

# *Habrolepis montenegrina* HOFFER (Hymenoptera: Encyrtidae) and *Epidiaspis gennadii* (LEONARDI) (Hemiptera: Diaspididae) – a New Host-parasitoid Relationship and New Species for Bulgarian Fauna

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**Abstract:** *Habrolepis montenegrina* and *Epidiaspis gennadii* are new species for Bulgarian fauna, and *E. gennadii* is the first known host of the parasitoid. In laboratory conditions, 3 female parasitoid specimens were reared from 8 host specimens collected in March 2010 on *Pistacia terebinthus* near the town of Ivaylovgrad in Eastern Rhodopes.

**Key words:** *Habrolepis montenegrina*, *Epidiaspis gennadii*, new host-parasitoid relationship, Bulgaria

## Introduction

The genus *Habrolepis* FÖRSTER, 1856 (Hymenoptera: Encyrtidae) comprises 17 valid species which are parasitoids of scale insects (NOYES 2011). Four species occur in Europe – *Habrolepis dalmanni* (WESTWOOD, 1837), *Habrolepis italicus* DELUCCHI, 1965, *Habrolepis pascuorum* MERCET, 1921 and *Habrolepis montenegrina* HOFFER, 1976 (MITROIU 2011). From them three species (*H. dalmanni*, *H. pascuorum* and *H. italicus*) are widespread in many countries, including Bulgaria (TRJAPITZIN 1989), and *H. montenegrina* is found only in Montenegro (HOFFER 1976).

This note reports *H. montenegrina* and *Epidiaspis gennadii* (LEONARDI, 1898) (Hemiptera: Diaspididae) as new species for Bulgarian fauna which were found in a new host-parasitoid relationship.

## Material and Methods

*Habrolepis montenegrina* and *Epidiaspis gennadii* were recorded during studies on egg parasitoids of pistachio moth, *Thaumetopoea solitaria* (FREYER,

1838) (Lepidoptera: Notodontidae). Biological material - branches of terebinth, *Pistacia terebinthus* L., with egg masses of *T. solitaria*, were collected on 27 March 2010 in 'Dupkata' Park near the town of Ivaylovgrad in Eastern Rhodopes (N 41°31'47"; E 26°06'58"; 300 m a.s.l.). The samples were transferred to the laboratory where single diaspidids were established on branches. Some of them were mounted on microscope slides according to the technique of KOSZTARAB, KOZÁR (1988) and identified using keys and illustrations of BALACHOWSKY (1954). Permanent slides have been deposited at University of Forestry, Plant Protection Department, Laboratory of Entomology, Sofia, Bulgaria. Eight specimens with part of branches 4-5 cm long were placed separately in test tubes in order to rear parasitoids from them.

## Results and Discussion

The diaspidid on terebinth was identified as *E. gennadii*. From samples in test tubes, 3 female spec-



**Fig. 1.** Exit hall of *Habrolepis montenegrina* in a scale of *Epidiaspis gennadii*.

imens of *H. montenegrina* were reared between 19 and 27 July 2010 (Fig. 1).

*Epidiaspis gennadii* is an East Mediterranean species known from Italy, Sicily (LONGO *et al.* 1995), Cyprus (ŞIŞMAN, ÜLGENTÜRK 2010), Greece (MILONAS *et al.* 2008), Croatia (DAVATCHI 1958), Slovenia (SELJAK 2010), Turkey (KAYDAN *et al.* 2007), Jordan (BEN-DOV 2006), Israel, Syria and Iran (MILLER *et al.* 2011). It is connected with different hosts of *Pistacia* genus – *P. terebinthus* L. (BALACHOWSKY 1954; SELJAK 2010), *P. vera* L. (BALACHOWSKY 1954), *P. lentiscus* (L.) (ŞIŞMAN, ÜLGENTÜRK 2010) and *P. atlantica* DESF. (syn. *P. mutica* FISCH. & C.A.MEY.) (MILLER *et al.* 2011). The species is known as pest of *P. vera* in Cyprus (GREGORIOU 2001).

*Habrolepis montenegrina* was described by type material collected in Montenegro (HOFFER 1976). No records of the species or its hosts have been reported until the present study. It is very interesting to note, that in the entomological collection of Natural History Museum in London there are some *H. montenegrina* specimens collected in Italy and specimens reared from diaspidids on *Pistacia* in Israel (Dr. J. NOYES, pers. comm.).

In conclusion it could be noted that in this study two new species for Bulgarian fauna were recorded and first host of *H. montenegrina* was established. In addition, new information about finding the encyrtid in Italy and Israel enlarges knowledge on its distribution out of Balkan Peninsula.

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