

Discovery of the western palearctic bee *Megachile (Pseudomegachile) ericetorum* (Hymenoptera: Megachilidae) in Rochester, N.Y., USA

BERNHARD JACOBI (J) & GARY A. STAFFORD (S)

Scientific note

One author (S) repeatedly observed and photographed a species of solitary bee in his garden 29 Florentine Way, Rochester, N.Y., USA (43.094833, -77.7705). By coincidence the other author (J) came across a photo of the bee (Fig.1) posted on Flickr. He recognized the bee species as *Megachile (Pseudomegachile) ericetorum*, which is fairly common in European gardens, including his own.

A web search produced a report of a single female specimen being collected in the neighbouring Canadian province of Ontario (SHEFFIELD et al. 2010), but none of a previous find in the United States of America.

The identification has been enforced by more photos (Fig.2, Fig.3), which were identified additionally by Paul Westrich (pers. com.) without leaving any doubt.

One author (S) reported the bee as common in his home garden, which includes a variety of flowers, trees, and shrubs: Catmint (*Nepeta cataria*), Lavender (*Lavandula*), *Veronica longifolia*, Lemon Thyme (*Thymus × citriodorus*), Bell flowers, Butterfly Bush (*Buddleja*), Daylily (*Hemerocallis*), Crab apple trees, Blanket Flowers (*Gaillardia*) and Coneflowers. The bee species was observed visiting Catmint (Fig.1).

Discussion

From Europe both sexes are known to visit Labiatae flowers for nectar, but as the bee is an oligolege on Pea flowers (family Fabaceae) none of the flowers present in the garden of author (S) could have served as a pollen source. Such flowers must have been present in the neighbourhood, though, to ensure successful procreation of the bee. Several economically important crop varieties of peas and beans are grown in New York State, including Monroe County to which Rochester belongs, and the near-by surrounding counties of Livingston and Genesee. New York State produces between 2-10% of the entire United State's Peas, Dry Beans, and Snap Beans according to New York State Crop Profiles (see link below).



Fig.1: Female *Megachile (Pseudomegachile) ericetorum* visiting flowers of Catmint in a home garden in Rochester, N.Y., U.S.A. Photo taken July 3, 2012 by Gary A. Stafford.



Fig.2: Female *Megachile (Pseudomegachile) ericetorum* from Rochester, N.Y., lateral view. Photo taken July 7, 2012 by Gary A. Stafford.



Fig.3: Female *Megachile (Pseudomegachile) ericetorum* from Rochester, N.Y., frontal view, showing typically shaped toothless mandibles. Photo taken July 7, 2012 by Gary A. Stafford.

So *Megachile ericetorum* might have done pollination service unnoticed by the pea and bean farmers in New York State.

Garden habitats all over the temperate climatic zones of the world are similarly equipped with a standard set of garden flowers, encouraging colonization by neobiota among insects, like the Carder bee *Anthidium manicatum*, which is present in the same Rochester home garden, too.

It would be interesting now to learn for how many years the bee has evaded detection or rather recognition of what it was. It seems quite probable: the bee has been present for several to many years in the Rochester area.

The present area of distribution if elucidated, too, could give some clues as to the time span passed since the colonization event, as well as to a starting point of the colonization. From the relative numbers found in Canada and USA, it seems possible, even likely, to assume colonization of New York State (USA) before Ontario (Canada). The single recorded specimen from Ontario may have been a stray individual, as more individuals have not been found since (to our knowledge at least), while the Rochester site seems to boast a thriving population.

By comparing Rochester specimens to others from different Western Palaearctic origins by genetic analyses could reveal the origin of the founder individual(s).

Acknowledgement

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Sources cited

SHEFFIELD, C.S., GRISWOLD, T. & RICHARDS, M.H. (2010): Discovery of the western palearctic bee, *Megachile (Pseudomegachile) ericetorum* (Hymenoptera: Megachilidae), in Ontario, Canada. - Journal of the Entomological Society of Ontario **141**: 85-92; Guelph.

New York State Crop Profiles: <http://pmep.cce.cornell.edu/fqpa/crop-profiles/index.html>

Authors' addresses:

Bernhard Jacobi, Dieckerstr. 26, D-46047 Oberhausen, Germany;

E-Mail: h.b.jacobi@gmx.de

Gary A. Stafford, 29 Florentine Way, Rochester, NY USA 14624;

E-Mail: garystafford@rochester.rr.com

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Autor(en)/Author(s): Jacobi Bernhard, Stafford Gary A.

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