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Article

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Taxonomic review of the Afrotropical genus *Anaphosia* Hampson with description of a new species (Lepidoptera: Erebidae: Arctiinae: Lithosiini: Lithosiina)

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Abstract
The Afrotropical Lithosiini genus *Anaphosia* Hampson, 1903, which comprises the largest footman moth species on the continent, is reviewed with one new species described as new to science: *Anaphosia smithi* **sp. n.** The genus is re-described and diagnosed and compared to the similar *Carcinopodia* Hampson, 1900 with which it has been previously confused. Adults, male and female genitalia of all *Anaphosia* species as well as the type species of *Carcinopodia*, *Carcinopodia furcifasciata* (Butler, 1895) are illustrated.

Key words *Anaphosia smithi*, *Carcinopodia*, Democratic Republic of Congo, Rwanda, Tanzania, Zambia, Zimbabwe.

Introduction

The footman moth genus *Anaphosia* Hampson, 1903 was erected to solely include its type species, *Anaphosia cyanogramma* Hampson, 1903, a beautiful insect that is reminiscent of members of the genus *Carcinopodia* Hampson, 1900. Due to some similarities in habitus, members of the two genera have historically been confused by authors with *Carcinopodia* species placed in *Anaphosia* (e.g., Hampson 1909, 1910; Bethune-Baker 1911). In his generic classification of the Afrotropical Lithosiini, Krüger (2015) transferred all bar one of them to *Carcinopodia* thus considering *Anaphosia* as comprising only one nominal taxon (the type species) along with "a further three species awaiting description" (Krüger 2015). Subsequently, a second species, *Anaphosia majori* Ströhle, 2018 with distinct forewing markings was described from southern Ethiopia (Ströhle 2018).

Examination of recently-collected *Anaphosia* specimens in the African Natural History Research Trust collections revealed specimens displaying two differing phenotypes, distinguished by the positioning of the medial line of the forewing: in one, the line is parallel to the postmedial line, and in the other it is perpendicular to the costal margin thus converging with the postmedial line towards the

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anal margin. Further study of specimens standing under the name *A. cyanogramma* housed in several institutional collections suggested that these differences were constant without any intermediate forms and further investigations of the genitalia led to the discovery that these phenotypes represented different species. Upon studying the holotype of *A. cyanogramma* preserved in the Natural History Museum, London the name was fixed to one of the species and the other is described below as new to science.

Material and methods

Abbreviations of the depositories used: ANHRT = African Natural History Research Trust (Leominster, United Kingdom); MWM/ZSM = Museum Witt Munich in the Bavarian State Collection of Zoology (Museum Witt München / Zoologische Staatssammlung München, Munich, Germany); NHMUK (formerly BMNH) = Natural History Museum (London, United Kingdom); OUMNH = Oxford University Museum of Natural History (Oxford, United Kingdom). Other abbreviations used: AV = genitalia slide prepared by A.V. Volynkin; DRC = Democratic Republic of the Congo.

The genitalia were dissected applying standard methods of preparation (Lafontaine & Mikkola 1987; Kononenko 2010), then stained with Eosin Y or Chlorazol Black and embedded in Euparal on microscope slides. The photos of adults were taken using a Nikon D3100/AF-S camera equipped with a Nikkor 18–55 mm lens while the photos of genitalia were taken using the same camera attached to a microscope with an LM-scope adapter. All pictures were processed using the Adobe Photoshop CC 2018 software.

In the type label citations, information provided in quotation marks is transcribed verbatim. Different labels are separated by a slash ("/") while the different lines of the same label are separated by an upright slash ("|"). Any additional data are provided in square brackets.

The male and female genitalia terminology follows Volynkin (2024).

Results

Genus *Anaphosia* Hampson, 1903

Anaphosia Hampson, 1903, *Annals and Magazine of Natural History* (7), 11 (64): 344.
Type species: *Anaphosia cyanogramma* Hampson, 1903, by monotypy (Hampson 1903)

Diagnosis. The genus comprises characteristic and spectacular species, which are the largest footman moths on the African continent. Members of *Anaphosia* (Figs 1–8) are superficially similar to the genus *Carcinopodia* Hampson, 1900 (Figs 15, 16) but the latter is significantly smaller and has a shiny forewing ground colour with a metallic tint, which is matte creamy white in *Anaphosia*. The male genital capsules of the two genera are similar (Figs 9–11, 17) but in *Anaphosia*, the uncus is laterally flattened (whereas it is swollen, proximally dilated and rather dorso-ventrally flattened in *Carcinopodia*), the vinculum has a short saccus (absent in *Carcinopodia*), the juxta has a shallow ventral medial depression (it is deep and subdivides the juxta into two plates fused only dorsally in *Carcinopodia*), and the lamella centralis is long, almost reaching the sacculus ventrally, bearing a swollen setose process proximally (which is short and smooth in *Carcinopodia*). The phallus of *Anaphosia* is similar to *Carcinopodia* but in the latter its distal end is dilated and expandable whereas in *Anaphosia*, the phallus is evenly sclerotised with a narrow distal end. The vesica of *Anaphosia* is broader than in *Carcinopodia* and lacks the elasma. In the female genitalia, *Anaphosia* (Figs 12–14) differs from *Carcinopodia* (Fig. 18) in the 8th tergum not protruding ventrally (in *Carcinopodia*, it is protruded ventrally as two lateral setose lobes enveloping the postvaginal area), the corpus bursae bearing two long ribbon-like signa equal in length (*Carcinopodia* has a short ribbon-like signum dorsally and a second, elliptical signum ventrally), and the longer and helicoid appendix bursae, which is short and more or less conical in *Carcinopodia*.

Re-description. **Adults** (Figs 1–8). Forewing length 18.0–21.0 mm in males and 21.5–24.5 mm in females. Sexual dimorphism limited and expressed only in larger size of female. Antenna blackish, weakly ciliate in both sexes with sparser ciliae in female. Head creamy with admixture of ochreous

scales. Thorax blackish dorsally and with creamy margins, tegula and patagia creamy. Forewing elongate and narrow, with slightly convex costal margin. Forewing pattern black with a bluish iridescence in fresh specimens, consisting of edge of costal margin, cilia and anal margin with exception of subbasal area, medial (absent in *A. majori*) and postmedial transverse lines, and two longitudinal lines in postmedial area arising from the latter. Hindwing pale ochreous-yellow. Abdomen pale ochreous-yellow.

Male genitalia (Figs 9–11). Uncus laterally flattened, with slightly convex dorsal margin, distally tapered, apically pointed, and medio-laterally setose. Tegumen short with fused dorsal halves of its arms. Tuba analis membranous with thin and weakly sclerotised scaphium. Vinculum somewhat longer than tegumen, ventrally V-shaped with short saccus. Valva lobular with almost straight dorsal and medially convex ventral margins. Costa moderately broad and with indistinct distal end; valva apex lobe-like with valvella not protruding beyond its ventral margin. Editum short, thin, not extending into tendon. Diaphragmal part of transtilla membranous. Annelifer broad with medial fold fused with lateral wall of anellus. Lamella centralis well-developed, more or less triangular and ventrally tapered, and with setose swollen protrusion proximally. Sacculus relatively narrow, with setose dorsal margin and short, narrow spike-like distal process not protruding beyond the valva apex. Juxta weakly sclerotised, pentagonal with shallow ventral medial depression. Phallus straight, cylindrical, heavily sclerotised and with slightly dilated anterior end. Vesica broad, more or less globular, curved latero-dorsad, with narrow cluster of fine graniculi proximally, broad triangular cluster of robust graniculi medially, and two diverticula dorsally, of which inner one short and globular while dorsal one conical or utricular. Vesica ejaculatorius originates from medial part of vesica laterally.

Female genitalia (Figs 12–14). Papilla analis weakly sclerotised and setose, trapezoidal with rounded corners. Gonapophyses elongate and thin, anterior one shorter than posterior one. Glandula short, trapezoidal with short lateral arms. Postvaginal area membranous and weakly setose. Postvaginal plate more or less shield-like and with medio-posterior protrusion or incision. Ductus bursae elongate, heavily sclerotised, dorso-ventrally flattened. Corpus bursae broad, globular, membranous with gelatinous and rugose posterior end, bearing two oblique longitudinal ribbon-like signa dorsally and ventrally. Appendix bursae originating postero-laterally on the right side, narrow and helicoid, with weakly gelatinous and rugose proximal section and membranous distal section.

Distribution. Species of the genus are widely distributed in East and eastern-Central Africa, and two of them (*A. cyanogramma* and *A. smithi* **sp. n.**) have ranges extensively overlapping in Zambia. Both species are typical of Miombo woodland (Fig. 22) but based on personal observations by the senior author, in areas of sympatric occurrence, *A. smithi* **sp. n.** tends to inhabit slopes at higher altitudes (Figs 20, 21) while *A. cyanogramma* prefers more lowland habitats (Fig. 22).

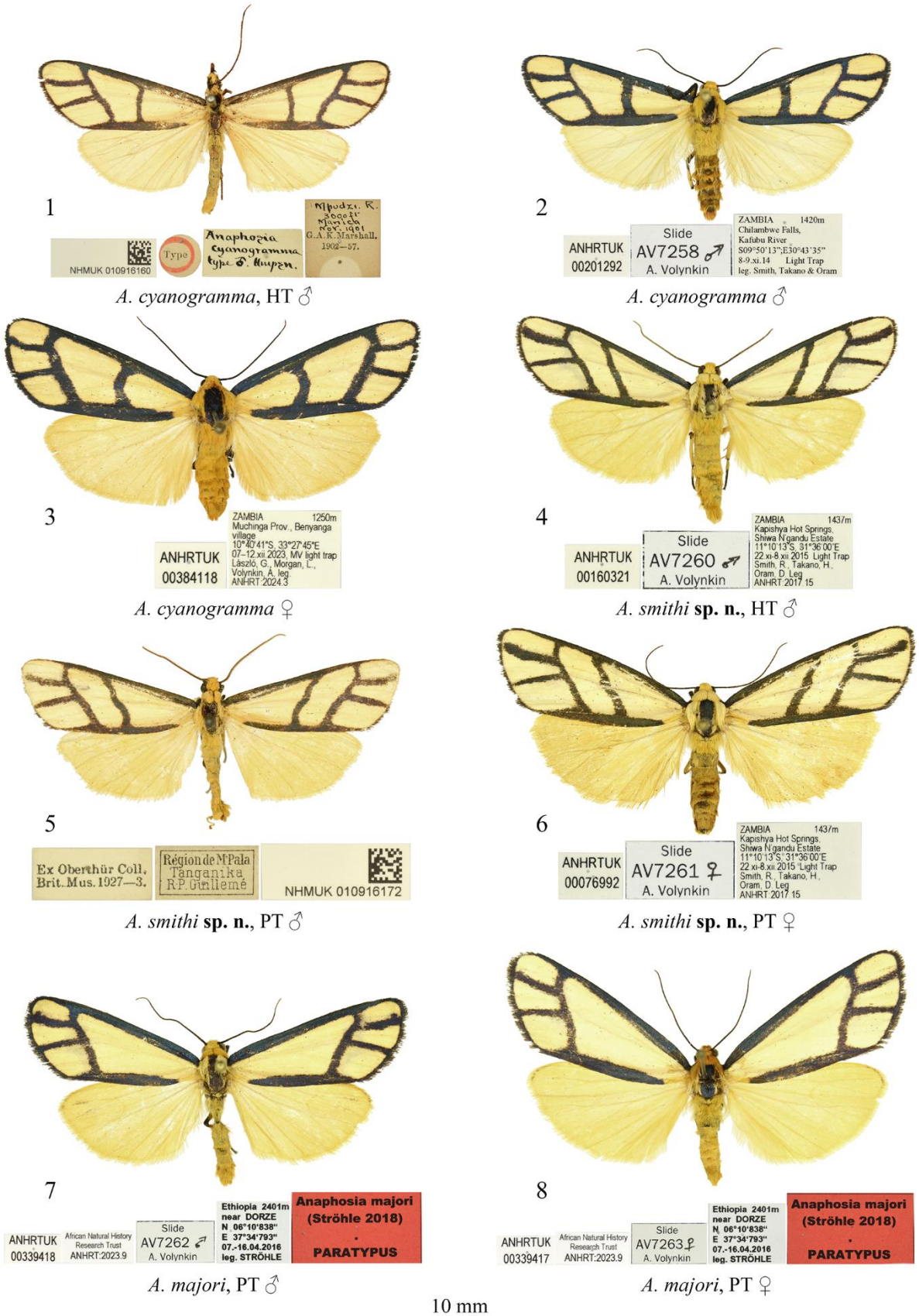
Species content of *Anaphosia*
– *A. cyanogramma* Hampson, 1903
– *A. smithi* **sp. n.**
– *A. majori* Ströhle, 2018

***Anaphosia cyanogramma* Hampson, 1903**
(Figs 1–3, 9, 12)

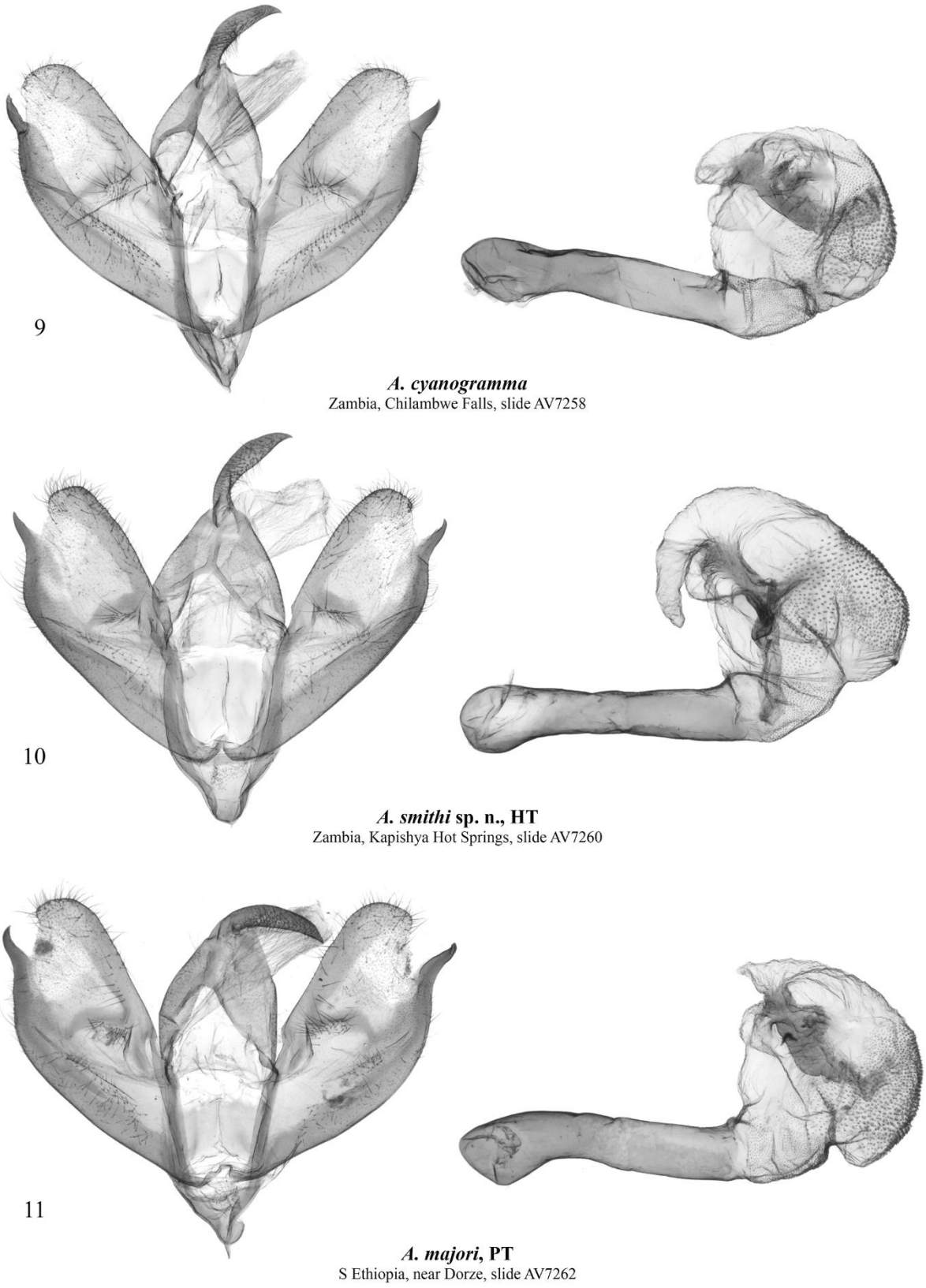
Anaphosia cyanogramma Hampson, 1903, *Annals and Magazine of Natural History* (7), 11 (64): 344 (Type locality: [Zimbabwe] “Mashonaland, Mpodzi River”).

Type material examined. **Holotype** (by monotypy) (Fig. 1): male, “Mpodzi R. | 3000 ft | Manica | Nov. 1901 | G.A.K. Marshall. | 1902–57.” / ‘Anaphosia | cyanogramma | type ♂. Hmpsn.” / red ring “Type” label / QR-code label with unique ID “NHMUK 010916160” (NHMUK).

Additional material examined. **ETHIOPIA**: 1 female, Abyssinia, Debramarkos, 18.v.[19]30, R.E. Cheeseman. B.M. 1931-78. (NHMUK); **TANZANIA**: 1 female, Région de M’Pala, Tanganika, R.P. Guíllemé / Ex Oberthür Coll., Brit. Mus. 1927-4. (NHMUK); 1 female, Rukwa Region, Kalambo Forest Reserve, 1600m, 08°21.132'S, 31°15.641'E, 10.xi.2007, Ph. Darge leg. (ZSM); **ZAMBIA**: 1 male, 1420m, Chilambwe Falls, Kafubu River, 09°50'13"S, 30°43'35"E, 8–9.xi.[20]14, light trap, Smith [R.], Takano [H.] & Oram [D.] leg., gen. prep. No.: AV7258♂ (ANHRT); 1 female, 1191m, Kasanka



Figures 1–8. *Anaphosia* spp.: adults. Depositories of the specimens: 1 and 5 in NHMUK (©The Trustees of NHMUK); 2–4 and 6–8 in ANHRT.



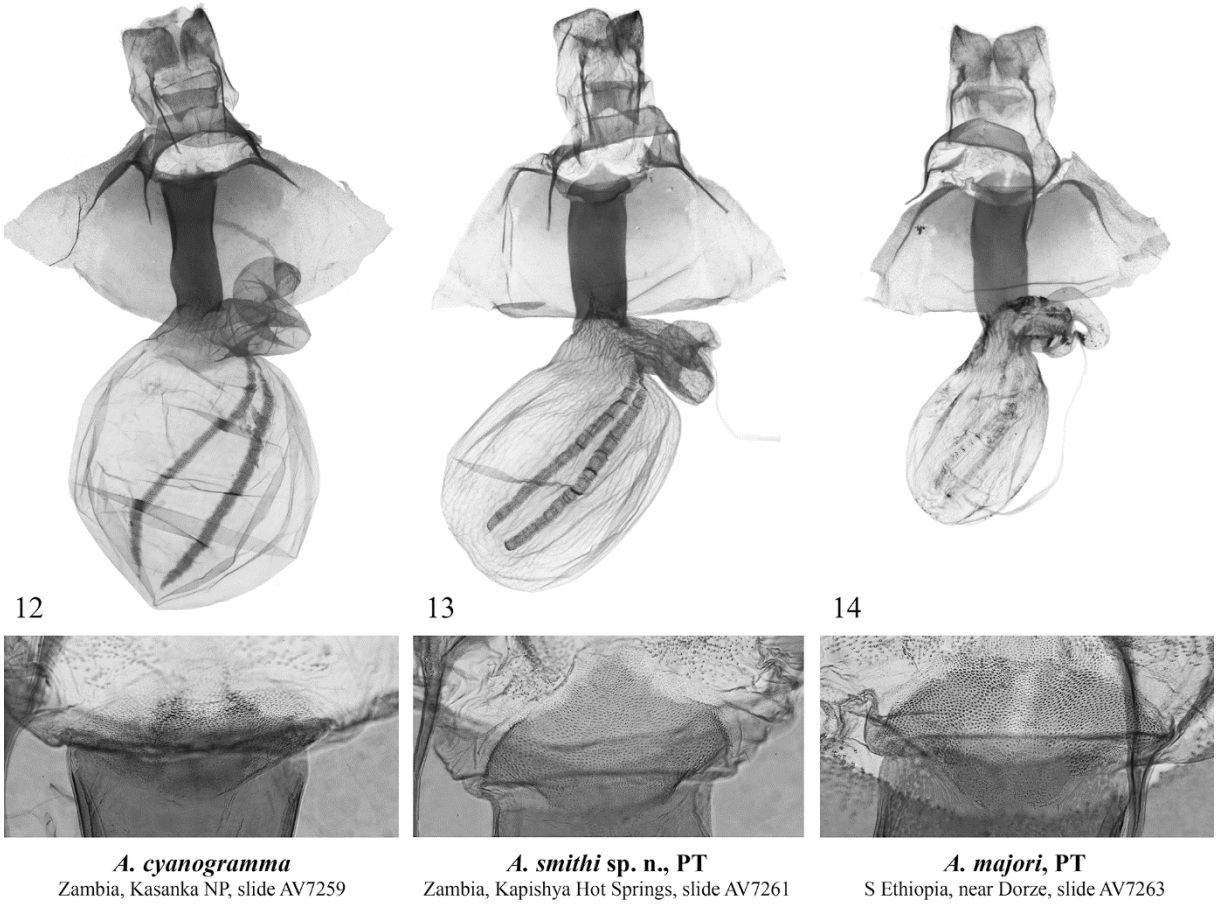
Figures 9–11. *Anaphosia* spp.: male genitalia. The specimens dissected are deposited in ANHRT.

River Pontoon, Kasanka NP, 12°34'23"S, 30°14'05"E, 2–4.xii.[20]12, light trap, Smith, R. & Takano, H. leg., gen. prep. No.: AV7259♀ (ANHRT); 1 female, 1346m, Kambishi School, 11°54'42"S, 25°28'50"E, 10–13.xi.2017, MV light trap, Carter, M., Lloyd, A., Miles, W., Oram, D., Smith, R. leg.

(ANHRT); 7 males, 3 females, 1250m, Muchinga Prov., Benyanga village, 10°40'41"S, 33°27'45"E, 07–12.xii.2023, MV light trap, László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, 1440m, Muchinga Prov., Kahbaira Hill, 10°40'37"S 33°28'11"E, 09–11.xii.2023, actinic light trap, László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, 1400m, Muchinga Province, Jombo village, 10°27'01"S, 33°14'30"E, 30.xi.–05.xii.2023, MV light trap, Bashford, M., Collins, A., László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, 1 female, 1460m, Muchinga Prov., Mutinondo Wilderness Area, 12°27'06"S, 31°17'30"E, 15–17.xii.2023, MV light trap, László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 female, NW Rhodesia: Solwezi, 28.xi.1917, H.C. Dollmann (NHMUK); 1 female, Kayambi, Ubemba, R.P. Guíllemé, 1908 / Ex Oberthür Coll., Brit. Mus. 1927-4. (NHMUK); **DRC**: 1 male, SE Katanga, 8.xii.1907, 4000 ft. / Neave Coll., 1907–230 (NHMUK); 1 female, Likosi, Belgian Congo / Doncaster private coll. Purch. 1927 (OUMNH); **ZIMBABWE**: 1 male, Marandellas, S. Rhodesia / Rothschild Bequest, B.M. 1939-1, unique ID: NHMUK010292519, gen. prep. No.: NHMUK014331141 (prepared by Volynkin) (NHMUK).

Diagnosis. The forewing length is 18.0–20.0 mm in males and 22.5–24.0 mm in females. The species is externally reminiscent of *A. smithi* **sp. n.** and the detailed comparison is provided below in the diagnosis of the latter species.

Distribution. Currently known from Zimbabwe, Zambia, Tanzania, Ethiopia, south-eastern DRC and Rwanda (Ströhle 2018: fig. 10). As this species has previously been confused with the sympatric *A. smithi* **sp. n.**, records from the literature, for example, from Malawi by Joly *et al.* (2008) and Mozambique by Pinhey (1975) are unreliable and require clarification. Pinhey (1975: pl. 42, fig. 756) correctly illustrated an *A. cyanogramma* specimen but without providing any geographical information.



Figures 12–14. *Anaphosia* spp.: female genitalia and their postvaginal plates magnified (below). The specimens dissected are deposited in ANHRT.

***Anaphosia smithi* sp. n.**
https://zoobank.org/urn:lsid:zoobank.org:act:74138013-E64A-484F-BA00-4F0A530C9184
(Figs 4–6, 10, 13)

Type material. **Holotype** (Figs 4, 10): male, "Zambia 1437m | Kapishya Hot Springs, | Shiwa N'gandu Estate | 11°10'13"S, 31°36'00"E | 22.xi.–8.xii.2015 Light Trap | Smith, R., Takano, H., | Oram, D. Leg. | ANHRT:2017.15" / "ANHRTUK | 00160321" / "Slide | AV7260♂ | A. Volynkin" (ANHRT).

Paratypes (19 males, 19 females). **DRC**: 1 male, 1 female, Zaire River exped., Fungurume nr. Kolwezi, 26°15'E, 10°37'S, x.1974, S.L. Sutton, B.M. 1975-229 / *Brachystegia* savannah woodland, unique IDs: NHMUK010914660, NHMUK010914661, gen. prep. Nos.: NHMUK010313113 (male), NHMUK010313114 (female) (prepared by Krüger) (NHMUK); **TANZANIA**: 1 male, 1 female, Région de M'Pala, Tanganika, R.P. Guíllemé / Ex Oberthür Coll., Brit. Mus. 1927-4, unique IDs: NHMUK010916172, NHMUK010916173, gen. prep. Nos.: NHMUK010317583 (male), NHMUK010317584 (female) (prepared by Volynkin) (NHMUK); 1 male, Rukwa Region, Mbizi Mts, Kalambazite, 1610m, 31°58.698'S, 08°18.925'E, 12.xi.2005, Ph. Darge leg. (ZSM); 1 female, Rukwa Region, 14 km W Namanyere, 1290m, 07°27.289'S, 30°54.498'E, 14.xi.2005, Ph. Darge leg. (ZSM); **ZAMBIA**: 2 males, 7 females, same data as holotype (ANHRT); 2 females, same locality as previous but xii.[20]14, M.T. Harvey coll., leg. Smith, R. & Takano, H. (ANHRT); 1 male, 1420m, Chilambwe Falls, Kafubu River, 09°50'13"S, 30°43'35"E, 8–9.xi.[20]14, light trap, Smith [R.], Takano [H.] & Oram [D.] leg. (ANHRT); 1 female, 1080m, Mayukuyuku, Kafue NP, 14°54'55"S, 26°03'47"E, 21–26.xi.[20]13, light trap, Smith [R.], Takano [H.] & Oram [D.] leg. (ANHRT); 1 male, 1166m, Ntumbachushi Falls, Ngona River, Luapula Prov., 09°51'12"S, 28°56'40"E, 3–4.xi.[20]14, light trap, Smith [R.], Takano [H.] & Oram [D.] leg. (ANHRT); 1 female, 1140m, Kalene Hill (Miombo woodland), 11°11'11"S, 24°12'05"E, 27.xi.–3.xii.2020, MV light trap, Chizuwa, D., Choongo, W. leg. (ANHRT); 3 males, 1 female, same locality as previous but 6.xi.2018, Aristophanous, M., Dérozier, V., László, G., Oram, D. leg. (ANHRT); 3 males, 1 female, 1440m, Muchinga Prov., Kahbaira Hill, 10°40'37"S 33°28'11"E, 09–11.xii.2023, actinic light trap, László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, 1250m, Muchinga Prov., Benyanga village, 10°40'41"S, 33°27'45"E, 07–12.xii.2023, MV light trap, László, G., Morgan, L., Volynkin, A. leg., gen. prep. No.: AV8588♂ (ANHRT); 1 female, 1970m, Muchinga Province, Makutu Mountains, upper end of gully, 10°27'30.32"S, 33°12'00.25"E, 03–04.xii.2023, actinic light trap, Bashford, M., László, G., Morgan, L., Volynkin, A. leg., gen. prep. No.: AV8589♀ (ANHRT); 1 male, 2030m, Muchinga Province, Makutu Mountains, ridge, 10°27'26"S, 33°11'55"E, 03–04.xii.2023, actinic light trap, Bashford, M., László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 female, 1790m, Muchinga Province, Makutu Mountains, eastern slope, 10°27'29"S, 33°12'21"E, 03–04.xii.2023, actinic light trap, Bashford, M., László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, 1460m, Muchinga Prov., Mutinondo Wilderness Area, 12°27'06"S, 31°17'30"E, 15–17.xii.2023, MV light trap, László, G., Morgan, L., Volynkin, A. leg. (ANHRT); 1 male, Nyika Plateau, 10°35'17"S, 33°39'16"E, 2064m, 21.xi.2011 (MWM/ZSM); 1 female, Danger Hill, pk 20, north of Mpika, 11°35'50"S, 31°34'24"E, 1703m, 26.xi.2011 (MWM/ZSM); **MALAWI**: 1 female, 1925 Dec. 10, Maiwale, 12 m. E of Fort Johnston, Nyasa l., 3200 ft., rather thick bush. W.A. Lamborn, dd. 1925 (OUMNH); 1 male, the same data as previous but 1925 Dec. 12 (OUMNH); 1 male, the same data as previous but 1925 Dec. 7, on leaf: conspicuous, 110m (OUMNH).

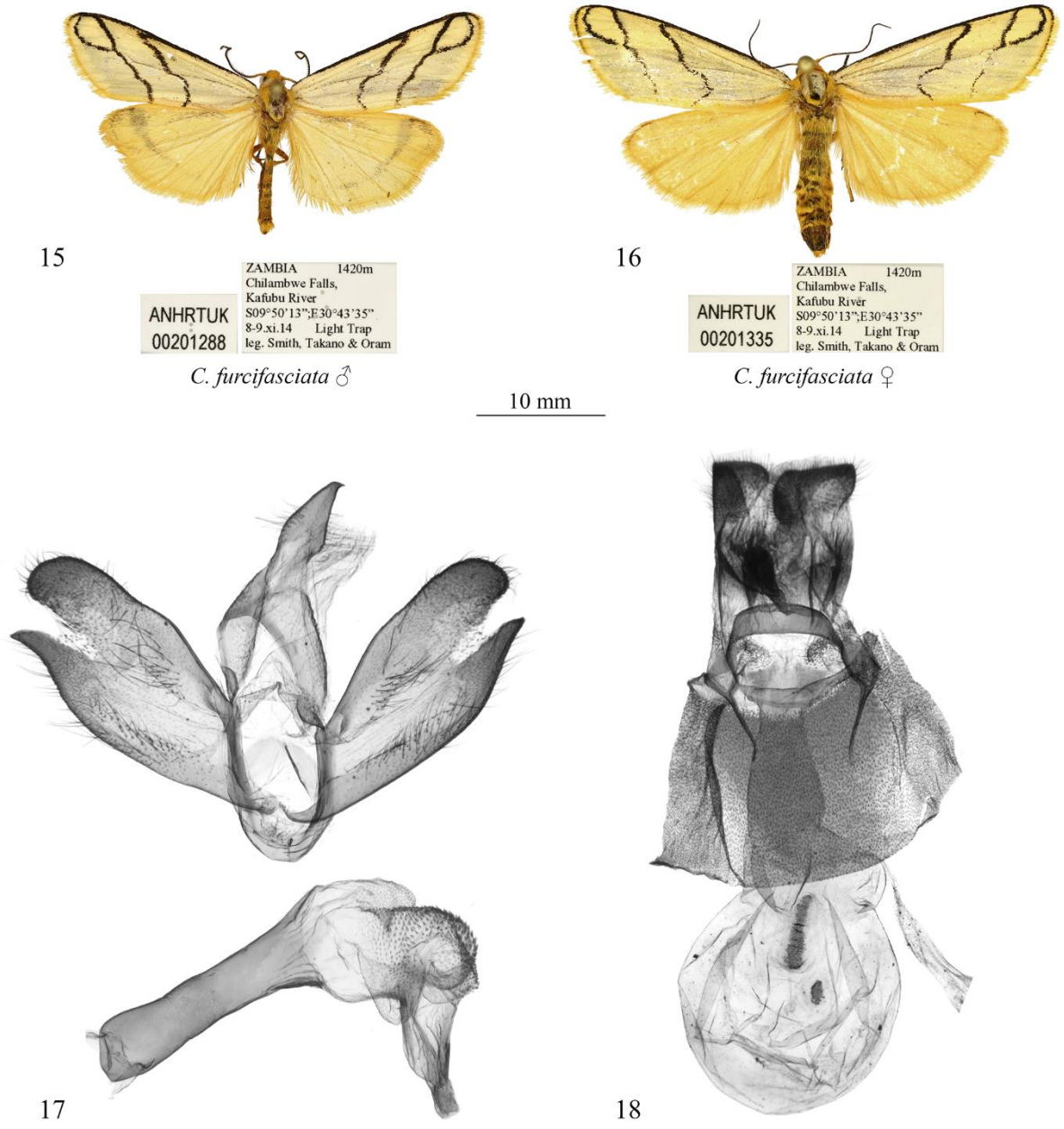
Diagnosis. The forewing length is 20.0–21.0 mm in males and 21.5–24.5 mm in females. *Anaphosia smithi* **sp. n.** is externally reminiscent of *A. cyanogramma*, from which, however, it can easily be distinguished by its medial transverse line of the forewing, which is more or less parallel with the postmedial line whereas in *A. cyanogramma* those lines are convergent near the anal margin forming a trapezium with the blackish costal and anal forewing margins. The male genital capsules of the two species are very similar but in *A. smithi* **sp. n.**, the juxta is larger, the valva is slightly narrower and has a narrower apex, and the lamella centralis is more dorsally dilated than in *A. cyanogramma*. The phalli of the two species are alike but compared to *A. cyanogramma*, the vesica of the new species is longer and broader, has a broader and longer medial cluster of graniculi, and a markedly longer and distally narrower utricular dorsal diverticulum. In the female genitalia, *A. smithi* **sp. n.** differs from *A. cyanogramma* in the somewhat longer apophyses anteriores, the longer and broader postvaginal plate having a medial posterior protrusion (vs. an incision in the congener), the broader ductus bursae, and

the slightly shorter signa bursae. The detailed comparison with *A. majori* is provided below in the diagnosis of the latter species.

Note. This species displays some variability in the width of the area between the medial and postmedial lines of the forewing (Figs 4, 5) even within the same population, with the form having a broader area being more common in Tanzania, north-eastern Zambia and north-eastern DRC. They, however, display no recognisable differences in their genitalia structures.

Distribution. The new species is currently known from Zambia, Malawi, Tanzania, and north-eastern DRC.

Etymology. The new species is dedicated to Mr Richard Smith, Chairman of the Board of Trustees, ANHRT, who, through organising and undertaking numerous entomological expeditions to Sub-Saharan Africa has enabled the discovery of numerous species new to science including this one, of which Mr Smith is one of the collectors of the holotype and a part of the paratypes. The name is a noun in the genitive case.



Figures 15–18. The type species of *Carcinopodia*, *Carcinopodia furcifasciata* (Butler, 1895): adults (15, 16), male (17) and female genitalia (18). The specimens are deposited in ANHRT.

Figure 19. Habitat of *Anaphosia cyanogramma*: NE Zambia, Muchinga Prov., near Benyanga village, 1250m, 10°40'41"S, 33°27'45"E, 08.xii.2023 (Photo by A.V. Volynkin).

Figure 20. Habitat of *Anaphosia smithi* **sp. n.**: NE Zambia, Muchinga Prov., Makutu Mountains, eastern slope, 1750–1800m, ca. 10°27'29"S, 33°12'21"E, 03.xii.2023 (Photo by A.V. Volynkin).

Figure 21. Habitat of *Anaphosia smithi* **sp. n.**: NE Zambia, Muchinga Prov., Makutu Mountains, ridge, 2030m, 10°27'26"S, 33°11'55"E, 03.xii.2023 (Photo by A.V. Volynkin).

Figure 22. Habitat of *Anaphosia cyanogramma* and *A. smithi* **sp. n.**: NE Zambia, Muchinga Prov., Mutinondo Wilderness Area, 1460m, 12°27'06"S, 31°17'30"E, 16.xii.2023 (Photo by A.V. Volynkin).

***Anaphosia majori* Ströhle, 2018**
(Figs 7, 8, 11, 14)

Anaphosia majori Ströhle, 2018, *Neue Entomologische Nachrichten*, 75: 149, figs 1–8, 12, and 13 (Type locality: "Ethiopia, Southern Nations, Dorze, 2401 m, N 06°10'839", E 037°34'793" [06°10.839'N 37°34.793'E]").

Material examined. **Paratypes**: 1 male, 1 female, Ethiopia, 2401m, near Dorze, N 06°10'848" E 37°34'793" [06°10.848'N 37°34.793'E], 07–16.iv.2016, Ströhle [M.] leg. / Anaphosia majori (Ströhle, 2018) PARATYPUS (red label) / African Natural History research Trust ANHRT:2023.9, unique IDs: ANHRTUK 00339417 and 00339418, gen. prep. Nos.: AV7262♂, AV7263♀ (ANHRT).

Diagnosis. The forewing length is 21.0 mm in the male and 24.0 mm in the female examined (according to the original description (Ströhle 2018), the wingspan ranges from 3.8–4.5 cm). *Anaphosia majori* Ströhle, 2018 is an unmistakable species clearly differing from two other congeners in the lack of the medial line of the forewing. The male genital capsule of *A. majori* differs from *A. cyanogramma* in the slightly broader valva with a more convex ventral margin, the somewhat longer distal saccular process, and the more curved lamella centralis; compared to *A. smithi* **sp. n.**, it has a shorter juxta, a considerably broader valva with a broader apex and a medially convex ventral margin (whereas it is only distally convex in the congener), and a curved and dorsally narrower lamella centralis. The phallus of *A. majori* is somewhat anteriorly downcurved whereas it is nearly straight in *A. cyanogramma* and *A. smithi* **sp. n.** The vesica of *A. majori* is remarkably shorter and slightly narrower than in *A. smithi* **sp. n.** and has a shorter and narrower medial cluster of finer graniculi, and a markedly shorter and conical dorsal diverticulum, which is elongate and utricular in the congener. The vesica of *A. majori* is most similar to *A. cyanogramma*, from which it is distinguished by the slightly finer graniculi of the medial cluster, and the somewhat shorter, narrower, and more apically tapered dorsal diverticulum. In the female genitalia, *A. majori* differs from *A. cyanogramma* and *A. smithi* **sp. n.** in the shorter gonapophyses, the shorter and narrower corpus bursae bearing markedly shorter and narrower signa, and the longer and narrower distal section of the appendix bursae. The ductus bursae of *A. majori* is similar to *A. smithi* **sp. n.** and narrower than in *A. cyanogramma*. The postvaginal plate of *A. majori* is similar to *A. cyanogramma* but shorter and has a narrower and deeper medial posterior incision, while *A. smithi* **sp. n.** has a posterior protrusion instead.

Distribution. The species is currently known only from southern Ethiopia (Ströhle 2018).

Conclusions

Examination of a series of *Anaphosia* specimens in the ANHRT collections has resulted in the identification and description of a beautiful new species. Although numerous historic specimens of *A. smithi* **sp. n.** were found in institutional collections, it was presumably overlooked due to its similarity with *A. cyanogramma*, perhaps only being considered as a variant with a differing medial line on the forewing. It is assumed that this new species (and *A. majori*) were two of the three species that Krüger (2015) had identified as being undescribed, but it is uncertain what the third species may be. Recent revisions of other groups of Afrotropical Lithosiini (e.g., Volynkin & László 2020a, 2020b, 2021; Volynkin 2022a, 2022b, 2023) have revealed a hidden diversity of species thus suggesting that many species in this tribe await description; however, for one as large and as striking as *A. smithi* **sp. n.** to have remained undescribed is somewhat surprising.

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References

Bethune-Baker, G.T. (1911) Descriptions of new African Heterocera. *Annals and Magazine of Natural History*. Series 8, 7 (42), 530–576. [https://www.biodiversitylibrary.org/page/22098491]

Hampson, G.F. (1903) Descriptions of new Syntomidae and Arctiadae. *Annals and Magazine of Natural History*. Series 7, 11 (64), 337–351 [https://www.biodiversitylibrary.org/page/19367884]

Hampson, G.F. (1909) Descriptions of new genera and species of Syntomidae, Arctiadae, Agaristidae and Noctuidae. *Annals and Magazine of Natural History*. Series 8, 4 (22), 344–388. [https://www.biodiversitylibrary.org/page/22097723]

Hampson, G.F. (1910) Zoological collections from Northern Rhodesia and adjacent territories: Lepidoptera Phalaenae. *Proceedings of the Zoological Society of London*, 1910 (2), 388–510 + Pls 36–41. [https://www.biodiversitylibrary.org/page/31563124]

Joly, C., Bernaud, D., Pierre, J. & Murphy, R.J. (2008) Second entomological mission to Malawi. *Lambillionea*, 108 (Supplement), 3–47.

Kononenko, V.S. (2010) *Micronoctuidae, Noctuidae: Rivulinae – Agaristinae (Lepidoptera). Noctuidae Sibiricae. Vol. 2*. Entomological Press, Sorø, 475 pp.

Krüger, M (2015) *Generic classification of Afrotropical footman moths sensu stricto (Lepidoptera: Erebidae: Arctiinae: Lithosiini (partim.)). Transvaal Museum Monograph. Vol. 15*. Ditsong National Museum of Natural History, Pretoria, 176 pp.

Lafontaine, J.D. & Mikkola, K. (1987) Las-och-nyckel systemen i de inre genitalierna av Noctuidae (Lepidoptera) som taksonomiska kaennetecken. [Lock-and-key systems in the inner genitalia of Noctuidae (Lepidoptera) as a taxonomic character.] *Entomologiske Meddelelser*, 55, 161–167. [In Swedish]

Pinhey, E.C.G. (1979) *Moths of Southern Africa*. A.A. Balkema, Rotterdam, 163 pp.

Ströhle, M.G. (2018) Eine neue Art der Gattung *Anaphosia* Hampson, 1903 aus Äthiopien (Lepidoptera, Arctiidae Arctiinae, Lithosiini). *Neue Entomologische Nachrichten*, 75, 149–151. [In German] [https://www.zobodat.at/pdf/Neue-Entomologische-Nachrichten_75_0149-0151.pdf]

Volynkin, A.V. (2022a) Taxonomic review of the Afrotropical genus *Birketsmithiola* Krüger with descriptions of five new species (Lepidoptera: Erebidae: Arctiinae). *Zootaxa*, 5205 (1), 73–86. https://doi.org/10.11646/zootaxa.5205.1.5

Volynkin, A.V. (2022b) Taxonomic review of the Afrotropical genus *Gracililema* Krüger with descriptions of three new species (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Zootaxa*, 5115 (1), 63–78. https://doi.org/10.11646/zootaxa.5115.1.4

Volynkin, A.V. (2023) Contribution to the knowledge of the genus *Siccia* Walker (=*Aemene* Walker, syn. n.) in the Afrotropics with descriptions of seventy-three new species, three new subspecies, and a check-list of Asiatic taxa of the genus (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Ecologica Montenegrina*, 64, 1–184. https://dx.doi.org/10.37828/em.2023.64.1

Volynkin, A.V. (2024) On the terminology of the genitalia structures of lichen moths (Lepidoptera: Erebidae: Arctiinae: Lithosiini) with some references to Noctuidae. *Ecologica Montenegrina*, 73, 176–207. https://dx.doi.org/10.37828/em.2024.73.18

Volynkin, A.V. & László, Gy.M. (2020a) Review of the *Cyana rejecta* (Walker, 1854) species-group, with descriptions of three new species from mainland Africa and a new subspecies from Madagascar (Lepidoptera, Erebidae, Arctiinae, Lithosiini). *Zootaxa*, 4890 (3), 330–346. https://doi.org/10.11646/zootaxa.4890.3.2

Volynkin, A.V. & László, Gy.M. (2020b) Revision of the genus *Palaeugoa* Durante, 2012, with descriptions of seven new species (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Ecologica Montenegrina*, 36, 53–77. http://dx.doi.org/10.37828/em.2020.36.5

Volynkin, A.V. & László, Gy.M. (2021) *Siccasura*, a new genus for the *Afrasura numida* (Holland, 1893) species-group, with descriptions of six new species (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Ecologica Montenegrina*, 40, 1–25. http://dx.doi.org/10.37828/em.2021.40.1