The grapevine aphid *Aphis illinoisensis*: a good example of recent invasion and rapid colonization by aphids

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*Aphis illinoisensis* represents one of the most recent aphid invaders from the New World to the Mediterranean Region. This aphid, which is native to North America and is now widely distributed in Central and South America, was first found in Southern Turkey in 2002, and in 2005 it was also found in Crete (Greece). Thereafter it was recorded from Northern Cyprus, Israel, Tunisia, Algeria, Montenegro and Libya, and is now probably present throughout the Mediterranean. The present work provides data on the presence of this aphid in the Maltese islands, a group of low-lying islands situated in the central Mediterranean Basin.

One of the most recent alien aphids introduced from the Nearctic Region and established in the Palaearctic Region is the grapevine aphid, *Aphis illinoisensis* (Shiner, 1866) (Coeur d’acier et al., 2010). The species is heteroecious holocyclic in North America, with *Viburnum prunifolium* as a primary host and several species of Vitaceae (*Ampelocissus, Cissus, Parthenocissus* and *Vitis*) as secondary hosts, and it is likely to be anholocyclic on vines in warmer climates and glasshouses in other parts of the world (Blackman & Eastop, 2000, 2006). In the New World, the species is considered to be a pest of grapevines, but so far records from the Palaearctic territories are citing this aphid as a minor pest (e.g. Barjadze & Ben-Dov, 2011). *Aphis illinoisensis* is a vector of watermelon mosaic virus (Webb et al., 1994); there is no evidence of transmission of grapevine viruses by this aphid (Kuniyuki et al., 1995). The parasitoids associated with this aphid in the Mediterranean Region were reviewed by Havelka et al. (2011).

Since its accidental introduction in Turkey in 2002 (Remaudière et al., 2003), this species has been recorded practically throughout the Mediterranean Basin (Fig. 1). There are published records of *A. illinoisensis* from Greece (Tsitsipis et al., 2005), Israel (Quirós et al., 2009; Barjadze & Ben-Dov, 2011), Tunisia (Kamel-Ben Halima & Medelel, 2010), Algeria (Laamari & Coeur d’acier, 2010), Montenegro (Petrović-Obradović et al., 2010) and Libya (Havelka et al., 2011).

The aphid fauna of the Maltese islands is poorly known. Mifsud et al. (2009) provided an overview of all aphid records from Malta and published a list of the 50 aphid species so far known from the territory. In a work related to aphids on crop plants, herbaceous and woody shrubs, Mifsud et al. (2011) recorded some 60 additional new records of aphids from the Maltese islands, which included *A. illinoisensis*. Due to the importance of this exotic aphid as a pest of grapevines, these records are being presented here for the first time.

In 2009, *A. illinoisensis* was found on *Vitis vinifera* on mainland Malta as follows: Msida (university grounds), 2009-06-01, apterae attended by *Cre-...
groupe d’îles de faible altitude situées au milieu du bassin méditerranéen.

**Fig. 1** Distribution of *Aphis illinoisensis*: black, native range; red, regions of introduction and establishment in the Mediterranean.

**References**


