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Lectotype designation for the South African bee *Colletes opacicollis* FRIESE, 1909 (Insecta: Hymenoptera: Colletidae)

M. KUHLMANN

Abstract: Type material of the hitherto unidentified Afrotropical bee species *Colletes opacicollis* FRIESE, 1909 was discovered in the collection of the Natural History Museum in Vienna, Austria, and a lectotype is designated here. The female is imaged and redescribed.

Key words: *Colletes*, bee, lectotype, sub-Saharan Africa.

Introduction

To date 64 bee species of the genus *Colletes* have been described from sub-Saharan Africa (KUHLMANN 1998, 2002, 2005, 2007, KUHLMANN & PAULY 2013) but this number will at least double once the revision of the *taxonomically* challenging genus is finished. While types of almost all Afrotropical *Colletes* species could be studied and their taxonomic status clarified (KUHLMANN 1998, 2002, 2005) the status of *Colletes opacicollis* FRIESE, 1909 remained a mystery. Male and female of the species were described based on specimens collected from "Kapland (Cradock, Wartmann leg.)" (FRIESE 1909: 123) but the description of both sexes is too unspecific to allow for an identification. Thus, because type material could not be located the identity of the species has been left in abeyance.

A while ago Michael Madl, Natural History Museum in Vienna, Austria, inquired if I am interested to study a couple of sub-Saharan *Colletes* species in their collection, some of them labelled by FRIESE as "Typus". Among those bees a female and male were labelled by Friese as *C. opacicollis*. When I studied the two bees I followed the recommendations of RASMUSSEN & ASCHER (2008) for the identification of authentic Friese types because despite having type labels, those specimens do not always represent genuine types. Both specimens, male and female, from Vienna have orange printed "Typus" labels as described by RASMUSSEN & ASCHER (2008) in figure 6 on page 10. Only the female has correct locality information as given in the description (handwritten: "Capland, Cradock, 92, Wartmann") and was identified in 1908 before the publication date of the description in 1909. The male has a printed label "Capland" and was identified a year later in 1909 but it belongs to *C. malmus* (CAMERON), so the male of *C. opacicollis* is still unknown. Thus, only the female is here considered as a genuine type specimen and is designated as the Lectotype.

To enable the identification of *C. opacicollis* and to facilitate the discovery of the unknown male the species is imaged and redescribed.

Material and Methods

Terminology as well as measurements used in the descriptions follows those of MICHENER (2007). Puncture density is expressed as the relationship between puncture diameter (d) and the space between them (i), such as $i = 1.5d$ or $i < d$. T is used as abbreviation of metasomal tergum. Body length is measured from the vertex to the apex of the metasoma.

Redescription

Colletes opacicollis FRIESE, 1909

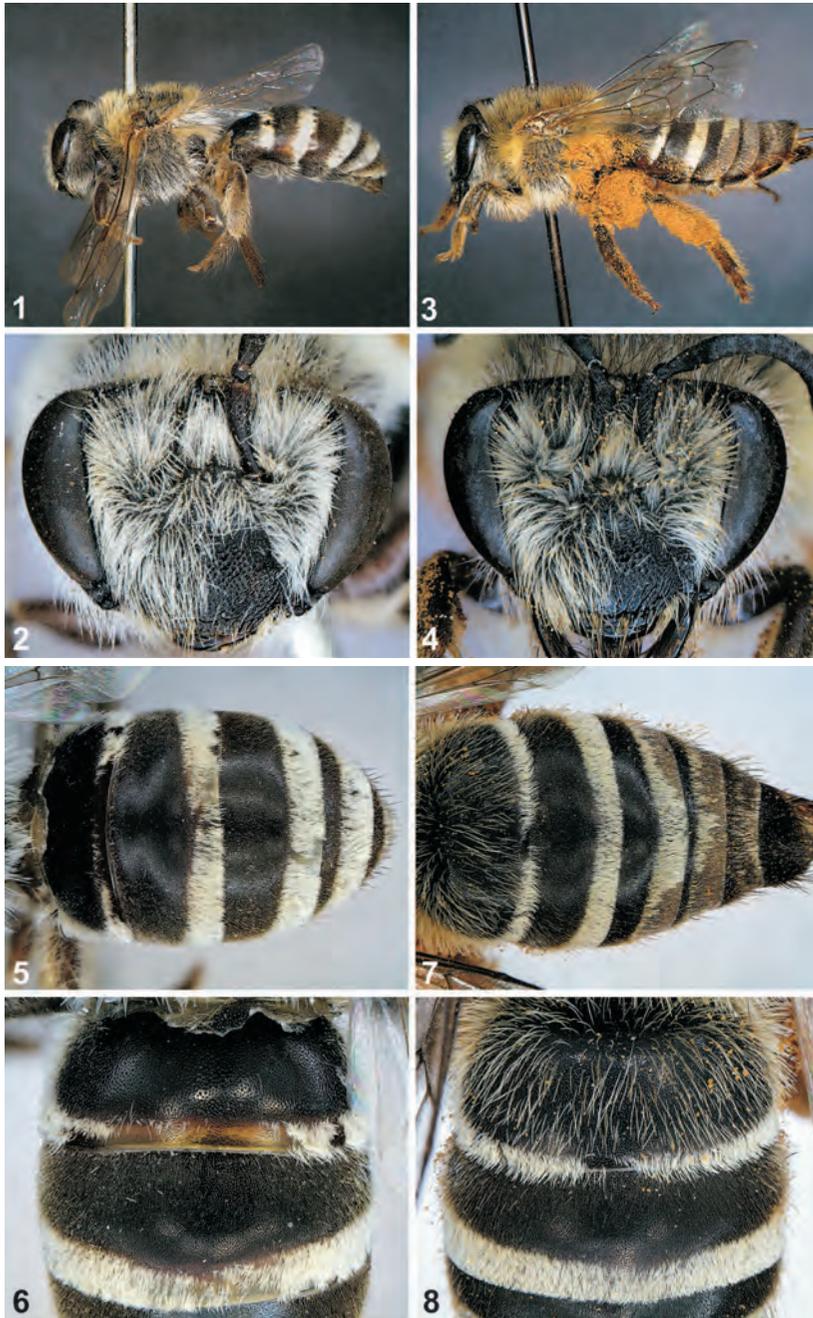
Colletes opacicollis FRIESE, 1909 – FRIESE 1909: 122-123.

Lectotype (♀) (designated here): (in handwriting): "Capland, Cradock, 92, Wartmann" / (in Friese's handwriting): "*Colletes opacicollis* Fr. ♀, 1908 Friese det. " / (orange label): "Typus" / (red label): "Lectotype *Colletes opacicollis* Fr. ♀, M. Kuhlmann det. 2018" (Natural History Museum, Vienna).

D i a g n o s i s : *Colletes opacicollis* is provisionally placed in a species-group that currently comprises *C. cinctellus* FRIESE, *C. tulbaghensis* KUHLMANN, *C. zuluensis* FRIESE and two undescribed species but the male or molecular data is required to identify its closest relatives. The species is most similar to *C. tulbaghensis* but has distinctly broader apical tergal hair bands (Figs 5-8). These broad apical tergal hair bands distinguish the female of *C. opacicollis* from most sub-Saharan *Colletes* except some species of the *C. fasciatus*-group (KUHLMANN 2007) but those have a shorter T1 and a very large convex clypeus. Furthermore *C. opacicollis* differs from *C. tulbaghensis* by the following characters: head broader, clypeus more flattened and with finer punctation (Figs 2, 4), pilosity on vertex, scutum and scutellum without intermixed blackish hairs (Figs 1-4), disc of T1 with coarser punctation, punctures of variable size (smallest punctures about 1/3 the diameter of largest) (Figs 6, 8).

D e s c r i p t i o n

F e m a l e : Body length: 12.0 mm. Head distinctly wider than long (Fig. 2). Integument black, mandible partly dark reddish-brown. Face densely covered with long yellowish-white, erect hair, on vertex hair darker (Fig. 2). Clypeus flattened, without longitudinal median depression; supraclypeal area rectangular, large and convex in profile. Clypeus finely, evenly and densely punctate ($i < 0.5d$); surface between punctures smooth and shiny, inconspicuous pair of apical clypeal depressions (Fig. 2). Malar area medially narrow, about 1/4 as long as width of mandible base, finely striate and matt. Antenna black, ventrally dark brown. Scutum relatively coarsely and densely but indistinctly punctate ($i < 0.5d$), on the disc more dispersed, between punctures strongly shagreened and matt. Sculpture of scutellum like scutum. Thorax densely covered with moderately long yellowish-brown hair (Fig. 1). Wings slightly yellowish, venation brown. Legs dark reddish-brown, vestiture and scope light yellowish-white (Fig. 1). Integument of metasoma black, on T1-2 apical tergal depressions translucent reddish to yellowish, on T3-5 margin colourless transparent; T1-2 with slight oily-bluish shine (Figs 5, 6). T1 laterally with dense long, white hair, on disc pilosity rubbed off, so no information available. Disc of T2-5 densely covered with very fine, short, appressed, grey hair. Apical tergal depressions with short appressed white hair forming very broad apical hair bands (Figs 5, 6). Disc of T1 with relatively fine and dense ($i = 0.5-1.0d$) punctation, punctures of variable



Figs 1-4: *Colletes opacicollis* FRIESE ♀ (1) habitus; (2) head; *C. tulbaghensis* KUHLMANN ♀ (3) habitus; (4) head. **Figs 5-8:** *Colletes opacicollis* FRIESE ♀ (5) metasoma; (6) metasomal terga T1-T2; *C. tulbaghensis* KUHLMANN ♀ (7) metasoma; (8) metasomal terga T1-T2.

size (smallest punctures about 1/3 the diameter of largest), between punctures smooth and shiny. On T2-5 punctation successively finer and dense ($i < 0.5d$) (Figs 5, 6). Terga apically slightly depressed, depression superficially shagreened and finely punctate.

M a l e : Unknown.

R e m a r k s : The lectotype is in reasonably good condition: right antenna and left hind wing are missing, lower half of left mid femur apparently eaten away by *Anthrenus*, metasoma glued back to mesosoma and hair on disc of T1 rubbed off.

Acknowledgement

I am indebted to Michael Madl for kindly informing me about the putative Friese type specimens in the collection of the Natural History Museum in Vienna and for kindly giving me the opportunity to study them.

Zusammenfassung

Typenmaterial der bislang ungeklärten afrotropischen Bienenart *Colletes opacicollis* FRIESE, 1909 wurde in der Sammlung des Naturhistorischen Museums Wien aufgefunden. Ein Lectotypus wird in der vorliegenden Arbeit festgelegt sowie das Weibchen abgebildet und beschrieben.

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Authors' addresses:

Prof. Dr. Michael KUHLMANN
 Zoological Museum
 Christian-Albrechts-University Kiel
 Hegewischstr. 3, D-24105 Kiel, Germany
 E-mail: mkuhlmann@zoolmuseum.uni-kiel.de

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