


Four new African species in genus *Coccothera* Meyrick, 1914 (Lepidoptera: Tortricidae: Grapholitini)

urn:lsid:zoobank.org:pub:30329FB0-B07D-4502-9363-1D58D6E458AF

Published online: 27 December 2023

DOI: <https://dx.doi.org/10.4314/met.v34i1.12>

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Abstract: Four new species from Africa are described in the genus *Coccothera* Meyrick, 1914 (Lepidoptera: Tortricidae: Grapholitini). *Coccothera quadropunctata* spec. nov., *Coccothera cipollana* spec. nov., *Coccothera bvumbana* spec. nov. and *Coccothera kingstoni* spec. nov. Diagnostic characters are illustrated and described. Type localities are illustrated. Distributional information of each species is presented and discussed. The biology of the species are not known except for the collecting dates and localities.

Key words: Afrotropical Tortricidae, *Coccothera*, faunistics.

Citation: Larsen, K. 2023. Four new African species in genus *Coccothera* Meyrick, 1914 (Lepidoptera: Tortricidae: Grapholitini). *Metamorphosis* 34: 125–134.

Peer reviewed

INTRODUCTION

Material from the author's numerous collecting trips to Africa and from museums and private collections has been examined by genitalia dissections and DNA analysis. It was expected that the material would contain the four described new species, and this is confirmed by both the DNA results and the traditional taxonomical approach.

This is the second part of a revision of the genus *Coccothera* Meyrick, 1914.

METHODS AND MATERIALS

The majority of the material was collected with light traps powered by 125 W mercury vapour bulbs or 8 W super actinic tubes. Specimens of the treated species were caught in biotopes where other species from this group occurred. The genitalia were mounted in euparal on slides in accordance with standard procedures (Robinson, 1976). This procedure is slightly modified concerning the slides of the females. The females of *Coccothera* sp. have a very weak structure especially sterigma and ostium, which at the same time are important for the definition of the species. The ductus bursa is also very weak and sometimes nearly invisible and very fragile. In consequence of this fact the production of the female slides is slightly changed. The genital structure is not removed from the abdomen, which makes it possible to make photos of the sterigma and ostium together with the other parts of the abdomen. The disadvantage is, that it is more difficult to stain and thus the staining become less effective.

Photos of genitalia were taken using a Toupe Tek camera mounted on a Toupe Tek binocular microscope.

Received: 4 November 2023

Accepted: 24 December 2023

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Photographs of specimens were taken using a Canon EOS50D camera and a 100 mm Canon macro lens.

The type material has been deposited in the research collection of the author (KL) and will later be transferred to the Zoological Museum of Copenhagen (ZMUC).

The terminology of genitalia and morphological structures follows Horak (1991 & 2006), and the terminology of wing pattern elements follows Razowski (2003). Furthermore Gilligan, Wright & Gibson (2008) and Wright & Gilligan (2017) were consulted.

Abbreviations

Ht – holotype

Pt – paratype

spec. – specimen

spec. nov. – species nova

gen. prep. – genitalia preparation

KL – research collection of Knud Larsen, Dyssegaard, Denmark

NHMO – Natural History Museum, University of Oslo

ZMUC - Zoological Museum, Natural History Museum of Denmark, Copenhagen, Denmark.

RESULTS

Coccothera Meyrick, 1914 is a genus with mainly Afrotropical distribution except *Coccothera spissana* (Zeller, 1852), which also occurs in dryer parts of the western Palearctic region – e.g. the Canary Islands and the Arabian Peninsula (Larsen, 2023). This genus including the present changes now contains twelve species (AfroMoths: accessed 18.x.2023). An overview of the changes in the generic definitions can be found in Razowski (2004 & 2019) and on AfroMoths (accessed 18.x.2023).

Coccothera quadropunctata spec. nov. (Figs 1–3).

urn:lsid:zoobank.org:act:D89FD1CD-590C-466D-8092-4851E56D1E0F

Material examined

Holotype: ♀, Republic of South Africa: Limpopo Province, 20 km. WNW Bela-Bela, Leopard Cove, 24°50'36"S 28°07'09"E, 1265 m. 15–17.xi.2022, leg. K. Larsen & A. Kingston, coll. KL, later ZMUC.

Paratypes: 2♀, Zimbabwe: Masvingo, Munze Forest Lodge, 20°08'21"S 31°03'58"E, 1090 m. 21–25.xi. 2017, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. Gen. prep. ♀ 4865 KL. 1♂, RSA: Gauteng, Soutpan, 6–19.ii.2016 leg. J. & W. de Prins. BOLDsystems: Sample JB5, RMCA, ENT 000007230 (Accessed 18.x.2023).



Figure 1 – *C. quadropunctata* spec. nov. Holotype ♀: 14 mm. RSA. Limpopo Province.

Description

Imago: (Fig. 1). Wingspan 13–14 mm. Head and thorax grey with diffuse weak white tipped scales. Abdomen grey. Underside of thorax and abdomen unicolored light grey. Antenna less than half length of forewing, grey with fine lighter rings. Labial palps short, grey. Legs light grey like the abdomen, but the last segment of the legs ringed black. Spurs rather large.

Forewings: Elongate triangular with slightly indented termen, ground colour dark grey with intense light strigulation. The pattern is dominated by a row of four circular spots from the base until two thirds of the wing as a dividing bar. The spots are ringed black with a centre of lead shining scales. After this curved bar of spots there is a diffuse speculum reaching half the wing, black edged and with a few shining scales. From the speculum and towards the termen there are a series of fine black lines and from the inner line of speculum there are five long black lines parallel with the last two spots. A series of diffuse costal strigula at the final two thirds of costa. Termen with a fine black basal line, cilia greyish brown.

Hind wings: Brown with a series of black hair scales along the ribs at the inner half of the wing. A fine brown basal line, cilia light brown with scattered black scales at the inner half of the wing.

Underside of wings grey with a series of lighter costal strigula on the forewing.

Female genitalia: (Figs 2 & 3). Labium short, apophyses of equal length. Sterigma weak, cup shaped, lamella postvaginalis very weak but with a few hairy scales and scale sockets. Subgenital plate cone shaped, indented dorsally. Strong and broad sclerotised folds along the lateral edges of tergum seven. Ostium round, indented with a slightly stronger sclerotisation. Ductus bursa very fragile at both sides of ostium. Bursa with two thorn-like signa.

Male genitalia: The male is unknown.



Figure 2 – *C. quadropunctata* spec. nov. ♀ genitalia P. 4865 KL. Zimbabwe, Masvingo district.



Figure 3 – *C. quadropunctata* spec. nov. ♀ bursa P. 4865 KL. Zimbabwe, Masvingo district.

Results of DNA analysis: Two specimens were analysed. *Coccothera* sp. JB5 sample ID: RMCA ENT 000007230 and TLMF Lep. 26292. Barcode index number registry for BOLD: ACM9720 shows maximum and average distance at 1.12% and distance to nearest neighbor at 5.3%. Distance model: Pairwise distance; marker: COI-5P.

Pairwise deletion. (BOLD: Guelph, Canada accessed 30.x.2023).

Diagnosis

C. quadropunctata spec. nov. is defined by its larger size, and the four circular spots placed in a row from the base to two thirds of the wing as a dividing bar of the wing. The spots are black with a lead-coloured shining centre. The female genitalia are very characteristic for the genus *Coccothera* with a weak sterigma, a fragile and very long ductus bursa and a characteristic subgenital sternite. This species is defined by the shape of the subgenital sternite and the strong and broad sclerotised folds along the lateral edges of tergum seven.

Biology

Only the three mentioned female specimens are known collected in November at light. Localities are rather dense forest savannah. Host plant is unknown.

The type locality at Leopard Cove is illustrated in Fig. 4.



Figure 4 – Type locality for *C. quadropunctata* spec. nov. RSA: Limpopo, Leopard Cove.

Distribution

South Africa: Limpopo province.

Zimbabwe: Masvingo district.

Etymology

The species is named after the characteristic row of four circular spots dividing the forewing. Until now a unique feature seen in African Tortricidae.

Coccothera cipollana spec. nov. Figs 5–9.

urn:lsid:zoobank.org:act:819084DE-53C0-4BA3-9FC6-F274703366BD

Material examined

Holotype: ♀, Zimbabwe: Masvingo, Munze Forest Lodge, 20°08'21"S 31°03'58"E, 1090 m. 21–25.xi. 2017, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL later ZMUC. Gen. prep. ♀ 4863 KL.

Paratypes: ♂ & ♀ Zimbabwe: Masvingo, Munze Forest Lodge, 20°08'21"S 31°03'58"E, 1090 m. 21–25.xi. 2017, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. 4 ♂: gen. prep. ♂ 4869 KL & ♂ 4871 KL; 6 ♀: gen. prep. ♀ 4864 KL & ♀ 4866 KL.

Description

Imago: (Figs 5–6). Wingspan ♂ 8 mm, ♀ 9–11 mm. Head, thorax and abdomen grey. Antenna about half the length of the forewing, dark grey and white ringed. Labial palps short and grey. Legs light grey like the abdomen, but the last segment of the legs ringed black. Spurs rather large and white.

Forewings: Triangular with a slightly indented termen, ground colour dark brown to black. Basal blotch with numerous white marginal dots at costa and dorsum where the marginal dots have the twice the size. In the middle of the basal blotch the dots are organized in a series of about six stripes towards the median fascia. These stripes are ending in an elongated black edging of the antemedian fascia. Antemedian fascia and postmedian interfascia are shiny more or less violet and consisting of series of minute waved lines. The median fascia is broad narrowing towards the costa where there is a large square black spot. The rest of the median fascia is divided by about nine white stripes created of small white dots. The dorsal part with five stripes pointing towards the speculum, the centre part with four stripes pointing against the termen. Four costal strigula towards the apex, a dark subterminal blotch and the dividing's and termen are dark orange-brown. Termen with a fine black dividing line, cilia orange-brown.

Hindwings: Dark orange-brown, lighter towards the basal part. A scale pencil along the anal margin and small patches of darker grey scales in the cilia at the anal margin of the hindwing. The anal margin itself is slightly modified



Figure 5 – *C. cipollana* spec. nov. Holotype ♀: P. 4863 KL, 11 mm. Zimbabwe, Masvingo district.



Figure 6 – *C. cipollana* spec. nov. Paratype ♀: P. 4866 KL, 10 mm. Zimbabwe, Masvingo district

both in males and females. Underside of the wings are grey with a series of lighter costal strigula on the forewing.

Male genitalia: (Fig. 7).

Valva elongate with a large cucullus, hairy and with the characteristic small sclerotised thorn at the ventral side. From the base of sacculus some long sclerotized scales reaching about half the valvae. Pedunculus very weak, uncus short and simple, socii round indistinct, phallus bottle shaped with almost parallel sides at apex.

Female genitalia: (Figs 8–9).

Labium rather large. Apophyses posterior slender, apophyses anterior stronger and longer spatulate curved at apex. Sterigma weak, cup shaped, a little stronger sclerotised at the sides, lamella postvaginalis with hairy scales and scale sockets. Subgenital plate cone shaped, indented dorsally and rather broad. Short and slender sclerotised folds along the lateral edges of tergum seven. Ostium very weak, slightly more irregularly sclerotised at the sides. Ductus bursa long, thin and fragile especially before and after ostium, widening before bursa. Bursa large with two straight, rather big thorn-like signa.

Results of DNA analysis: One specimen has been analysed. *Coccothera* sp. TLMF Lep 26291. Barcode index number registry for BOLD: ADO1668 shows distance to nearest neighbor at 6.6%. Distance model: Pairwise distance; marker: COI-5P. Pairwise deletion. (BOLD: Guelph, Canada accessed 30.x.2023).

Diagnosis

Coccothera cipollana spec. nov. is defined by the structure of the white dots organised in stripes especially the direction of the stripes in the basal blotch and in the median fascia where the stripes are pointing in two directions. The male differs from other species by the shape of the valva and especially the large bottle shaped phallus and the long sclerotised scales from the base of sacculus.

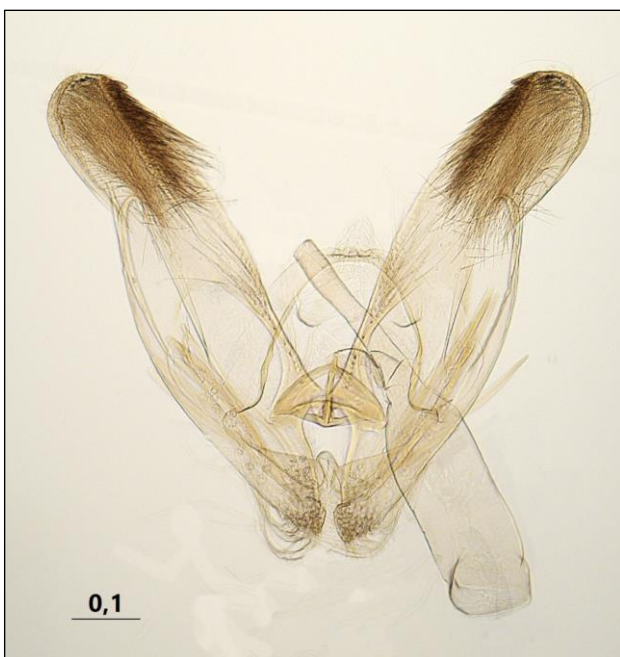


Figure 7 – *C. cipollana* spec. nov. ♂ genitalia P. 4871 KL. Zimbabwe, Masvingo district.



Figure 8 – *C. cipollana* spec. nov. ♀ genitalia P. 4866 KL. Zimbabwe, Masvingo district.



Figure 9 – *C. cipollana* spec. nov. ♀ bursa P. 4866 KL. Zimbabwe, Masvingo district.

The females differ in the shape of the subgenital plate and the size and shape of the apophyses.

Biology

The species is only known from the eleven type specimens all collected in November by light at Munze Forest Lodge.

The locality is dense savannah forest mainly with *Acacia* species. Host plant is not known. The type locality at Munze Forest Lodge is illustrated in Fig. 10.

Distribution

Zimbabwe: Masvingo district.

Etymology

The species is named in honour of one of the collectors of the type series.



Figure 10 – Type locality for *C. cipollana* spec. nov. Zimbabwe: Masvingo district, Munze Forest Lodge.

Coccothera bvumbana spec. nov. (Figs 11–15).

urn:lsid:zoobank.org:act:DFA8E374-C87A-4B48-BD9F-3D49C1EA184A



Figure 11 – *C. bvumbana* spec. nov. Holotype ♂: P. 4873 KL, 11 mm. Zimbabwe, Manicaland.



Figure 12 – *C. bvumbana* spec. nov. Paratype ♀: P. 4904 KL, 10 mm. Zimbabwe, Manicaland.

Material examined

Holotype: ♂, Zimbabwe: Manicaland, Honde Valley, Nyanga, Aberfoyle Lodge. 18°17'40"S 32°58'08"E 12–15.xi. 2017, 850m leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL later ZMUC. Gen. prep. ♂ 4873 KL.

Paratypes: Zimbabwe. Manicaland: 18 km SE Mutare, Bvumba Mt. 19°03'33"S 32°43'41"E, 2–6.xi.2016, 1360 m, leg. K. Larsen & D. Agassiz, coll. KL. 1 ♂: gen. prep. ♂ 4874 KL; as above but leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. gen. prep. ♀ 4904 KL; Zimbabwe: Manicaland: Honde Valley, Nyanga, Aberfoyle Lodge, 18°17'40"S 32°58'08"E, 12–15.xi. 2017, 850m, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. 2 ♀: gen. prep. ♀ 4875 KL & ♀ 4878 KL; Zimbabwe: Manicaland: Chipinge, Chirinda Forest, S:20°24'36"E; 32°41'58", 19–20.xi.2017, 1170 m, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. 3 ♀: gen. prep. ♀ 4867 KL & ♀ 4868 KL; Democratic Republic of Congo: Province Orientale, Tshopo, Yangambi Biosphere Reserve, 460 m, 0°45'N 24°30'E, 20.v.2012, leg. J. & W. De Prins coll. KL, gen. prep. ♂ 4905 KL.

Description

Imago: Figs. 11–12. Wingspan 9–11mm. Head and thorax black with yellowish tipped scales; abdomen dark grey. Underside of the head bordered with a large white patch of broad shining white scales: antenna about half the length of forewing, dark grey and dorsally white ringed; ventrally monochrome light grey. Labial palps black with white tipped scales, ventral side just white; legs dark grey and white dorsally, ventrally monochrome white; spurs white. Forewings: Triangular with slightly indented termen, ground color black. Basal blotch with numerous white dots organized as vertical stripe like structure at the dorsal half; Antemedian fascia and postmedian interfascia are shining violet and consisting of series of minute wavy lines. Both fascia are more shiny and more defined in the female especially the dorsal part of the antemedian fascia is very large, triangular and strongly shiny. The median fascia is broad narrowing towards the costa where there is a large square black spot. The rest of the median fascia is divided by several more or less distinct white stripes consisting of small white dots. The dorsal part with five stripes pointing towards the speculum, the centre part with three stripes – one long, two shorter indistinct - pointing against the termen. Five costal strigula towards the apex, a dark subterminal blotch and the dividing's and termen are orange-brown. Termen with a fine black dividing line, cilia orange-brown, at the short hook at the middle of termen, there is a small patch of dark scales especially visible from the underside.

Females are generally darker and sharper in the pattern otherwise the same as the males.

Hindwings: Dark orange-brown, lighter towards the basal part. A scale pencil along the anal margin and small patches of darker grey scales in the cilia at the anal margin of the hindwing. Cilia with a dark dividing line. Underside of wings dark grey in males, black in females with a series of lighter costal strigula on the forewing.

Male genitalia: (Fig. 13).

Valva strongly elongate with a pronounced cucullus, slightly hairy and with the characteristic very small

sclerotised thorn at the ventral side. One valva is double the width of other, asymmetrical. At the base of the sacculus is a large area with scale sockets, pedunculus and uncus very weak, phallus bottle shaped and nearly the length of the valva with indented sides in the middle and at the apex widened.

Female genitalia: (Figs 14–15).

Labium rather large. Apophyses slender and at the same lengths. Sterigma very weak, flat, broad cup shaped, lamella postvaginalis very weak with some scale sockets. Subgenital plate cone shaped, weakly indented dorsally and rather broad. Strong and long sclerotised folds along the lateral edges of tergum seven. Ostium weak, slightly more irregular sclerotisation at the sides. Ductus bursa long, thin and fragile especially before and after the ostium, widening before the bursa. Bursa large with two strongly curved, narrow thorn like signa.

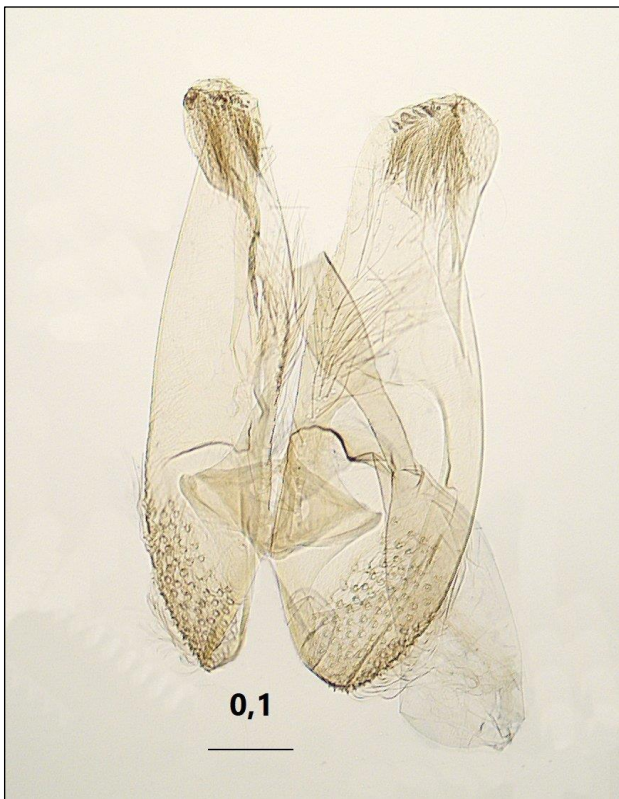


Figure 13 – *C. bvumbana* spec. nov. ♂ genitalia. P. 4873 KL. Zimbabwe, Manicaland.

Results of DNA analysis: Two specimens were sequenced. *Coccothera* sp. TLMF Lep 26293 and TLMF Lep 26294. Process ID number DEEUR 1823-18 & 1824-18 shows average and maximum distance at 0.3% and distance to nearest neighbor at 6.9%. Distance model: Pairwise distance; marker: COI-5P. Pairwise deletion. (BOLD: Guelph, Canada accessed 30.x.2023).

Diagnosis

Coccothera bvumbana spec. nov. is defined by the structure of the white dots organised in diffuse stripes. The wing pattern is more diffuse and the orange-brown pattern at the apex of the wing is rather pronounced. The male differs from other species by the asymmetrical shape of the



Figure 14 - *C. bvumbana* spec. nov. ♀ genitalia P. 4868 KL. Zimbabwe, Manicaland.



Figure 15 – *C. bvumbana* spec. nov. ♀ bursa P. 4868 KL. Zimbabwe, Manicaland.

valva, the cucullus and especially the large bottle shaped phallus with the indentation in the middle. The females differ in the shape of the subgenital plate as it is less indented and the sterigma is more flat and less sclerotized. The ostium is slightly wider; the two thorns in the bursa are straight, narrower and less widened at the root. The apophyses are slender and of even lengths.



Figure 16 – Holotype locality for *C. bvumbana* spec. nov. Zimbabwe, Nyanga, Aberfoyle Lodge.



Figure 17 – Paratype locality for *C. bvumbana* spec. nov. Zimbabwe, Bvumba.

Biology

The species is only known from the nine type specimens collected in May and November at light in four different localities. The localities are humid deciduous forest with a high level of species diversity. Host plant is unknown. The holotype locality at Honde Valley, Aberfoyle Lodge is illustrated in Fig. 16.

Distribution

Zimbabwe: Manicaland district.

Democratic Republic of Congo: Province Orientale.

Etymology

The species is named after one of the paratype localities, which is a long-known area where many endemic species have been found.

Remarks

Imagines of *C. bvumbana* spec. nov. have a resemblance to other undescribed *Coccothera* sp. with orange-brown patterns at the apex of the forewing, but they all have slightly different patterns and wing shape (Larsen *in litt.*). The species *Coccothera carolae* (Razowski & Trematerra, 2010) has likewise an orange-brown pattern at the apex of the forewing, but this pattern is bigger and also the postmedian fascia are different with a smaller shiny area. This species is described on the basis of one female, but the figures of the female genitalia are not sufficiently detailed and thus difficult to evaluate. Anyway, the general size and structure of the female genitalia of *C. carolae* shows that it does not belong to the present described species.



Figure 18 - *C. kingstoni* spec. nov. Holotype ♂: P. 4879 KL, 10 mm. Zambia, Central Province.

Coccothera kingstoni spec. nov. (Figs 18–22).

urn:lsid:zoobank.org:act:5D100256-D5FF-4A78-BE98-C4855626F137

Material examined

Holotype: ♂, Zambia: Central province, Kabwe, Mafundzalo, 14°20'45"S 28°27'5"E, 31.x.2018, 1148 m leg. A.J. Kingston & P. Schmit coll. KL later ZMUC. Gen. prep. ♂ 4879 KL.

Paratypes: Cameroon: Garoua, Faro National park, 8°23'36,4" N 12°49'29,3" E, 300 m, 28.iv–9.v.2005 leg K. Larsen & T. Zandersen, coll. KL, 5 ♂ gen. prep. 4912 KL; Tanzania: Morogoro, 1 km. E. Mikumi, 5.iii.2000, 550 m. leg. M.Fibiger, H.Hacker, K.Larsen & H.-P. Schreier coll. KL, 2 ♂ gen. prep. 4911 ♂ KL; Tanzania: Kigoma district, Tubira forest, 13.x.1989, 1100 m, leg. A. Bjørnstad coll. NHMO, ♂ gen. prep. ♂ 4910 KL;

Zambia: Copperbelt province, Nsoke Game Camp, 8 km. E. of Mishikisbi, 13°22'26"S 28°45'05"E, 1256 m.

1.xi.2018 leg. A. J. Kingston & P. Schmit coll. KL ♂ gen. prep. ♂ KL.

Zimbabwe: Manicaland: Honde Valley, Nyanga, Aberfoyle Lodge, 18°17'40"S 32°58'08"E, 12–15.xi. 2017, 850m, leg. A. Cipolla, T. Kingston & K. Larsen, coll. KL. 1♂, 1♀ gen. prep. ♂ 4876 KL & ♀ 4877 KL.

Description

Imago: Figs 18–19. Wingspan ♂ 7–10mm, ♀ 10–11mm. Head and thorax brown to dark grey with yellowish to whitish tipped scales; abdomen light grey. Underside of the head bordered with a large white patch of broad shiny



Figure 19 – *C. kingstoni* spec. nov. Paratype ♀: P. 4877 KL, 10 mm. Zimbabwe, Manicaland.

white scales: antenna about half the length of the forewing, dark grey and white ringed. Labial palps white with scattered darker scales; legs white with scattered darker scales, spurs white. Forewing triangular with a slightly indented termen, ground color dark brown to black. Basal blotch with numerous white dots organized as a vertical stripe-like structure. Antemedian fascia is weakly shiny at the costa and the postmedian interfascia is shiny violet mainly at the dorsal part and they consist of a series of minute wavy lines. Antemedian fascia is more shiny and more defined in the female especially the dorsal part of the antemedian fascia which is larger, with parallel sides and shinier. The median fascia is broad narrowing towards the costa where there is a large square black spot. The rest of the median fascia is divided by several more or less distinct white stripes created by small white dots. The dorsal part is with more stripes pointing towards the speculum, the centre part with four stripes pointing against the termen. Four costal strigula towards apex. Termen with a fine black dividing line, cilia brown to grey. Area between antemedian fascia and the termen are dark brownish to black with diffusely arranged white tipped scales. Females are generally darker and more sharply contrasting patterning otherwise the same as the males.

Hindwings dark brown, lighter towards basal part. A scale pencil along the anal margin and small patches of darker grey scales in the cilia at the anal margin of the hindwing. Cilia with a dark dividing line. Underside of wings dark grey to black with a series of lighter costal strigula on the forewing.

Male genitalia: (Fig. 20).

Valva short elongate cucullus with a hair patch and with the characteristic sclerotized thorn at the ventral side. Valva is nearly evenly broad and symmetrical. At the base of the sacculus there is a minor area with scale sockets, pedunculus and uncus very weak, phallus bottle shaped and a little longer than the lengths of the valva. Phallus is slightly indented in the middle gradually widening towards apex.

Female genitalia: (Figs 21–22).

Labium rather large with very long hair. Apophyses posterior longer than apophyses anterior, both very slender. Sterigma very weak, nearly not visible, flat and broad, lamella postvaginalis very weak with two longer patches of scale sockets. Subgenital plate cone shaped, weakly



Figure 20 - *C. kingstoni* spec. nov. ♂ genitalia P. 4879 KL. Zambia, Central province.



Figure 21 – *C. kingstoni* spec. nov. ♀ genitalia P. 4877 KL. Zimbabwe, Manicaland.



Figure 22 – *C. kingstoni* spec. nov. ♀ Bursa P. 4877 KL. Zimbabwe, Manicaland.

indented dorsally and rather broad. Sclerotized folds along the lateral edges of tergum seven is long and slender. Ostium very weak and hardly visible. Ductus bursa long, thin and fragile especially before and after ostium, widening before bursa. Bursa large with two long and narrow thorn like signa.

Results of DNA analysis: One specimen was sequenced. *Coccothera* sp. TLMF Lep 26130. Process ID number DEEUR 2230-19. This record has been removed from the ID engine database because of suspected contamination or misidentification. (BOLD: Guelph, Canada accessed 30.x.2023). This means that the relation and distance cannot be figured out; otherwise the results are very different from the other species in this genus.

Diagnosis

C. kingstoni spec. nov. is defined by the structure of the white dots organized in vertical stripes. The wing pattern is grey to black contrasting and the longer shiny area dorsally of the antemedian fascia is characteristic. The male differs from other species by the shape of the valva, short, evenly wide and with a larger thorn at cucullus. The bottle shaped phallus is longer than the valva and the indentation is weaker. The females differ in the hairy labium, the very weak sterigma and the shape of the thorn like signa in the bursa.

Biology

The species is only known from the twelve type specimens collected from late March to the beginning of April and again in October to November at light in six different localities. The localities are drier savannah forest to more humid deciduous forest. Host plant is not known. The paratype locality at Zambia, Nsoke Game Camp is illustrated in Fig. 23.

Distribution

Cameroon: Garoua region.



Figure 23 – Paratype locality for *C. kingstoni* spec. nov. Zambia, Nsoke Game Camp.

Tanzania: Morogoro & Kigoma districts.

Zambia: Central province & Copperbelt province.

Zimbabwe: Manicaland district

Etymology

The species is named in honor of one of the collectors of the type series.

DISCUSSION

The first species described in this part two of the revision of the genus *Coccothera* is rather spectacular. It is surprising that a species of this level of beauty only has only had three specimens collected to date. This could be a sign of a very special host plant or special way of feeding. The next three species all have the same general structure both in imagines and in the male and female genitalia, but they are very characteristic in general. It looks like these species are rather local and often sparse at their localities. It is obvious that these species are connected to forest which is more or less dry or humid. It might be a possibility that these species live mainly in the canopy. Tortricidae living in the canopy can be a challenge to collect, which is made more difficult by the canopy being rather high above ground especially in the more humid forests. In the next part of this revision a large material from forest localities with very high canopy is treated.

ACKNOWLEDGEMENTS

My thanks go to L. Aarvik (NHMO) for the loan of material and to Peter Hall, Scotland, UK who has kindly provided linguistic assistance with the manuscript. Also thanks to A. Kingston, Shropshire, UK for the picture from Aberfoyle Lodge and Nsoke Game Camp. The author is likewise grateful for the help and support of the Editor of *Metamorphosis* and the reviewers.

A special thank you is given to Dr. P. Buchner, Austria for the management and support of the DNA analysis at BOLD, Guelph, Canada.

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