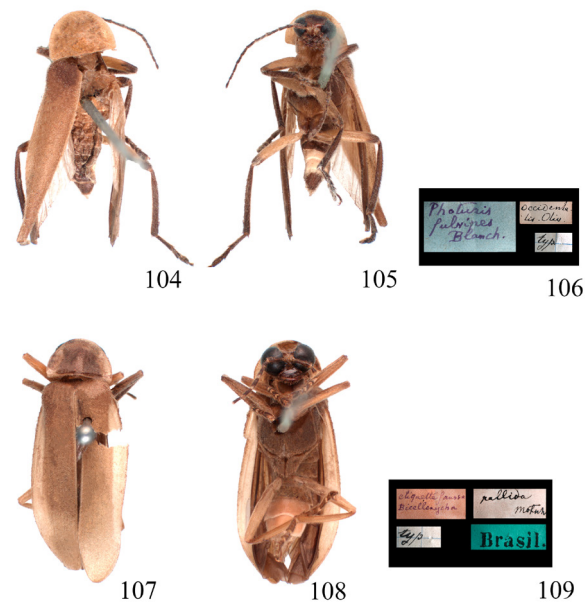
Well-preserved, lacking one elytron.

**Remarks**

Motschulsky listed “Ol.” as the provider of specimens for this species, perhaps referring to the entomologist G. Olivier. Kazantsev & Nikitsky (2008) found a female syntype at ZMMU. Here, we found another female syntype from ZIN, which we designate as a lectotype. The ZIN syntype lacks a locality label, but the original description listed French Guiana and Brazil as type localities, which match the known distribution of the species (Souto *et al.* 2019).

**Current status**

*Photuris occidentalis* (Motschulsky, 1854b) is a junior synonym of *Photuris femoralis* Curtis, 1839 (senior synonym). Other junior synonyms of the latter are *Photuris fulvipes* (Blanchard, 1845), *Photuris fruticola* (Motschulsky, 1854b), *Photuris pallida* (Motschulsky, 1854b), and *Photuris trivialis* Boheman, 1858.



**Figs 104–109.** 104–106. *Telephoroides occidentalis* Motzschulsky, 1854b, lectotype, ♀. 104. Habitus, dorsal view. 105. Habitus, ventral view. 106. Labels. 107–109. *Telephoroides pallida* Motzschulsky, 1854b, paralectotype, ♂. 107. Habitus, dorsal view. 108. Habitus, ventral view. 109. Labels.



**Figs 110–115.** 110–112. *Trilychnia flavipes* Motzschulsky, 1854a, holotype, sex undetermined. 110. Habitus, dorsal view. 111. Habitus, ventral view. 112. Labels. 113–115. *Trilychnia ruficollis* Motzschulsky, 1854a, syntype, sex undetermined. 113. Habitus, dorsal view. 114. Habitus, ventral view. 115. Labels.

*Telephoroides pallida* Motschulsky, 1854b  
Figs 107–109

*Telephoroides pallida* Motschulsky, 1854b: 61.

**Type material examined**

**Paralectotype** (designated here, but see below)  
COUNTRY UNKNOWN • ♂; “pallida,, Motsch // “typ” // “Brasil.” // “etiquette faussa,, Bicellonycha” [E. Olivier handwriting]; ZIN.

**Preservation status**

Well-preserved, one of the elytra damaged.

**Remarks**

Kazantsev & Nikitsky (2008) designated a lectotype from ZMMU. The specimen found at ZIN is therefore a paralectotype. While we cannot tell whether the label is false, the specimen matches the original description in all but the “projected posterior angles of the pronotum” (Motschulsky 1854), which is rather subtle in this putative paralectotype.

**Current status**

*Photuris pallida* (Motschulsky, 1854b) is a junior synonym of *Photuris femoralis* Curtis, 1839 (senior synonym). Other junior synonyms of the latter are *Photuris fulvipes* (Blanchard, 1845), *Photuris fruticola* (Motschulsky, 1854b), *Photuris occidentalis* (Motschulsky, 1854b), and *Photuris trivialis* Boheman, 1858.

*Trilychnia flavipes* Motschulsky, 1854a  
Figs 110–112

*Trilychnia flavipes* Motschulsky, 1854a: 6.

**Type material examined**

**Holotype**

FRENCH GUYANA • sex undetermined; “flavipes” // “Guyana.” // “Lucidota,, banoni,, Cast.” [E. Olivier handwriting]; ZIN.

**Preservation status**

Incomplete, missing antennae, metalegs, and abdomen; right elytron is damaged.

**Current status**

*Lucidota flavipes* (Motschulsky, 1854a).

*Trilychnia ruficollis* Motschulsky, 1854a  
Figs 113–115

*Trilychnia ruficollis* Motschulsky, 1854a: 6.

### Type material examined

#### Syntype

FRENCH GUYANA • sex undetermined; “ruficollis,, Dej. Bras.” // “typ”// “Guyana.” // “Lucidota,, discoidalis,, Cast.” [E. Olivier handwriting]; ZIN.

### Preservation status

Poorly preserved, lacking one antenna, one mesoleg, one metaleg, the abdomen; one of the elytra is damaged.

### Remarks

Kazantsev & Nikitsky (2008) found a female syntype at ZMMU. Motschulsky misattributed the authorship of *Trilychnia ruficollis* to Dejean. Since Motschulsky, the rightful author, didn't determine the depository of his type specimens, the ZIN specimen is considered another syntype of *Trilychnia ruficollis*.

### Current status

*Lucidota ruficollis* (Motschulsky, 1854a).

### Discussion

The ZIN collection of Lampyridae includes important type material and therefore is critically relevant for the study of firefly taxonomy. We found a total of 38 type specimens of New World species described by Motschulsky at ZIN. Among them, 15 are holotypes and seven are lectotypes (see Table 1). Kazantsev & Nikitsky (2008) reviewed the Lampyridae material from the Motschulsky collection deposited at the Zoological Museum of Moscow University (ZMMU). Their work listed 62 species-group taxa in this collection, and designated 23 lectotypes, including 17 which belonged to New World taxa. Together, ZIN and ZMMU host the majority of Motschulsky's lampyrid types. Therefore, compilation of type species from both ZMMU and ZIN institutions provides a relevant reference for taxonomic studies since there are few monographic studies on Lampyridae. We hope that the information on name-bearing specimens presented here will assist in future taxonomic studies on New World Lampyridae.

### Acknowledgments

We are grateful to Gabriel Biffi and Lesley A. Ballantyne for critical comments of earlier version of this paper. The study of A.G. Moseyko is a part of the state research project 122031100272-3.

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*Manuscript received: 17 December 2022*

*Manuscript accepted: 30 November 2023*

*Published on: 26 June 2024*

*Topic editor: Frederik Leliaert*

*Desk editor: Thomas Guyomard*

Printed versions of all papers are deposited in the libraries of four of the institutes that are members of the *EJT* consortium: Muséum national d’Histoire naturelle, Paris, France; Meise Botanic Garden, Belgium; Royal Museum for Central Africa, Tervuren, Belgium; Royal Belgian Institute of Natural Sciences, Brussels, Belgium. The other members of the consortium are: Natural History Museum of Denmark, Copenhagen, Denmark; Naturalis Biodiversity Center, Leiden, the Netherlands; Museo Nacional de Ciencias Naturales-CSIC, Madrid, Spain; Leibniz Institute for the Analysis of Biodiversity Change, Bonn – Hamburg, Germany; National Museum of the Czech Republic, Prague, Czech Republic; The Steinhardt Museum of Natural History, Tel Aviv, Israël.