



FAUNISTIC NOTE

## The noctuid moth *Xylomoia graminea* (Lepidoptera: Noctuidae) new to the Romanian fauna

Constantin Corduneanu<sup>1</sup>, Cătălin-Dumitrel Balan<sup>2</sup>, Cristina Vasilița<sup>3</sup>,  
Ovidiu-Alin Popovici<sup>3</sup>

1 Sustainable Development Association OPTIM, 101 Calea Națională, 710051 Botoșani, Romania

2 Faculty of Chemical Engineering and Environmental Protection, "Gheorghe Asachi" Technical University, 73 Prof. dr. docent Dimitrie Mangeron, 700050 Iași, Romania

3 Research Group in Invertebrate Diversity and Phylogenetics, Faculty of Biology, "Alexandru Ioan Cuza" University of Iași, 20A Carol I, 700505 Iași, Romania

Corresponding author: *Constantin Corduneanu* (corduneanuc@yahoo.com)

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### Abstract

In this paper, new data concerning the occurrence and distribution of *Xylomoia graminea* (Graeser, 1889) in Romania are given. Pictures of specimen and male genitalia are provided.

### Keywords

Distribution, first record, Lepidoptera, Noctuidae, Romania, *Xylomoia graminea*.

*Xylomoia graminea* (Graeser, 1889) is a species of noctuid moth originally described from Khabarofka (Khabarovsk), Russia in 1889 as *Nonagria graminea* and has been subsequently transferred into the genus *Xylomoia* Staudinger, 1892. In the same paper (Staudinger 1892), a new species from southeastern Siberia (Sutchan district) is described – *Xylomoia separata* Staudinger, 1892. Later, it was found out that this new species is only a junior synonym of the species previously described by Ludwig Graeser in 1889. The Palaearctic and Sino-Japanese fauna (Wallace's updated biogeographical regions) is currently known to contain six species of the genus *Xylomoia*: *X. fusei* Sugi, 1976, *X. apameoides* Hacker 1989, *X. graminea* (Graeser, 1889), *X.*

*strix* (Mikkola, 1980), *X. stangelmaieri* Mikkola, 2002 and *X. retinax* Mikkola, 2002. *Xylomoia chagnoni* Barnes & McDunnough, 1917 is the only species of the genus restricted solely to the Nearctic region (Mikkola 1998). Up to now, in Europe, only *X. graminea*, *X. strix*, *X. stangelmaieri* and *X. apameoides* have been reported (Mikkola 1998; Bury and Zajda 2012).

The distribution of this species throughout the Palaearctic region is fairly well documented, being recorded from Japan (Sugi 1982), Korea (Herz 1904), Northern China (Han and Kononenko 2007), Russia (Poltavsky and Artohin 2000; Zolotarenko and Dubatolov, 2000), Ukraine (Klyuchko 1995; Klyuchko et al. 2001; Geryak 2009; Nowacki and Bidychak 2009; Geryak and Voyto 2013), Poland (Nowacki 1989; Nowacki 1993; Kokot 1995; Łupiński 1996; Nowacki and Hołowiński 1999; Wąsala 2001; Łupiński and Wasiluk 2002; Mazurkiewicz and Pałka 2003; Nowacki and Wasiluk 2004; Bury and Zajda 2012; Nowacki and Pałka 2013, 2015; Dawidowicz and Kucharczyk 2016), and Lithuania (Svitra et al. 2011; Ivinskis et al. 2018). However, the biology of the species is poorly known with only details provided by a recent study in South-Eastern Poland (Bury and Czudec 2019). Over an eight year survey, the authors managed to obtain valuable information regarding the egg-laying process and behaviour of caterpillars.

This paper presents the first record of genus *Xylomoia* in Romania by the presence of *Xylomoia graminea* and brings revealing images of the male imago and male genitalia.

**Material examined:** one male specimen captured on 17–18 June 2016, between 21:40 and 00:40 in Orășeni Vale, about 10 kilometres away from the South of the city Botoșani (Botoșani, Romania) (Fig. 1A). Weather conditions: the temperature lowered from 23°C to 19°C, 70–90% humidity, the waxing gibbous moon was illuminated 87,5%, moonrise at around 19:00, sky partly covered – about 1/8. The specimen (Fig. 1B) was captured using a light trap, with a 160 W mercury vapor lamp. The trap was set on a low land (about 160 m altitude), wet forest dominated by willows (*Salix* sp.) and aspen (*Populus* sp.).

The specimen was mounted on an entomological pin and is deposited in Constantin Corduneanu personal collection, Botoșani (Romania). Images of the specimen were obtained using a Canon 650D camera.

Prior to spreading, male genitalia was dissected and analysed on a rectangular plastic transparent card, deposited under the specimen, on the same pin. A comprehensive description of male genitalia of *X. graminea* is provided by Zilli et al. (2005) and we consider it useless to reiterate it here. Images of the male genitalia (Fig. 1C) were taken with a Leica DFC 450 camera mounted on Leica 250A stereomicroscope.

**Remarks:** The finding of *X. graminea* in north-eastern Romania wasn't a surprising event, considering it has been reported repeatedly from Southern Poland, has a wide distribution throughout the Palaearctic region and has been found as south as Rostov on Don. The presence of this species in Ukraine suggested that it was only a matter of time until *X. graminea* would be encountered in Romania as well. In Poland, the occurrence of *Xylomoia graminea* is frequently reported with-

in protected areas, where the preserved habitats make it possible for this species to flourish and expand its distribution. It seems that *X. graminea* is a marker of a healthy habitat, most of the records being reported from preserved areas (Bury and Zajda 2012).



**Figure 1.** A. Habitat. Orășeni Vale, collecting site of *Xylomoia graminea*; B. *Xylomoia graminea* (Graeser, 1889) male specimen captured on 17-18 June, 2016 Orășeni Vale (Botoșani, Romania); C. *Xylomoia graminea* (Graeser, 1889) - male genitalia.

The previous data concerning the biology of this species indicated a preference for moist or wet habitats: wetland areas along rivers or lakes (Zilli et al. 2005; Bury and Czudec 2019). The site from Romania where we found this species accomplishes these requirements. We also took notice of the fact that *Xylomoia graminea* seems to share similar habitat preferences with *Arytrura musculus* (Ménétriés, 1859), a constant presence in the site Orășeni Vale (Corduneanu et al. 2007; Corduneanu 2011). We expect that the species might be encountered also in other regions of Romania and it would be curious to test the hypothesis of it sharing a habitat with *A. musculus*.

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