

Cenocoelius huggerti, the First Record of the Subfamily Cenocoeliinae (Hymenoptera: Braconidae) from Africa

KEVIN M. PITZ AND MICHAEL J. SHARKEY

S-225 Agricultural Science Center North, Department of Entomology, University of Kentucky, Lexington, Kentucky 40546, USA; email: kmpitz2@uky.edu

Abstract.—A new species of cenocoeliine braconid, *Cenocoelius huggerti* Pitz and Sharkey sp. n. is described from a single specimen collected in the Gambia, Africa. This represents the first species of Cenocoeliinae described from the Afrotropical region.

The subfamily Cenocoeliinae is relatively small with approximately 65 described species (Achterberg 1997, Braet and Achterberg 2001). The few cenocoeliines with known biologies are koinobiont endoparasitoids of xylophagous Coleoptera larvae, mainly in the Cerambycidae and Curculionidae (Scolytinae) but to a lesser extent in the Buprestidae and other Curculionidae (Saffer 1982, Shaw and Huddleston 1991). Species of cenocoeliines had been recorded from all continents of the world with the exception of Africa (Achterberg 1994) until the discovery of *Cenocoelius huggerti* Pitz and Sharkey sp. n. Although cenocoeliines are now known to be cosmopolitan, they are predominantly found in the neotropics.

Placement of this African species was hindered by the poorly defined genera of Cenocoeliinae. Most species of Cenocoeliinae are placed in the genus *Cenocoelius*. In the most recent revision of the genera, Achterberg (1994) re-instated the genus *Capitonius*; he formally transferred two species to this genus, though he asserted that a majority of New World cenocoeliines belong to *Capitonius* (Achterberg 1997). With no phylogenetic analysis presented, Achterberg (1994) proposed suites of characters to differentiate the genera, but he did not posit autapomorphies for the genera. Without this framework, his

key, diagnoses, and descriptions must be used to understand his generic concepts. Preliminary phylogenetic analyses (Pitz, in prep.) suggest other genera within the subfamily, though morphologically distinct, render *Cenocoelius* and *Capitonius* paraphyletic. We place the African species in *Cenocoelius* based on the lack of characteristics that would place it in *Capitonius* (vertex depressed medially and ratio of veins M+Cu:1-M of hind wing 1.2–2.1) or any of the other small, morphologically distinct genera of Cenocoeliinae.

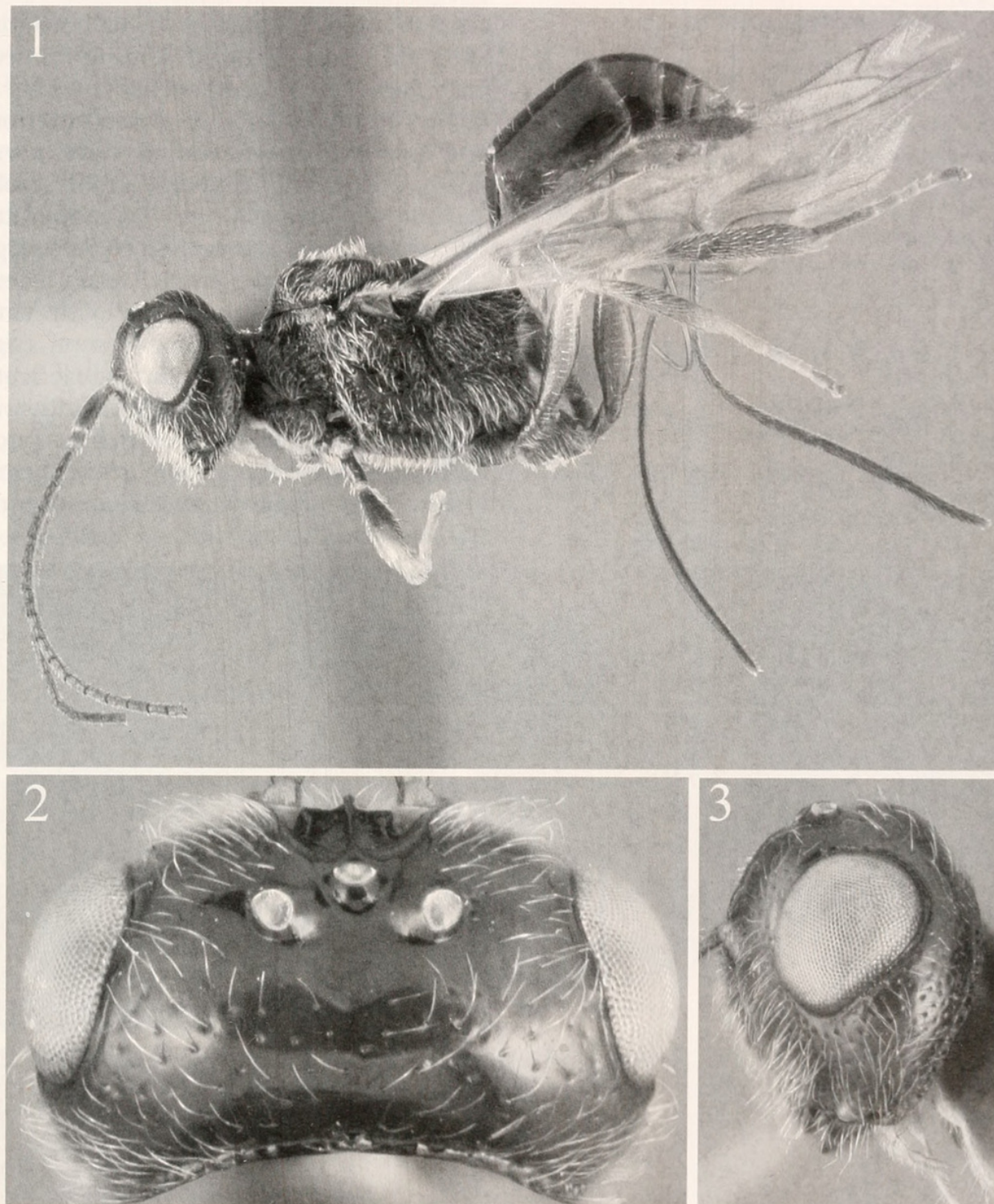
MATERIALS AND METHODS

Generic identification was accomplished using Achterberg's (1994) key to the genera of Cenocoeliinae. The specimen was compared to original descriptions and determined specimens of *Cenocoelius* to establish that it represents a new species.

Morphological terminology used follows that of Sharkey and Wharton (1997). All photographs were taken using a JVC KY-F75 3CCD digital camera attached to a Leica MZ-16 stereoscope and were prepared using an Auto-Montage[®] imaging system.

Cenocoelius huggerti Pitz and Sharkey sp. n.

Etymology.—Named after Lars Huggert, the recently deceased Swedish entomolo-



Figs 1–3. *Cenocoelius huggerti* holotype female. 1, lateral habitus. 2, dorsal view of head. 3, lateral view of head.

gist and collector of the only known specimen of this species.

Description.—Holotype Female (Fig. 1). **Length:** 4.9mm. **Color:** body mostly melanic except testaceous as follows: fore tibia, fore tarsus, mid and hind tibiae apically, mid tarsus except basal tarsomere; wings hyaline. **Head** (Figs 2–4): antennae

broken, 15 flagellomeres remaining on left and 11 on right, each flagellomere with two to three rows of longitudinal placodes; median ocellus in antennal scrobe, lower than lateral ocelli; vertex smooth, with moderately dense weak punctures and setae laterally; antennal scrobe deeply impressed, extending to lateral ocelli, ver-

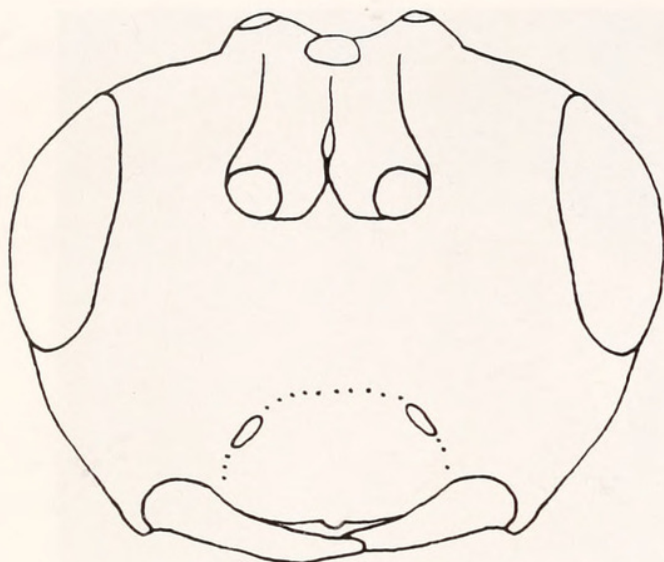
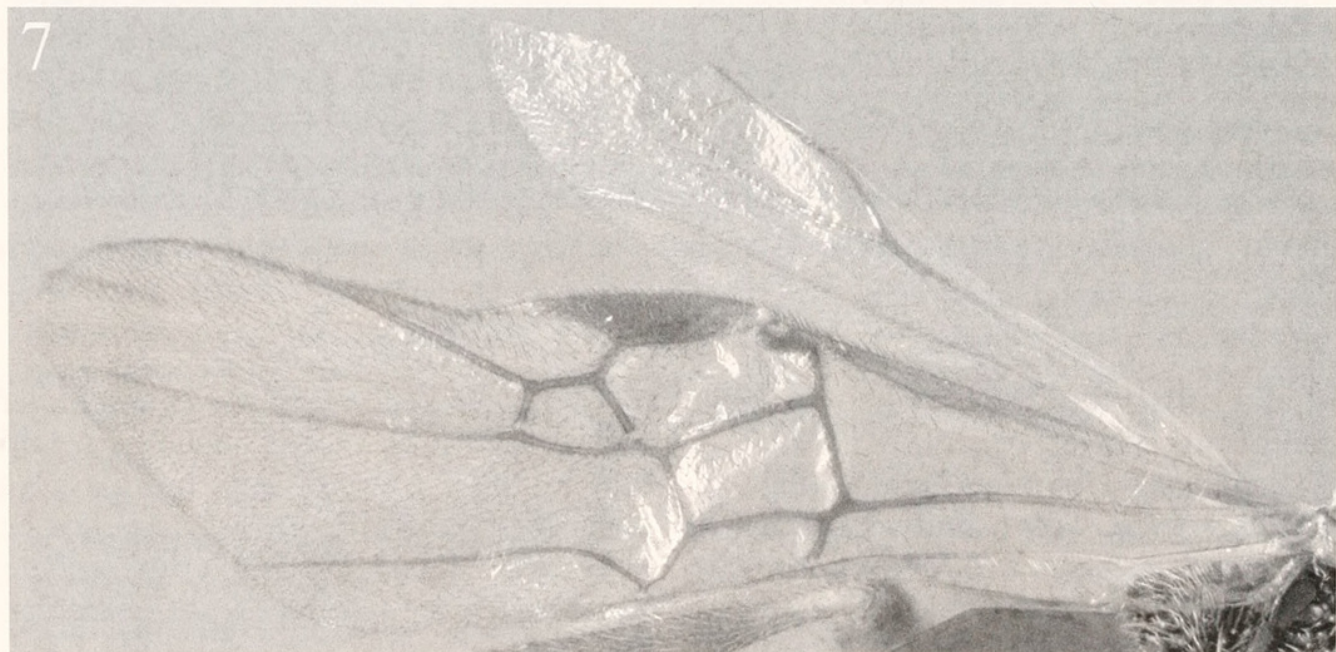


Fig. 4. *Cenocoelius huggerti* holotype female, anterior view of head.

tex flat to convex; lateral carina bordering antennal scrobe reduced, ending immediately anterior to lateral ocellus; median lamella of antennal scrobe sharp anteriorly and posteriorly, flattened over mesal third, protruding slightly above scrobe; face and clypeus smooth with moderately dense punctures and setae; ventral margin of clypeus with one medial tooth. **Mesosoma** (Figs 5–6): pronotum with small oval pronope, subpronope absent, rugosopunctate anteriorly, with rugose transverse depression across entire width with numerous longitudinal carinae, smooth with moderate punctation posteriorly; mesoscutum punctate to foveate on anterior



Figs 5–7. *Cenocoelius huggerti* holotype female. 5, lateral view of mesosoma. 6, dorsal view of mesosoma. 7, wings.

surface, medial lobe with large irregular fovea and moderately dense setae, lateral lobes mostly smooth with sparse setae; notauli meeting slightly anterior to transscutal articulation, with perpendicular carinae that create mostly large oval cells in notauli; scutellar sulcus with four fovea; scutellum smooth with moderately dense setae; propleuron rugosoareolate with moderately dense setae; mesopleuron with fovea on posterior border and dorsomedially, otherwise smooth with moderately dense setae; sternaulus complete, composed of single row of large fovea; metapleuron and propodeum irregularly rugosoareolate, with moderately dense to dense setae; medial face of hind coxa with well defined depression angled anteroventrally, ending ventrally just anterior to middle of coxa, without carina anteriorly; tarsal claws each with quadrate basal lobe.

Wing (Fig. 7): crossvein r-m of forewing present, second submarginal cell present; ratio of veins M+Cu:1-M of hind wing 3.3.

Metasoma: first median tergite with two strong carinae basally, otherwise smooth; second and third median tergites smooth; length of first median tergite 1.5 times its apical width; length of ovipositor:length of forewing ratio approximately 0.80–0.90.

Notes.—Right hind wing glued to point

Biology.—Unknown

Male.—Unknown

Material examined.—Holotype female: W[est] Africa: Gambia, Bakau, 19.I.1978, L. Huggert. Deposited in Canadian National Collection.

ACKNOWLEDGMENTS

We thank J. Huber of the Canadian National Collection for loaning us this specimen. This research was funded by NSF grants DEB-0205982 and EF-0334945 and supported by the University of Kentucky, Department of Entomology. Thanks to D.A. Potter and two anonymous reviewers for their critical remarks on previous versions of this manuscript. This is paper number 04-08-138 of the Kentucky Agriculture Experiment Station.

LITERATURE CITED

- Achterberg, C. van. 1994. Generic revision of the subfamily Cenocoeliinae Szépligeti (Hymenoptera: Braconidae). *Zoologische Verhandlungen* 292: 1–52.
- Achterberg, C. van. 1997. Subfamily Cenocoeliinae. Pp. 185–192 in: Wharton, R. A., P. M. Marsh and M. J. Sharkey, eds. *Manual of the New World genera of the Family Braconidae (Hymenoptera)*. Special publication of the International Society of Hymenopterists. No.1. 439 pp.
- Braet, Y. and C. van Achterberg. 2001. New species of the genera *Foenomorpha* Szépligeti (Cenocoeliinae) and *Chelonus* Panzer (Cheloninae) (Hymenoptera: Braconidae), from French Guiana, Suriname, and Brazil. *Zoologische Mededelingen* 75: 103–118.
- Saffer, B. 1982. A systematic revision of the genus *Cenocoelius* (Hymenoptera, Braconidae) in North America including Mexico. *Polskie Pismo Entomologiczne* 52: 73–167.
- Sharkey, M. and R. Wharton. 1997. Morphology and Terminology. Pp. 19–38 in: Wharton, R. A., P. M. Marsh and M. J. Sharkey, eds. *Manual of the New World genera of the Family Braconidae (Hymenoptera)*. Special publication of the International Society of Hymenopterists. No.1. 439 pp.
- Shaw, M. R. and T. Huddleston. 1991. Classification and Biology of Braconid Wasps (Hymenoptera: Braconidae). *Handbooks for the Identification of British Insects* 7(11): 1–126.



Pitz, Kevin M and Sharkey, Michael J. 2005. "Cenocoelius huggerti, the First Record of the Subfamily Cenocoeliinae (Hymenoptera: Braconidae) from Africa." *Journal of Hymenoptera research* 14, 92–95.

View This Item Online: <https://www.biodiversitylibrary.org/item/21201>

Permalink: <https://www.biodiversitylibrary.org/partpdf/38881>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Smithsonian

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: International Society of Hymenopterists

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.