

## *Brachytarsina flavipennis* (Diptera, Streblidae) on *Rhinolophus blasii* (Mammalia, Rhinolophidae) in the Island of Crete

DINO SCARAVELLI<sup>1</sup>, PAMELA PRIORI<sup>2</sup> & PANAGIOTIS GEORGIAKAKIS<sup>3</sup>

<sup>1</sup> Dipartimento di Scienze Mediche Veterinarie - Università di Bologna - Via Tolara di Sopra, 50 - 40064 Ozzano dell'Emilia (BO), Italy

Museo Ornitologico F. Foschi - Via Pedriali, 12 - 47121 Forlì; [dino.scaravelli@unibo.it](mailto:dino.scaravelli@unibo.it)

<sup>2</sup> Dipartimento di Scienze dell'Uomo, della Natura e del Territorio - Università di Urbino - Campus Scientifico, loc. Crocicchia - 61029 Urbino, Italy

Museo Ornitologico F. Foschi - Via Pedriali 12, 47121 Forlì, Italy; [pamela.priori@uniurb.it](mailto:pamela.priori@uniurb.it)

<sup>3</sup> Natural History Museum of Crete - University of Crete - Knossos Ave. P.O. Box 2208 - 714 09 Irakleion, Greece

**Abstract.** For the first time is reported the presence of *Brachytarsina flavipennis* Macquart, 1851 on *Rhinolophus blasii* Peters, 1866 in the Island of Crete.

**Keywords:** *Brachytarsina flavipennis*, Streblidae, Mediterranean Islands, *Rhinolophus blasii*, ectoparasite.

Bat flies (Streblidae Kolenati, 1863 and Nycteribiidae Samouelle, 1819) are present obligate bat ectoparasites flies of the superfamily Hippoboscoidea. They are winged or wingless with long legs and curved claws to anchor to their host hairs. Mostly species-specific and correlated with their host evolutionary patterns, these flies are particularly interesting in term of for their ecological relationship with bats.

The family Streblidae is represented by 4 species of 3 genera in the Mediterranean area (Hürka & Soos, 1986) but only *Brachytarsina flavipennis* Macquart, 1851 occurs in Europe (Hürka, 1972). This species has a circum-Mediterranean distribution range and in Europe it reaches the latitude of around 40°-43° N were the average January temperature reaches 8-10°C, showing a strong correlation with Mediterranean climate belt. Recently it was also found on *R. hipposideros* in Italy, in a mixed hibernation group with *R. euryale* (Scaravelli *et al.* 2013). Among the larger islands is well known also from Sardinia (Lanza, 1999).

Crete is the largest island of Greece and the fifth largest among in the Mediterranean's, with a total surface of 8.261 km<sup>2</sup>. It. In a recent paper (Ševčík *et al.*, 2013) new information on 6 species were provided for bat flies in Crete with the first report of *Brachytarsina flavipennis* and also five nycteribid species. *B. flavipennis* was found on *Rhinolophus ferrumequinum* (Schreber, 1774) in Patsos, Agiou Antoniou cave (central Crete), and on *Myotis auraszensis* in Katholiko monastery, Agiou Ioanni cave (north west Crete). In April 2014 we studied a in a cave next to Lykos settlement, in Livaniana district (foothill of Lefka Ori massif, south west Crete). On both males and females of *R. blasii* we collected *B. flavipennis* (Figure 1), 1 to 4 specimens per bat, mostly on the patagium.

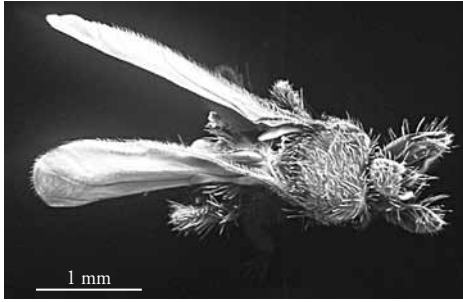


Fig. 1 – *Brachytarsina flavipennis* at SEM (original, P. Priori).

This is the first record for the fly on *R. blasii* for the island. The species is actually known on *R. blasii* also from Cyprus (Ševčík et al., 2013).

*Brachytarsina flavipennis* can colonize different host species and in particular Rhinolophids (as *R. ferrumequinum*, *R. hipposideros*, *R. euryale*, *R. mehelyi* and *M. schreibersii*, as quoted by Lanza 1994), but also on *Myotis myotis*, *M. blythii* and *M. capaccini* when in mixed colony with Rhinolophids (Hürka, 1962), confirming the euryphagous food niche of this fly. Sampling in Crete will be carried out in future to find possible variations of prevalence related to colonies composition and environmental variables.

#### RIASSUNTO

#### *Brachytarsinia flavipennis* (Diptera, Streblidae) su *Rhinolophus blasii* (Mammalia, Rhinolophidae) nell'isola di Creta

Tra gli Streblidae, mosche che insieme ai Nycteribidae rappresentano ectoparassiti obbligati solo di Chiroterteri, una unica specie è presente nelle aree europee mediterranea, principalmente infeudata su Rhinolophidae, *Brachytarsina flavipennis* Macquart, 1851. Nella nota si segnala il primo rinvenimento del dittero su *Rhinolophus blasii* Peters, 1866 nell'isola di Creta.

#### REFERENCES

- Benda, P., Georgiakakis, P., Dietz, C., Hanak, V., Galanaki, K., Markantonatou, V., Chudarkova, A., Hulva, P. and Horaček, I. 2009. Bats (Mammalia: Chiroptera) of the Eastern Mediterranean and Middle East. Part 7. The bat fauna of Crete, Greece. Acta Soc. Zool. Bohem. 72: 105-190.
- Hürka K. 1962. Beitrag zur Nycteribien- un Streblidenfauna Albaniens nebst Bemerkungen zur Fauna von Bulgarien, Ungarn und UdSSR. Acta Soc. Entomol. Cechoslov., 59 (2): 156-164.
- Hürka, K. 1972. *Basilis mongolensis nudior* subsp. n. nebst Bemerkungen zur Nycteribien- und Streblidenfauna Thrakien (Diptera: Pupipara). Ann. Naturhist. Mus. Wien 76: 709-713.
- Hürka, K. and Soos, A. 1986b. Streblidae. In: Catalogue of Palaearctic Diptera. Volume 11 (Eds. A. Soos and L. Papp). Elsevier Science Publishers, Amsterdam, and Akademiai Kiado, Budapest, Hungary, pp. 234-236.
- Lanza B., 1999. I parassiti dei pipistrelli (Mammalia, Chiroptera) della fauna italiana. Monografie Museo Reg. Scienze Nat. Torino, 318 pp.
- Rivosecchi L., 1995. Nycteribiidae, Streblidae. In Pape T., Richter V., L. Rivosecchi, K. Rognes, 1995. Checklist delle specie della fauna italiana, 78- Diptera Hippoboscoidea, Oestroidea. Ed. Calderini.
- Scaravelli D., Priori P., M. Balsamo, 2013. *Rhinolophus hipposideros* (Mammalia, Rhinolophidae) come nuovo ospite per *Brachytarsinia flavipennis* (Diptera, Streblidae) in Italia. Abstr 74° Congresso UZI - Modena 30/9-3/10/2013: 100
- Ševčík M., Benda P., Lučan R.K., 2013. Diptera Pupipara from bats of two large eastern Mediterranean islands, Crete and Cyprus. Turk J. Zool., (2013) 37: 31-37.