

*ALLOPHATNUS AETNENSIS* (RUDOW, 1883)  
*AND HOPLOCRYPTUS BESSEIANUS* (SEYRIG, 1926)  
(HYMENOPTERA: ICHNEUMONIDAE), NEW SPECIES  
FOR THE ROMANIAN FAUNA

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This paper presents a part of the results of a study which we conducted in the Bârnova forest. Two ichneumon wasps species: *Allophatnus aetnensis* (Rudow, 1883) and *Hoplocryptus besseianus* (Seyrig, 1926) (belonging to Cryptinae subfamily) are reported for the first time in the Romanian fauna.

*Keywords:* Hymenoptera, Ichneumonidae, Cryptinae, new species, Bârnova, Romania.

#### INTRODUCTION

Ichneumonidae family comprises 23.765 valid species belonging to 1.547 genera (Taxapad Ichneumonoidea, 2016). It is estimated at least 60.000 species, because the Southern hemisphere fauna is less studied (Wahl, 1993). Thus, it is considered the largest family of the Hymenoptera order. In Romania, at this moment, are recorded 2.582 species, belonging to 447 genera (Lungu-Constantineanu, 2007).

Ichneumon wasps represents a group of parasitoid wasps with an important role in limiting the outbreaks of insect pest populations in agriculture, forestry, orchards, protected areas etc

The insects were captured in the Bârnova forest massif, Iași county, Eastern Romania, during 2002-2011 and the laboratory research continues.

#### MATERIAL AND METHODS

The insects were collected using an entomological net, in different areas of the Bârnova forest massif, two of them being named by us Bârnova Spring and Dobrovăț. At the base of the selection of these stations were the vegetal associations: at Bârnova Spring, we studied in forest edge, the vegetation being stratified in old high trees, shrubs and herbaceous layer. The vegetal association is

*Quercus petraeae* - *Carpinetum*, with an average density of 396 trees/ha and the age over 120 years. The young trees layer is represented by a mixture of beech wood (*Fagus sylvatica*), hornbeam (*Carpinus betulus*) and oak (*Quercus dalechampii*). The regenerative layer is very well represented, being dominated by lime, oak, hornbeam and beech bushes. At the Dobrovăț station, we found a young beech layer, together with a poorly represented herbaceous layer. The vegetal association is *Lathyro aurei* - *Fagetum*, with an average density of 492 trees/ha and the age of 110 years.

The English nomenclature for ichneumon wasps morphology was written according to *A Dictionary of Entomology* (Gordh & Headrick, 2001).

To update the Ichneumonidae nomenclature, we used bibliography such as: Muesebeck *et al.*, 1951; Krombein & Burks, 1967; Wahl, 1993; Yu & Horstmann, 1997; Kolarov, 2007; Taxapad Ichneumonoidea (<http://www.catalogueoflife.org> - Taxapad Ichneumonoidea).

## RESULTS AND DISCUSSION

We report for the first time in the Romanian fauna, two species of ichneumon wasps: *Allophatnus aetnensis* (Rudow) and *Hoplocryptus besseianus* (Seyrig), belonging to Cryptinae subfamily.

These two species are rare, with a not very large distribution, *Allophatnus aetnensis* being Mediterranean and *Hoplocryptus besseianus* being European (Table 1).

Table 1

Geographical distribution of the identified ichneumon flies

Nr. crt.	Species	Worldwide distribution	Distribution in Romania
1	<i>Allophatnus aetnensis</i> (Rudow)	Mediterranean	Moldavia (rare)
2	<i>Hoplocryptus besseianus</i> Seyrig	European	Moldavia (rare)

Ichneumon wasps act in the vast majority of cases as primary parasitoids. There are very few cases when they can act as secondary parasitoids (some Phygadeuontinae and Mesochorinae). The role of secondary parasitoids for the human economy is negative, because it limits the beneficial action of primary parasitoids. However, the intervention of secondary parasitoids in biocenoses proves that they provide the necessary feedback mechanisms to preserve the balance between species.

In our research, we have not encountered cases of ichneumon wasps that act as secondary parasitoids nor attacked by secondary parasitoids.

We present the synopsis and the description of these two new species.

Subfamily **CRYPTINAE** Kirby, 1837

Genus *Allophatnus* Cameron, 1905

*Allophatnus aetnensis* (Rudow, 1883), ♂ (Fig. 1).

**Synonyms:**

1883 *Cryptus aetnensis* Rudow, Ent. Nachr., **9** (19/20): 232-247.

1905 *Mesostenus hellenicus* Schmiedeknecht, Opusc. Ichn., **2** (8-11): 563-882.

**Material:** Bârnova - Spring: 1 ♂, 11.VII.2002.

♂. The head is narrowed behind the eyes, with dots and roughness, almost without gloss. The frons is compressed, with longitudinal costae. The antennae are long as the body. Mesonotum without gloss, with large and frequent dots. Notauli large, exceed the half of mesonotum. Scutellum with rare dots, very deep, with lateral-dorsal carinae long almost to the tip. Mesopleura not shiny, with rugged tegument. Speculum with dots, slightly shiny, but strongly differentiated from the rest of the pleurae. Propodeum very rugged, with both anterior transverse costae well-developed, the posterior ones being very weak and without posterolateral lateral teeth. Wings with dark tip. Nervellus antefurcal, areolet is wider than high, with the second recurrent vein inserted behind middle. Nervellus is evident postfurcal, broken in the middle or under middle. Radial vein of anterior wing is straight to the areolet tip, but the last part of the radial vein presents two curves. The abdomen is shineless, thin and long, with square postpetiole and the tergite 1 spiracle slightly prominent. First tergite presents two longitudinal carinae. Postpetiole is provided with frequent and relatively large dots, the rest of the tergites are provided with more frequent and fine dots. Tergite 2 is almost twice longer than wide, the third tergite is square. Ovipositor is long as the abdomen.



Fig. 1. *Allophatnus aetnensis* (Rudow) ♂, adult.

**Body colour:** black. Head is black, with reddish labial palps. Antennae with flagellum articles 6-9 white. The scutellum tip, postscutellum, the lateral parts of the scutellum, tegulae and wings base, legs without coxae, part of trochanters, posterior tibia base, posterior tarsi, postpetiole and tergite 2 are reddish-yellow. Posterior metatarsum is mostly white, only extreme base and tip are blackish. Postpetiole and tergites 2-3 are red. Last tergite is mostly white.

**Body length:** 9 mm.

**Hosts:** unknown.

**Geographical distribution:** Morocco, Spain, France, Malta, Italy (Sicily), Bulgaria and Greece (Kolarov, 2007).

Genus *Hoplocryptus* Thomson, 1873

**Synonyms:**

1868 *Aritranis* Förster, Opusc. Ent., **5**: 471-508 (Krombein & Burks, 1967);

Type species: *Hoplocryptus binotatulus* Thomson, desig. by Viereck, 1914 (Muesebeck *et al.*, 1951).

*Hoplocryptus besseianus* (Seyrig, 1926), ♀ (Fig. 2).

**Synonyms:**

1926 *Hoplocryptus clementi* Habermehl, Neue Beitr. Zur Syst. Insektenkunde, **3** (17/18): 165/169 (Catalogue of Life).

**Material:** Dobrovăț: 1 ♀, 21.VII.2003.



Fig. 2. *Hoplocryptus besseianus* (Seyrig) ♀, adult.

♀. Head is transverse, not narrowed behind eyes, slightly wider than thorax. Antennae flagellum is thin, filiform. Clypeus presents a very small tooth at the medio-apical margin. Face and frons are almost plane, with a fine alutaceous sculpture, shineless. Propodeum without postero-lateral teeth, provided with fine roughness, shiny, with two evident transverse carinae, small elliptical spiracles. Areolet is pentagonal, with margins slightly convergent towards front and with second recurrent vein inserted slightly before half of the areolet. Discocubitus vein slightly curved, without ramellus. Nervulus postfurcal, broken above half. Postpetiole squarish, with big rare dots at the base, slightly depressed in the middle. Ovipositor long as the abdomen, excepting first segment.

**Body colour:** black. Articles 7-9 of the antennae flagellum white. Tergite 7 with a white dot. Tegulae and pterostigma blackish. Postpetiole, tergites 2 and 3 and posterior femur base are shiny dark red. Anterior and middle femora tip reddish. Anterior tibiae are yellow on the anterior part. Middle and posterior tibiae and all tarsi are dark brown. Posterior tarsi without white ring.

**Body length:** 9 – 12 mm.

**Hosts:** unknown.

**Geographical distribution:** Western Europe, former Yugoslavia, Bulgaria and Greece (Kolarov, 2008).

## CONCLUSIONS

The paper presents two ichneumonid species: *Allophatnus aetnensis* (Rudow, 1883) and *Hoplocryptus besseianus* (Seyrig, 1926) (Hymenoptera: Ichneumonidae: Cryptinae) reported for the first time in the Romanian fauna. Taking into consideration that their hosts are harmful pest insects that attack and defoliate the trees, they can be used in the biological control of pests.

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