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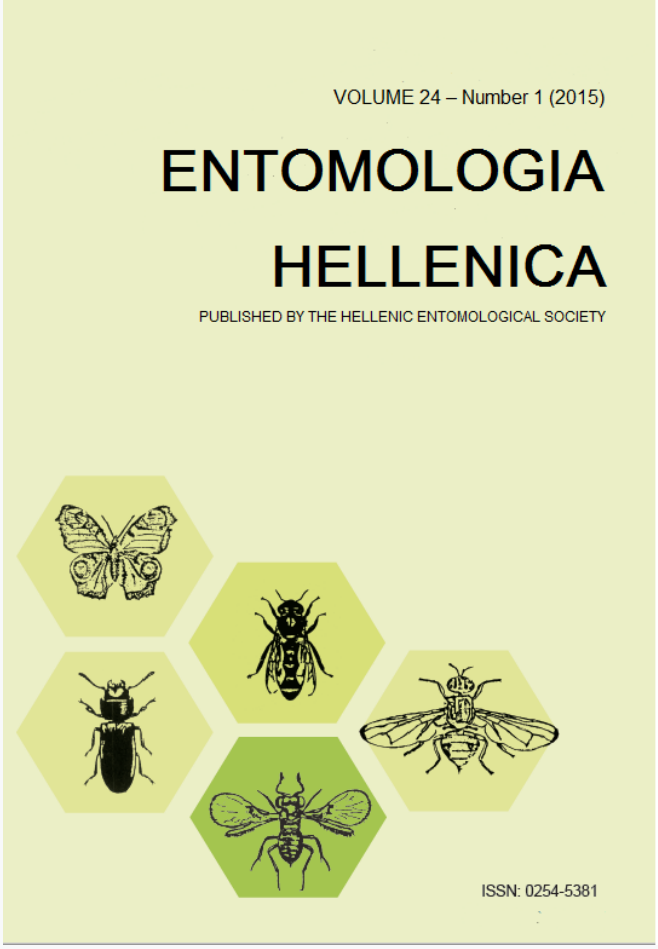

First record of the sisal weevil, Scyphophorus acupunctatus, in Cyprus

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SHORT COMMUNICATION

First record of the sisal weevil, *Scyphophorus acupunctatus*, in Cyprus

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ABSTRACT

In May 2013, numerous adults of a coleopteran insect species that later was identified as the sisal weevil, *Scyphophorus acupunctatus* (Coleoptera: Curculionidae), were accidentally captured in both pitfall and funnel traps placed across Cyprus for the monitoring of red palm weevil, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae). *S. acupunctatus* was found for the first time in the Germasogeia area of the Limassol district (34°71′81″N, 33°08′56″E) and in the Kissonerga area of the Paphos district (34°81′67″N, 32°40′00″E). During 2013 and early 2014, numerous adults of this species were also collected from red palm weevil traps from all over Cyprus.

KEY WORDS: Agavaceae, agave, dracaena, Dracenaceae, *Rhynchophorus ferrugineus*, trapping, yucca.

The sisal or agave weevil, *Scyphophorus acupunctatus* Gyllenhal (Coleoptera: Curculionidae) (syns: *S. anthraxcinus*, *S. interstitials*, *S. robustior*, *Rhynchophorus asperulus*) (Coleoptera: Curculionidae), is a species native to Nearctic Region (USA, Mexico, Cayman islands, Costa Rica, Cuba, Netherlands Antilles, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Virgin islands, Belize, Brazil, Colombia, Venezuela). It has also been found in Africa (Kenya, South Africa, Tanzania), in Asia (Indonesia, Saudi Arabia) and Oceania (EPPO 2013). In Europe, it was first reported in 1980 in the Netherlands, on imported ornamental *Yucca* plants as well as several times on imported ornamental plant species such as the *Beaucarnea*, *Dasylirion* and *Yucca* (van Rossem et al. 1981). It was also recorded in Italy on *Beaucarnea recurvata* Lem. (Colombo 2000) and on *Agave americana* L. (EPPO 2008a), in France (EPPO 2008b), in Spain (Flinch and Zarazaga 2007) and in Greece (Kontodimas and Kallinikou 2010) on *A. americana* and *Agave* spp.

During 2013 and early 2014, sisal weevil was found in all the districts across Cyprus, in funnel and pitfall pheromone traps placed for the monitoring of red palm weevil *Rhynchophorus ferrugineus* Olivier (Coleoptera: Curculionidae) (Table 1). This insect species was identified at the Benaki Phytopathological Institute in Greece, using keys provided by Vaurie (1971). Apart from these captures, it was decided to conduct inspections in Cyprus in order to record any damages of hosts of this insect pest, mainly on the agaves and yuccas that are grown on the island.

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TABLE 1. Number of adults of the sisal weevil, *Scyphophorus acupunctatus*, captured in red palm weevil pheromone traps across Cyprus during 2013 and early 2014.

Date of collection	Locality of collection	No of adults
May 2013	Limassol (Germasogeia area) (34°40′60″N, 33°4′60″E)	2
May 2013	Paphos (Kissonerga area) (34°49′30″N, 32°24′00″E)	8
May 2013	Paphos (Pegeia area) (34°88′33″N, 32°38′33″E)	2
June 2013	Larnaca (Zygi area) (34°73′33″N, 34°73′33″E)	5
June 2013	Larnaca (Mazotos village) (34°80′22″N, 33°49′00″E)	2
July 2013	Famagusta (Paralimni area) (35°03′33″N, 33°98′33″E)	5
October 2013	Nicosia (Kaimakli area) (35°18′91″N, 33°38′36″E)	1
January 2014	Limassol (Agios Tychonas area) (34°71′19″N, 33°12′69″E)	1
January 2014	Limassol (Germasogeia area) (34°40′60″N, 33°4′60″E)	2

According to the international literature, *S. acupunctatus* is a major pest of several ornamental species belonging to the Agavaceae and Dracenaceae families. It mainly attacks *Agave* plant species, including *A. sisalana* Perrine, *A. fourcroydes* Lem., *A. tequilana* F.A.C. Weber and *A. americana* L. (Vaurie 1971, Camino et al. 2002, Kontodimas and Kallinikou 2010, Setliff and Anderson 2011, EPPO 2013), the ponytail palm, *Beaucarnea recurvata* Lem., the Mexican grass tree, *Dasylirion longissimum* Lem., the Canary islands dragon tree, *Dracaena draco* (L.), the giant Cabuya, *Furcraea foetida* (L.) Haw.

Additionally, this insect species is referred to attack various *Yucca* plant species such as the Spanish dagger, *Y. aloifolia* L., the spineless yucca, *Y. elephantipes* Lem., the soapweed yucca, *Y. glauca* Nutt., as well as the tuberose, *Polianthes tuberosa* L. (Vaurie 1971, Camino Lavin et al. 2002, Kontodimas and Kallinikou 2010, EPPO 2013) and the snake plant, *Sansevieria trifasciata* Prain (Pott 1976). This species is also considered a major problem in the tequila and henequen industries in Mexico and in the sisal industries of Africa (Waring and Smith 1986).

According to the Department of Agriculture, Ministry of Agriculture, Natural Resources and Environment on Cyprus, the plant species mentioned in Table 2, are potential hosts of *S. acupunctatus* on Cyprus.

Adults of *S. acupunctatus* are small brown-black or black weevils without dorsal scales, 10-19mm long. They feed on leaves and bore into the bole of plant where females may oviposit from 25 to 30 eggs. Generally, there are 5 larval instars but their number may vary depending of the type of food that larvae were fed. The fully developed larva is about 18mm long, creamy white and legless. Pupation takes place within a cocoon made of plant fibres and debris. The total life cycle requires 50-90 days, with 4 or 5 generations per year (EPPO 2006). Male adults produce a pheromone that attracts both sexes (Montiel et al. 2009, Lopez-Martinez et al. 2011). Both larvae and adults are found in roots, lower leaves, and inside the heads (Montiel et al. 2008, CABI 2014).

TABLE 2. Potential host plants of sisal weevil, *Scyphophorus acupunctatus*, on Cyprus. Source: Department of Agriculture, Ministry of Agriculture, Natural Resources and Environment.

Species	**Genus**
Beaucarnea recurvate Lem.	Beaucarnea
Yucca rostrata Engelm. ex Trel.	Yucca
Yucca gloriosa L.	Yucca
Agave americana L.	Agave
Agave americana var. *variegate* Hook.	Agave
Agave filifera Salm-Dyck	Agave
Agave attenuata Salm-Dyck 1834	Agave
Agave angustifolia Haw.	Agave
Agave parviflora Torr.	Agave
Dracaena draco (L.) L.	Dracaena
Dracaena marginata Lam.	Dracaena
Dracaena sanderiana Sander ex Mast.	Dracaena
Dracaena fragrans (L.) Ker Gawl.	Dracaena

Adult damage consists of groups of feeding punctures on young leaves. In addition to feeding damage, the larvae may transfer bacteria that favour the development of secondary fungal or bacterial rots leading to premature death of the host. Most often, the infestation is not apparent until the damage is severe. Application of insecticides is the most commonly used suppression method for *S. acupunctatus* (Gonzalez et al. 2007).

To the best of our knowledge this is the first record of *Scyphophorus acupunctatus* from the island of Cyprus.

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Πρώτη αναφορά του εντόμου της αγάβης *Scyphophorus acupunctatus* στην Κύπρο

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ΠΕΡΙΛΗΨΗ

Τον Μάιο του 2013, αριθμός ενηλίκων κολεοπτέρων εντόμων σημειώθηκε εντός φερομονικών παγίδων που είχαν τοποθετηθεί στο έδαφος (pitfall), για την παρακολούθηση των πληθυσμών του ρυγχοφόρου των φοινικοειδών *Rhynchophorus ferrugineus* Olivier (Coleoptera: Curculionidae) σε διάφορες περιοχές της Κύπρου. Στην συνέχεια το είδος τους ταυτοποιήθηκε στο Μπενάκειο Φυτοπαθολογικό Ινστιτούτο, χρησιμοποιώντας την κλείδα της Vaurie (1971), ως το *Scyphophorus acupunctatus* Gyllenhal (Coleoptera: Curculionidae). Το είδος *S. acupunctatus* βρέθηκε για πρώτη φορά στην περιοχή της Γερμασόγειας της επαρχίας Λεμεσού (34^{o}71′81″N, 33^{o}08′56″E) και στην περιοχή της Κισσόνεργας της επαρχίας Πάφου (34°81′67″N, 32°40′00″E). Κατά τη διάρκεια του 2013 και του πρώτου τριμήνου του 2014, το έντομο βρέθηκε επίσης σε φερομονικές παγίδες του ρυγχοφόρου σε ολόκληρη τη χώρα.