

SPECIES OF THE FAMILY LEPTOPODIDAE (HETEROPTERA) IN SERBIA

LJILJANA PROTIĆ

Natural History Museum Belgrade, Njegoševa 51, Serbia
E-mail: ljilja.protic@gmail.com

Abstract

Erianotus lanosus (Dufour, 1834) was collected for the first time in Serbia. *Leptopus marmoratus* (Goeze, 1778) is the other species from the Leptopodidae family that has been found in Serbia to date. In Europe, four species of the family Leptopodidae are distributed: *Erianotus lanosus* (Dufour), *Leptopus hispanus* Rambur and *Leptopus marmoratus* (Goeze) and *Patapius spinosus* (Rossi).

KEY WORDS: Heteroptera, Leptopodidae, Serbia

Introduction

Species of the family Leptopodidae are generally confined to tropical areas. There is, however, a small number of species in temperate climatic regions. In the Palearctic, Leptopodidae species are most numerous in the regions of the Mediterranean, Middle East and Central Asia.

Body length is a few millimeters, under 1 cm. Body shape is highly variable, but all representatives are characterized by a four-segment labium and a deep puncture on the dorsal side of the body. Clavus is present. Leptopodidae have ocelli placed close together on the tubercula. The stridulating structures are situated on the first abdominal tergum and the hind wing (Péricart & Polhemus, 1990; Schuh & Slater, 1995). All species in this family are predatory. Their way of feeding is different from that of other Leptopodomorpha, primarily due to the length of the rostrum, which in this family is very short. The research of Baz *et al.* (2010) and Baena (2011) indicate that *Patapius spinosus* is necrophagous.

The species of Leptopodidae mostly live along streams and in other wet areas, but *Patapius spinosus* can be found far from water in semiarid conditions. *Erianotus lanosus* occurs in biotopes of very different character, from dry areas to the stones in the river. It is herpetobiont in arid places.

According to the Catalogue of Heteroptera of Palearctic (Aukema & Rieger, 1995), the superfamily Leptopodoidea is represented by two families: Leptopodidae and Omaniidae. Only the Leptopodidae family is represented in Europe, with three genera: *Erianotus* Fieber, *Leptopus* Latreille and *Patapius* Horváth (Péricart, 1990).

Two of the most important monographies about the family Leptopodidae were written by Horváth (1911) and Péricart (1990). In papers by European entomologists, species of the family Leptopodidae are most commonly presented within faunistic papers (Kormilev, 1936, 1939, 1943; Novak & Wagner, 1951; Wagner, 1962; Josifov, 1964, 1974, 1986, 1990; Benedek, 1970; Baena & Vazquez, 1985; Dethier & Péricart, 1990; Faraci & Rizzotti Vlach, 1992; Protić, 1998, 2001a, 2001b, 2011; Gogala & Gogala, 1989; Rabitsch, 2001; Gogala, 2003; Baugnée *et al.*, 2003; Dress, 2009; Kondorosy, 2011; Heckmann *et al.*, 2015; Gierlasiński, 2017; Protić *et al.*, 2017a, 2017b).

As Leptopodidae species are mostly distributed on other continents, there are many more papers related to them from these areas. All these works were valuable in the writing of this paper. Studies related to Leptopodidae in Asia were written by: Kiritshenko, 1952; Drake, 1955; Hoberlandt, 1955, 1961, 1974, 1981, 1983; Cobben, 1968; Linnavuori, 1994, 1998, 2004, 2009; Polhemus & Polhemus, 1999; Linnavuori & Harten, 2002; Kiyak *et al.*, 2008; Domingo, 2010; Ghahari *et al.*, 2013; Vinokurov, 2012; Vinokurov *et al.*, 2010; Vinokurov & Kment, 2015; in Africa by: Drake & Hoberlandt, 1951; Cobben, 1987a, 1987b; Polhemus & Polhemus, 1991; in South America: Cobben, 1957; in North America: Usinger, 1941; Brothers, 1979; Lattin, 2002; Sissom & Ray, 2005; in Australia: Drake, 1956; Polhemus & Polhemus, 1987.

List of species

Erianotus lanosus (Dufour, 1834)

Serbia – Belgrade: Brankov Most bridge, River Sava 02.06.2012, 1 ♀ leg. A. Stojanović (Fig. 1).
New species for the fauna of Serbia.

On the Balkan Peninsula, it is distributed in Albania and Bulgaria.

Its range in Europe includes Italy, France, Hungary and Spain.

It is widely distributed from North Africa across the Middle East to Mongolia (Lindskog, 1995; Linnavuori *et al.*, 2011; Aukema *et al.*, 2013).

Leptopus marmoratus (Goeze, 1778)

Serbia – Petrovaradin (Horváth, 1897; Protić *et al.*, 2017a); Crna Trava (Kormilev, 1939); Gnjilane (Kormilev, 1943), Zasavica (Protić *et al.*, 2017b).

New records: Serbia – Belgrade: Topčidersko Brdo 08.09.2004, 1 ♀ leg. A. Stojanović (Fig. 2)

Macedonia – Skopje 06.04.1932. leg. N. Kormilev; Skopje: Vodno 31.03.1940, leg. J. Houška. (Protić 1998). Specimens are stored in the Heteroptera Collection of Nikola Kormilev in the Natural History Museum in Belgrade.

The collection of insects by Petar Novak at the Natural History Museum in Belgrade also includes specimens from Croatia and Austria.

Croatia – Ravni Kotari: Vrana 05.11.1940, leg. P. Novak (Novak & Wagner 1951)

Austria – Vorarlberg: Feldkirch 27.07.1934, leg. Moosbrugger

On the Balkan Peninsula, it is distributed in Albania, Bulgaria, Croatia, Macedonia and Serbia. Its range includes Europe, Maghreb and Asia Minor (Péricart, 1990, Lindskog, 1995).

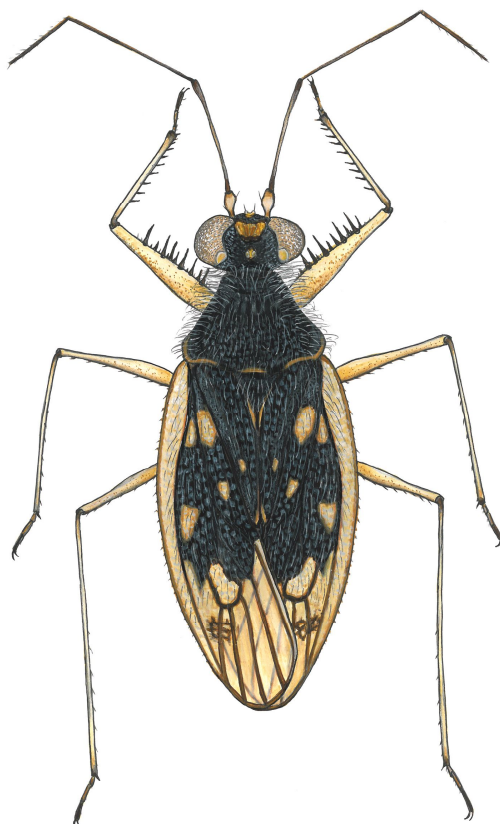


Figure 1. *Erianotus lanosus* (Dufour, 1834) (Illustration by A. Stojanović).

Patapius spinosus (Rossi, 1790)

[*Acanthia spinosa* Rossi, 1790; *Cryptoglena spinosa* Horváth, 1911]

This species is yet to be recorded in Serbia. The Entomological Collection of the Natural History Museum in Belgrade includes specimens collected by Nikola Kormilev in Macedonia: Skopje 02.04.1932, 25.09.1938, 06.05.1940; Udovo 13.04.1939; Strumica 27.03.1940.

On the Balkan Peninsula, it is distributed in Bulgaria, Greece and Macedonia.

Its range includes southern Europe, North Africa, Asia from Turkey and Israel to Afghanistan and central Asia to Japan (Lindskog, 1995; Yamazaki & Sugiura, 2004). It was introduced in North America (Usinger, 1941; Brothers, 1979; Zack *et al.*, 2001; Lattin, 2002; Sissom & Rey, 2005) and South America (Froeschner & Peña, 1985; Aukema *et al.*, 2013).

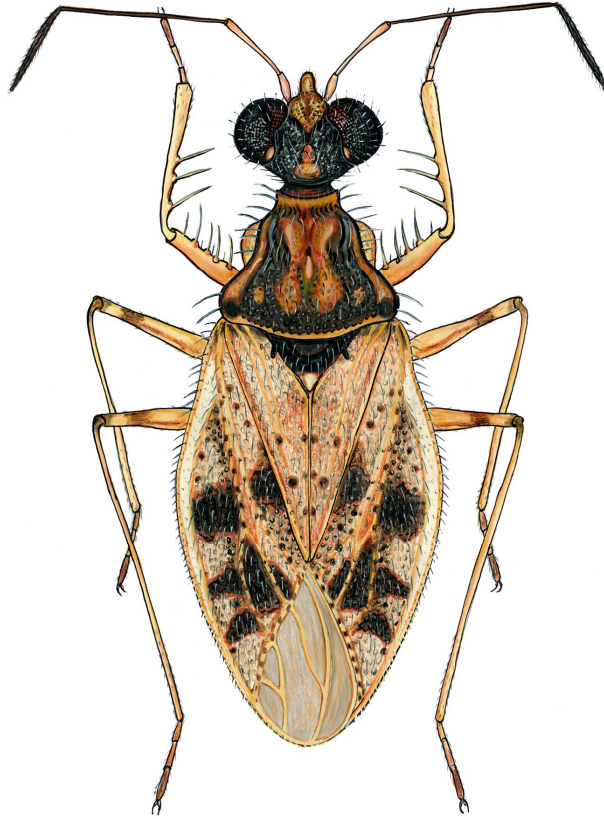


Figure 2. *Leptopus marmoratus* (Goeze, 1778) (Illustration by A. Stojanović).

Conclusions

In Europe, the family Leptopodidae is represented by four species: *Erianotus lanosus* (Dufour), *Leptopus hispanus* Rambur, *Leptopus marmoratus* (Goeze) and *Patapius spinosus* (Rossi). Their populations are small, and they are regarded as rare species. Some authors have included them in the Red Lists of protected species (Gueorguiev *et al.*, 1998, Dorow *et al.*, 2003, Küssner, 2011).

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ВРСТЕ ФАМИЛИЈЕ LEPTOPODIDAE (HETEROPTERA) У СРБИЈИ

ЉИЉАНА ПРОТИЋ

Извод

Објављен је први налаз *Erianotus lanosus* (Dufour) у Србији, који је уловљен на Бранковом мосту у Београду. Од осталих представника фамилије Leptopodidae у Србији је нађена *Leptopus marmoratus* (Goeze). У Европи су познате још две врсте: *Leptopus hispanus* Rambur која је распрострањена у медитерану (Шпанија, Италија, Грчка, Француска) и централној Азији и *Patapius spinosus* (Rossi), распрострањена у медитерану, централној Азији, Јапану, Северној Америци (западни део САД) и Јужној Америци (Чиле) (Аукета *et al.* 2013).

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