FOLIA HISTORICO-NATURALIA MUSEI MATRAENSIS
2015 39: 73–76

Megachile sculpturalis Smith, 1853 in Hungary (Hymenoptera, Megachilidae)

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Dedicated to the memory of László Móczár (1915–2015)

Abstract: *Megachile sculpturalis* Smith, 1853 is recorded for the first time in Hungary.

Several interesting insects species thrive in the Orczy Garden of the Mátra Museum in Gyöngyös (Hungary), including protected beetles such as *Aegosoma scabricorne* (Kovács & Hegyessy 1997, 1998), *Oryctes nasicornis* (Csóka et al. 2010), and *Elater ferrugineus* (6 May 2013, dead specimen found in rot hole of *Tilia cordata*, leg. T. Gurúz, T. Kovács). On July, 2015, eight to ten hymenopterans flying around a tree were spotted (Fig. 1a). From a distance they were thought to be hornets (*Vespa crabro*) because of their large size; however, with a closer look they resembled leaf-cutter bees (*Megachile*) pictured in the book "Rovarok közelről" (Móczár 1957) which was one of my favourite books in my childhood (Fig. 1b). One specimen was captured and was found to belong to *Megachile sculpturalis* Smith, 1853 (Fig. 1c). The species is missing from the Hungarian checklists (Józan 2011). Its collecting data are as follows: Gyöngyös, Orczy-kert, N 47°47'05.8", E 19°56'03.2", 174 m, 17 July 2015, 1 male, leg. T. Kovács. The voucher specimen is deposited in the Hymenoptera Collection of Hungarian Natural History Museum, Budapest.

Megachile sculpturalis is native in East Asia (China, Korea, Taiwan, Japan) (Iwata 1933, Wu 2006), and was introduced to several countries. It was first found in North America in 1994 (Mangum & Brooks 1997), and since then expands rapidly (cf. Vereecken & Barbier 2009, Gihr & Westrich 2013, Quaranta et al. 2014). In Europe, it was observed for the first time in Allauch, France (Vereecken & Barbier 2009), then found in Verbania, Italy in 2009 (Quaranta et al. 2014), in Ascone, Switzerland in 2010 (Amiet 2012), and in Les Mées, France in 2012 (Gihr & Westrich 2013). Gogala (2014) mentions it as a species expected to appear in Slovenia. The European localities are depicted in Fig. 2.

The life history of the species is well known, so only a few details are given here. The bees were buzzing around a barkless, 75 cm long and 30 cm wide dead limb of common hackberry (*Celtis occidentalis*) 185 cm above ground. Boreholes of *Aegosoma scabricorne* (Coleoptera: Cerambycidae) were present on the dead limb. The bees constructed their brood cells in these tunnels (Fig. 1d). Of the 11 holes they sealed 4 in the summer. Two days after the first observation the number of the bees started to decline, but until 5 August 2015 a few individuals always flew around the tree if the weather was favourable. The last bee was seen on 24 August 2015. A compound of artificial nesting blocks with many holes suitable for nesting bees has been built in an open place 20 m from the tree, but the bees did not colonise it.

Fig. 1a = Nesting site of *Megachile sculpturalis* on *Celtis occidentalis*,
1b = four *M. sculpturalis* around a dead limb, **1c** = the captured specimen of *M. sculpturalis*,
1d = boreholes of *Aegosoma scabricorne* sealed by *M. sculpturalis*,

It is unknown that the presence of this population in Hungary is a result of the expansion from the known sites (France, Italy, Switzerland) or from an unknown origin. As data from North America show *Megachile sculpturalis* is able to easily colonise new habitats.

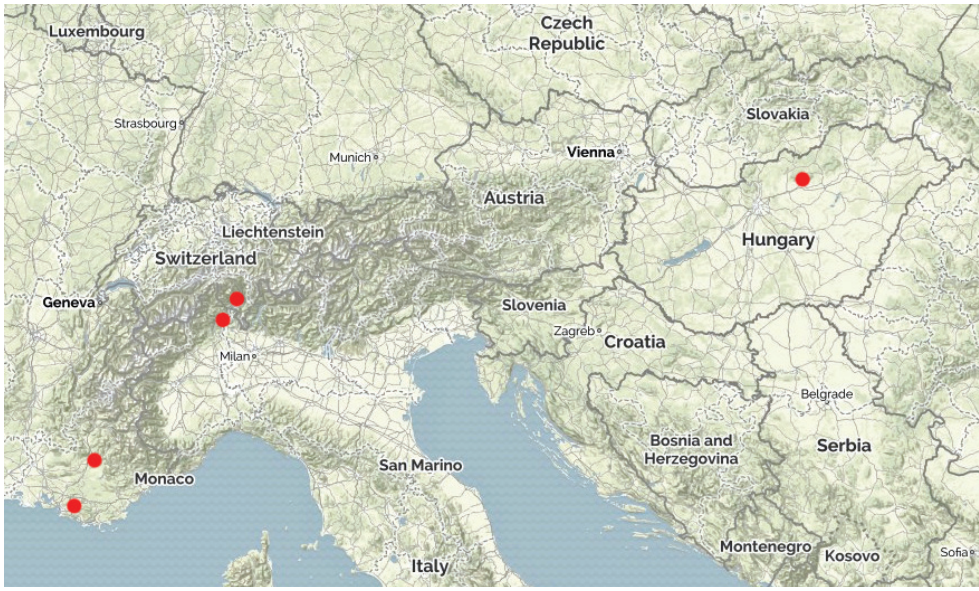

Fig. 2. Localities of *Megachile sculpturalis* in Europe (www.mapquest.com)

Acknowledgements: Thanks are due to Ottó Merkl (Hungarian Natural History Museum, Budapest) for English translation, Zsolt Józan (Mernye) for information and Zoltán Vas (Hungarian Natural History Museum, Budapest) for advice.

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