

# Lampyridae: History of the type species of the genus *Luciola*, updated checklist of North African fireflies, and other taxonomic and faunistic notes

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This work provides an updated checklist of the Lampyridae of North Africa, including a brief summary on the Lampyridae species excluded from this area. The taxonomic acts proposed here, are: *Lampyris algeica* Cros, 1924 incorrect subsequent spelling; *Lampyris gridelli* Geisthardt & Satô, 2007 incorrect subsequent spelling; *Lampyris letourneuxi* J. E. Olivier, 1884 *stat. rest.*; [*Lampyris*] *lusitanica letournexi* [sic] Keller & Martin, 2024 incorrect subsequent spelling; *Nyctophila confusa variata* var. *rufilabris* Geisthardt, 1982 incorrect original spelling; *Lampyris (Nyctophila) heydeni* J. E. Olivier, 1884 *comb. rest.*; *Lampyris (Nyctophila) reichii reichii* Jacquelin du Val, 1859 *comb. rest.*; *Lampronetes mauritanica* Motschulsky, 1853 *nomen nudum*; *Pelenia* Constantin, 2014 incorrect subsequent spelling; *Pelania maritana* J. E. Olivier, 1907 incorrect subsequent spelling; *Pelania mauretana* Guzmán Álvarez & De Cock, 2010 incorrect subsequent spelling, De Cock & Guzmán Álvarez, 2014; Guzmán Álvarez & De Cock, 2017 incorrect subsequent spellings (name not available for the Code).

The *lectotypus* of *Lampyris gridellii* Pic, 1935 is designated, and doubts remain about *Lampyris barbara* J. E. Olivier, 1884 as synonymous with *Lampyris nervosa*. Furthermore, I provide an easier-to-understand type locality for *Lampyris letourneuxi*, which, although originally clear, had been misinterpreted in literature.

Given some misinterpretations of the Code, taxonomic clarity is also obtained for: *Pelania angustipennis* var. *imperfecta* J. E. Olivier, 1899 *stat. rest.*; *Luciola lusitanica* var. *erythrocephala* J. E. Olivier, 1885 *stat. rest.*; *Luciola lusitanica* var. *minor* Baudi di Selve, 1873 *stat. rest.*; *Lampyris (Nyctophila) reichii* var. *hispanica* J. E. Olivier, 1884 *stat. rest.*; and *Lampyris (Nyctophila) reichii* var. *bidens* Rey, 1891 *stat. rest.*

Small updates of Fanti & Parisi (2024) and Fanti (2022) are also furnished. Also, *Lampyris fuscata* Geisthardt, 1987 is new for the Basilicata region (Italy), and the correct year 1853 (not 1854) of *Delopyrus dregei* Motschulsky, 1853 and *Delopleurus fuscus* Motschulsky, 1853 is clarified and explained in detail.

The taxonomic history of the type species of the genus *Luciola* (Coleoptera, Lampyridae) is explained; as already widely demonstrated by Kawashima *et al.* (2003) and Fanti (2022), it is *Luciola italica* (Linnaeus, 1758). All other designations used unavailable names or were misidentifications.

Key words: fireflies, nomenclature, type species, ICZN, North Africa, checklist

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## INTRODUCTION

African fireflies (family Lampyridae) have always been little studied, with only world catalogues and a database (Olivier 1907a, 1910; McDermott 1966; Keller 2024), and some old papers and an interactive key of the world's firefly genera, which includes the North African genus *Pelania* Mulsant, 1860 (Martin et al. 2019a). In addition, a complete checklist of Sub-Saharan species recently appeared (Fanti & Parisi 2024). Regarding the North Africa species, however, there were only three relatively recent works by Geisthardt (1982, 1983, 1990), which resolved various taxonomic problems and provided a rather updated picture of this fauna.

Little is known about females of some species, the preimaginal stages (Mulsant 1862; Reiche 1863; Bourgeois 1884-1892; Cros 1924, 1925; Bugnion 1933, 1934), the bio-ecology (e.g., Cros 1924; Bugnion 1934), bioluminescence (De Cock 2009), and steroids (Cros 1924; Berger et al. 2021) of the fireflies of this area.

This checklist is designed to provide an updated and a more objective review of North African fireflies. However, critical questions remain, and numerous other studies will have to be carried out regarding the taxonomy of species to inform conservation actions that need to be undertaken. Taxonomic research plays an important role in zoology, so a careful study of the various issues and a correct application of the Code are necessary (ICZN 1999). In this work, therefore, further clarity is provided for the family Lampyridae on some taxonomic problems as well as varieties erroneously

considered subspecies. Furthermore, the history of the type species of the genus *Luciola* Laporte, 1833 is provided, due to the confusion created by many scientists over the years and not accepted (erroneously) by Bouchard et al. (2024), as the type species was already very clear in Kawashima et al. (2003) and Fanti (2022).

## MATERIALS AND METHODS

The checklist of the North African fireflies includes: 1) genera and species with author, publication date, page(s) of description; type locality (with date, collector, and collection); synonyms, and taxonomic acts proposed in literature; incorrect spellings; 2) distribution currently known; and 3) notes regarding recent works or additional important information. Furthermore, genera and species are reported in alphabetical order or according to the description date (synonyms).

All relevant bibliography has been reviewed; however, some “minor” works have not been attended. The taxonomical acts, faunistic note, and history of the type species of the genus *Luciola* are based on the ICZN rules (ICZN 1999).

The lectotype of *Lampyris gridellii* Pic, 1935, a male, preserved in the Museum of Trieste (Italy), reports these data in four labels (Fig. 3):

“*Lampyris* // *gridellii* // PIC, 1935 *mih*”

“*Lampyris* // *spec ? prope* // *ambigena* // det.Gridelli”

“Cyrenaica // R. U. Agrario // *Barce VI.* // Geo C. Krüger”

“Cyrenaica // R. U. Agrario // 16936 *vi.29* // Geo. C. Krüger”

to these was added a red label with the writing “LECTOTYPUS // FANTI 2024”.

## RESULTS

### Chapter 1. Updated checklist of North African fireflies

#### *Genus Lampyris* Geoffroy, 1762

= *Lamprotomus* Motschulsky, 1853

#### Subgenus *Lampyris* Geoffroy, 1762

#### *L. algerica algerica* Ancy, 1870

*Lampyris Algerica* Ancy, 1870: 87. Loc. typ. “environs de Blidah (Algérie)”.

= *Lampyris algeica* Cros, 1924: 37  
**incorrect subsequent spelling**

= *mucronata* J. E. Olivier, 1884: 10 (in the key), 25–26. Loc. typ. “Environs d’Alger, Sidi-Ferruch” (coll. de Marseul, la mienne). Lectotype: “Alger” Coll. Olivier – MNP (Geisthardt 1983: 28) [synonymized by Geisthardt 1983: 27].

= *mutabilis* J. E. Olivier, 1884 pages 31–32 and Fig. 8 ter. (*partim*) [synonymized by Geisthardt 1983: 27].

= var. [without name] J. E. Olivier, 1885: ix. Loc. typ. “dans le Djebel Beurda” 1 male, M. V. Mayet leg.

**Distribution.** Endemic of Algeria (Tell Atlas including Edough Massif). All the known localities are located in a band just 200 km wide of the “Tellatlas-Gebirges” (about 2°–4° E) with Algiers in the center; however, it can be assumed that the distribution extends further west (Geisthardt 1983).

**Note.** Type examined by Olivier (1884), but not found by Geisthardt (1983). The female of *L. mutabilis* was described by Olivier (1887: cxvii–cxviii): This female is very distinct from that of *attenuata* by the extreme reduction of its elytral stumps, by its prothorax with parallel sides instead of being rounded from the base, and by its triangular scutellar shield (while in the latter it is in the

shape of a trapezoid); the habitat of the two species is also different (Olivier 1887). The variety from Djebel-Beurda described as a variety of *attenuata* (Olivier 1885) was transferred to *L. mutabilis* by Olivier (1887), and it mildly differs from typical individuals in its slightly larger size and its pronotum less angular and almost rounded in front (Olivier 1885).

#### *L. algerica attenuata* Fairmaire, 1875

*Lampyris attenuata* Fairmaire, 1875: 512.

Loc. typ. “Kérouan” (Abdul-Kerim)

**Distribution.** Present in Algeria and Tunisia. The citation for Libya: Cyrenaica (Geisthardt & Satô 2007: 226) appears to be an error.

In the plain at a very low altitude (Olivier 1887). Assez répandu au Nord de la région désertique (Olivier 1895).

**Note.** Fairmaire described a single male from Kairouan (Kérouan), Tunisia, which may still be in the Genoa Museum today (Geisthardt 1983). The female was described by Olivier (1884: 19, 1885: ix). Due to the slightly protruding hair on the pronotum and elytra, the shape of the pronotum, the curved tibiae, and the shape of the aedeagus, it is usually easy to distinguish from both the nominate form and the other subspecies; only with the ssp. *laevigata* could confusion take place, as a slight curvature of the tibiae occurs in this subspecies. The posterior edge of the last sternite (median) in the ssp. *laevigata* never cut out so clearly as in *attenuata* (Geisthardt 1983).

#### *L. algerica levigata* Geisthardt, 1983

*Lampyris algerica levigata* Geisthardt, 1983: 30. Loc. typ. “Algérie, Ste.-Croix de l’Edough, 700 à 1000 m” (1918, leg. Chevreux)

**Distribution.** Present in Algeria and Tunisia. Probably mainly on the Kabylia mountain range (Geisthardt 1983).

**Note.** The specimens *L. mutabilis* from El Feidja and *L. soror* from Ain Draham reported by Normand (1935) are probably the ssp. *levigata* (Geisthardt 1983). Photographs of the male and female *habitus* are present in Berger et al. (2021).

***L. algerica occidentalis* Geisthardt, 1983**

*Lamproyris algerica occidentalis* Geisthardt, 1983: 29. Loc. typ. “Marokko, Hoher Atlas, Glauoua-Gebiet, Tizi-n-Tichka-Pass, Tadderte 1500–1800 m NN” (4.-6.VII.1975, leg. DE FREINA (CT))

**Distribution.** Endemic of Morocco (Atlas). Probably only in the Moroccan Atlas Mountains (Geisthardt 1983).

***L. barbara* J. E. Olivier, 1884**

*Lamproyris barbara* J. E. Olivier, 1884: 11 (in the key), 30–31. Loc. typ. “Barbarie” (Verreaux, collection de M. Chevrolat). Holotypus: “Barbaria, Alger”, VERREAUX leg., Coll. OLIVIER – MNP (Geisthardt 1983: 34)

Olivier 1884: 11, 30–31, Catalogue, 1895: 67, 1907a: 43, 1910: 35; Cros 1924: 37; McDermott 1966: 2, 127; Geisthardt 1983: 34, 36, 43; Fanti & Parisi 2024: 7; Keller 2024

**Distribution.** Algeria.

**Locality.** Barbarie (Olivier 1884, 1907a, 1910; Cros 1924 [Olivier 1884]; McDermott 1966). Barbaria, Alger (Geisthardt 1983). Afrique australe (Olivier 1895).

**Note.** Synonymized with *Lamproyris nervosa* by Geisthardt (1983: 34), a species of Israel, Jordan, and Syria (Geisthardt & Satô 2007) and probably also present in Lebanon (Geisthardt 1983). The only known specimen (Holotype) of *L. barbara* is largely similar to *L. nervosa* in all essential characters, including the aedeagus, that the minor *habitus* differences cannot be seen as separating them, and therefore the locality

information “Barbaria, Alger” is probably an error (Geisthardt 1983). However, the type locality remains uncertain (Fanti & Parisi 2024), and based on Geisthardt (1983), the aedeagus appears also similar to *Lamproyris exilis*.

It is therefore not at all clear whether it is a North African, Asiatic (Near Eastern), or even Sub-Saharan species; therefore, the synonymy with *Lamproyris nervosa* is only hypothetical and remains doubtful. Here it is provisionally listed in this catalog as a bona species without, however, officially changing the taxonomy.



Fig. 1. *Lamproyris gridellii* Pic, 1935. Lectotype, dorsal view.

***L. exilis* J. E. Olivier, 1894**

*Lamproyris exilis* J. E. Olivier, 1894: 135–136. Loc. typ. “Algérie: environs de Gouraïa, village à l’Ouest de Cherchell” (Coll. Carret, Pic, la miennne). Lectotype and two Paralectotypes (males): “Algérie, Gouraya” Coll. Olivier – MNP (Geisthardt 1983: 33)

= *Lampyris numidica* Normand, 1935: 235–237. Loc. typ. “Souk-el-Arba” [synonymized by Geisthardt 1983: 33]

**Distribution.** Present in Algeria and Tunisia, to be verified in Morocco.

**Note.** Type of *L. numidica* not seen by Geisthardt (1983). The report of the species by Kocher (1956) from Morocco (Targlitz dans le Rif espagnol) = ? Targuist (Geisthardt 1983) needs to be checked (Geisthardt 1983). Frequent in July and August (Olivier 1894).

### *L. gridellii* Pic, 1935

*Lampyris Gridellii* Pic, 1935: 147. Loc. typ. “Barce” (G. Krüger).

= *Lampyris gridelli* Geisthardt & Satô, 2007: 227 **incorrect subsequent spelling** McDermott 1966: 3, 135; Geisthardt 1983: 24; Geisthardt & Satô 2007: 227; Keller 2024

(Figs. 1–3)



Fig. 2. *Lampyris gridellii* Pic, 1935. Lectotype, lateral view.

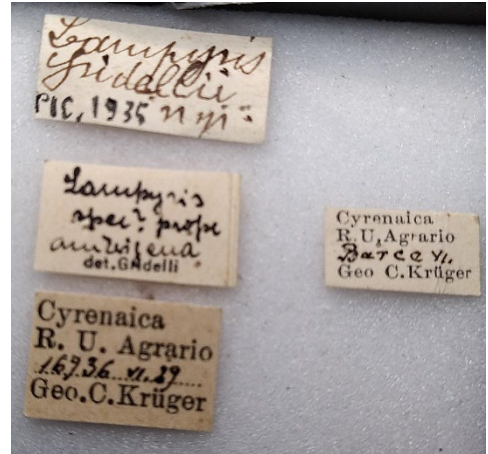


Fig. 3. *Lampyris gridellii* Pic, 1935. Lectotype, labels.

**Distribution.** Endemic of Libya (Cyrenaica): Barce (Pic 1935), Cyrenaica (McDermott 1966).

**Note.** Similar to *L. exilis* but more elongated, with a shorter pronotum and straighter sides (Pic, 1935).

As can be seen in the original publication, the author Maurice Pic (1935) received the species collected by G. C. Krüger via Edoardo Gridelli. Recently the Type was not found in the National Museum of Natural History of Paris - MNHN (Geisthardt 1983), although it should be noted that the Pic collection is disorganized and part of the typical series could still be preserved and found in the future. In the original description there is no mention of how many specimens the species was described from, nor in which collection they are now found. In reality the species had been sent to M. Pic by E. Gridelli and described and published in the *Acts of the Museum of Trieste*. In fact, in this museum there is still in good condition a specimen of *L. gridellii*, which is unequivocally a syntype. In fact, as can be seen from the syntype’s labels, it was collected in the type locality of Barce in Cyrenaica by G. Krüger and was entrusted to

the care of Edoardo Gridelli, who was first curator (from 1928), and then director (1945–1957) of the Civic Museum of Natural History of Trieste. Given that Pic says that the species has a size of 9–20 mm (however, it could also be a printing error and in reality it was described on only one specimen of 19–20 mm) and that Geisthardt believed it to be present in Museum of Paris in the Maurice Pic collection, there could certainly be more than one specimen of the typical series, and therefore be Syntypes (ICZN 1999: Art. 72.1.1.). Obviously, the taxon could also have been described on just one specimen, the one present in the Museum of Trieste. However, given that Pic does not fix the holotype (ICZN 1999: Art. 73.1.3.), that there could be more than one specimen, and that the holotype therefore cannot be considered with certainty fixed by monotypy (ICZN 1999: Art. 73.1.2.). Thus, the specimen of Trieste (Italy), should be designated a lectotype rather than assume it a holotype (ICZN 1999: Recommendation 73F. Avoidance of assumption of holotype).

Therefore, the specimen preserved at the Civic Museum of Natural History of Trieste (Figs. 1–3, and see the label data and information reported in “Materials and methods”) is the **lectotypus** by present designation. The designation of the lectotype is considered important here as the species is not well documented, except for the old description and the type whose fate had not been known prior to this work. Any eventual discoveries in the Pic collection in Paris of other specimens would automatically make them paralectotypes (ICZN 1999: Art. 73.2.2.; Art. 74.1.3.; Recommendation 74F.).

***L. letourneuxi* J. E. Olivier, 1884 stat. rest.** *Lampyris Letourneuxi* J. E. Olivier, 1884: 24–25. Loc. typ. “Ramlé (Egypte)”, hypothesized by Geisthardt 1983: 24 as “Ägypten, Ramlé = ? Ramla/Israel”. The type locality reported by Geisthardt (1983) is evidently erroneous and is here specified as

being “Mahatet El Raml (= Ramleh)” a neighborhood in Alexandria, Egypt\*.

*Lampyris Raymondi* v. *Letourneuxi* J. E. Olivier, 1884: Catalogue

*Lampyris lusitanica* var. *Letourneuxi* J. E. Olivier, 1907a: 44, 68; J. E. Olivier, 1910: 36, 62; McDermott, 1966: 4, 138

= [*Lampyris*] *lusitanica letourneuxi* sic.! Keller & Martin, 2024: 6 (repeated three times) **incorrect subsequent spelling**

**Distribution.** Endemic of Egypt: Ramlé = Mahatet El Raml (Olivier 1884; present work).

**Note.** Type not found in the MNP, collection Bourgeois (Geisthardt 1983). In Olivier (1907a, 1910) synonym of *Lampyris lusitanica* Motschulsky. Described as a different species, with not complete certainty because Olivier knew of only one specimen, and inserted it under *Lampyris raymondi*. Then, a few pages later, it was instead considered in the catalogue by the same author as *Lampyris raymondi* var. *letourneuxi* (Olivier 1884). In previous times, determinations based only on external morphology were extremely difficult and uncertain, and *Lampyris raymondi* was believed to have a distribution that included southern France, Spain, Portugal, Italy, Sardinia, Corsica, Capri, Tremiti Islands, Egypt and Syria (Olivier 1884, 1907a, 1910; McDermott 1966; Geisthardt 1985). Obviously, it is well known currently that in Sardinia, Corsica, North Africa, and Syria, there are species different from *Lampyris raymondi* (McDermott 1966; Geisthardt 1983, 1987; Geisthardt & Satô 2007; Fanti 2022; Guzmán Álvarez & De Cock 2023).

As seen above for other species, due to an incorrect interpretation of the Code, Keller & Martin (2024) consider it a subspecies:

[*Lampyris*] *lusitanica letourneuxi* [sic]

and

Status unclear, *Lampyrinae incertae sedis*

while:  
family Lampyridae, species *incertae sedis* in Geisthardt & Satô (2007).

First of all, according to the Code (ICZN 1999), it must be noted that it is already described as a species (Geisthardt 1983; Geisthardt & Satô 2007) and not as a variety, so taking it from variety to subspecies is useless, as well as taxonomically incorrect, because *Lampyris letourneuxi* is certainly not a subspecies, but has the rank of species (*stat. rest.*). In the type locality of *Lampyris letourneuxi* (Egypt), there are only the representatives of Lampyrinae and no Luciolinae (Geisthardt & Satô 2007), with the latter having a very different appearance and coloration from the *Lampyris*. Also given that in Olivier's (1884) original description, no character can be associated with Luciolinae, considering *Lampyris letourneuxi* status unclear and in particular Lampyridae or Lampyrinae *incertae sedis* (Geisthardt & Satô 2007; Keller & Martin 2024) makes no sense. Finally, *Lampyris letourneuxi* is a very different species from *Lampyris raymondi* / *Lampyris lusitanica* given the morphological differences (Olivier 1884) and the considerable distance of the distribution range of the two species (Geisthardt & Satô 2007; Fanti 2022). However, only the study of the holotype that Geisthardt (1983) did not find in the Bourgeois collection, or the discovery of other specimens will provide us with a precise understanding of its taxonomy, and therefore the possibility of synonyms remains, but certainly not with the taxa compared so far.

\*Aristide-Horace Letourneux, born on 21 February 1820 in Rennes (France), and died on March 3, 1890 in Algiers (Algeria), was a French lawyer, botanist, and entomologist while working as a civil servant in North Africa. He became a prosecutor in Bône, Algeria, adviser of the court of Algiers and

other positions, was invited to participate in the Scientific Exploration of Tunisia (1883-1885), and at the end of career, in 1876, he was sent to Egypt to sit and defend the interests of France in a mixed court in Alexandria (Note: precisely the type locality of *L. letourneuxi*) (web resource: <https://www.conchology.be/?t=9001&id=23363>).

#### ***L. spinifer* Pic, 1923**

*Lampyris spinifer* Pic, 1923: 9. Loc. typ. "Egypte: Mariout" (coll. Petrow).

**Distribution.** Endemic of Egypt (McDermott 1966): Mariout (Pic 1923).

**Note.** Type not found in the MNP (Geisthardt 1983). Very distinct species by the structure of its front legs, it can be placed near de *L. attenuata* Fairmaire (Pic 1923).

#### **Subgenus *Nyctophila* J. E. Olivier, 1884**

##### ***N. confusa confusa* Geisthardt, 1982**

*Nyctophila confusa* Geisthardt, 1982: 121 (Abb. 22, 23, 26, 27, 28, 29), 122. *nomen novum*. Loc. typ. "Barbarie".

= *LAMPYRIS mauritanica* G. A. Olivier, 1790: [N°. 28] pages 13-14, Pl. I Fig. 5b-c, [jx-x] (*partim*) [synonymized by Geisthardt 1982: 122]

**Distribution.** Endemic of Morocco.

**Note.** One typus male of *L. mauritanica* G. A. Olivier, 1790 in coll. E. Olivier - MNP (Geisthardt 1982). *Lampyris mauritanica* G. A. Olivier was considered a synonym of *N. reichii* by McDermott (1966). *Lampyris mauritanica* G. A. Olivier, 1790 is a homonym of *mauritanica* Linnaeus, 1758.

##### ***N. confusa pygidialis* Geisthardt, 1982**

*Nyctophila confusa pygidialis* Geisthardt, 1982: 123 (Abb. 34, 38, 39), 124-125. Loc. typ. "Marokko, Casablanca" Coll.

REITTER (UB). Paratypes: “Marokko, Atlas” Coll. OLIVIER (MNP); “Maroc, Atlas” Coll. BOURGEOIS (MNP)

**Distribution.** Endemic of Morocco.

**Note.** Published under the name *N. heydeni* by Olivier (1907b), according to Geisthardt (1982).

***N. confusa variata* Geisthardt, 1982**

*Nyctophila confusa variata* Geisthardt, 1982: 123 (Abb. 30, 32, 37), 124. Loc. typ. “Marokko, Arround, 2000 m” 24.VI.1930, leg. WERNER (MB). Paratypes: “Marokko, Arround, 2000 m” 24.VI.1930, leg. WERNER (MB); “Marokko, Gr. Atlas, Tachdirt, 2200–2700 m” 2.–10.VII.1933, leg. ZERNY (MB); “Marokko, Tachdirt” Coll. SCHWINGENSCHUSS (MB).

**Distribution.** Endemic of Morocco.

= *Nyctophila confusa variata* Var. *rufibasis* Geisthardt, 1982: 123 (Abb. 31, 33, 35 [as *rufilabris*], 36 [as *rufilabris*]), 124. Loc. typ. “Marokko, Gr. Atlas, Tachdirt, 2200–2700” 2.–10.VII.33, leg. ZERNY (MB); “Marokko, Arround, 2000 m” 24.VI.30, leg. WERNER (MB); “Marokko, Tachdirt” leg. SCHWINGENSCHUSS (MB); “Marokko” (ohne daten UNB); “Maroc, Atlas” Coll. BOURGEOIS (MNP)  
Keller & Martin 2024 (unavail.)

= *Nyctophila confusa variata* var. *rufilabris* Geisthardt, 1982: 123 (Abb. 35, 36)

**incorrect original spelling**

**Distribution.** Endemic of Morocco.

**Note.** *Nyctophila confusa variata* var. *rufibasis* was published under the name *N. heydeni* by Olivier (1907b), according to Geisthardt (1982).

= *Nyctophila confusa variata* Var. *carinata* Geisthardt, 1982: 124. Loc. typ. “Marokko” (ohne Daten) (UNB)

Keller & Martin 2024 (unavail.)

**Distribution.** Endemic of Morocco.

Geisthardt (1990) had other specimens very similar to *N. confusa variata*, but which he could not ascribe to any subspecies, so he said that an in-depth study with a lot of material would be necessary to evaluate these taxa:

- 1 male “Marokko, Hoher Atlas, Glauona-Gebiet, Tizi-n-Tichka-Paß, Tadderte, 1500–1800 m” 4.–6.VII.1975, DE FREINA leg. (Coll. Geisthardt).

- 1 male “Marokko, Qued Wachaf, W Dar Chnoni” 10.VII.1970, STEMMLER leg. (MB).

**Genus *Pelania* Mulsant, 1860**

*Pelania* Mulsant, 1860: 136

Type species: *Cantharis mauritanica* Linnaeus, 1758

= *Pelania* Constantin, 2014: 35, 39

**incorrect subsequent spelling**

= *Lampronetes* Motschulsky, 1853

[objective synonym, not in common use: Turkey 1974]

**Note.** Monotypic genus, endemic to North Africa.

***P. mauritanica* (Linnaeus, 1758)**

*Cantharis mauritanica* Linnaeus, 1758: 401. Loc. typ. “Algiria”.

= *Pelania maritanica* J. E. Olivier, 1907a: 68 (Table alphabétique des genres et des espèces) **incorrect subsequent spelling**

= *Pelania mauretana* Guzmán Álvarez & De Cock, 2010: 199, poster **incorrect subsequent spelling**; De Cock & Guzmán Álvarez, 2014: poster; Guzmán Álvarez & De Cock, 2017: poster **incorrect subsequent spellings** - name not available by the Code because proposed in two poster

= *Lampronetes mauritanica* (F.) Motschulsky, 1853: 46 **nomen nudum**, 1854c: 16



= *Lampyris obtusa* Fairmaire, 1866: 44. Loc. typ. "Tanger" [synonymized by Olivier 1884: 6]

= *Pelania angustipennis* J. E. Olivier, 1883: lxx. Loc. typ. "entre Bone et Hippone (Algeria)"

= *Lampyris (Pelania) scutellata* Fairmaire, 1884: xxxv. Loc. typ. "Sousse (Tunisie)" [synonymized by Olivier 1884: 6]

= *Pelania imperfecta* J. E. Olivier, 1899: 92-93. Loc. typ. "Laghouat (Algérie)"

**Distribution.** Tunisia, Algeria, Morocco (Bourgeois 1882-1894; Olivier 1895).

The distribution limits in western and eastern North Africa are unclear (Türkyay 1974). Mentioned for Egypt (Cros 1924), this seems like a dubious citation. Spain: Melilla (Pardo Alcaide 1950). It is not clear whether it was found in the Spanish territories (North Africa) or around Melilla in Moroccan territories (see also: Fanti 2022), even if the title of the work mentions Morocco. However, the presence in Melilla (Spain) appears very probable.

The numerous old citations from Spain, Portugal, and France are obvious errors of determination.

"Tout le Maroc, sauf au Sud de l'Atlas, pouvant atteindre en montagne près de 2 000 m (Timelilt)" (Kocher 1956). "Dans l'Est et dans l'Ouest du Nord de l'Afrique" (Lucas 1846). "Dans tout le Nord de l'Afrique, de la Tunisie, au Maroc, on la trouve communément dans tout le Tell et les Hauts plateaux, mais elle devient bien plus rare en approchant de la région Saharienne où elle ne pénètre pas" (Olivier 1895).

**Note.** As demonstrated by Fanti (2022), the species was described in 1758 and not in 1767, as confirmed, only later, by Keller (2022). Photographs of the male's *habitus* is present in Martin et al. (2019a), Berger et al. (2021), Fanti (2022), and Guzmán Álvarez & De Cock (2023). The type of *obtusa* was

not found in the Fairmaire collection (Kocher 1956: note <sup>(2)</sup>). The type of *angustipennis* seen by Türkyay (1974) in the Olivier collection. The lucibufagins were studied by Berger et al. (2021). Females and larvae are well-known, as well as some brachelytrous males (Cros 1924; Bugnion 1933, 1934). The aedeagus is illustrated in Türkyay (1974). It is a non-obligate myrmecophilous species (De Cock 2009). McDermott (1964: 7, 8, 17, 1966: 8) believes that *Lampronetes* Motschulsky takes precedence over *Pelania* Mulsant, but Türkyay (1974) said this is not possible, even if it is an objective synonym, because it was essentially prohibited by the Code, which preserves the stability of a name.

*Pelania imperfecta* was described as a species (Olivier 1899) and then considered as a variety (Olivier 1907a, 1910; McDermott 1966), but was considered a subspecies by Keller & Martin (2024) because of a misinterpretation of the Code (ICZN 1999: Art. 45.6.). This act by Keller & Martin (2024) is a misinterpretation of the Code because the Code provides the cases in which a name may be available (subspecific) or not available (infrasubspecific), but does not automatically establish the status.

*Pelania angustipennis* var. *imperfecta* J. E. Olivier, 1899 *stat. rest.*

Checklist of the species to be excluded from Africa:

- *Lampyris (Nyctophila) heydeni* J. E. Olivier, 1884 *comb. rest.*

Note. Because Fanti (2022) considers *Nyctophila* again as a subgenus of *Lampyris*, the original combination is re-established here.

- *Lampyris (Nyctophila) reichii reichii* Jacquelin du Val, 1859 *comb. rest.*

Note. Because Fanti (2022) considers *Nyctophila* again as a subgenus of *Lampyris*, the original combination is re-established here.

- *Nyctophila reichei* - *heydeni* - *reichei* with passages to *heydeni*:

Note. Tachdirt (alt. 2400) (Kocher 1969): It appears as a single species with *reichei* being the alticole form (Kocher 1969).

- larva, probably of *Nyctophila*

Note. Djebel Sarro (Kocher 1949).

- *Lampyrus noctiluca* (Linnaeus, 1758)

- *Lampyrus lusitanica* Motschulsky, 1854

- *Lampyrus berytensis* Fairmaire, 1866

Note. The locality Mount Hermon (Olivier 1884) is not located in Egypt but on the border between Israel, Lebanon, and Syria.

- *Lampyrus soror* (Schaum) J. E. Olivier, 1884

- *Lampyrus ambigena* Jacquelin Du Val, 1860

## Chapter 2. History of the type species of the genus *Luciola*

The type species of the genus *Luciola* Laporte, 1833 (Coleoptera, Lampyridae) was introduced for the first time by Motschulsky (1853: 53) as being *Luciola pedemontana* Bonelli. This species, however, as correctly reported by Bouchard et al. (2024), is not a name available at the time of the description of the genus *Luciola* and cannot be selected as the type species (ICZN 1999: Art. 67.2.1.). The species *Luciola pedemontana* Motschulsky had been correctly synonymized with *Luciola italica* (Linnaeus, 1758) already in old works and world catalogs (e.g., Olivier 1902, 1907a, 1910; McDermott 1966). Based on this synonymization Kawashima et al. (2003), appear to be the first to correctly cite *Luciola italica* (Linnaeus, 1758) as the type species of the genus *Luciola*. Fanti (2022)

subsequently was the first author, after almost 170 years, to clarify the name *Luciola pedemontana* sensu Bonelli and Motschulsky and the correct descriptor of *Luciola pedemontana*, which turned out to be Curtis, the latter which in reality is a different species from *L. pedemontana* Motschulsky. Based on Fanti (2022), *Luciola pedemontana* sensu Motschulsky (Motschulsky 1854d) but also sensu Bonelli, is unequivocally *Luciola italica* (Linnaeus, 1758). Fanti (2022) therefore correctly designates this species in the original binomial (ICZN 1999: Recommendation 67B.) *Cantharis italica* as the type species of the genus *Luciola*, reporting that it was Motschulsky who designated the type species of the genus, with the name (not available) *Luciola pedemontana* Bonelli. Kawashima et al. (2003) and Fanti (2022), therefore, simply followed and corrected the historical proposal made by Motschulsky. The proposal for the designation of the type species *Luciola pedemontana* made by Motschulsky (1853), which moreover had been considered valid for all these years (McDermott 1964, 1966; Calder 1998; Ballantyne et al. 2019; etc.).

Desmarest (1860) designated *Luciola italica* Fabricius as the type species, but according to Bouchard et al. (2024), this is a misidentification, and the subsequent authors should fix the type species based on the recommendations of the International Code. In addition, all others subsequent fixations (e.g., Ballantyne & Lambkin 2006; Fu et al. 2012a, 2012b; Ballantyne & Lambkin 2013; Ballantyne et al. 2022. See list E) are misidentifications. In fact, all the authors cited in list "E" placed *Luciola italica* as the type species, but did so on the basis of a misidentification of the population present in Pisa. In fact, Ballantyne & Lambkin (2013) themselves say that *Luciola italica* is present in Pisa, Italy, when as can easily be deduced from the entire bibliography (e.g., Papi 1967, 1969; Mikšić

1969; Bagnoli et al. 1972) and based on what was confirmed by Fanti (2022: 186), in Pisa there is only *Luciola pedemontana* ([Curtis], 1843). This latter species, before of Fanti (2022), was known by the name *Luciola lusitanica* (Charpentier, 1825).

Therefore, despite Bouchard et al. (2024: 303), *Cantharis italica* Linnaeus, 1758 (see *D*) as designated by Kawashima et al. (2003), Kazantsev (2010, 2011), and Fanti (2022), is unequivocally the type species, as these authors follow the Code, so any other future designation would clearly be invalid (ICZN 1999: Art. 69.1.) and would be detrimental to taxonomic stability. The acts of Kawashima et al. (2003) and Fanti (2022), in fact, fully respect and satisfy, as we have seen, taxonomic stability and universality, which Bouchard et al. (2024) say is relevant, noting: “The discovery of type species fixations that are older than those currently accepted pose a threat to nomenclatural stability (an application to the Commission is necessary to address each problem)”.

Furthermore, it is also very noteworthy that in Laporte’s original description of the genus *Luciola*, the species *L. italica* has position 1 (Laporte 1833: 146), and that *L. italica* is the only species of *Luciola* described in Linnaeus (1758: 400–401), and therefore the first of the genus ever described.

History of the type species of the genus *Luciola* (original citation, and author(s) with relative page), with my notes:

#### A

**Type species:** *Luciola pedemontana* Bonelli Motschulsky 1853: (52), 53

NOTE: Unavailable name when originally included in *Luciola* by Laporte (Bouchard et al. 2024). However, it is nice to note that the name *Luciola Pedemontana* Bonelli, although not yet described, was present in Laporte's (1833: 149 - position 12) original description work. In fact, the name

circulated for some decades among various authors as if it were actually described, even if Bonelli's description (apparently) never reached us or science.

#### B

**Type species:** *L. italica*, Fabr.

Desmarest 1860 : 14 [*Luciola italica* or *Lampyrus italica*?]

NOTE: Bouchard et al. (2024) say: “the species selected by E. Desmarest is a misidentification (*Cantharis italica* Linnaeus, 1758 sensu Fabricius, 1775 = *Lampyrus lusitanica* Charpentier, 1825); accordingly, following the recommendations in Article 70.3 (ICZN 1999a), authors working on this issue will determine if the nominal species previously cited as the type by E. Desmarest or the taxonomic species actually involved should be fixed as the type species of *Luciola* Laporte (L. Ballantyne, pers. comm. to P.B., 2023)”.

What was said by Bouchard et al. (2024) is not entirely correct, as after Fanti (2022), *Lampyrus italica* sensu Fabricius is to be attributed to *Luciola pedemontana* ([Curtis], 1843) as the typical locality proposed by Fabricius himself (1775: 202) is Italy, and therefore it certainly cannot be *Luciola lusitanica* (Charpentier, 1825), which instead is a species from Portugal (Fanti 2022). Furthermore, it is evident that the true type species intended by Desmarest remains rather uncertain to us today. In fact, Desmarest also attributed other well-known species such as *Lampyrus noctiluca* or *Lamprohiza splendidula* to Fabricius (Desmarest 1860: 13) and not to the correct descriptor: Linnaeus.

#### C

**Type species:** *Luciola pedemontana* Motsch., 1853

McDermott 1964: 43

**Type species:** *Luciola pedemontana* Motschulsky, designated by Motschulsky, 1853

McDermott 1966: 98

**Type species:** *Luciola pedemontana* Motschulsky, 1853 by subsequent designation, see Motschulsky, V. (1853). *Lampyrides. Etud. Entomol.* 1: 26–58 [52]  
Calder 1998: 178

**Type species:** *Luciola pedemontana* Mots. 1853

Ballantyne & Lambkin 2000: 21

**Type species:** *Luciola pedemontana* Motschulsky designated by Motschulsky 1853

Ballantyne & Lambkin 2013: 64

**Type species:** *Luciola pedemontana* Motschulsky designated by Motschulsky 1853

Ballantyne et al. 2019: 87

NOTE: Unavailable name when originally included in *Luciola* by Laporte.

## D

**Type species:** *Lampyris italica* Linné, 1767.

Notes: Type species of the genus *Luciola* was designated by MOTSCHULSKY (1852) as *Luciola pedemontana* BONELLI: MOTSCHULSKY, 1854. Later, OLIVIER (1902b) put it back to a variety of *L. italica* (LINNÉ, 1767), and MCDERMOTT (1966) synonymized it with *L. italica* / *Luciola italica* (LINNÉ, 1767)

Kawashima et al. 2003: 246, 247, 249 (Figs. 1–2)

**Type species:** Типовой вид *Lampyris italica* Linnaeus, 1767

Kazantsev 2010: 201, 203

**Type species:** *Lampyris italica* Linnaeus, 1767

Kazantsev 2011: 392

**Type species:** *Cantharis italica* Linnaeus, 1758 [= *Luciola italica* (Linnaeus, 1758)]. Designata da Motschulsky, 1853: 53 (“*Luciola pedemontana Bonelli*”)

Fanti 2022: 169 (and taxonomic history of the name throughout the text, under the various species)

## E

**Type species:** *L. italica* (= *pedemontana*)

Ballantyne & Lambkin 2006: 43

**Type species:** *L. italica*

Ballantyne & Lambkin 2009: 24, 37, 108

**Type species:** *Luciola italica* (L.)

Fu et al. 2012a: 22

**Type species:** *L. italica*

Fu et al. 2012b: 24, 30

**Type species:** *L. italica* (L.) / *L. italica* from Pisa, Italy / a population from Pisa of *Luciola italica*, the type species (Ballantyne and Lambkin 2000, 2001, 2006, 2009) / Our characterisation of the type species *Luciola italica* is based on large numbers of a population of males and females from Pisa Italy, identified by Floriano Papi.

Ballantyne & Lambkin 2013: 5 (Abstract), 31, 66 and 126, 140

**Type species:** *Luciola italica* (see Ballantyne & Lambkin 2013:70).

Ballantyne & Jusoh 2015: 1

**Type species:** *L. italica* (L.)

Jusoh et al. 2021: 2 [type species referred to the work of Ballantyne et al. 2019]

**Type species:** *Luciola italica* (Linnaeus, 1758)

Ballantyne et al. 2022: 3, 42, 43

NOTE: Misidentifications (see text).

## F

**Type species:** to be determined

Bouchard et al. 2024: 302–303

**Type species:** to be determined (see Bouchard et al. 2024).

Jusoh & Ballantyne 2024: 69

NOTE: Bouchard et al. (2024) summarize (partially, since Kawashima et al. 2003, for example, is not cited) the history of the type species, but they leave the type species to be determined. The type species is well known and had already been clarified in Kawashima et al. (2003) and Fanti (2022), authors who also respect the stability that has followed and remained unchanged over the course of almost 170 years. Furthermore, Bouchard et al. (2024) erroneously state that: “*Luciola pedemontana Bonelli*” (= *Luciola pedemontana* Curtis, 1846)”, evidently taking this data from Fanti (2022). This, however, is different from what was state clearly and taxonomically rigorously by Fanti (2022).

## G

**Type species:** The type species of the genus *Luciola*, and the correct author for *Luciola pedemontana*, is addressed elsewhere (Ballantyne and Jusoh, in review). Ballantyne L, Jusoh WFA. in review. The type species of *Luciola* Laporte 1833 (Coleoptera: Lampyridae: Luciolinae).

Keller & Ballantyne 2023: 4, 5 (Literature Cited)

### Chapter 3. Other taxonomic and faunistic notes

**3A.** Fanti & Parisi (2024) update:

#### *Luciola exoleta* Motschulsky, 1854

**Material.** Syntype, male, labels handwritten by Motschulsky: “Tette, Mozamb.”, “*Luciola exoleta* Klug, Mozambic” (Kazantsev & Nikitsky 2008). Poorly preserved specimen, with just the upper integument and apex of the abdomen present (Kazantsev & Nikitsky 2008). According to Motschulsky (1854d), we do not know which syntypes can be located in the Berlin Museum “M. B.” (Kazantsev & Nikitsky 2008).

#### *Delopleurus fuscus* Motschulsky, 1853

**Material.** Syntype, genus not determined, label handwritten by Motschulsky: “*Delopleurus fuscus* Motsch., Mozambic” (Kazantsev & Nikitsky 2008).

Only the hind leg was preserved (Kazantsev & Nikitsky 2008). According to Motschulsky's instructions (1854d), other syntypes can be found in the Berlin Museum (Kazantsev & Nikitsky 2008).

#### Genus *Ovalampis* Fairmaire, 1898

REFERENCES. Olivier (1907a, 1910), McDermott (1964; 1966), Jeng (2008), Martin et al. (2019b).

#### *O. crispaticollis* Fairmaire, 1898

*Ovalampis crispaticollis* Fairmaire, 1898: 404–405. Loc. typ. “Tamatave”

#### DISTRIBUTION. Madagascar.

NOTE. Taxon overlooked in Fanti & Parisi's catalogue (2024). Therefore, the Sub-Saharan fireflies consist of nine genera and subgenera and 187 species (198 taxa). Near *Photinus* in the original description (Fairmaire, 1898), but the description suggests *Lychnuris* according to McDermott (1964: 8, 19); then later McDermott (1966: 18) hypothesized it as ?*Pyrocoelia*. The genus belongs to Lampyrini (McDermott 1964: 8, 19, 1966: 18; Martin et al. 2019b: 11) but is *incertae sedis* for Olivier (1907a: 62, 65, 69; 1910: 53, 56, 59).

**3B.** Fanti (2022) update:

#### *Luciola minuta* Motschulsky, 1854

#### *Luciola obtusangula* Motschulsky, 1854

#### *Luciola suturalis* Motschulsky, 1854

**Material.** Syntype of *Luciola minuta*, genus not determined, labels handwritten by Motschulsky: “Dalmat.”, “*Luciola minuta* Motsch., Dalmat.”. The right elytra collapsed from the preserved syntype (Kazantsev & Nikitsky 2008).

Syntype of *Luciola obtusangula*, female, labels handwritten by Motschulsky (except “Lamp. italica”): “Milano”, “Lamp. italica”, “*Luciola obtusangula* Motsch., Milano”. The head, prothorax and legs are missing from the syntype (Kazantsev & Nikitsky 2008).

Syntype of *Luciola suturalis*, pin without scarab, label handwritten by Motschulsky: “*Luciola suturalis* Ménétr., Constantinople” (Kazantsev & Nikitsky 2008).

#### *Luciola mehadiensis* Motschulsky, 1854

**Material.** Syntype of *Luciola mehadiensis*, genus not determined, label handwritten by Motschulsky: “*Luciola mehadiensis* Dahl., Hungaria.”. Only the right elytra and part of the legs have been preserved (Kazantsev & Nikitsky 2008).

**Lampyris longipennis** Motschulsky, 1854

**Material.** Pin without scarab, labels handwritten by Motschulsky: "Pyr. or.", "*Lampyris longipennis* Motsch., Pyr. or." (Kazantsev & Nikitsky 2008).

**3C.****Lampyris fuscata** Geisthardt, 1987

**Material.** Basilicata: Policoro (MT), 3 males, 10.vii.1984, Lucio Saltini *leg.*

**Note.** Italian endemism of Tuscany, Umbria, Marche, Lazio, Abruzzo, Molise, and Apulia (Fanti, 2022). New for Basilicata.

**3D.**

*Luciola lusitanica* var. *minor* Baudi di Selve, 1873 *stat. rest.*

*Luciola lusitanica* var. *erythrocephala* J. E. Olivier, 1885 *stat. rest.*

These names were originally described as a variety, and thus must be considered as available names (ICZN 1999: Art. 45.6., Art. 45.6.4.).

Keller & Ballantyne (2023) establish the current status of the subspecies, along with other specific names, on the basis of article 45.6. (ICZN 1999). These acts by Keller & Ballantyne (2023) are a misinterpretation of the Code (ICZN 1999: Art. 45.6.), because the Code provides the cases in which a name may be available (subspecific) or not available (infrasubspecific), but does not automatically establish the status. In fact, the two names are to be referred (and in this my document are referred to again) to simple varieties of color or size and are certainly not subspecies.

**3E.**

*Lampyris (Nyctophila) reichii* var. *hispanica* J. E. Olivier, 1884 *stat. rest.*

*Lampyris reichii* var. *bidens* Rey, 1891 *stat. rest.*

As above, Keller & Martin (2024), due to a misinterpretation of the Code (ICZN 1999: Art. 45.6.), considered these taxa as subspecies: *Lampyris reicheii* [sic] *bidens* Rey, 1891 and *Nyctophila reichii hispanica*

(J. E. Olivier, 1884). Therefore, these supposed subspecies are here restored as varieties.

**3F.**

*Delopyrus dregei* Motschulsky, 1853

*Delopleurus fuscus* Motschulsky, 1853

Motschulsky in a work of 1853 describes or redescribes various genera of Lampyridae (Motschulsky 1853), including the genera in question: *Delopyrus* and *Delopleurus*. Then, subsequently in 1854, he provides descriptions or redescrptions of the species of the various genera proposed the year before or little known, which he had found and studied in the collection of the entomological Museums (Motschulsky 1854a, 1854b, 1854c, 1854d). In the 1853 work, together with each genus, he also provides the name of the type species, which therefore, as highlighted in Fanti (2022), for monotypic genera, according to the Code, the various descriptions are to be applied combined to both the genus and the species. Fanti (2022), in agreement with Kazantsev (2010), therefore confirms as valid the date 1853 and not 1854 for these species present in the work, where in reality in this subsequent works by Motschulsky, we only find redescrptions (Motschulsky 1854a, 1854b, 1854c, 1854d), perhaps more in-depth and useful. The correct year 1853 is also reported later in Fanti & Parisi (2024). The type species proposed by Motschulsky regarding the two genera are *Delopyrus dregei* and *Delopleurus fuscus*.

Keller & Ballantyne (2023), not citing the work of Fanti (2022) nor that of Kazantsev (2010), do not consider them to be combined new genus / new species descriptions in the work of Motschulsky (1853) and attribute to the two species (mentioned above), the status of *nomina nuda* with year of description to be the 1854 (Keller & Ballantyne 2023). This is done by them on the basis of the application of article 8.3. ICZN (1999), as Motschulsky (1853) in note

1 of page 27 says “La description des espèces paraîtra dans un N:o suivant des *“Etudes Entomologiques.”* = The description of the species will appear in a N:o following “Entomological Studies”, and consider it as a disclaimer with the descriptions that should not count for the species.

However, the application of article 8.3. (ICZN 1999) given by Keller & Ballantyne (2023) is incorrect on the basis of the following issues:

1. In scientific works in general, and that of Motschulsky (1853) is certainly no exception, the additional notes differ only in the sentence, or period of sentences, under which the respective notes themselves are found. In the case under examination, therefore, it is clear that note 1 on page 27 is to be referred exclusively to the genus *Hyas* and not, as reported by Keller & Ballantyne (2023), to be applied to all the species present in the work.

Indeed, it is worth noting:

A. Motschulsky's sentence “La description des espèces paraîtra dans un N:o suivant des *“Etudes Entomologiques.”* is yes plural (although it would have been more correct for a gender agreement “Les descriptions des espèces apparaîtront dans...”) as Keller & Ballantyne (2023) suggests, but it also fits perfectly with what is stated above, as in the work of Motschulsky (1854a) we find under the genus *Hyas* the descriptions (in reality redescrptions) of two species: *Hyas denticornis* Germar and *Hyas scisiventris* Perty.

B. The note 1 of page 27, which according to Keller & Ballantyne (2023) should be attributed to all the species present in the work, is found under *Hyas*. That, however, is not the first genus described in the work of Motschulsky (1853), rather the second. If the note was to be understood as relating to all of Motschulsky's work because the author did not place it (note 1 at the page 27) under *Strongylomorphus*, which is the first genus

to appear described in his work, how would it be legitimate and appropriate to expect?

2. The article 8.3 ICZN (1999) states:

“If a work contains a statement to the effect that all or any of the names or nomenclatural acts in it are disclaimed for nomenclatural purposes, the disclaimed names or acts are not available. Such a work may be a published work (i.e. taxonomic information in it may have the same nomenclatural status as the taxonomic information in a published but suppressed work: see Article 8.7.1)”.

From a literary and semantic point of view, Motschulsky's sentence is certainly not a disavowal (much less for nomenclatural purposes), therefore article 8.3 cannot be applied in any way.

Also, it is worth noting:

A. Motschulsky, in the subsequent work of 1854, also redescrbes the species of previous authors (Motschulsky 1854a, 1854b, 1854c, 1854d), and could not have disregarded only a small part of species.

So in the light of the above:

1.

The article 8.3 (ICZN 1999) cannot be applied in this case.

2.

*Delopyrus* Motschulsky, 1853:

*Delopyrus dregei* Motschulsky, 1853 which is the type species (designated by Motschulsky, 1853)

*Delopleurus* Motschulsky, 1853:

*Delopleurus fuscus* Motschulsky, 1853 which is the type species (designated by Motschulsky, 1853)

are all valid as Motschulsky's taxonomical acts of 1853 and not of the year 1854.

3.

Even if Keller & Ballantyne (2023) erroneously applied article 8.3 (ICZN 1999), the species *Delopleurus fuscus* and *Delopyrus dregei* are not *nomina nuda* as reported by these authors, but would be names unavailable.

## DISCUSSION

Clearly, the North African fireflies fauna is similar to that of Europe (Geisthardt & Satô 2007; Fanti 2022), although much more study is needed to better and satisfactorily define it. The number of species appears to be very small, but does reflect the quantity in western Palearctic. In all likelihood, there are probably other species / subspecies in North Africa that are still undescribed (Geisthardt 1990). In this work, two genera and eight species in North Africa (13 taxa, including *Lampyrus barbara* whose type locality remains highly uncertain) are listed: *Lampyrus* (six taxa), *Lampyrus (Nyctophila)* (1) and *Pelania* (1). Furthermore, *Lampyrus algerica* currently has four subspecies, while *Lampyrus (Nyctophila) confusa* has three subspecies, with more likely others to be described (Geisthardt 1990). All of these taxa belong to the subfamily Lampyrinae Rafinesque, 1815, while no representatives of the subfamily Luciolinae Lacordaire, 1857 have been found, such as *Luciola* Laporte, 1833 or *Lampyroidea* A. Costa, 1875. It is worth noting the presence in North Africa of an endemic genus, *Pelania* Mulsant, 1860, and the lack of the genus *Luciola*, which is instead present in the Mediterranean (Portugal, Italy, and the Balkan Peninsula including Greece), Asia and Sub-Saharan Africa. However, the lack of some genera of fireflies in North Africa is not surprising (Fanti & Parisi 2024), including *Diaphanes* Motschulsky, 1853, which, like many other genera of various insect families, has an Asian and Afrotropical distribution (Fanti & Parisi 2024). This catalog therefore aims to encourage increased research on fireflies in this immense continent that is Africa. Equally important and fundamental is solving taxonomic problems and providing useful tools and information to the scientific community to better understand type species.

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