

## ***Basilia*: a new genus to the Albanian bat fly fauna (Diptera: Nycteribiidae)**

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There are over 160,000 described dipteran species worldwide (Pape & Thompson 2013) and their role is essential in the ecosystems. Although the European Diptera fauna is quite well known, there are some countries, such as Albania, that are extremely understudied regarding dipterans. According to Pape & Beuk (2013) only 932 species and subspecies have been reported from Albania. Nycteribiidae is a small family within the Hippoboscoidea superfamily and it contains 275 species worldwide (Dick & Patterson 2006). Nycteribiid bat flies are obligate, wingless, blood-sucking ectoparasites of bats and 16 species have been described in Europe so far (Pape *et al.* 2015). Although the Albanian bat fauna is rich with its 32 recorded species (Sachanowicz *et al.* 2016), previous works on bat flies in this country are sparse. Seven species and one subspecies have been reported to the Albanian fauna. Namely, *Nycteribia latreillii* (Leach), *N. pedicularia* Latreille, *N. schmidlii* Schiner, *N. vexata* Westwood, *Penicillidia conspicua* Speiser, *P. dufourii* (Westwood), *P. dufourii dufourii* (Westwood) and *Phthiridium biarticulatum* Hermann (Hürka 1962; Schieffler *et al.* 2013).

*Basilia* Miranda-Ribeiro, is the most species rich genus within Nycteribiinae subfamily (Dick & Patterson 2006) and represents five species and one subspecies in Europe. *Basilia* has never been recorded in Albania. In this study we report the first occurrence of a representative of this genus to the Albanian bat fly fauna. Specimen identification was based on keys by Theodor (1967) and Theodor & Moscona (1954). Bats were caught using mist-nets and harp traps as well as forceps was used to remove parasites and they were stored in 98% ethanol. Voucher specimens are deposited in the Diptera Collection of Cantonal Museum of Zoology, Lausanne, Switzerland.

### ***Basilia italica* Theodor**

**Material examined:** Shëngjin [Albania], 08. VI. 2015., leg. L. Clément & E. Genzoni; 1 female & 2 males; host: *Myotis mystacinus* (Kuhl) [identification code: GBIFCH00280595]. Habitat: unused military bunkers, elevation: 10 m.

**Remarks:** The species parasitizes mainly *Myotis mystacinus* (Aellen 1963; Hürka 1964, 1980; Beaucournu & Noblet 1996; Czuppon & Molnár 2001; Krištofik & Danko 2012), but was also recorded on *Barbastella barbastellus* (Schreber) (Czuppon & Molnár 2001), *Eptesicus serotinus* (Schreber) (Czuppon & Molnár 2001), *M. alcathoe* (Helvesen & Heller) (Danko *et al.* 2010), *M. brandtii* (Eversmann) (Hürka 1980;

Czuppon & Molnár 2001), *M. emarginatus* (E. Geoffroy) (Theodor 1954; Húrka 1980), *M. myotis* (Borkhausen) (Theodor 1954; Hutson 1984), and *M. nattereri* (Kuhl) (Czuppon & Molnár 2001).

*Distribution:* The species is distributed in Europe with sparse occurrences data (Húrka 1980). *B. italica* is known from Albania (present study), France, Hungary, Italy, Poland, Slovakia and Switzerland (Theodor 1954; Aellen 1963; Húrka 1964, 1980; Beaucournu & Noblet 1996; Czuppon & Molnár 2001; Danko *et al.* 2010; Krištofik & Danko 2012).

### *Basilia nana* Theodor & Moscona

*Material examined:* Përmet [Albania], 04. VI. 2015. leg. L. Clément & E. Genzoni; 1 female & 2 males; host: *Myotis bechsteinii* (Kuhl) [identification code: GBIFCH00280577]. Habitat: cave, elevation: 500m.

*Remarks:* *Basilia nana* seems to utilize mostly tree-dwelling bat species since its main hosts are *Myotis bechsteinii* (Theodor 1954; Theodor & Moscona 1954; Grulich & Povolný 1955; Aellen 1963; Húrka 1964; Kock 1973, 1999; Hutson 1984; Beaucournu & Noblet 1996; Rupp 1999; Czuppon & Molnár 2001; Rupp *et al.* 2004; Reckardt & Kerth 2006; Scheffler 2010; Scheffler & Hiller 2010; Baagøe 2011; Krištofik & Danko 2012) and *M. nattereri* (Theodor & Moscona 1954; Grulich & Povolný 1955; Húrka 1980; Hutson 1984; Imaz *et al.* 1999; Czuppon & Molnár 2001; Topál 2011). Occasionally it also occurs on *Barbastella barbastellus* (Grulich & Povolný 1955), *Miniopterus schreibersii* (Kuhl) (Aellen 1963), *Myotis blythii* (Tomes) (Húrka 1964, 1980; Czuppon & Molnár 2001), *M. dasycneme* (Boie) (Theodor 1954, 1967; Theodor & Moscona 1954; Hutson 1984), *M. daubentonii* (Kuhl) (Haitlinger 1978; Czuppon & Molnár 2001), *M. emarginatus* (Theodor & Moscona 1954; Theodor 1967; Beaucournu & Noblet 1996), *M. myotis* (Borkhausen) (Theodor & Moscona 1954; Grulich & Povolný 1955; Aellen 1963; Húrka 1964, 1980; Krištofik 1982; Hutson 1984; Czuppon & Molnár 2001; Güttinger *et al.* 2011), *M. mystacinus* (Kuhl) (Theodor 1954, 1967; Theodor & Moscona 1954; Kock 1973), *Pipistrellus pipistrellus* (Schreber) (Hutson 1984), *Plecotus auritus* (Linnaeus) (Theodor 1954; Theodor & Moscona 1954; Beaucournu 1961; Walter 2004), *Rhinolophus ferrumequinum* (Schreber) (Hutson 1984) and *R. hipposideros* (Bechstein) (Theodor & Moscona 1954).

*Distribution:* *B. nana* has been recorded in several European countries: Albania (present study), Austria, Great Britain, Bulgaria, Czech Republic, France, Germany, Hungary, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, The Netherlands) and Palestine (Theodor 1954; Theodor & Moscona 1954; Aellen 1963; Czuppon & Molnár 2001; Pape & Beuk 2013).

Based on their geographical distribution, the occurrence of *B. mongolensis nudior* Húrka, and *B. nattereri* (Kolenati), is also expected as new species to the Albanian bat fly fauna.

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