

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

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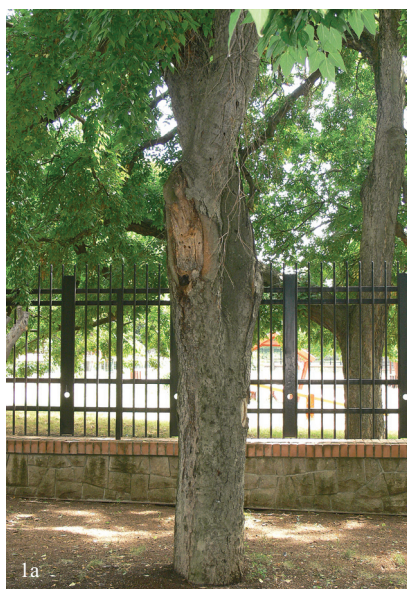
*Dedicated to the memory of László Móczár (1915–2015)*

**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.

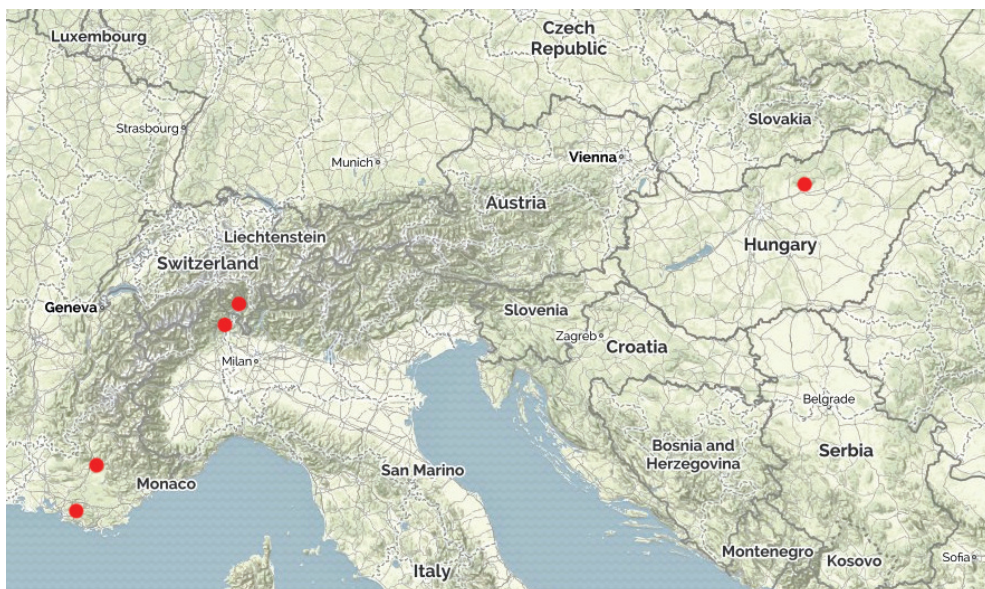


Fig. 2. Localities of *Megachile sculpturalis* in Europe (www.mapquest.com)

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