



The first record of *Dysdera crocata* C. L. Koch, 1838 (Araneae: Dysderidae) in Poland

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Abstract: *Dysdera crocata* was found in north-eastern Poland and this is the first record in Poland. The work provides evidence that the species has overcome natural barriers and is spreading further east.

Key words: spider, anthropogenic transport, synanthropic environments, expansion

INTRODUCTION

The genus *Dysdera* Latreille, 1804 is widespread in Europe. Only one species was recorded in Poland – *D. erythrina* (Walckenaer, 1802) from the Baltic coast, Silesia, the Sandomierz Lowlands and the Sudetes (Prószyński & Staręga 1971). From the west and south, there are many more species in neighboring countries: Germany (3), Czech Republic (5), Slovakia (10), Ukraine (6) (Nentwig et al. 2022).

Dysdera crocata C. L. Koch, 1838 is a cosmopolitan species, most likely originating in the Mediterranean region and now widespread in Europe and Asia, and introduced in North America, Chile, Brazil, South Africa, Australia, New Zealand and Hawaii (Jackson & Pollard 1982, Pollard et al. 1995, Nentwig et al. 2022, World Spider Catalog 2022). The habitat of the species includes pine forests, halophytic meadows, solonchaks, dunes as well as synanthropic environments, urban parks and stony habitats, caves (Kovblyuk et al. 2008, Harvey 2009, Paquin et al. 2010, Nentwig et al. 2022).

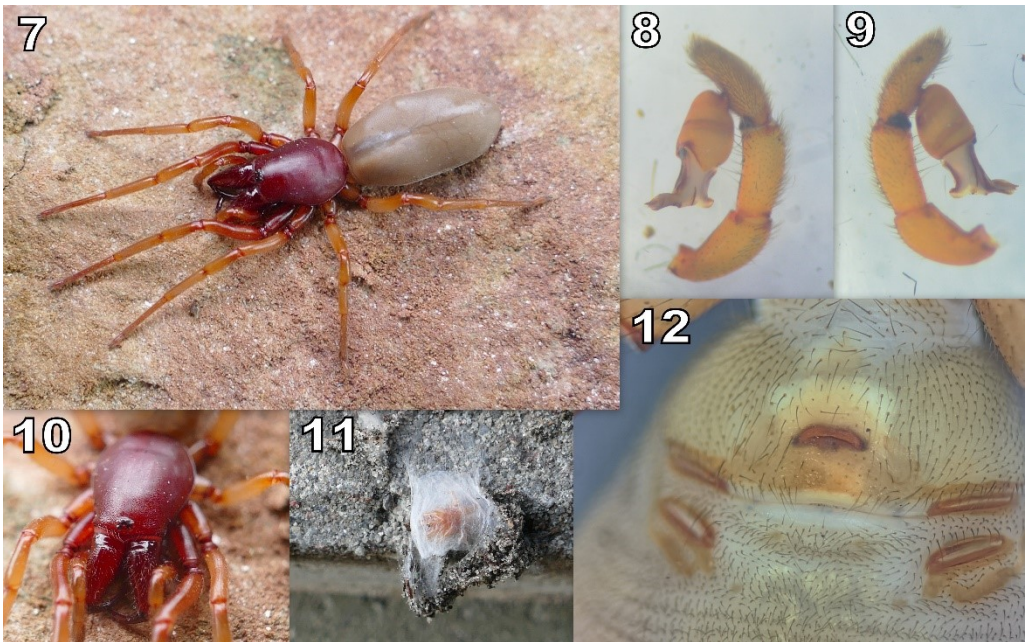
MATERIAL AND METHODS

Dysdera crocata C. L. Koch, 1838 has so far been found in a few anthropogenic habitats in Szczecin (Figs 1–6) and in Gryfino. These are:

1. Świnoujście [VV47], Karola Miarki Str., private apartment, under block paving, under the pallets and among the rubble, 14 specimens observed – 2020–2022, leg. Martyna Karpowicz; 1♀ – 19 Jul 2022, leg. DMS, DS, HS.
2. Świnoujście [VV57], Karsiborska Str., the communal cemetery, pile of stones and under old block paving, 1♀, 1♂, 9 juv. and 1 cocoon – 19 Jul 2022, leg. DMS, DS, HS.
3. Świnoujście [VV57], Karsiborska Str., pieces of bark of a roadside tree, 1♂ – 19 Jul 2022, leg. DMS, DS, HS.
4. Świnoujście [VV57], Karsiborska Str., among the rubble on the side of the road, 1♀, 1♂ – 19 Jul 2022, leg. DMS, DS, HS.
5. Gryfino [VV60], Bolesława Chrobrego Str. – Bańska Gate, among the gaps in the walls, 1♀, 15 juv. – 21 Jul 2022; 4 juv. – 22 Jul 2022, leg. DMS, DS, HS.



Figs 1–6. Świnoujście – sampling areas: 1 – the communal cemetery, 2–4 private apartment, 5 – among the rubble on the side of the road, 6 – *Dysdera crocata* among the rubble.



Figs 7–12. *Dysdera crocata*: 7 – adult female, 8–9 – pedipalp, 10 – prosoma, 11 – a nest under a rock, 12 – epigyne.

The abbreviations used above refer to the authors: Dominik M. Szymański – DMS, Dawid Szymański – DS, Hubert M. Szymański – HS.

The specimens were identified by the key (Řezáč et al. 2007, Harvey 2009, Paquin et al. 2010, Nentwig et al. 2022) and consulted with Milan Řezáč and Simeon Indzhov. The figures show the basic diagnostic features and nest (Figs 7–12).

DISCUSSION

Species of the genus *Dysdera* do not show a behavior called ballooning, which made it difficult for them to naturally colonize Poland (de Luna et al. 2022). It is connected with the shape of our country and natural barriers – from the west in the form of rivers and from the south in the form of mountains. *D. crocata*, however, uses the opportunities arising from the global market and seems to be closely related to anthropogenic transport (building silk shelters to objects lying on the ground, such as stone, brick or wood) and adaptation to life in synanthropic environments (Nedvěd et al. 2011, Cognato & O'Brien 2013).

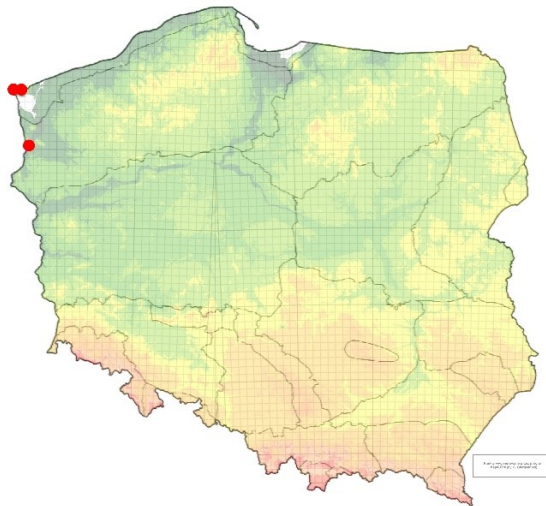


Fig. 13. Distribution of *Dysdera crocata* in Poland (map generated with Mapa UTM ver. 6: Gerlasiński 2022).

D. crocata represents the most extensive case of range expansion among spiders (Nedvěd et al. 2011). Data from Germany showing that the species has been moving its north-eastern border in Europe for years (Arachnologische Gesellschaft 2023). The presented sites are currently the most borderline locations (Nentwig et al. 2022). This work provides evidence that the species has overcome natural barriers and successfully spreads its range. With the passage of time, an increasing number of observations should be expected, with particular emphasis on synanthropic environments.

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STRESZCZENIE

[Pierwsze stwierdzenie *Dysdera crocata* C. L. Koch, 1838 (Araneae: Dysderidae) w Polsce]

Dysdera crocata C. L. Koch to gatunek szeroko rozpowszechniony na świecie, który swój sukces kolonizacyjny zawdzięcza transportowi antropogenicznemu oraz adaptacjom do życia w środowisku synantropijnym. Polska otoczona przez naturalne bariery (od zachodu w postaci rzek, od południa gór) stanowiła dotąd efektywną przeszkodę. Niniejsza praca stanowi pierwsze stwierdzenie gatunku w Polsce i dostarcza dowodów na dalsze rozpowszechnianie się gatunku w kierunku wschodnim.

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