

## ***Poecilocampa alpina* (FREY & WULLSCHLEGEL, 1874) (Lepidoptera, Lasiocampidae), first record for Romania**

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**Summary:** *Poecilocampa alpina* (FREY & WULLSCHLEGEL, 1874) is reported for the first time in the Romanian fauna. The specimen was collected from Porumbenii Mari, Harghita County, Romania. According to the distribution area, respectively to the ecological requirements, the Romanian population belongs to the subspecies *P. alpina canensis*. This reported population is currently the easternmost known population of this species.

**Key words:** *Poecilocampa alpina*, Lepidoptera, Lasiocampidae, first record, Romania.

### **Introduction**

The genus *Poecilocampa* (Lepidoptera, Lasiocampidae) is very well represented in the Palearctic region, less in the south of the region, where it is found locally in high mountain areas (ZOLOTUHIN 2010). In Romania, only *Poecilocampa populi* has been reported so far (RÁKOSY *et al.* 2003).

Recent reports from Bulgaria (HRISTOVA and BESHKOV 2016) and Albania (BESHKOV and NAHIRNIĆ 2020) of *P. alpina* and from the Timok river region (Serbia, near the border with Romania) (ZEČEVIĆ 2002) have led to the hypothesis that *Poecilocampa alpina* could also be present in the Romanian fauna.

From the point of view of the taxonomic classification, the status of the species *Poecilocampa alpina* is controversial. In 2006, LERAUT suggested that the taxon has to be a subspecies of *P. populi*, but later in 2013 HUEMER contradicted his claims. Two subspecies of *P. alpina* have been described: *P. alpina alpina* (FREY & WULLSCHLEGEL, 1874) and *P. alpina canensis* (MILLIÈRE, 1876).

According to the distribution area, respectively to the ecological requirements (DE FREINA and WITT 1987), the subspecies *P. alpina canensis* should be present in Romania.

### **Distribution**

*Poecilocampa alpina* is a European species, reported from the southern half of Europe.

Subspecies *P. alpina alpina* is present in the Alps and it has been reported from Italy (South Tyrol, Upper Venosta Valley), Switzerland (Valais, Goppenstein), Germany (Bavaria, Brunnstein), and Austria (East

Tyrol, Ainet; Tirol, Lermoos) ([http://lepiforum.org/wiki/page/Poecilocampa\\_Alpinna](http://lepiforum.org/wiki/page/Poecilocampa_Alpinna), accessed at 13/07/2021, 11:46 AM).

Subspecies *P. alpina canensis* is present in central and southern Spain (DE FREINA and WITT 1987), southeastern France (Valloire, N 45.10, E 6.40) (DE FREINA and WITT 1987, FOURNIER 2019) and also reported from northeastern, central and southern Italy, including Sicily (BERTACCINI *et al.* 1994).

In the Balkan Peninsula, *P. alpina canensis* has been reported in several countries. In Bulgaria, the subspecies is known from a small number of localities, all of them situated in the western part of the country (HRISTOVA and BESHKOV 2016). In Albania, the species is very well represented (BESHKOV and NAHIRNIĆ 2020) and has been reported from the localities: Pepellash Village (980 m, N 40.47, E 20.67), between Leskovik and Carshove Village (448 m, N 40.15, E 20.57) and between Mal Çajup and Erind Village (1015 m, N 40.18, E 20.17) (BESHKOV and NAHIRNIĆ 2020). In Croatia, it has been recorded only from Biokovo and southern Dalmatia (<https://biologer.hr/groups/18/species/719> accessed at: 12/07/2021, 2:37 PM). In Serbia, confirmed reports are from Timok (ZEČEVIĆ 2002) and Starac (BESHKOV and NAHIRNIĆ 2016).

### **Material and methods**

The first individual (a male) from Romania was collected on 12.11.2017 from Porumbenii Mari, Harghita County (800 m, N 46.30, E 25.16) (fig. 1). The specimen was captured using a light trap. The light sources were fluorescent Hg vapour lamps (2 x 160 W) and UV black light lamps (2 x 18 W).

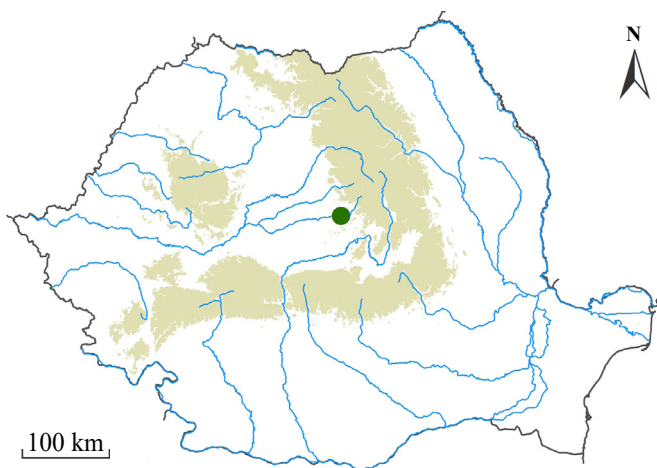


Fig. 1. Map of the location where the specimen was collected (green dot: Porumbenii Mari, Harghita county).

The habitat in the area is mixed forest with different species of *Quercus*, *Fagus*, *Carpinus*, *Populus* and *Crataegus* and *Juniperus* at the edge (fig. 2). The light trap was placed at the edge of the forest.

The specimen was identified using standard works (DE FREINA and WITT 1987, ZOLOTUHN and SALDAITIS 2010, SEGERER and HAUSMAN 2011, STEINER *et al.* 2014) and for safety we have also examined the specimen's genitalia and compared it

with LERAUT (2006).

Genitalia of *P. alpina* were dissected using conventional procedures (FIBIGER 1997). Male abdomina were boiled in 10% caustic potash. The genitalia were cleaned from surrounding tissues and the aedeagus was removed. Genital slides were photographed using an Optikam Pro HDMI digital camera mounted on an Optika ZSN-2 stereomicroscope. The specimen is deposited in the collection of Cristian SITAR.

### Diagnosis

*Poecilocampa alpina* can be recognized by the light grey edge of the forewing (fig. 3). The base color of *P. alpina* is grey-black. The outer transverse band of the forewing is sharp, clearly developed and the outer submarginal field is whitish-grey sprinkled with dark grey scales. The middle field of the forewing is dark grey, the color of the basal field of the forewing is from light brown to yellow, being clearly highlighted. The outer half of the hind wing is grey-whitish. The inner half is darker grey sprinkled with light brown to yellow hairs. The variability of *P. alpina* specimens is extremely high, which led to the unnecessary description of a number of taxa.

Between *P. alpina* and *P. populi*, there are visible



Fig. 2. Habitat where the specimen was collected, near Porumbenii Mari, Harghita County. The habitat is a mixed forest with *Quercus* sp., *Fagus* sp., *Carpinus* sp. and *Populus* sp. In its vicinity there are meadows with *Crataegus* sp. and *Juniperus* sp. shrubs.

differences at the level of the uncus and the aedeagus (fig. 4).

*P. alpina* has often been confused with *P. populi* also due to its genitalia variability (BESHKOV and NAHIRNIĆ 2016).

### Biology and ecology

*Poecilocampa alpina* is part of the autumn-winter-flying moth species. *P. alpina canensis* was found at altitudes of 448 m (Balkans) (BESHKOV and NAHIRNIĆ 2020) to 1800 m in southern France, and the subspecies *P. alpina alpina* is typical of the high areas of central Europe where it was found at over 2000 m (Alps) (DE FREINA and WITT 1987).

*P. alpina* flies from late September to November,

depending on altitude and weather conditions; *P. alpina canensis* was reported until January at low altitudes (DE FREINA and WITT 1987).

At high altitudes, the larvae generally feed on *Larix* sp., occasionally on *Salix* sp. or *Alnus* sp., and at low altitudes, they feed on *Quercus* sp., *Prunus spinosa* and *Populus alba* (DE FREINA and WITT 1987, BERTACCINI *et al.* 1994).

The early stages of *P. alpina* are little known. However, considering the phenology of the imago stage, the species probably overwinters as an egg, the larvae develop in April-June and the pupae in June-October, like in the case of *P. populi*. The two species have a similar flight period and sometimes even cohabit (POIVRE 1986).

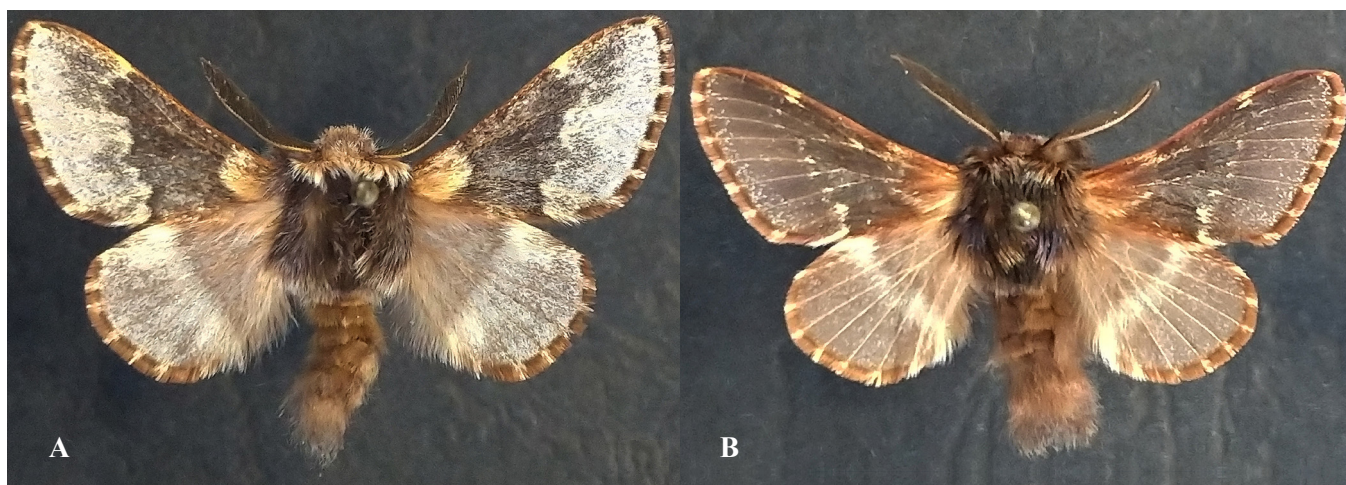


Fig. 3. A. *Poecilocampa alpina* male collected near Porumbenii Mari, Harghita County; B. *Poecilocampa populi* male, collected near Porumbenii Mari, Harghita County.

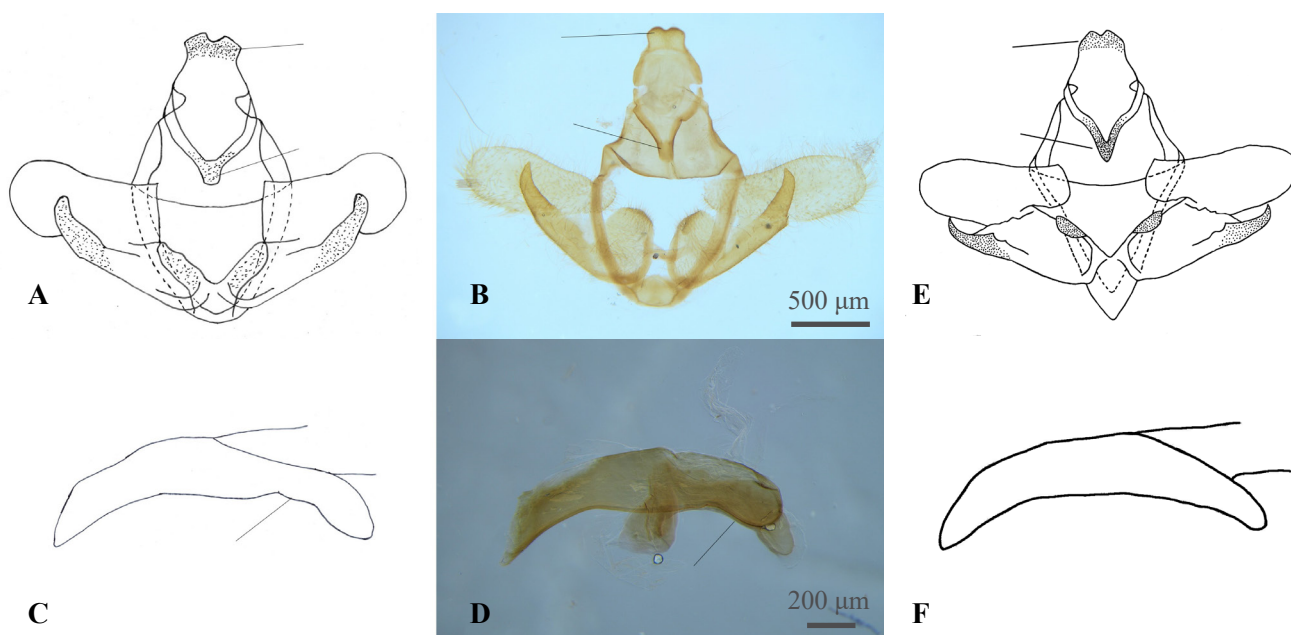


Fig. 4. Genitalia: A. Schematic representation of the genital armature of *P. alpina canensis* after LERAUT (2006); B. The genital armature of the specimen collected near Porumbenii Mari, Harghita County; C. Aedeagus of *P. alpina canensis*, schematic representation after LERAUT (2006); D. Aedeagus of the specimen collected near Porumbenii Mari, Harghita County; E. Schematic representation of the genital armature of *P. populi* after LERAUT (2006); F. Aedeagus of *P. populi*, schematic representation after LERAUT (2006).

## Conclusions

The presence of *P. alpina* is reported so late in the Romanian fauna due to the few entomological researches. The main problem in detecting the species is its late flight period, when most entomologists stop their field activities. *P. alpina* is a species that needs more attention from lepidopterists, because most likely the species is also present in other regions of the country.

The population of *P. alpina* we found in Romania is currently the easternmost known population of this species.

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