



Holoteleia nigriceps Kieffer, 1926—a jewel in the European scelionid fauna (Hymenoptera: Scelionidae)

Authors: Popovici, Ovidiu Alin, Grunicke, David, and Vasilita, Cristina

Source: Integrative Systematics: Stuttgart Contributions to Natural History, 6(1) : 99-104

Published By: Stuttgart State Museum of Natural History

URL: <https://doi.org/10.18476/2023.800480>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

SHORT COMMUNICATION

Holoteleia nigriceps Kieffer, 1926—a jewel in the European scelionid fauna (Hymenoptera: Scelionidae)OVIDIU ALIN POPOVICI¹, DAVID GRUNICKE² & CRISTINA VASILITA³

Abstract

The parasitoid wasp *Holoteleia nigriceps* Kieffer, 1926 was discovered for the first time in Germany. The specimen from Germany represents the seventh record of this species from the Palearctic, raising to 13 the number of known specimens of *H. nigriceps* collected during a period of 123 years, between 1899 and 2022, in this realm. The taxonomic history of *Holoteleia* and its European species, *H. nigriceps*, is discussed.

Key words: Germany, new record, parasitoid wasp, Palearctic.

Zusammenfassung

Die parasitoide Wespe *Holoteleia nigriceps* Kieffer, 1926 wurde zum ersten Mal in Deutschland nachgewiesen. Das Exemplar aus Deutschland ist der siebte Nachweis dieser Art aus der Paläarktis, womit sich die Zahl der Exemplare von *H. nigriceps*, die in einem Zeitraum von 123 Jahren, zwischen 1899 und 2022, in diesem Gebiet gesammelt wurden, auf 13 erhöht. Die Taxonomie von *Holoteleia* und deren europäischer Vertreter *H. nigriceps* wird diskutiert.

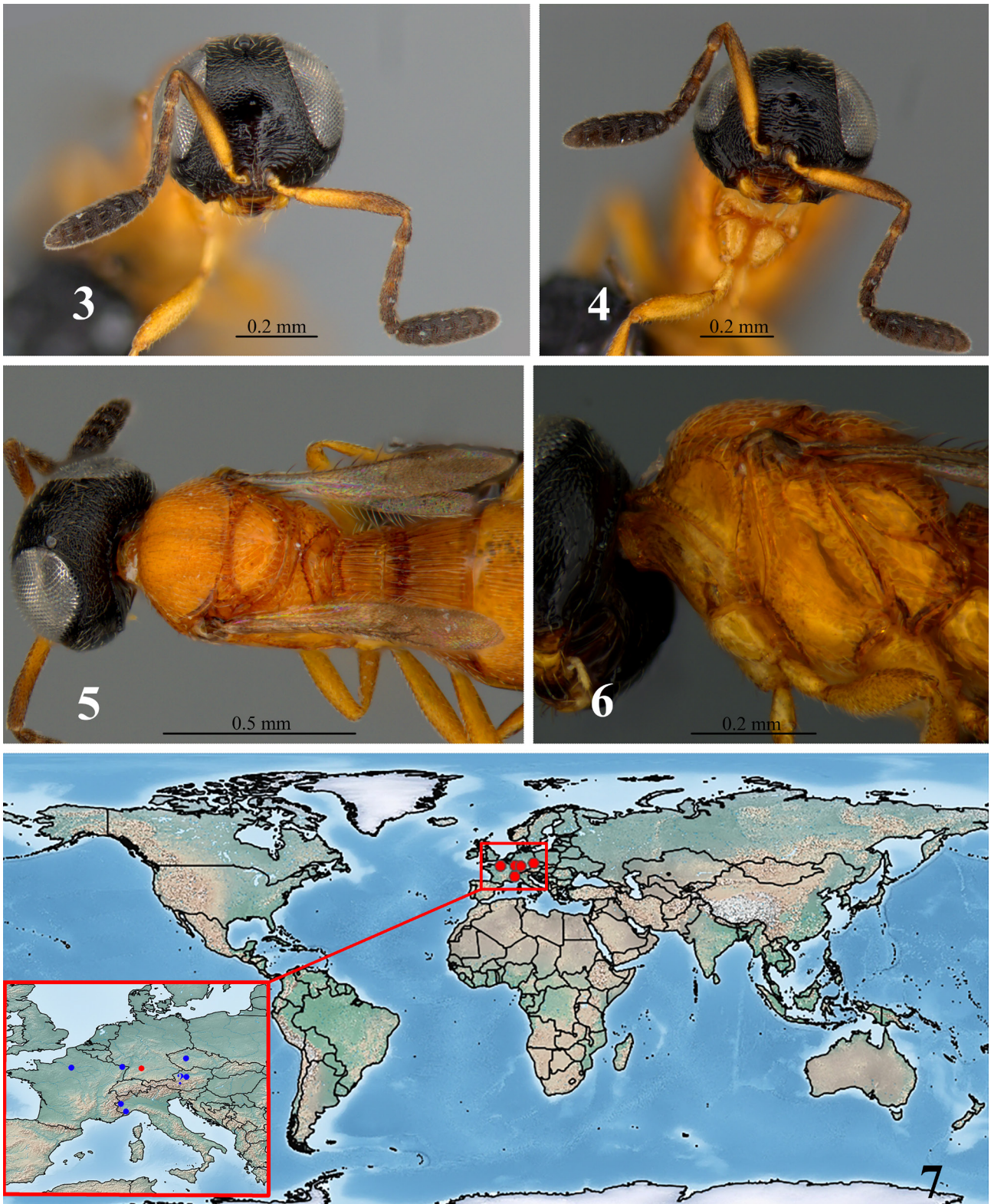
Considering the available data, the genus *Holoteleia* Kieffer is one of the rarest genera of the family Scelionidae in the Palearctic Realm. During almost a century [from 1899, when the first specimen was collected in Coazze, Italy by A. DODERO (BIN 1974) and until the last mention of it by MASNER (1994)], only twelve specimens belonging to this genus were collected in Europe. Initially, *Holoteleia* was described by KIEFFER (1908) as a subgenus of *Baryconus* Förster, and was characterized by transverse first metasomal tergite (T1) without a horn and postmarginal vein twice as long as stigmal vein. *Baryconus* (*Holoteleia*) *bicolor* Kieffer, 1908 was designated as the type species of this subgenus. In his newly created subgenus *Holoteleia*, KIEFFER transferred some of ASHMEAD'S Nearctic species of *Caloteleia* Ashmead: *C. dorsalis* (Ashmead, 1896), *C. elongata* (Ashmead, 1894), and *C. maculipennis* (Ashmead, 1894) (ASHMEAD 1894, 1896). BRUES (1908) accepted *Holoteleia* as a subgenus of *Baryconus*, but raised some doubts regarding the placement of the type species—a European species—in the same subgenus as these American species. KIEFFER (1910), in his “Addenda et corrigenda”, presented the same data as in his 1908 paper with the small exception of the data concerning the distribution of ASHMEAD'S species transferred to *Holoteleia*. He also did not address the concerns of BRUES in this paper. Three years later, KIEFFER (1913: 231), in his key for the identification of the genera belonging to the tribe Scelioninae (“Tribe no. 4”), considered *Holoteleia* as a genus

distinct from *Baryconus*. He kept the same opinion the following year (KIEFFER 1914) when he published a short diagnosis for *Holoteleia* together with the description of *H. bicolor*, copied to the letter from his 1908 paper.

KIEFFER'S (1926) monograph illustrated some significant changes in his concept of *Holoteleia*. First of all, ASHMEAD'S species of *Caloteleia* (previously included by KIEFFER in *Holoteleia*) were excluded from *Holoteleia* and regarded as species of *Baryconus*. As a consequence of this transfer, *Holoteleia* remained a monotypic genus. The second change was in the name of the type species *H. bicolor*. What KIEFFER did not know upon description of that species was that the name *Baryconus bicolor* was preoccupied, as in 1899 the Canadian entomologist WILLIAM HAGUE HARRINGTON described a scelionid species collected somewhere in Ottawa under the same name (HARRINGTON 1899). Although KIEFFER was not familiar with HARRINGTON'S *B. bicolor* when he described his *B. bicolor* in 1908, he certainly became aware of this species in 1910 when he decided to transfer it from *Baryconus* to *Leptoteleia* Kieffer. Although KIEFFER (1926) maintained *B. bicolor* Harrington in *Leptoteleia*, he decided to avoid the homonymy between his species and HARRINGTON'S species for unknown reasons. His solution to this problem was a replacement name for *Holoteleia bicolor* Kieffer, which became *Holoteleia nigriceps* Kieffer nomen novum. The act of replacing the name was an inspired one, as MASNER (1976) later transferred *Baryconus bicolor* Harrington to *Holoteleia*.



Figs. 1–2. Habitus of *Holoteleia nigriceps*. 1. Dorsal view with detail of skaphion (left) and fore wing (right). 2. Lateral view.



Figs. 3–7. *Holoteleia nigriceps*. 3. Head, frontal view. 4. Antenna, malar sulcus and sculpture of lower frons. 5. Head, mesosoma, tergites 1 and 2. 6. Mesosoma, lateral view. 7. Distribution (blue dots: data from the literature; red dot: new record for Germany).

As was common at that time, KIEFFER (1908) did not designate a holotype for *Baryconus (Holoteleia) bicolor* [the regulation was established after 1999 by the International Commission on Zoological Nomenclature (ICZN), Art 16.4]. Therefore, the species was described based on a syntypic series: one female from Nava, Italy, collected by the Italian coleopterist FERDINANDO SOLARI, one female from Forêt de Saint-Germain, France, collected by the French entomologist JULES DEGAULLE, and one female from Bitche, France, probably collected by KIEFFER himself. At the time of the original description, Bitche was located in Germany. Other studies located the specimen from Nava in the MANTERO Collection in Museo Civico di Storia Naturale “G. Doria” (Genoa, Italy) (BIN 1974) and the specimen from Forêt de Saint-Germain in the JULES DEGAULLE Collection in Muséum national d’Histoire naturelle (Paris, France) (MASNER 1976). We have no data concerning today’s whereabouts of the specimen from Bitche.

MASNER (1956) published *Holoteleia nigriceps* from Bohemia, Řevnice as a new species record for Czechoslovakia, characterizing it as an “extraordinary, rare sole species”. BIN (1974) designated as lectotype the specimen of *Baryconus (Holoteleia) bicolor* from Nava held in Genoa. After BIN (1974), new specimens of *H. nigriceps* were collected from Austria and Italy (MASNER 1976). MASNER, in his revision of the Nearctic species of *Holoteleia*, again discussed the European species *H. nigriceps*. To emphasize the rarity of *Holoteleia* in Europe, MASNER (1994) compared it with the Nearctic *Holoteleia* species, showing the 12 specimens from Europe (belonging to a single species) against the 1,029 specimens from the Nearctic (distributed in seven species). The disparity of *Holoteleia*’s distribution and diversity between Europe and North America is certainly striking; however, we consider there not to be enough data to draw conclusions on why this genus seems to be more common and speciose in the New World.

At present, we do not have much data concerning *H. nigriceps*, whose male has not yet been described. The host of *H. nigriceps* is unknown, but MASNER (1994) presumed that the Nearctic species of *Holoteleia* possibly use ground crickets in the subfamily Nemobiinae (Gryllidae) as host species. Adults of *H. nigriceps* have been collected in August–September.

Holoteleia nigriceps is a South and Central European species (Fig. 7). It has been reported from Austria [unknown locality (MASNER 1976)], Czech Republic [Řevnice (MASNER 1956)], Italy [Nava (KIEFFER 1908, 1914; BIN 1974), Coazze (BIN 1974), unknown locality (MASNER 1976)] and France [Bitche (KIEFFER 1908, 1914, 1926), Forêt de Saint-Germain (KIEFFER 1908, 1914, 1926; MASNER 1976)]. KONONOVA & KOZLOV (2008) took the description and distribution of this species from KIEFFER (1926), mentioning this fact on page 277. However, there was an inconsistency in the information provided: in the

distribution of this species they also included Germany, whereas KIEFFER (1926) had only listed France and Italy. On the other hand, Germany was mentioned for *H. nigriceps* twice in KIEFFER (1908) and KIEFFER (1914), but this was because the borders between France and Germany changed after the First World War and KIEFFER made sure to rectify the distribution records in accordance with changes in political geography.

In this light, the specimen of *Holoteleia* (Figs. 1–6) from Baden-Württemberg finally adds Germany to the distribution list of this genus. Our publication is a small step towards filling the gaps regarding the distribution and ecology of this rare species. We found a female specimen of *H. nigriceps* from near Rohrbronn in the south-western German region of Baden-Württemberg. The specimen was collected by the second author with an aspirator, accidentally, from an ant container (terrarium). The terrarium had been filled with leaf litter collected from a mixed forest (48.8231N 9.4600E; altitude ~430 m) near Rohrbronn. The microhabitat of the container was meant to resemble the leaf litter layer of a forest and included moss, leaves, soil, and other invertebrates such as isopods, millipedes (family Blaniulidae), and springtails. Although the historical data indicate that *H. nigriceps* is typically collected in August–September, the specimen presented here emerged in May. We consider this an important addition to the knowledge of the biology of *H. nigriceps* in Europe. Given the rarity of this genus on the continent, we think this finding is a valuable contribution that helps fill in temporal and spatial distribution gaps and suggests that taxa, while perhaps rare, can still be widespread.

Acknowledgements


The authors are grateful to ZACHARY LAHEY (USDA, Charleston) and FRANCESCO TORTORICI (University of Turin, Italy) for their valuable comments on the manuscript.

References

- ASHMEAD, W. H. (1894): Report on the parasitic Cynipidae, part of the Braconidae, the Ichneumonidae, the Proctotrypidae, and part of the Chalcidinae. Part III. – *Zoological Journal of the Linnean Society* **25**: 188–254.
- ASHMEAD, W. H. (1896): Report on the parasitic Hymenoptera of the island of Grenada, comprising the families Cynipidae, Ichneumonidae, Braconidae, and Proctotrypidae. – *Proceedings of the Zoological Society of London* **1895**: 742–812.
- BIN, F. (1974): The types of Scelionidae [Hymenoptera: Proctotrupoidea] in some Italian collections (Museums of Genoa and Florence, Institute of Portici). – *Entomophaga* **19** (4): 453–466.
<https://doi.org/10.1007/BF02372781>
- BRUES, C. T. (1908): Hymenoptera. Fam. Scelionidae. – *Genera Insectorum* **80**: 1–59.

- HARRINGTON, W. H. (1899) Six new Ottawa Proctotrypidae. – *The Canadian Entomologist* **31**: 77–80.
<https://doi.org/10.4039/Ent3177-4>
- KIEFFER, J. J. (1908): Révision des Scelionidae (Hyménoptères). – *Annales de la Société Scientifique de Bruxelles. Mémoires* **32**: 111–250.
- KIEFFER, J. J. (1910): Hymenoptera. Fam. Scelionidae. Addenda et corrigenda. – *Genera Insectorum* **80**: 61–112.
- KIEFFER, J. J. (1913): Proctotrypidae (3e partie). – In ANDRÉ, E. (ed.): *Species des Hyménoptères d'Europe et d'Algérie*. Vol. 11, pp. 161–304; Paris (A. Hermann).
- KIEFFER, J. J. (1914): Proctotrypidae (3e partie). – In: ANDRÉ, E. (ed.): *Species des Hyménoptères d'Europe et d'Algérie*. Vol. 11, pp. 305–448; Paris (A. Hermann).
- KIEFFER, J. J. (1926): Hymenoptera, Proctotrupoidea: Scelionidae. – In: SCHULZE, F. E. & KÜKENTHAL, W. (eds.): *Das Tierreich*. Vol. 48, 885 pp.; Berlin (Walter de Gruyter & Co.).
- KONONOVA, S. V. & KOZLOV, M. A. (2008): [Scelionids of the Palearctic (Hymenoptera, Scelionidae). Subfamily Scelioninae.], 489 pp.; Saint Petersburg (Tovarishchestvo Nauchnykh Izdaniy KMK). [In Russian.]
- MASNER, L. (1956): First preliminary report on the occurrence of genera of the group Proctotrupoidea (Hym.) in C.S.R. (First part—Family Scelionidae). – *Acta Faunistica Entomologica Musei Nationalis Pragae* **1**: 99–126.
- MASNER, L. (1976): Revisionary notes and keys to world genera of Scelionidae (Hymenoptera: Proctotrupoidea). – *Memoirs of the Entomological Society of Canada* **97**: 1–87.
<https://doi.org/10.4039/entm10897fv>
- MASNER, L. (1994): The Nearctic species of *Holoteleia* Kieffer (Hymenoptera: Scelionidae). – *The Canadian Entomologist* **126**: 75–102.
<https://doi.org/10.4039/Ent12675-1>

Authors' addresses:

¹University 'AL. I. CUZA' Iasi, Faculty of Biology, Boulevard Carol I 11, 700506 Iasi, Romania;
 e-mail (corresponding author): popovici_alin_ovidiu@yahoo.com;  <https://orcid.org/0000-0001-5926-2177>

²University of Hohenheim, Faculty of Natural Sciences, Garbenstraße 13, 70599 Stuttgart, Germany;
 e-mail: david_grunicke@web.de;  <https://orcid.org/0009-0007-0524-533X>

³Stuttgart State Museum of Natural History, Rosenstein 1, 70191, Stuttgart, Germany;
 e-mail: cristina.vasilita@smns-bw.de;  <https://orcid.org/0000-0003-0140-3859>

ZooBank registration: <https://zoobank.org/References/1066446B-191A-45B7-8F15-E8C60A53B828>

Manuscript received: 05.I.2023; accepted: 07.VI.2023.

