

# Occurrence and locations of *Odontepyris erucarum* (Szelényi, 1958) (Hymenoptera: Bethylidae) in Hungary

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**Abstract:** This study provides a detailed account of the rediscovery and collection records of *Odontepyris erucarum*, a species of Bethylidae wasps, in Hungary after a 70-year absence.

**Keywords:** Aculeata, Bethylidae, *Odontepyris*, rare species

## Introduction

*Odontepyris erucarum* (Szelényi, 1958) was first described by Szelényi under the name *Parasierola erucarum*. This formerly rare and visually striking species belongs to the subfamily Bethylinae, one of the four Bethylidae subfamilies found in Hungary. The genus *Odontepyris* is exclusively distributed across the Old World and Australia, with approximately 45 species documented worldwide. TERAYAMA (1997) described four additional species from Taiwan and Korea, emphasizing the limited research on this group, particularly in tropical and subtropical regions where new species are likely to emerge.

China holds the highest species count, with over ten documented species, followed by India and Cambodia with six species each. Sri Lanka, Madagascar, and Australia have five, four, and four species, respectively. Additionally, three species have been found in Taiwan and South Africa, while others occur in Japan and Indonesia. In Central Europe, two species are currently known: *O. moldavicus* (Nagy, 1976), recorded solely in Moldova from noctuid moth pupae, and *O. erucarum* (Szelényi, 1958), historically documented in Hungary and Romania.

Romanian records include a single female specimen captured via sweep netting in northern Romania in 1968. Recent faunistic surveys expanded the species' known range to Bulgaria (2001), Slovakia (2007), and Russia (2008, 2011, 2013). In the Middle East, *O. erucarum* was recorded exclusively in Iran, where a male and a female specimen were collected in June 2015 (GEORGIEV et al. 2001, GORDH & MÓCZÁR 1990, MACEK 2007).

SZELÉNYI (1958) reared 12 females and two males of *O. erucarum* from parasitized lepidopteran larvae collected on a cherry tree in Pomáz, north of Budapest. The wasp larvae exhibited ectoparasitic behavior, feeding externally on the host larvae. After con-

suming the host, the larvae spun brown cocoons and emerged as adults on July 28, 1954. The females measured 5.99 mm in length, while the males were smaller at 4.48 mm.

For over six decades, these 14 specimens were the only known Hungarian records of *O. erucarus*. Despite efforts, no additional specimens or publications have surfaced since its original description. Unfortunately, the original specimens could not be located within the Hymenoptera collection of the Hungarian Natural History Museum.

In Russia, the earliest documented collection was by A. Chistovski in the Samara region on July 24, 1948. Interestingly, Szelényi described the species as new to science a decade later based on Hungarian specimens.

**Key morphological traits:** The wasps are predominantly black. The head is dorsally flattened and deeply punctured, while the gaster is smooth and glossy. Mandibles are tridentate and directed anteriorly. The antennae's scape and femora are black, while the flagellum, tibiae, coxae, and tarsi exhibit reddish hues. Male antennae are darker dorsally.

The wing venation is highly reduced, with only four closed cells in the forewing. A diagnostic feature is the quadrate discal cell near the mediocubital and submedial cells, with the radial cell remaining open—a hallmark of Bethylinid wasps. The clypeus projects anteriorly in a triangular shape. The compound eyes are twice as long as they are wide.

Among Hungarian Bethylinidae, most species measure 2–4 mm, making *O. erucarus* a relative giant at 6 mm in body length.

According to observations by FADEEV (2017), *Odontepyrus erucarus* parasitizes the larvae of the cotton bollworm (*Helicoverpa armigera*). It has also been recorded as a parasitoid of Pyralid moth larvae (Pyralidae).

In Bulgaria, under laboratory conditions, a specimen emerged from a dried oak trunk (*Quercus* spp.) that had previously been bored by the larvae of *Cerambyx cerdo* Linnaeus, 1758. The same galleries also yielded adult specimens of *Epicalima formosella* (Denis & Schiffermüller, 1775), leading Bulgarian researchers to hypothesize that this decorative moth might serve as one of the wasp's host species.

## Material and methods

Only female specimens were collected using a butterfly net which is completed by manual collections. *O. erucarus* can be encountered from May to November, with the highest probability of collection in August, followed by July. Observed habitats where the species was recorded include: flowers of *Ailanthus altissima*, honeydew-covered leaves of peach trees (*Prunus persica*), oak leaves (*Quercus* spp.), hornbeam leaves (*Carpinus* spp.), cracks in pavements and walls, as well as dried leaves of thuja (*Thuja* spp.). The species has a preference for sweet honeydew.

## Results

### *Examined material:*

10 June 2000: On the Danube shore between Foktő and Fajsz, on a willow trunk, captured with a net. (1 specimen); 02-03. 1 July 2000: Foktő, Foktői Field, on a leaf of a bush. (2 specimens); 29 August 2000: Foktő, village center, on a peach leaf. (1 specimen, stung!); 30 July 2002: Foktő, residential area. (1 specimen, collected by K.T.); 23 August 2002: Foktő, residential area, on a peach tree infested with aphids. (1 specimen); 21 August 2003: Foktő, residential area, on a peach tree infested with aphids. (1 specimen); 22 August 2003: Foktő, residential area, on a peach tree. (1 specimen, gifted to the Natural History Museum in London) 9-10. 22 August 2003: Foktő, residential area, on a peach tree. (2 specimens); 01 May 2004: Foktő, riparian gallery forest. (1 specimen); 26 June 2004: Foktő, residential area, on the flowers of the tree of heaven. (1 specimen); 12 September 2004: Foktő, village center, on the wall of the church. (1 specimen); 23 October 2009: Foktő, village center, in a sidewalk crack. (1 specimen); 23 August 2017: Fajsz, village center, on a hornbeam leaf. (1 specimen); 25 August 2018: Fajsz, village center, on a hornbeam leaf. (1 specimen); 08 October 2022: Fajsz, village center, in a crack in the stairs. (1 specimen); 01 July 2023: Fajsz, village center, residential area. (1 specimen); 28 July 2023: Fajsz, village center, residential area, on dried thuja leaves. (1 specimen).



Fig. 1: Habitus of female *Odontepyrus erucarum* (Szelényi, 1958)

The sting of *O. erucarum* causes brief but sharp pain. In terms of behavior, the species exhibits rapid movement and high sensitivity to potential threats. Upon detecting danger, individuals take immediate and decisive action to flee.

## Conclusions

The humid areas along the Danube appear to provide ideal living conditions for this wasp species. Naturally, its distribution is determined by the presence and abundance of its host species. With further research, it is likely that additional regions in Hungary could be identified as part of its range. I also believe that the number of known host species will increase in the future.

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## References

- FADEEV, K., I. 2017: New data on the distribution of bethylid wasps (Hymenoptera: Bethyridae) in Russia. - Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia  
[https://doi.org/10.47640/1605-7678\\_2017\\_88\\_2\\_24](https://doi.org/10.47640/1605-7678_2017_88_2_24)
- GEORGIEV, G., MIRCHEV, P. & LJUBOMIROV, T. 2001: *Odontepyrus erucarum* (Szelényi) (Hymenoptera: Bethyridae) – A new Species to the fauna of Bulgaria and the Balkans. – *Acta Zoologica Bulgarica* 53 (3): 41–44.
- GORDH, G., & MÓCZÁR L. 1990: A Catalog of the World Bethyridae. (Hymenoptera: Aculeata). – *Memoirs of the American Entomological Institute* 46: 1–364.
- MACEK, J., STREJCEK, J. & STRAKA, J. 2007: Chrysidoidea: Bethyridae. – *Acta Entomologica Musei Nationalis Pragae, Supplementum* 11: 21–40.
- SZELÉNYI, G. 1958: Über einige durch Zucht erhaltene Scolioniden und Bethyriden (Hymenoptera) *Annales Historico-Naturales Musei Hungarici* 50: 261–270.
- TERAYAMA, M. 1997: Four New Species of *Odontepyrus* Kieffer from Taiwan and Korea (Hymenoptera: Bethyridae), with a List of the World Species. – *Japanese Journal of Entomology* 65: 764–772.