

# A new Afrotropical cerioidine flower fly (Diptera : Syrphidae)

Autor(en): **Thompson, F. Christian**

Objektyp: **Article**

Zeitschrift: **Mitteilungen der Schweizerischen Entomologischen Gesellschaft = Bulletin de la Société Entomologique Suisse = Journal of the Swiss Entomological Society**

Band (Jahr): **86 (2013)**

Heft 3-4

PDF erstellt am: **10.08.2024**

Persistenter Link: <https://doi.org/10.5169/seals-403067>

## **Nutzungsbedingungen**

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern.

Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden.

Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

## **Haftungsausschluss**

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

## A new Afrotropical cerioidine flower fly (Diptera: Syrphidae)

F. CHRISTIAN THOMPSON

Department of Entomology, Smithsonian Institution, Washington, DC. 20013-7012 USA;  
thompsonf@si.edu

A new species, *Ceriana dirickxi* (Syrphidae, Eristalinae, Cerioidini), is described and illustrated from Zimbabwe. A key to the Afrotropical species of *Ceriana* is given.

Keywords. Afrotropics, *Ceriana*, Taxonomy, new species

### INTRODUCTION

Cerioidine flower flies are among the most spectacular flies, being high-fidelity (perfect) mimics of wasps (see Rotheray & Gilbert 2011: 131–152). As such they are rare in nature and poorly known. Some 198 species (236 names) have been described world-wide with more than hundred known species waiting to be described. In the Afrotropical region, 35 species have been described. The first key (Hervé-Bazin 1913) to these species covered all the then known species (13), but the last key (Curran 1938) covered only 17 of the then described species (23) and 11 species have been described since then. This is the third in a series of papers to revise the Afrotropical cerioidine fauna and lay the ground work for a revision of their higher classification.

### MATERIAL AND METHODS

Terminology follows Thompson (1999), which is based on that used in the Manual of Nearctic Diptera (McAlpine 1981), likewise, Manual of Palaearctic Diptera (Merz & Haenni 2000) and Manual of Central American Diptera (Cumming & Wood 2009) except the more classic (Latin and Greek) terms are used instead of their English equivalents for a more universal terminology. Hence, pro- for fore, meso- for mid and meta- for hind in terms of the legs (following from prothorax, mesothorax and metathorax); likewise, fascia instead of band, vitta instead of stripe, pile or pilose for hairs or hairy; and basoflagellomere instead of first flagellomere. Antennifer is here used for the greatly elongated and narrow production of the frons or frontal prominence. The key follows ergonomic design principles, rather than the traditional format (see Thompson 1999: 323). The classification followed here is that of the Systema Dipteroorum (Thompson 2013b) and follows from Vockeroth (1969) and Thompson (1972) and those used in the various regional catalogs, such as Smith & Vockeroth (1980) for the Afrotropical region.

For taxonomy of cerioidine flies, there are four critical ratios. These are defined as: 1) antennifer ratio, the width at the base of the antennifer against the length, measured in dorsal view; 2) antennal ratio, the relative length of each segment

including the length of the arista and antennifer, measured in lateral view; 3) abdominal segmental ratio, the relative lengths of the abdominal segments, usually male only, measured in lateral view; and 4) abdominal petiole ratio, the relative widths of the 2<sup>nd</sup> tergum basally, apically and at the narrowest, measured dorsally.

For the new species, the type information is given in two statements: one is the statement of the type-locality which is given in the proper political and geography names for the location from the largest unit to the smallest along with the geographic coordinates; and the other statement is about the type-specimen, where the actual data on the specimen labels is quoted [the contents of each label given separately within quotation marks (« ... ») with each line of the label separated by double slashes (/)].

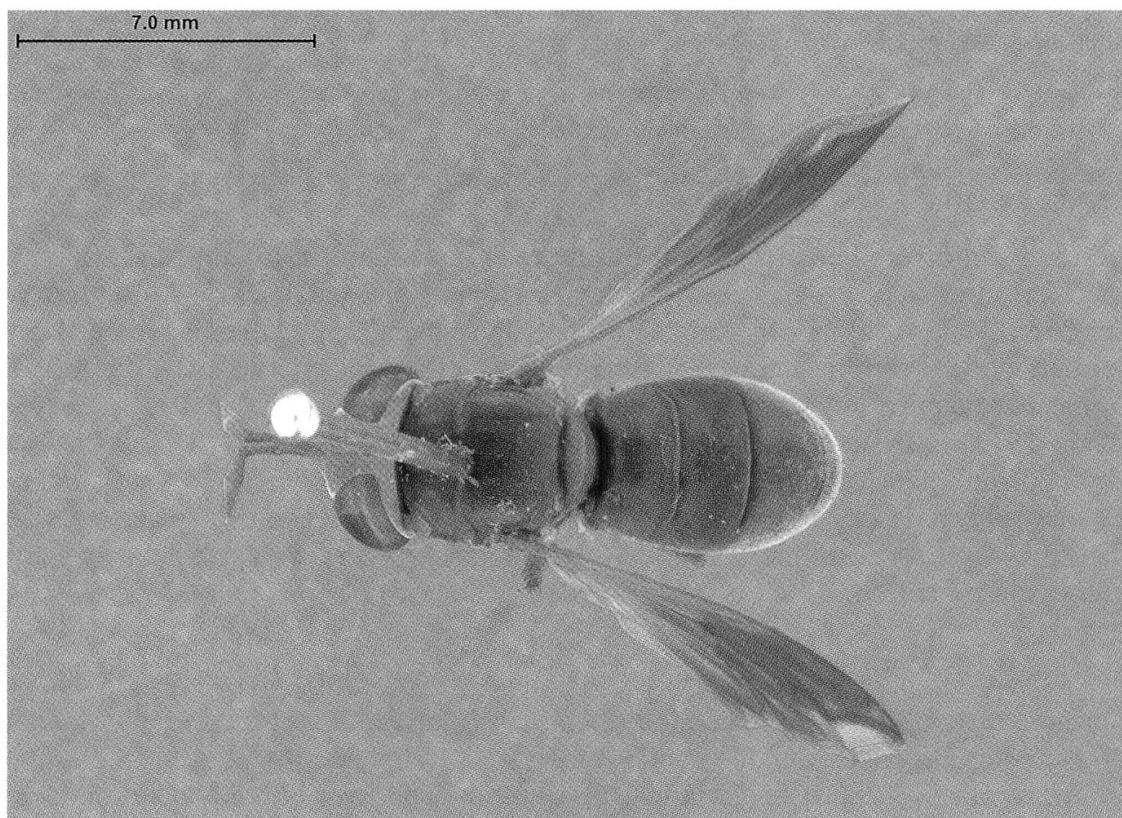


Fig. 1. *Ceriana dirickxi* Thompson, sp. nov., holotype female. Dorsal habitus.

#### SYSTEMATICS

##### *Ceriana dirickxi* Thompson, sp. nov.

*Description.* Female (Figs 1–2). Head. Reddish brown; face dark brown with broad yellow sublateral vitta and narrow reddish medial vitta, tubercle reddish; frons light reddish except small yellow macula lateral to junction of frons and face, sparsely white pilose; frontal prominence reddish brown; vertex reddish brown, sparsely white pilose; occiput reddish brown, white pollinose and pilose ventrally, more sparsely pollinose dorsally; gena yellow except reddish brown on medial  $\frac{1}{3}$ , white pilose. Antenna dark reddish brown, black pilose; arista yellow; antennal ratio: 1.7:1.0:1.0:1.3:0.2; antennifer ratio: 3.3.

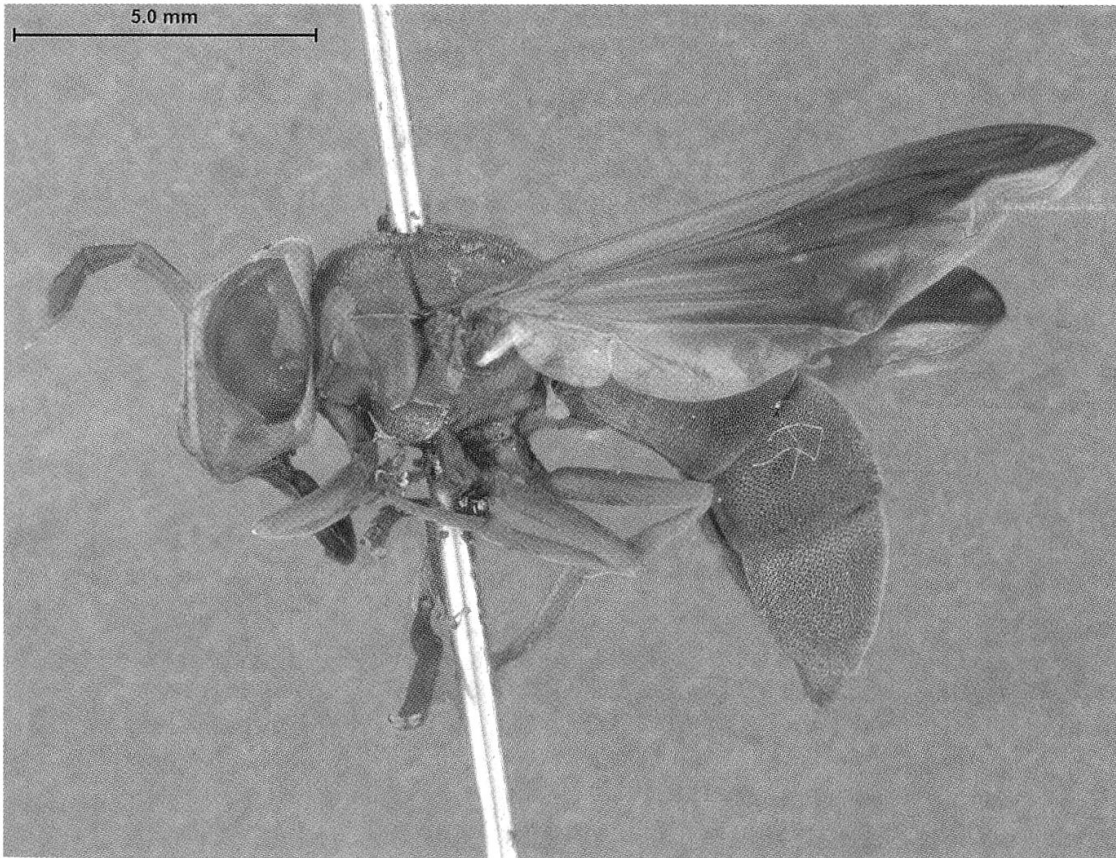


Fig. 2. *Ceriana dirickxi* Thompson, sp. nov., holotype female. Lateral habitus.

Thorax. Postpronotum reddish brown, pale pilose; scutum black on medial  $\frac{2}{3}$ , reddish brown laterally, sparsely gray pollinose, short appressed yellow pilose, with some black pile medially; pleuron reddish brown except pectus darker; scutellum reddish brown, pale pilose; calypter white; halter yellow. Legs light reddish brown except coxae darker, pale pilose. Wing: tricolored, brownish orange yellow along anterior margin on basal  $\frac{2}{3}$  extending posteriorly to vein CuA on basal  $\frac{1}{5}$  and to vein Rs elsewhere, brownish black except hyaline on basomedial  $\frac{1}{3}$  and along posterior margin; vein  $R_{4+5}$  sinuate but without a spur; completely microtrichose.

Abdomen. Dark without pale yellow maculae, short black pilose; 1<sup>st</sup> tergum black; 2<sup>nd</sup> tergum dark reddish brown except with black triangular area and based on posterior  $\frac{2}{3}$  with apex on anterior margin; 3<sup>rd</sup> tergum narrowly reddish brown on basolateral  $\frac{1}{4}$ , black elsewhere; 4<sup>th</sup> tergum black except for small reddish brown triangular area on apical  $\frac{1}{4}$ ; 5<sup>th</sup> tergum reddish brown, pale pilose; sterna black, black appressed short pilose medially, yellow pilose laterally; abdominal segmental ratio. 1.1:1.0:1.3:1.7:0.3; abdominal petiole ratio: 1.0:1.0:1.1.

Length. Body, 13.6 mm, wing, 12.0 mm.

*Differential Diagnosis.* *Ceriana dirickxi* runs to *Ceriana ponti* Thompson in the last key to Afrotropical cerioidines (Thompson 2013a: 73), and is quite similar in stature to that species but is quite different in coloration. *C. ponti* has a dark abdomen with a bright continuous yellow sublateral margin, whereas *C. dirickxi* has an unicolorous, brownish red to black abdomen. *C. dirickxi* was collected at the same

locality and by the same collector as the only two known specimens of *Ceriana dilatipes* Brunetti. Hence, while one may think that these are only color variants of the same species, they are quite distinct: *C. dilatipes* has broad apical yellow fascia on 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> terga, a yellow vitta on the laterotergum as well as a bare alula, whereas *C. dirickxi* lacks these yellow maculae and has a microtrichose alula.

*Type Material.* Holotype female pinned with the following labels: «SAW MILLS // S. Rhodesia // 10.12.1926 // R.H.R. Stevenson» [with a narrow black border on label]; «NMSA-DIP / 44959;» and «Holotype // Ceriana // dirickxi // Thompson 2013» [hand-written on orange card stock] deposited in National Museum of South Africa, Bloemfontein.

*Type locality.* Zimbabwe, Saw Mills, 19°35'S, 028°12'E

*Distribution.* Zimbabwe.

*Etymology.* Traditionally cerioidine species are named after distinguished dipterists. So, I am delighted to name this distinctive species after my former colleague, Henri Dirickx (1928.04.23 – 2013.02.05), who recently passed on. I am only sorry that I did not do this sooner. Henri was born in Belgium, Anvers [the original home of another flower fly worker, Marc De Meyer] and was trained as a civil engineer. Later he worked for the United Nations Economic Commission in Geneva and retired in 1988. In his retirement, he worked on Afrotropical flower flies. He published a detailed catalog of the species (Dirickx 1998), summarizing the prior work on these flies as well as revisions of various genera: *Spheginobaccha* (Dirickx 1995), *Melanostoma* (Dirickx 2001) & *Allobaccha* (Dirickx 2010). Also, he published a review of fossil flower flies (Dirickx 2009) and a couple of other papers, all of his papers on flower flies are listed in the reference section (Dirickx 1994, 2009; Dirickx *et al.* 1996; Dirickx & Obrecht 2007; Dirickx & Steffan 1992; Maibach *et al.* 1995). Finally, I and Martin Hauser are in the process of finishing a joint paper with him on Madagascar cerioidine flies. Unfortunately, he passed away too soon to do more.

*Key to the Afrotropical Ceriana species*

1. Wing extensive dark, with dark coloration extending into posterior 1/4 of wing; basal DM and CuP [Anal] cell dark; abdomen without pale apical fasciae ..... **4**
- Wing with anterior 1/2 dark, posterior 1/2 hyaline; basal DM and CuP cell hyaline ..... **2**
2. 2<sup>nd</sup> tergum black without apical yellow fascia ..... **brunnea**  
*brunnea* Hull, 1944: 23 (*Tenthredomyia*): Namibia
- 2<sup>nd</sup> tergum black with apical yellow fascia ..... **3**
3. Scutellum bicolorous, black with basal yellow fascia; antennifer as long as basoflagellomere; supra-alar yellow vitta present, narrow, but distinct; 2<sup>nd</sup> tergum slightly longer than 3<sup>rd</sup>; antenna mainly dark, pale basoventrally on basoflagellomere ..... **aurata**  
*aurata* Curran, 1927: 83 (*Cerioides*): Congo-Kinshasa



- Scutellum unicolorous, pale, orange brown; antennifer twice as long as baso-flagellomere; supra-alar vitta absent; 2<sup>nd</sup> tergum only about  $\frac{2}{3}$  as long as 3<sup>rd</sup>; antenna reddish brown, with basal segments paler . . . . . *dilatipes dilatipes* Brunetti, 1929: 15 (*Cerioides*): Zimbabwe
4. Scutellum bicolorous, black on basal  $\frac{1}{2}$ , bright yellow apically; alula bare; laterotergum extensively yellow; abdomen dark with a continuous sub-lateral broad yellow vitta . . . . . *ponti ponti* Thompson, 2013a: 75 (*Ceriana*): Burkina Faso
- Scutellum unicolorous, brownish red; alula microtrichose; laterotergum reddish brown; abdomen dark, without yellow maculae, reddish brown baso-laterally on 1<sup>st</sup> and 2<sup>nd</sup> terga, brownish black elsewhere except apex of 4<sup>th</sup> and all of 5<sup>th</sup> dark reddish brown . . . . . *dirickxi*

## ACKNOWLEDGEMENTS

I thank Dr Ashley Kirks-Spriggs, Department of Entomology, National Museum, Bloemfontein, South Africa (NMSA) for the loan of the specimen used in this study. Thanks also to Nigel Wyatt, Department of Entomology, The Natural History Museum (BMNH), London, for making images of the holotype of *Tenthredomyia brunnea* Hull; and Marc De Meyer, Musée Royal de l'Afrique Centrale, Tervuren, Belgium, for his review of and corrections to the manuscript. Rachel Osborn prepared the images of the species under contract from the Smithsonian Institution, Williston Diptera Research Fund, and I am grateful for that support.

## REFERENCES

- Brunetti, E. 1929. New African Diptera.— *Annals and Magazine of Natural History* (10) 4: 1–35.
- Cumming, J.M. & Wood, D.M. 2009. Adult morphology and terminology. Pp. 9–50. *In*: Brown, B.V., Borkent, A., Cumming, J.M., Wood, D.M., Woodley, N.E. & Zumbado, M.A. (eds), *Manual of Central American Diptera*. Vol. 1. 714 pp. — NRC CNRC, NRC Research Press, Ottawa
- Curran, C.H. 1927. Diptera of the American Museum Congo Expedition. Part I. — *Bibionidae, Bombyliidae, Dolichopodidae, Syrphidae and Trypaneidae*.— *Bulletin of the American Museum of Natural History* 57: 33–89.
- Curran, C.H. 1938. Records and descriptions of African Syrphidae – I (Diptera).— *American Museum Novitates* 1009, 15 pp.
- Dirickx, H.G. 1994. Atlas des diptères syrphides de la région méditerranéenne.— *Institut Royal des Sciences Naturelles de Belgique Documents de Travail* 75, 317 pp.
- Dirickx, H.G. 1995. Le genre *Spheginobaccha* de Meijere à Madagascar (Diptera: Syrphidae).— *Annales de la Société Entomologique de France (N.S.)* 31: 151–156.
- Dirickx, H.G. 1998. Catalogue synonymique et géographique des Syrphidae (Diptera) de la région afrotropicale. — *Muséum d'histoire naturelle Genève, Instrumenta Biodiversitatis* 2, x + 187 pp.
- Dirickx, H.G. 2001. Notes sur le genre *Melanostoma* Schiner, 1860 (Diptera, Syrphidae) à Madagascar et les îles voisines avec descriptions de cinq espèces nouvelles.— *Revue Suisse de Zoologie* 108: 993–1029.
- Dirickx, H.G. 2009. Les Syrphidae (Diptera) revisités L'héritage du passé.— *Bulletin de la Société Royale Belge d'Entomologie* 145: 49–86.
- Dirickx, H.G. 2010. Notes sur le genre *Allobaccha* Curran, 1928 (Diptera, Syrphidae) à Madagascar avec descriptions de cinq nouvelles espèces.— *Revue Suisse de Zoologie* 117: 213–233.
- Dirickx, H.G., Hamon, J. & Steffen, J. 1996. Contribution à l'étude des Syrphidae (Diptera) de la région Rhône-Alpes.— *Entomologiste (Paris)* 52: 63–79.
- Dirickx, H.G. & Obrecht, E. 2007. Découverte de *Criorhina pachymera* (Egger, 1858) (Diptera, Syrphidae) en Suisse.— *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 80: 223–229.
- Dirickx, H.G. & Steffen, J. 1992. Contribution à la faune des Syrphidae (Diptera) de Haute-Savoie.— *Bulletin romand d'Entomologie* 10: 25–28.

- Hervé-Bazin, J. 1913. Syrphidae (Dipt.) recueillis au Congo Belge par le Dr. J. Bequaert. II. Genre Cerioides Ron.— *Revue zoologique africaine* 3: 85–95.
- Hull, F.M. 1944. Some flies of the family Syrphidae in the British Museum (Natural History).— *Annals and Magazine of Natural History* (11) 11: 21–61.
- Maibach, A., Goeldlin de Tiefenau, P. & Dirickx, H.G. 1995. Liste faunistique des Syrphidae de Suisse (Diptera).— *Miscellanea faunistica Helvetiae* 1, 51 pp.
- McAlpine, J.F. 1981. Morphology and terminology — Adults. Chapter 2, pp. 9–63. *In*: McAlpine J.F., Peterson, B.V., Shewell, G.E., Teskey, H.J., Vockeroth, J.R & Wood, D.M. (coordinators) *Manual of Nearctic Diptera*. Vol. 1. — Research Branch, Agriculture Canada, Monograph 27 vi + 1–674 pp.
- Merz, B. & Haenni, J.-P. 2000. Morphology and terminology of adult Diptera (other than terminalia) Pp. 21–51. *In*: Papp, L. & Darvas, B. (eds), *Contributions to a manual of Palaearctic Diptera* (with special reference to flies of economic importance). Vol. 1 (General and applied Dipterology), 978 pp. — Science Herald, Budapest.
- Rotheray, G.E. & Gilbert, F. 2011 *The natural history of hoverflies*. xiv + 344 pp. — Forrest Text Ceredigion.
- Smith, K.G.V. & Vockeroth, J.R. 1980. Family Syrphidae. Pp. 488–510. *In*: Crosskey, R.W. (ed.) *Catalogue of the Diptera of the Afrotropical Region*. 1437 pp. — British Museum (Natural History), London.
- Thompson, F.C. 1972. A contribution to a generic revision of the Neotropical Milesinae (Diptera: Syrphidae).— *Arquivos de Zoologia, São Paulo* 23: 73–215.
- Thompson, F.C. 1999. A key to the genera of the flower flies of the Neotropical Region including the descriptions of genera and species and a glossary of taxonomic terms.— *Contributions on Entomology, International* 3: 319–378; Gainesville.
- Thompson, F.C. 2013a. A new Afrotropical cerioidine flower fly with an overview of the group (Diptera: Syrphidae, Cerioidini). — *Entomologist's Monthly Magazine* 149: 71–77.
- Thompson, F.C. 2013b. Family Syrphidae. *In*: Pape, T. & Thompson, F.C. 2012. — *Systema Diptero-rum*. Version 13. <http://www.diptera.org> [last accessed 2013.07.01]
- Vockeroth, J.R. 1969. A revision of the genera of the Syrphini (Diptera: Syrphidae). — *Memoirs of the Entomological Society of Canada* 62, 176 pp.

(received July 18, 2013; accepted October 9, 2013, published December 31, 2013)