

***COLLYRIA COXATOR* (VILL.) (HYMENOPTERA: ICHNEUMONIDAE) A NEW PARASITOID SPECIES FOR *PALAEOCIMBEX QUADRIMACULATUS* (MÜLL.) (HYMENOPTERA: CIMBICIDAE)**

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**ABSTRACT**

In 1930 Professor Dr. Docent Mihai Constantineanu collected some larvae of *Palaeocimbex quadrimaculatus* from an almond orchard at 28.4.1930 nearby Paris, France, from an almond orchard, *Prunus dulcis* (Mill.) D. A. Webb. and reared in laboratory. From a larva of this cimbicid species he obtained a specimen of a parasitoid species identified by us as *Collyria coxator*. *Palaeocimbex quadrimaculatus* - *Collyria coxator* is a new relationship in science.

**Key words:** *Palaeocimbex quadrimaculatus*, Cimbicidae, *Collyria coxator*, Ichneumonidae, new relationship in science.

**Introduction**

*Collyria coxator* (Fig. 1, 2) is a common parasitoid of the European wheat stem-sawfly, *Cephus pygmaeus* L. (Hymenoptera: Cephidae), a main pest of the wheat crops. In 1930 Professor Dr. Docent Mihai Constantineanu obtained by rearings from a larva of *Palaeocimbex quadrimaculatus* an unidentified species. Later, at 28.11.2018, the emerged ichneumonid species, was identified by the authors as an adult of *Collyria coxator*, which is a new parasitoid species for *Palaeocimbex quadrimaculatus*, which is considered one of the most damaging pests of almond orchards, but may also attack apricot, cherry, peach, pear and plum trees.

Untill now were recorded a total of seven primary ichneumonid parasitoid species from *Palaeocimbex quadrimaculatus*. Thus, *Opheltes glaucopterus* (L.) was recorded by D. Faggioli, 1938, in H. Özbek, 2014 and V. M. Yermolenko, 1972; *Listrognatus mactator* (Thunb.) was recorded by İ. Özgen et al, 2010; *Phobetes nigriceps* (Grav.) was cited by V. M. Yermolenko, 1972 and H. Özbek, 2014. V. M. Yermolenko had cited four primary ichneumonid parasitoid species: *Phobetes* sp. (cited as *Ipoctonus* sp.), *Aritranis heliophila* (Tschek.) (cited as *Hoplocryptus mediterraneus* Tschek.), *Cylloceria melancholica* (Grav.) (cited as *Lampronota melancholica* (Grav.) and *Agrothereutes mandator* (L.) (cited as *Spilocryptus cimbicis* Tschek.) (V. M. Yermolenko, 1972). L. Berland

recorded two secondary ichneumonid parasitoids: *Mesochorus cimbicis* Ratz. and *Mesochorus splendidulus* Grav. (in V. M. Yermolenko, 1972).

It is very important that *Palaeocimbex quadrimaculatus*, with its length of 25 mm, not to be misidentified as *Vespa crabro* L., because of the batesian mimicry phenomenon.

**Material:** 1 ♀ emerged at 16.5.1930 from a larva of *Palaeocimbex quadrimaculatus*, collected by Professor Dr. Mihai Constantineanu at 28.4.1930 nearby Paris, France, from an almond orchard, *Prunus dulcis* (Mill.) D. A. Webb. and reared in laboratory.

♀. Vertex thick dotted; hairy eyes, antennae filiform. Temples obviously punctuated on smooth shining area. Thorax shining, with fine punctuation. Propodeum weakly rugose. The areolet is lacking. Abdomen weakly punctuated, shining; the ovipositor weakly curved downward, with small teeth on ventral margin, with small teeth on ventral margin. Tergites 8 and 9 are elongated.

Black. Ventral side of antennae reddish. Legs black. Coxae, trochanters hind femora (with the exception of red base), middle femora (with the exception of reddish base and peak) and the black base of fore femora; hind tibiae with yellowish base; the rest part of legs are yellow. Abdomen is reddish, with dark base and peak. Tergites 2-3 shining, smooth, anterior part of the first and base of fourth red-brown. Sternites are reddish-yellow.

**Length:** 8 mm.

**Hosts:** *Cephus pygmaeus* L., *Trachelus tabidus* F. (Hym., Cephidae) (Atanasov A. et al, 1981), *Cynips quercus-folii* L. (Hym., Cinipidae) (C.

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Pisică, 1972). *Palaeocimbex quadrimaculatus* (O. F. Müller, 1766) is a new host in science for *Collyria coxator* (Vill.) and for the entirely Cimbicidae family.

**Geographical distribution:** It is a palaeartic species, being recorded from: Austria, Belgium, Bulgaria, Czech Republic, Czechoslovakia; Finland, France, Georgia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia (Astrakhansk, Kamchatka, Krasnodarsk, Pskov, Rostov, Sankt Petersburg, Stavropolsk, Tambov), Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom; Afghanistan, Azerbaijan, China (Qinghai), Iran, Jordan, Kazakhstan, Syria and Uzbekistan. It was introduced and established in North America to control *Cephus cinctus*, a pest which makes very much damages for the wheat crop, a cereal grain which is a worldwide staple food. It was recorded from Canada (Alberta, Ontario, Saskatchewan) and U.S.A. (Delaware, Maryland, New Jersey, New York, Pennsylvania and Virginia). (Taxapad Ichneumonoidea. Yu D.S.K., 2009). In Romania is a common species, being recorded from Caraorman, C.A. Rosetti, Murighiol - Danube Delta Biosphere Reserve, Tulcea county; Agigea, Eforie Sud, Eforie Nord, Techirghiol, Valu lui Traian, Constanța county; Mraconia valley – Ogradena, Dubova, Ieșelnița, Mehedinți county; Ponoare, Corni - Liteni, Suceava county; Ipotești, Botoșani county; Valea lui David, Cârjoaia, Iași county; Ciric – Iași, Iași county; Fundulea, Ilfov county; Oradea, Sânnicolau de Beiuș, Bihor county; Mehădia, Caraș Severin county; Ineu, Arad county; Gâmbaș, Alba county; Hodod, Satu Mare county; Brașov, Brașov county; Saschiz, Mureș county (C. Pisică, I. Popescu, 2009).



**Fig. 1** - Adult of *Collyria coxator* (Vill.), ♀ (Hym.: Ichneum.) - dorsal view.



**Fig. 2** - Adult of *Collyria coxator* (Vill.), (Vill.), ♀ (Hym.: Ichneum.) - lateral view.

### Conclusions

1. Until now were recorded seven ichneumonid primary parasitoid species for *Palaeocimbex quadrimaculatus*: *Opheltes glaucopterus*, *Listrognathus mactator*, *Phobetor nigriceps*, *Phobetor* sp., *Aritranis heliophila*, *Cylloceria melancholica*, *Agrothereutes mandator* and two ichneumonid secondary parasitoid species: *Mesochorus cimbicis* and *Mesochorus splendidulus*.

2. *Collyria coxator* is a new parasitoid species for *Palaeocimbex quadrimaculatus*.

3. We record a new host – parasitoid relationship in science: *Palaeocimbex quadrimaculatus* - *Collyria coxator*.

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