

## Records on citizen science portals suggest occurrences of *Campodorus paradiesensis* Bendixen 2022 (Hymenoptera: Ichneumonidae) in Austria, Belgium, The Netherlands, Slovakia and Sweden

Meldungen auf Citizen-Science-Plattformen legen Vorkommen von *Campodorus paradiesensis* Bendixen 2022 (Hymenoptera: Ichneumonidae) in Belgien, den Niederlanden, Österreich, Schweden und der Slowakei nahe

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### Schlüsselwörter:

Faunistik, parasitoide Wespen, Schlupfwespen

### Zusammenfassung

Der Kenntnisstand über die derzeit bekannte Verbreitung von *Campodorus paradiesensis* wird zusammengefasst, der nahelegt, dass die Art in Nord-, West- und den meisten Teilen Mitteleuropas vorkommt. Da die Verbreitungsdaten jedoch überwiegend nur auf Fotos auf Citizen-Science-Plattformen und in sozialen Medien fußen, müssen die Vorkommen überwiegend erst noch bestätigt werden.

### Keywords:

faunistics, Darwin wasps, parasitoid wasps

### Abstract

The currently known distribution of *Campodorus paradiesensis* is summarised, showing that the species is likely to be present in Northern, Western and most parts of Central Europe. However, because the data is mainly based on photographs on citizen science portals and social media only, most of these records need confirmation.

## 1. Introduction

In 2022, the author described a new species of *Campodorus* from Northern Germany (Fig. 1-3), which was suggested to be probably as widespread as its host(s), *Pristiphora* species of the *depressa* group (Bendixen 2022). Because photos of the species had popped up in two Facebook groups (Hymenopterists' Forum and European Ichneumonoidea), several citizen science platforms were searched for more records of this little-known ctenopelmatine.

## 2. Materials and Methods

Because of the huge amount of Darwin wasps recorded on citizen science platforms every year across the Western Palaearctic, especially via iNaturalist and Observation/Waarneming/Waarnemingen, not all records could be viewed and thus restrictions had to be made. Mostly, only records from April, May and June were examined, because the species is thought to be a univoltinuous spring species, as is its host (group). Furthermore, only European countries were taken into account, although the species might also be present in Asia. The search was not restricted to any particular years. The following citizen science portals and categories were checked for photographic records of *C. paradiesensis*:



Fig. 1: Male, head, 14 May 2022, Mohrkirch, Germany. Photo Lennart Bendixen.



Fig. 2: Female, habitus, 18 May 2020, Mohrkirch, Germany. Photo Lennart Bendixen.



Fig. 3: Male, habitus, 18 May 2020, Mohrkirch, Germany. Photo Lennart Bendixen.

- artportalen.se: Ctenopelmatinae indet. (all) and Ichneumonidae indet. (April–June)
- artsobservasjoner.no: Ichneumonidae (all)
- inaturalist.org: Ctenopelmatinae (worldwide, all) and Ichneumonidae (all European countries singly, time filter: April–June)
- irecord.org.uk: Ichneumonidae (time filter: 15th of April–15th of June)
- naturbasen.dk: Ctenopelmatinae indet. (all) and Ichneumonidae indet (April–June)
- naturgucker.de: Ichneumonidae (time filter: April–June)
- observation.org: Ichneumonidae (Denmark, France, Germany, Spain; time filter: April–June)
- waarneming.nl: Ctenopelmatinae and Ichneumonidae indet. (time filter: April–June)
- waarnemingen.be: Ctenopelmatinae and Ichneumonidae indet. (time filter: April–June)

All observers were contacted via e-mail and/or internal messenger systems of the platforms to get more information about the findings.

### 3. Results

#### Distribution

In addition to a Slovakian record, which was originally seen by chance in Hymenopterists' Forum on Facebook, eight more records from four countries were found on the investigated portals (Tab. 1). Fig. 4 shows all occurrences known to date, including that in the author's garden and one record from Hannover, Germany (female, 30.05.1992, leg. Matthias Riedel; M. Riedel pers. comm.).

#### Phenology

The known flight time ranges from late April to early June with the earliest record on 30th of April in Slovakia and the latest on 3rd of June in Northern Germany. As usual with insects, the flight period should be earlier in the south than in the north of the distribution area, which is supported by the (few) present data.

#### Biology and habitat

All five specimens with known location details were found on or near Field maple (*Acer campestre*). The two specimens recorded in Veenendaal (The Netherlands) were found on a Field maple tree that also hosts

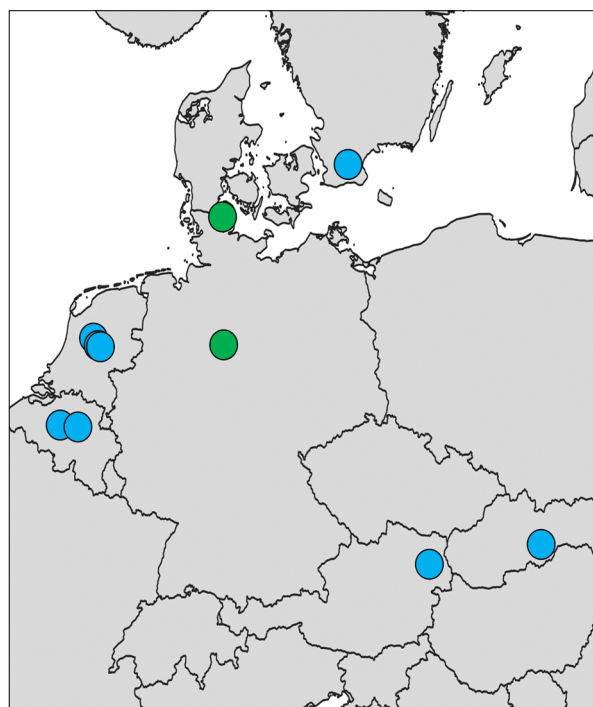


Fig. 4: Distribution of records of *Campodorus paradiesensis* (green: confirmed occurrences; blue: records via citizen science portals and social media).

both *Pristiphora subbifida* and *P. depressa* (Hymenoptera: Tenthredinidae). Actually, the observer John Bouwmans was even searching for larvae of these sawflies when incidentally finding the *Campodorus* females (J. Bouwmans pers. comm.). The other Dutch record in Leusden was also made near *Acer campestre* (M. Dijksterhuis pers. comm.). The female in Roosbeek (Belgium) was found close to a Field maple tree with several Field maple bushes nearby (J. Cuppens pers. comm.) and the wasp recorded above the village Velký Blh in the Rimavská Sobota (Slovakia) was found in a sunny forest edge, where Field maple was abundant (P. Forgáč pers. comm.). This all supports the idea that *Campodorus paradiesensis* is a specialised parasitoid of one or both species of the *Pristiphora depressa* group, which is largely confined to *Acer campestre* as host plant.

Unfortunately, three of the contacted observers did not react within three months, so no extra information about the habitat could be added.

**Tab. 1: Records of *Campodorus paradiesensis* found on citizen science platforms and Facebook**

country	location; coordinates (where known) (WGS84)	location details	date	sex	observer	URL
Austria	Wien; N 48.156158, E 16.312968		05.05.2020	?	evelynh89	<a href="https://www.inaturalist.org/observations/45009986">https://www.inaturalist.org/observations/45009986</a>
Belgium	Evere; N 50.8792, E 4.3913		15.05.2014	f?	Hanssens Bart	<a href="https://waarnemingen.be/observation/84451784/">https://waarnemingen.be/observation/84451784/</a>
Belgium	Roosbeek; N 50.8345, E 4.8593	close to <i>Acer campestre</i> tree, several <i>Acer campestre</i> bushes nearby	07.05.2020	f	Jos Cuppens	<a href="https://waarnemingen.be/observation/190710132/">https://waarnemingen.be/observation/190710132/</a>
The Netherlands	Leusden; N 52.1181, E 5.4027	near <i>Acer campestre</i>	22.05.2021	f?	Marc Dijksterhuis	<a href="https://waarneming.nl/observation/214473722/">https://waarneming.nl/observation/214473722/</a>
The Netherlands	Veenendaal; N 52.0240, E 5.5336	on <i>Acer campestre</i>	10.05.2018	f	John Bouwmans	<a href="https://waarneming.nl/observation/156290718/">https://waarneming.nl/observation/156290718/</a>
The Netherlands	Veenendaal; N 52.0255, E 5.5305	on <i>Acer campestre</i>	25.05.2021	f	John Bouwmans	<a href="https://waarneming.nl/observation/214799338/">https://waarneming.nl/observation/214799338/</a>
Sweden	Eggelstad; N 55.653752, E 13.796109	garden	19.05.2016	m	Nils-Uno Svensson	<a href="https://www.artportalen.se/Image/1688655">https://www.artportalen.se/Image/1688655</a>
Sweden	Eggelstad; N 55.653752, E 13.796109	garden	31.05.2017	m	Nils-Uno Svensson	<a href="https://www.artportalen.se/Image/1804781">https://www.artportalen.se/Image/1804781</a>
Slovakia	Rimavská Sobotka (above the village Veľký Blh)	sunny edge of the forest where <i>Acer campestre</i> is abundant	30.04.2021	m?	Pavel Forgáč	<a href="https://www.biolib.cz/cz/image/id421645/?orderby=2&amp;uid=9303&amp;viewad-data=1">https://www.biolib.cz/cz/image/id421645/?orderby=2&amp;uid=9303&amp;viewad-data=1</a>

## 4. Discussion

### Distribution

Because the known records were all made incidentally, it is assumed that a targeted search on Field maple in May would yield a much wider distribution of *Campodorus paradiesensis*.

### Colouration

The recorded colour forms of this variable species are all within the hitherto known range but, interestingly, no especially dark specimens were recorded. In contrast, two additional dark females turned up in the author's garden in May 2022 (besides two light and one

darker male). Bendixen (2022) stated that the dark colour of the 2021 female could have been caused by the cold early spring but this assumption cannot be confirmed for now.

### Reliability of photographic records

Only one of the photographed specimens is known to be collected (but could not be studied), so all records ideally need confirmation. Nevertheless, as no other ichneumonid species is known that looks identical to *C. paradiesensis* on photographs, the risk of misidentifications is very low in this case. However, to the untrained

eye, *Lathrolestes luteolus* (Thomson, 1883) (Ctenopelmatinae: Perilissini) may look very similar but is distinguished from *C. paradiesensis* by a rather yellow than orange metasoma and less extensive black markings on the mesosoma, e. g. lacking the apical black mark on the mesoscutum. Further, females of *L. luteolus* have longer ovipositor sheaths and reddish longitudinal marks on the mesoscutum while males are easily recognised by a dorsal black band on the second metasomal tergite. The known host of *L. luteolus* is *Fenusa carpiniifoliae* (Liston, 1993), mining the leaves of *Ulmus minor* (Horstmann 2004). Horstmann (2004) gives a more detailed description, Reshchikov (2015) illustrates the female.

## 5. Conclusions and prospects

Although the majority of ctenopelmatine species is not reliably determinable from field photos, many distinctive species can be recognised, making citizen science platforms interesting and useful sources for distribution data as well as for questions on phenology and habitat use.

Once they are aware of the wide distribution and the flight time, probably more people will stop at their local Field maple in May to look out for *C. paradiesensis*, contributing to the knowledge about this species.

## Acknowledgements

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## Supplement

A few weeks after the proof reading of the manuscript, a record of *Campodorus paradiesensis* from Eastern

France (25.04.2023, Village-Neuf, France) appeared on iNaturalist and was reported to the author by Augustijn De Ketelaere. ([www.inaturalist.org/observations/159886377?fbclid=IwAR27vYmt3lM5-0DACttBS-J6jK35OyLkISIsdZMJGprty3eJ2pJYkhUGP4vA](https://www.inaturalist.org/observations/159886377?fbclid=IwAR27vYmt3lM5-0DACttBS-J6jK35OyLkISIsdZMJGprty3eJ2pJYkhUGP4vA)). Unfortunately, this record could not be incorporated into the article anymore but is thus mentioned here for completeness.

## Author

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Lennart Bendixen is an entomologist with a main interest in faunistics and ecology of Western Palaearctic Ichneumonidae. / Lennart Bendixen ist Entomologe mit Interessenschwerpunkt auf der Faunistik und Ökologie westpaläarktischer Ichneumoniden.

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