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***Sceliphron caementarium* (Hymenoptera, Sphecidae), new to the Romanian fauna**

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Abstract. An imago of the Nearctic mud dauber *Sceliphron caementarium* (Drury 1770) was captured on July 16, 2012, in Oradea, northwestern Romania. It represents the first record of this species in the country, while the establishing of the species remains undocumented.

Introduction

The solitary wasp *Sceliphron* (*Sceliphron*) *caementarium* (Drury 1770) is originally native to North America and it is one of the two Nearctic sphecids accidentally introduced into Europe on several occasions: supposedly „during the 19th century” (Rasplus 2010), in 1942 in the Czech Republic, not established (Bogusch & Macek 2005), in 1945 in Versailles, France, not established (Rasplus 2010), in 1974 in southern France, and then it established in France, Portugal and Madeira (Bitsch & Barbier 2006, Rasplus 2010). The other Nearctic sphecids invasive to Europe is *Isodontia mexicana* (Saussure 1867).

The European range of *S. caementarium* expanded gradually in the following countries: Luxembourg (firstly, a nest and emerging imagos in an American

military vehicle) (Schneider & Pelles 1988), Italy, Ukraine (Crimea, a possible separate colonization) (Pulawski 2012), Croatia (Gusenleitner 1996), northern Italy (in 1998 in Trentino-Alto Adige, or southern Tyrol) (Hellrigl 2006), Belgium (Pulawski 2012), Austria (Gusenleitner 2002), Switzerland, Slovenia and Germany (Pulawski 2012). In Croatia it was found also in 2002-2005 (Józan 2009).

In addition to that, two other species, *S. curvatum* (Smith 1870) and *S. deforme* (Smith 1856), have been accidentally introduced into Europe from Asia (Rasplus et al. 2010). *Sceliphron* species are known as mud-daubers, preying on spiders and often confectioning their nests in or around buildings. Besides the still unsure case of *S. deforme* (apparently introduced with success in southern Montenegro), the other species of the genus mentioned above became established in the Balkans region and threaten to replace the autochthonous *Sceliphron* species (Ćetković et al. 2004, Rasplus et al. 2010).

In Romania, *S. destillatorium* (Illiger 1807) and *S. spirifex* (Linnaeus 1758) are the only known *Sceliphron* species, the last one being doubtful (Barbier 2012). There are no previous records of the presence of *S. caementarium* in Romania, while the Fauna Europaea online database enlists it in the faunas of France, Italy, Austria, Croatia, Ukraine, and possibly Portugal.

The aim of the present paper was to document the first occurrence of *S. caementarium* in Romania.

Material and methods

On July 16, 2012, during a very hot summer, a mud-dauber imago was observed trying to enter the building of the Țării Crișurilor Museum, Oradea, by our colleague Iacinta Chiriac. The specimen was captured, prepared, mounted and included in the museum's collection. No nests or other individuals were found. The specimen was identified using the keys published in Schmid-Egger 2005 and Bitsch & Barbier 2006.

Results and discussion

The collected individual, a female (Fig. 1), has a body length of 23 mm. (antennae excluded). Its morphological features matched the typical diagnosis of *S. caementarium* (Schmid-Egger 2005, Bitsch & Barbier 2006): yellow scapi (first antennal segments), yellow tegulae, propodeum and first tergite, black petiole and hind femurs. The wings are all brownish. *S. caementarium* differs from the common *S. destillatorium* by its yellow propodeum, black petiole, black hind fe-



Fig. 1 - The *Sceliphron caementarium* (Drury 1770) imago captured in Oradea on July 16, 2012 (photo dr. M. Venczel).

murs, and brownish wings, while *S. destillatorium* has black propodeum, usually yellow petiole, black and yellow hind femurs, and clear wings (Schmid-Egger 2005, Bitsch & Barbier 2006).

This first known occurrence of *S. caementarium* in Romania may be a vagrant individual and does not represent, of course, a clear proof for the establishment of the species in the Romanian fauna, as no other individuals or nests were found yet. The origin of this individual is unknown, as the species was not recorded in the neighbouring countries, but only in the Crimea peninsula, which is quite far from northwestern Romania and way beyond the Eastern and Western Romanian Carpathians.

Nevertheless, the distribution data for *S. caementarium* in the European countries, especially in the east, look rather incomplete, and its expansion in Hungary and Serbia from the populations known in their respective neighbouring countries seems very likely, thus suggesting a possible eastward way of colonization in Romania, without major natural obstacles. Another hypothetical modality is an accidental, human introduction of nests or imagos, like in the first European colonization instances, due to the recently increasing human transportation and travelling activities.

The impact of invasive mud-daubers, as of alien Hymenoptera in general, has received little attention so far, though issues concerning competition and hybridization with local species have been noticed (Rasplus 2010, Rasplus et al. 2010). The alien mud-daubers may also have an excessive impact on the local

populations of Araneae. In France, *S. caementarium* established itself mainly in the Mediterranean bioregion (Bitsch & Barbier 2006) and it supersedes the native *S. spirifex* (Piek 1986).

It is still unclear whether all the published occurrences represent established populations, though there is a clear trend towards range expansion, especially in southern Europe (Bogusch et al. 2005). The thermophilic character of *S. caementarium*, in connection with its expansion in Europe even at higher latitudes, as in the occurrence in Oradea, may possibly suggest a tendency towards climate warming in Europe.

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