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Taxonomic notes on African Tortricidae II: New species, country records, and tribal placement of *Phalarocarpa* Meyrick, 1937 (Lepidoptera, Tortricidae)

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Abstract: Two new species of *Phalarocarpa* Meyrick, 1937 are described: *P. citrina* **sp. nov**. from The Democratic Republic of the Congo and Malawi, and *P. suffusicosta* **sp. nov**. from Tanzania. *Phalarocarpa* is transferred from the tribe Olethreutini Walsingham, 1895 to Enarmoniini Diakonoff, 1953. *Phalarocarpa harmographa* Meyrick, 1937 is newly recorded from Ghana and *P. kryphaios* Razowski & Wojtusiak, 2012 is newly recorded from Uganda.
Key words: Africa, Taxonomy, Tortrix moths.
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INTRODUCTION

The present article is the second in a series dealing with the taxonomy of African Tortricidae. The first contribution was published in *Metamorphosis* by Aarvik (2025).

Phalarocarpa Meyrick, 1937 is restricted to the Afrotropics and previously included five described species. References to all descriptions can be found on Afromoths, an online database of Afrotropical moth species (De Prins & De Prins, 2011–2026; https://www.afromoths.net/). Razowski (2012) redescribed the genus based on the male and female genitalia, features that Meyrick (1937) had not examined. In the male genitalia, the extremely long, slender and bifurcate uncus is unique; in the female genitalia, the signa, formed as two long folded plates, are characteristic.

The purpose of the present paper is to describe two new species and to discuss the tribal placement of the genus. Currently, *Phalarocarpa* is placed within the tribe Olethreutini (Olethreutinae). In addition, new country records are given for two species expanding their known ranges in West Africa.

METHODS AND MATERIALS

An undescribed species of *Phalarocarpa* was discovered in material borrowed from the Muséum d'Histoire Naturelle, Geneva. Additional recent material was collected at light using an electric mercury vapor bulb in front of a white sheet, powered by a portable generator. The specimens were kept in individual glass vials until the next morning when they were dispatched with ethyl acetate. After pinning the moths, the wings were spread on plastazote in plastic boxes. The boxes, 12 x 8 x 2 cm, were used for transportation. Dissections of the genitalia followed Robinson (1976) and were accomplished using a Leica MZ6 stereoscopic microscope. The genitalia were mounted in euparal on glass slides. The slides were photographed and the images stacked using a StackShot Macro rail from Cognisys with a Nikon Z8 camera and a Nikon AF Micro-Nikkor 200mm f/4D lens connected to a Nikon LU Plan Fluor 5x WD 23,5 microscope objective. The digital images were edited using Adobe Photoshop and Adobe Lightroom Classic. Terminology for genitalia and morphological structures follows Horak (2006).

The following institutions are abbreviated in the text:
MHNG: Muséum d'Histoire Naturelle, Geneva, Switzerland.
NHMO: Natural History Museum, University of Oslo, Norway.

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RESULTS

Tortricidae Latreille, 1802
Olethreutinae Walsingham, 1895
Enarmoniini Diakonoff, 1953

Descriptions:

Phalarocarpa citrina **sp. nov.**
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Figs 1, 5, 6

Type material.
Holotype: ♂, THE DEMOCRATIC REPUBLIC OF THE CONGO: Ht. Katanga; Tshinkolobwe, 29.xi.1930, leg. J. Romieux, genitalia slide L. Aarvik 2025.12, MHNG-ENTO-0249028, coll. MHNG.
Paratypes: same data as holotype; 1♂, 17.iii.1931, MHNG-ENTO-0249030; 1♀, 1.iv.1931, genitalia slide L. Aarvik 2025.13, NHMG-ENTO-0249029; 1♂, Ht. Katanga, Panda, 30.iii.1930, leg. J. Romieux, MHNG-ENTO-0249031, coll. MHNG; 1♀, Ht. Katanga, Tshituru, 5.iv.1929, leg. J. Romieux, MHNG-ENTO-0249032, coll.

MHNG; 1♂, same data as holotype, 19.xii.1930, coll. NHMO; 1♀, MALAWI, Central Region: Chiseka District, Dzalanyama Forest Res., S 14º15.257', E 33º26.633', 1270 m, 14.xii.2002, leg. A. Kingston, genitalia slide NHMO 5232, coll. NHMO.

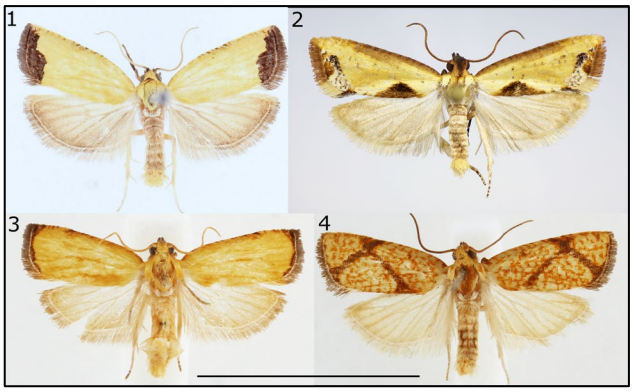
Diagnosis:
This new species differs externally from other species of *Phalarocarpa* by the combination of the lemon-yellow forewing colour; the unmarked dorsum; and the broad, dark maculation along the termen. The male genitalia differ from those of *P. harmographa* Meyrick, 1937 by the medially wider cucullus of the valva, and from *P. crocus* Meyrick, 1937 by the slender termination of the socii. From those of *P. suffusicosta* **sp. nov**., they differ in the characters mentioned below under that species. The female genitalia are separable from *P. harmographa* and *P. crocus* by the U-shaped posterior excavation of sternum 7.

Description:
Male.
Head: Scaling of vertex yellow, frons blackish brown; labial palpus 1.5 times diameter of eye, blackish brown, slightly curved, third segment not protruding beyond scaling of second segment; antenna minutely ciliate, light ochre.
Thorax: Yellowish.
Foreleg brownish grey; mid-leg cream with grey suffusion on tibia, tarsi brownish grey, with light rings; hindleg cream.
Wingspan 15–16 mm.
Forewing yellow; costal strigulae indicated by small streaks on costa; terminal area with conspicuous blackish macula with some shiny greyish dots; cilia dark grey.
Hindwing light grey, becoming lighter towards base. Cilia light grey, with grey cilia line.
Abdomen: Light grey above; underside cream-coloured, abdominal tuft ochre.
Male genitalia: Tegumen rounded; uncus long, T-shaped; socii, setose, angled, tapered terminally; ventral margin of basal part of valva forms right angle, with pointed prominence; cucullus curved ventrally, costa with broad convexity; phallus with short and broad basal part, lower edge extended into curved, rod-like process; large bundle of cornuti in vesica (Fig. 5).

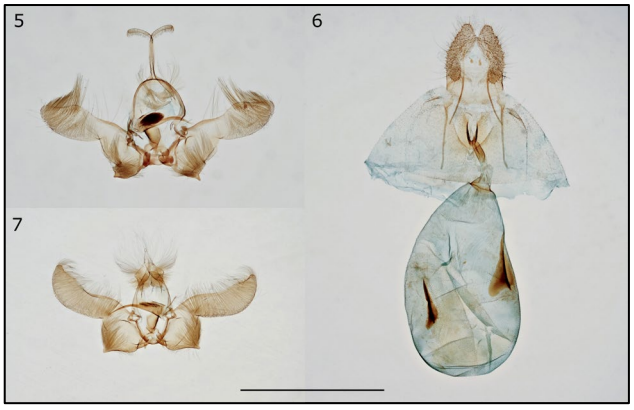
Female.
Head and thorax:
As in male, but slightly larger, wingspan 19–20 mm, and hindwing darker grey.
Abdomen: Genitalia with papillae anales, broad, curved, of even width; apophyses posteriores and anteriores of similar length; 8th segment short; ostium forming narrow U, deeply inserted into U-shaped concavity of sternum 7; ductus bursae short, sclerotized in posterior half, with ring-shaped sclerite at entrance with corpus bursae where ductus seminalis is inserted; corpus bursae oval, broader in anterior half, with two blade-shaped signa (Fig. 6).

Distribution. Known from the Katanga province which makes up the southeastern province of the Democratic Republic of the Congo and Malawi.

Etymology. The species' name refers to the yellow forewing.



Figures 1–4 – Adults of *Phalarocarpa*.
1. *P. citrina* **sp. nov**. Paratype. **2**. *P. suffusicosta* **sp. nov**. Paratype. **3**. *P. harmographa* from Ghana. **4**. *P. kryphaios* from Uganda. (Scale bar 1 cm).



Figures 5–7 – Genitalia of *Phalarocarpa*.
5. *P. citrina* **sp. nov**., ♂, genitalia slide L. Aarvik 2025.12.
6. *P. citrina* **sp. nov**., ♀, genitalia slide L. Aarvik 2025.13.
7. *P. suffusicosta* **sp. nov**., ♂, genitalia slide L. Aarvik 2760. (Scale bar 1 mm).

Phalarocarpa suffusicosta **sp. nov.**
urn:lsid:zoobank.org:act:48DAC447-1B1B-418C-A05A-97A5E227E733
Figs 2, 7

Type material:
Holotype: ♂, ♂, TANZANIA: Iringa Region, Mufindi District, Kigogo Forest, 1900 m, 25–26.xi.2005, leg. L. Aarvik, M. Fibiger & A. Kingston, genitalia slide L. Aarvik 2760, coll. NHMO.
Paratypes: 6♂♂, same data as holotype; 1♂, Mufindi District; Mufindi, 1960 m, 16.i.1993, leg. L. Aarvik, genitalia slide NHMO 5228, coll. NHMO; 1♂, Mbeya Region: Mbeya District, Mbeya Range, Ipinda, 2425 m, 28.xi.2005, leg. L. Aarvik, M. Fibiger & A. Kingston, coll. NHMO.

Diagnosis: *Phalarocarpa suffusicosta* **sp. nov**. has a forewing pattern which is strikingly different from the pattern of its congeners. The brownish suffusion along costa and the triangular dorsal macula are unique. The male genitalia resemble those of congeners but differ in the shape of the valva, which is more curved in *P. suffusicosta* **sp. nov**.; also, the uncus is weaker and shorter, lacking a bifurcation in *P. suffusicosta* **sp. nov**.

Description:
Male.
Head: Scaling of vertex ochre, frons blackish brown; labial palpus 1.5 times diameter of eye, straight, external side grey, internally whitish, third segment not protruding beyond scaling of second segment; antenna minutely ciliate, light brown, with darker brown rings.
Thorax: Light yellowish ochre.
Foreleg brownish grey; mid-leg cream with some grey suffusion on tibia, tarsi brownish grey, with light rings; hindleg cream, tarsi with grey spots.
Wingspan 13–18 mm.
Forewing ground colour pale yellowish ochre; costa with heavy brown suffusion; dorsum with triangular brown patch; terminal area in middle with black patch followed by brown patch along terminal line; lower third of terminal area whitish with some black scales; tornus with black spot; light part of wing with scattered brownish scales; costal strigulae faint. Cilia concolorous with apical area and lower part of termen, blackish at tornus, otherwise brown.
Hindwing light grey, with yellowish sheen, becoming lighter towards base. Cilia light grey, with grey cilia line.
Abdomen: Cream-coloured, abdominal tuft yellowish.
Genitalia with uncus slender, membranous; socii sub-triangular, attached to square-shaped frame, with long setae; basal part of valva sub-quadrangular, ventral margin with triangular process, basal excavation large; cucullus slender, curved, tapered terminally; phallus with short and broad basal part, lower edge extended into curved, rod-like process; bundle of moderately long cornuti in vesica (Fig. 6).

Female. Unknown.

Distribution. Known from the Iringa and Mbeya regions of Tanzania.

Etymology. The species' name refers to the brown suffusion on the costa of the forewing.

Remarks: *Phalarocarpa suffusicosta* sp. nov. differs from other known species of the genus in its simple uncus, lacking a bifurcation. However, other aspects of the male genitalia agree with the other species.

New country records:

Phalarocarpa kryphaios Razowski & Wojtusiak, 2012
(Fig. 4)

Material examined: UGANDA: 2♂♂, Kasese District: Kibale National Park, [UTM-coordinates:] 36N TF 0852 6208,1500 m, 19–24.x.2014, leg. L. Aarvik & K. Larsen, coll. NHMO.

Remarks: *Phalarocarpa kryphaios* was described from Nigeria (Razowski & Wojtusiak, 2012). It was subsequently recorded from Bioco Island (Equatorial Guinea) by Razowski & Karisch (2015).

Phalarocarpa harmographa Meyrick, 1937
(Fig. 3)

Material examined: GHANA: 1♀, Western Region: Kakum Forest, Visitors' Centre, 19. xi. 2011, leg. L. Aarvik & L.O. Hansen, coll. NHMO; 1♂, Volta Region: Paradise Mountain, 22–24.xi.2011, leg. L. Aarvik & L.O. Hansen, coll. NHMO.

Remarks: *Phalarocarpa harmographa* is the type species of the genus *Phalarocarpa*. It was described from Uganda, and the type specimen was reared from the host plant genus *Acanthus* L. (1753) (Acanthaceae) (Meyrick, 1937). Clarke (1958, pl. 87) illustrated the type specimen, which lacks the abdomen. Razowski's (2012) redescription of the species was based on material from the Congo and included illustrations of adults and the genitalia of both sexes.

DISCUSSION

Members of the genus *Phalarocarpa* are forest dwellers and are distributed in western and central Africa. *Phalarocarpa suffusicosta* **sp. nov**. is an eastern outlier in the forests of the Udzungwa Mountains in Tanzania. The Udzungwa Mountains are a part of the Eastern Arc which is a disjunct range of ancient mountains in southeastern Kenya and eastern Tanzania (Wasser & Lovett, 1993). The specimen of *P. citrina* **sp. nov**. from Dzalanyama in central Malawi represents the southernmost record of the genus and is far from the species' known locality in Katanga. This underscores the fragmentary knowledge of the genus and African Tortricidae in general.

Razowski (2012) placed *Phalarocarpa* in the tribe Olethreutini. He found similarities in the female genitalia with *Cosmorrhyncha* Meyrick, 1913 and *Phaecadophora* Walsingham, 1900 – i.e. in the sterigma of the former and the signa of the latter. Both these genera belong in Olethreutini, also evident from their male genitalia. However, the male genitalia of *Phalarocarpa* deviate strongly from those of *Cosmorrhyncha* and *Phaecadophora*. They have more in common with certain genera in Enarmoniini: *Tetramoera* Diakonoff, 1968, *Enarmonia* Hübner, [1825] and *Ancylis* Hübner, [1825], which are illustrated by Nasu (2022). The hairy socii and valvae, lacking strong spines, are similar. The bifurcate uncus in *Tetramoera sasakii* Nasu, 2002 is paralleled in *Phalarocarpa* species. Blade-shaped signa are present in several genera of Enarmoniini whereas this condition is rare in Olethreutini (Horak 2006, Nasu 2022). Consequently, we transfer the genus *Phalarocarpa* to the tribe Enarmoniini.

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