

Insects Associated with the Endemic Species *Heracleum platytaenium* Boiss. (Apiaceae) with New Records for the Turkish Fauna

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Abstract: The perennial monocarpic endemic species *Heracleum platytaenium* Boiss. [Apiaceae (=Umbelliferae)] was collected with associated insects in Kızılcahamam (Ankara) between June and August in 2006-2007. Nine insects, namely Hemipterous *Graphosoma lineatum* (L.), *G. semipunctatum* (Fabricius) and *Anoraphis subterranea* (Walker), Coleopterous *Lixus nordmanni* Hochhuht, Lepidopterous *Aethes kasyi* Razowski, *Epinotia thapsiana* (Zeller) and *Epermenia chaerophyllella* (Goeze), Dipterous *Melanagromyza heracleana* Zlobin, and *Lasiambia albidipennis* (Strobl.) (Diptera) were determined on *H. platytaenium*. Among them, *M. heracleana* (Agromyzidae) is recorded from Turkey for the first time, and *Lasiambia albidipennis* (Chloropidae) is new as genus and species for the Turkish fauna. Additionally, *H. platytaenium* is recognized as new host for 5 species: *A. subterranea*, *A. kasyi*, *E. thapsiana*, *E. chaerophyllella*, and *M. heracleana*.

Key Words: Apiaceae, *Heracleum platytaenium*, Turkey, insect fauna, new records

Endemik *Heracleum platytaenium* Boiss. (Apiaceae) Üzerindeki Böcekler ve Türkiye Faunası için Yeni Kayıtlar

Özet: Çok yıllık, monokarpik ve Türkiye'ye endemik bir bitki türü olan *Heracleum platytaenium* Boiss. [Apiaceae (=Umbelliferae)] Ankara'nın Kızılcahamam ilçesinden 2006-2007 yılları Haziran-Ağustos döneminde toplanmıştır. Bitki üzerinde Hemiptera takımından *Graphosoma lineatum* (L.), *G. semipunctatum* (Fabricius) ve *Anoraphis subterranea* (Walker), Coleoptera takımından *Lixus nordmanni* Hochhuht, Lepidoptera takımından *Aethes kasyi* Razowski, *Epinotia thapsiana* (Zeller) ve *Epermenia chaerophyllella* (Goeze), Diptera takımından *Melanagromyza heracleana* Zlobin ve *Lasiambia albidipennis* (Strobl.) olmak üzere toplam dokuz böcek türü belirlenmiştir. Bu türler arasında *M. heracleana* (Agromyzidae) tür düzeyinde, *Lasiambia albidipennis* (Chloropidae) ise cins ve tür olarak Türkiye faunası için yeni kayıt durumundadır. Bunlara ek olarak, *H. platytaenium* bitkisi *A. subterranea*, *M. heracleana*, *A. kasyi*, *E. thapsiana*, ve *E. chaerophyllella* için yeni konukçu olarak belirlenmiştir.

Anahtar Sözcükler: Apiaceae, *Heracleum platytaenium*, Türkiye, böcek faunası, yeni kayıtlar

Heracleum platytaenium is a perennial herbaceous and monocarpic endemic species belonging to the Euxine phytogeographic region (Davis, 1972). Many studies on the relationship between *Heracleum* species and insects in the world, especially on their biology and the biological

control of giant hogweed, *H. mantegazianum* Sommier and Levier, and *H. sphondylium* L. with insect fauna in Europe, the Caucasus, and Canada were carried out (Bürki and Nentwig, 1997; Jakob et al., 1998; Seier et al., 2003; Hansen et al., 2006; Hattendorf et al., 2006;

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Karsholt, 2006; Page et al., 2006). In Turkey, results on the insects of *Heracleum* were reported by Özdemir et al. (2006) and Gültekin (2006, 2007). In the present study the insects associated with *H. platytaenium* were studied.

Heracleum platytaenium specimens were collected in the vicinity of Kızılcahamam (32°33' and 32°38'E, 40°33' and 40°30' N, approximately 1000 m a.s.l.) of Ankara, in June-August 2006-2007. The plants were brought to the laboratory with insects including the immature stage except for *Graphosoma* spp. (Hemiptera) and kept in plastic containers. Fresh food was provided as needed to rear the insects. The stem was kept separately from the umbel (seeds and flower stalks). Aphids were collected with a small soft brush and put into a tube with 70% alcohol. Preparation numbers (GP) of the moth genitalia are presented in the results.

The material examined, except for the common species *G. lineatum* and *G. semipunctatum*, was deposited in the collection of Plant Protection Central Research Institute, Ankara, Turkey and one-half of the flies, *M. heraclana* (1♀ and 1♂) and *L. albidipennis* (7♀♀ and 6♂♂), are kept in Zoological Institute, St. Petersburg, Russia.

In this study, insects on the endemic species *H. platytaenium* were as follows according to order and family:

Hemiptera

Graphosoma lineatum (Linnaeus, 1758)
(Pentatomidae)

Material examined. Very common, 5.VII–20.VIII.2007, Koçak leg and det.

Distribution. Palaearctic.

Graphosoma semipunctatum (Fabricius, 1775)

Material examined. Common, 5.VII–20.VIII.2007, Koçak leg and det.

Distribution. Palaearctic.

Anuraphis subterranea (Walker, 1852) (Aphididae)

Material examined. Numerous, 25.VI–15.VII.2007, Koçak leg. and Özdemir det.

Distribution. Palaearctic.

Remarks. This aphid was collected from the umbels of *H. platytaenium* that happened new host with this study.

Coleoptera

Lixus nordmanni Hochhuht, 1847 (Curculionidae)

Material examined. 4♂♂, 5♀♀, 20.VII–15.VIII.2007, Koçak leg. and Gültekin det.

Distribution. The Caucasus (Petri, 1904/1905), Turkey (Gültekin, 2006).

Remarks. *L. nordmanni* is recorded firstly from Ankara province.

Lepidoptera

Epermenia chaerophylllella (Goeze, 1783)
(Epermeniidae)

Material examined. 1♂, 1♀, 16.VII.2006, leg E. Koçak and det. M. Özdemir (Gp4480, Gp4481).

Distribution. Central Asia, Siberia, Western Europe (Fal'kovich, 1989).

Remarks. *E. chaerophylllella* is recorded from Ankara for the first time. It was recorded that the larvae was feeding on umbels of *H. platytaenium*.

Aethes kasyi Razowski, 1962 (Cochylidae)

Material examined. 2♂♂, 1♀, 16.VII.2006, leg E. Koçak and det. M. Özdemir (GP4508).

Distribution. Turkey, North Syria, Slovakia, Makedonia, Crimea, Iran (Razowski, 1970; Razowski, 2002).

Remarks. Larval host plant is recorded here for the first time.

Epinotia thapsiana (Zeller, 1847) (Tortricidae)

Material examined. 5♂♂, 1♀, 16.VII.2006, leg E. Koçak and det. M. Özdemir (GP4507).

Distribution. Canary Islands, southern and median belt of Europe to eastern European Russia, Transcaucasia, Turkey, Iran, southern Siberia, Kazakhstan, Tadzhikistan, Turkmenia, Korea (Razowski, 2003).

Remarks. *Epinotia thapsiana* is recorded from Ankara for the first time. *H. platytaenium* is new host for this species.

Diptera

Melanagromyza heracleana Zlobin, 2005
(Agromyzidae)

Material examined. 1♂, 2♀♀, 15.VI.2007, Koçak leg. and Zlobin det.

Distribution. Russia (Zlobin, 2005), Turkey (new record).

Remarks. The pupae of this species were collected in mid-June in old flower stem of the plant, and the imagos emerged in early July. This stem borer on *H. mantegazzianum* was described by Zlobin (2005) from the Caucasus.

Lasiambia albidipennis (Strobl, 1893) (Chloropidae)

Material examined. 14♂♂, 12♀♀, 14-19.VII.2007, Koçak leg. and Nartshuk det.

Distribution. Croatia, France, Italy, Russia, Czech Republic (Kubik, 2006), Turkey (new record).

Remarks. This is a little known and rare species. The larvae in young and old stems of the plant were collected in late June, and the imagos emerged in mid-July. This species is known as saprophage (Nartshuk, 2005). We

also found the larvae were nearby and on the decomposed stems, which were caused by some larvae of *L. nordmanni* and *M. heracleana*. Also the larvae were feeding inside of the dead bodies of *Lixus* sp. larvae or pupae.

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