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ARTICLE

On the taxonomy of the genera *Cyana* Walker, *Palaeugoa* Durante, *Euproctosia* Hampson, and *Lymantriopsis* Hampson from continental Africa with the description of five new genera, three new subgenera, and fifteen new species (Lepidoptera: Erebidae: Arctiinae: Lithosiini)

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Abstract

The paper is devoted to the taxonomy of certain Afrotropical genera related to *Cyana* Walker, 1854, viz. *Palaeugoa* Durante, 2012, *Euproctosia* Hampson, 1914, and *Lymantriopsis* Hampson, 1900. *Vulpeculella* Karisch, 2013, **stat. n.** is raised to genus level from a subgenus of *Cyana*. The genus-group names *Paravulpeculella* Karisch, 2013 and *Louisia* Karisch, 2013 are transferred from *Cyana* to *Vulpeculella* at the rank of subgenera: *Vulpeculella* subgenus *Paravulpeculella* Karisch, 2013, **stat. rev.** and *Vulpeculella* subgenus *Louisia* Karisch, 2013, **stat. rev.** The genus-group name *Cyabarda* Karisch, 2013 is synonymised with *Paravulpeculella*. Five new genera, three new subgenera, and fifteen new species are described: *Vulpeculella* (*Vulpeculella*) *admiranda* **sp. n.** (Democratic Republic of Congo), *Reticuligoa* **gen. n.** (type species: *Palaeugoa asafis* Volynkin & László, 2020), *Reticuligoa meyi* **sp. n.** (Uganda), *Palaeugoa* (*Sacculigoa*) **subgen. n.** (type species: *Palaeugoa smithi* Volynkin & László, 2020), *Palaeugoa* (*Sacculigoa*) *montana* **sp. n.** (Cameroon), *Afroadites* **gen. n.** (type species: *Palaeugoa ndoki* Volynkin, 2024), *Afroadites phebe* **sp. n.** (Cameroon), *Euproctosia* (*Pseudoproctosia*) **subgen. n.** (type species: *Euproctosia* (*Pseudoproctosia*) *pemba* **sp. n.**), *Euproctosia* (*Pseudoproctosia*) *pemba* **sp. n.** (Tanzania), *Lymantriopsis mysterica* **sp. n.** (Liberia, Ghana), *Euproctosiella* **gen. n.** (type species: *Euproctosiella elegans* **sp. n.**), *Euproctosiella elegans* **sp. n.** (Republic of Congo), *Euproctosiella amabere* **sp. n.** (Uganda), *Processosia* **gen. n.** (type species: *Processosia* (*Processosia*) *obscura* **sp. n.**), *Processosia* (*Processosia*) *obscura* **sp. n.** (Republic of Congo, Democratic Republic of Congo, Gabon, Uganda, Liberia), *Processosia* (*Processosia*) *banco* **sp. n.** (Ivory Coast), *Processosia* (*Armatosia*) **subgen. n.** (type species: *Processosia* (*Armatosia*) *imbalanga* **sp. n.**), *Processosia* (*Armatosia*) *imbalanga* **sp. n.** (Republic of Congo), *Processosia* (*Armatosia*) *crystallina* **sp. n.** (Gabon), *Processosia* (*Armatosia*) *asymmetrica* **sp. n.** (Liberia, Ivory Coast, Ghana), *Simplicosia* **gen. n.** (type species: *Simplicosia smithi* **sp. n.**), *Simplicosia smithi* **sp. n.** (Republic of Congo, Democratic Republic of Congo, Gabon), and *Simplicosia nigrescens* **sp. n.** (Republic of Congo). Twenty-one new combinations are introduced: *Vulpeculella* (*Vulpeculella*) *basisticta* (Hampson, 1914), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *loloana* (Strand, 1912), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *ueleana* (Karisch, 2003), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *rubritermina* (Bethune-Baker, 1911), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *rawlinsi* (Karisch, 2013), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *rubriterminalis* (Strand, 1912), **comb. n.**, *Vulpeculella* (*Vulpeculella*) *luchoana* (Karisch, 2003), **comb. n.**, *Vulpeculella* (*Paravulpeculella*) *pallidilinea* (Karisch, 2003), **comb. n.**, *Vulpeculella* (*Paravulpeculella*) *torrida* (Holland, 1893), **comb. n.**, *Vulpeculella* (*Paravulpeculella*) *nambi* (Volynkin & László, 2019), **comb. n.**, *Vulpeculella* (*Paravulpeculella*) *suessmuthi* (Karisch, 2013), **comb. n.**, *Vulpeculella* (*Louisia*) *quentini* (Karisch, 2003), **comb. n.**, *Vulpeculella* (*Louisia*) *yaseminae* (Baron & Karisch, 2016), **comb. n.**, *Vulpeculella* (*Louisia*) *smithi* (Volynkin & László, 2019), **comb. n.**, *Reticuligoa takanoi* (Volynkin & László, 2020), **comb. n.**, *Reticuligoa asafis* (Volynkin & László, 2020), **comb. n.**, *Afroadites aristophanousi* (Volynkin & László, 2020), **comb. n.**, *Afroadites laszloi* (Volynkin, 2024), **comb. n.**, *Afroadites ndoki* (Volynkin, 2024), **comb. n.**, *Afroadites ngoko* (Volynkin & László, 2020), **comb. n.**, and *Afroadites peregrinus* (Hacker, 2014), **comb. n.** Lectotypes are

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designated for *Euproctosia cretata* Hampson, 1914 and *Nudaria lacteata* Holland, 1893. Adults and male and female genitalia of the taxa considered are illustrated.

Key words: *Afroadites*, *Euproctosiella*, lectotype, new combination, new status, new synonym, *Processosia*, *Reticuligoa*, *Simplicosia*, *Vulpeculella*.

Introduction

Cyana Walker, 1854 (type species: *Cyana detrita* Walker, 1854, by monotypy) is one of the most species-rich and morphologically diverse genera in the subtribe Lithosiini. Bendib & Minet (1999) placed *Cyana* in the subtribe Nudariina alongside the morphologically similar West Palaearctic genus *Paidia* Hübner, [1819]. In his fundamental work devoted to the Lithosiini fauna of Borneo, Holloway (2001) noted the diverse morphology of the genus but did not make any changes in the genus' systematics other than noting that the name *Sphragidium* Butler, 1887 "would be applicable to" the "complex of striking yellow, orange, red and black species". Twelve years later, in his revision of the Afrotropical taxa of the genus *Cyana*, Karisch (2013) subdivided the genus into 23 subgenera. These were applied mostly to the Afrotropical fauna while the placement of a number of Asian and Australasian taxa remained unclear as almost all available Asian and Australasian genus-group names (viz. *Doliche* Walker, 1854, *Bizone* Walker, 1854, *Chionaema* Herrich-Schäffer, [1855], *Clerckia* Aurivillius, 1882 (=*Gnophrioides* Heylaerts, 1891), *Exotrocha* Meyrick, 1886, and *Sphragidium*) were treated by Karisch (2013) as distinct subgenera without any species but the type ones being associated with them. Two years later, the '*Cyana effracta* (Walker, 1854) species-group' was erected as the distinct genus *Kailasha* N. Singh & Kirti, 2015 (Kirti & Singh 2015), which was subsequently synonymised with *Nephelomilta* Hampson, 1900, the genus-group name originally erected solely for the South Indian reddish-coloured *Nephelomilta suffusa* (Hampson, 1891), by Volynkin & Černý (2018). In his revision of *Cyana* from New Guinea, De Vos (2017) described the subgenus *Cryptanaema* De Vos, 2017 to include 13 New Guinean and one Australian species of the genus characterized by broad wings and fuscous coloration. De Vos (2017) also applied the genus-group name *Clerckia* Aurivillius, 1882 at subgeneric rank to 18 narrow-winged and predominantly black and orange-red-coloured species, and placed the rest of the Asian taxa, along with two New Guinean species, having whitish ground colour in the nominate subgenus. Furthermore, De Vos (2017) treated *Bizone*, *Doliche* and *Chionaema* as junior synonyms of the nominate subgenus, and *Exotrocha*, *Sphragidium*, and *Gnophrioides* as junior synonyms of *Clerckia*.

Besides the aforementioned West Palaearctic *Paidia* and Oriental *Nephelomilta*, the continental African genus *Palaeugoa* Durante, 2012 was considered related to *Cyana* by Volynkin & László (2020) due to the external similarity and sharing such genital characters as the uncus fused with the tuba analis in males and the large, bulla-shaped appendix bursae in females. Further studies of the unplaced little-known Afrotropical Lithosiini genera led the author of the present paper to conclude that two of them, *Euproctosia* Hampson, 1914 and *Lymantriopsis* Hampson, 1900, should also be placed near *Cyana*. In the course of examination of extensive unidentified Afrotropical Lithosiini materials housed in the African Natural History Research Trust (United Kingdom) and some other institutional and private collections, a number of unknown taxa related to *Cyana* at the species, subgenus and genus ranks were discovered. The result of this study is the present paper containing descriptions of five new genera, three new subgenera, and fifteen new species from mainland Africa. In addition, the detailed morphological analysis of various groups within *Cyana* indicates that the complex of four subgenera *sensu* Karisch (2013) represents a distinct genus, to which the genus-group name *Vulpeculella* Karisch, 2013 is applied herein.

Material and methods

Abbreviations of the depositories used: ANHRT = African Natural History Research Trust (Leominster, United Kingdom); CGM = research collection of Günter C. Müller (Freising, Germany); CMNH = Carnegie Museum of Natural History (Pittsburgh, United States); MfN = Museum of Natural History, Berlin (Museum für Naturkunde, Berlin, Germany); 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); ZFMK = Zoological Research Museum Alexander Koenig

(Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany); ZSM = Bavarian State Collection of Zoology (Zoologische Staatssammlung München, Munich, Germany). Other abbreviations used: AV = genitalia slide prepared by A.V. Volynkin; DRC = Democratic Republic of the Congo; HT = holotype; LT = lectotype; NNNP = Nouabalé-Ndoki National Park; NP = National Park; NR = National Reserve; OKNP = Odzala-Kokoua National Park; PPA = Proposed Protected Area; PT = paratype; SR = Special Reserve.

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, or preserved in glycerine in micro vials pinned under the specimens. The photos of adults were taken using a Nikon D3100/AF-S or Nikon D7500 camera equipped with a Nikkor 18–55 mm or Sigma 105 mm F2.8 EX DG Macro OS lens while the photos of genitalia were taken using the aforementioned cameras attached to a microscope with an LM-scope adapter. All pictures were processed using the Adobe Photoshop CC 2018 software.

For the holotype 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 a vertical bar ("|"). Any additional data are provided in square brackets. In the additional specimen (including paratype) label citations, the labels referring to the same locality and collecting event but with different date ranges belonging to different collecting methods are cited with a range of dates corresponding to the whole collecting event.

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

DNA barcodes were obtained by removing tarsal segments or whole legs from 69 adult specimens of 23 morphologically recognised species. *Eilema caniolum* (Hübner, [1808]) (accessed from the BOLD public database) and *Afrasura indecisa* (Walker, 1869) were selected as outgroup taxa (see Table). The tissues were submitted to the Canadian Centre for DNA Barcoding (CCDB, Biodiversity Institute of Ontario, University of Guelph) for DNA extraction, amplification and sequencing of cytochrome oxidase subunit I (COI-5P) applying Single Molecule Real-Time sequencing through the Sequel (PacBio) pipeline (Hebert *et al.* 2018). Sequences were aligned using MUSCLE and edited in MEGA version X (Kumar *et al.* 2018), and genetic divergences within and between species were calculated using the Kimura 2-parameter model (Kimura 1980). Phylogenetic tree searches were performed using Bayesian Inference (BI) and Maximum Likelihood (ML). BI analyses were performed using MrBayes version 3.2.7 (Ronquist *et al.* 2012). Metropolis-coupled Markov chain Monte Carlo (MCMC) analyses were run with four chains (one cold and three heated) for 10,000,000 generations sampling every 100 generations, discarding the first 25% as burn-in. The two runs converged with the standard deviation of split frequencies 0.004. ML analyses were performed in MEGA, the model parameters optimised for the dataset using the Bayesian Information Criterion (GTR+I). Support for clades was evaluated for BI using posterior probabilities (PP) and ML using bootstrapping (BS) with 500 replicates. Trees were visualised and annotated in FigTree version 1.4.4 and Adobe Photoshop CC 2018 software. The COI-5P sequences are available from the BOLD Systems website (www.boldsystems.org).

Table. Specimen, barcode and collecting locality data for the 69 specimens of *Spatulosia* and two specimens of *Afrasura indecisa* and *Eilema caniolum* used in the present study. SL = Sequence length.

Species / type status	Sex	Locality	Sample ID	BOLD Process ID	SL
Cyana pretoriae	♀	Zambia, Kalambo Falls	ANHRTUK-00083416	ANLMN387-21	656
Vulpeculella (*Vulpeculella*) *basisticta*	♂	Liberia, Foya PPA	ANHRTUK-00026411	ANLMN348-21	654
Vulpeculella (*Vulpeculella*) *luchoana*	♂	Congo, NNNP, Bomassa Forest	ANHRTUK00293007	ANLMO7997-23	654
Vulpeculella (*Paravulpeculella*) *pallidilinea*	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00160420	ANLMN365-21	653
Vulpeculella (*Paravulpeculella*) *torrida*	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00105912	ANLMN325-21	653
Vulpeculella (*Louisia*) *quentini*	♂	Cameroon, Nkoteng Forest	ANHRTUK-00059860	ANLMN316-21	654
Reticuligoa asafis HT	♂	Cameroon, Nkoteng Forest	ANHRTUK-00060252	ANLMN1920-21	654
Reticuligoa asafis	♂	Congo, NNNP, Mbeli bai	ANHRTUK00275764	ANLMO7385-23	653
Reticuligoa asafis	♂	Congo, NNNP, Ndoki formation	ANHRTUK00291392	ANLMO7925-23	653
Reticuligoa takanoi HT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00107582	ANLMN1919-21	654
Palaeugoa (*Palaeugoa*) *secunda* HT	♂	Sierra Leone, Western Area Peninsula	ANHRTUK-00073622	ANLMN1904-21	652
Palaeugoa (*Palaeugoa*) *camerunensis*	♂	Congo, NNNP, Mbeli bai	ANHRTUK00275925	ANLMO7383-23	654
Palaeugoa (*Palaeugoa*) *camerunensis*	♂	Congo, NNNP, Bomassa	ANHRTUK00275877	ANLMO7384-23	654
Palaeugoa (*Sacculigoa*) *smithi* HT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00137800	ANLMN1918-21	654

Table (continued from page 8)

Species / type status	Sex	Locality	Sample ID	BOLD Process ID	SL
Afroadites ndoki PT	♂	Congo, NNNP, Mbeli camp	ANHRTUK00284425	ANLMO7344-23	653
Afroadites ndoki PT	♂	Congo, NNNP, Bomassa camp	ANHRTUK00290794	ANLMO7926-23	654
Afroadites ndoki PT	♀	Congo, NNNP, Bomassa Forest,	ANHRTUK00292970	ANLMO7946-23	653
Afroadites laszloi PT	♂	Congo, NNNP, Mbeli camp	ANHRTUK00201159	ANLMO8199-23	654
Afroadites aristophanousi HT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00107454	ANLMN1921-21	655
Euproctosia cretata	♂	Ivory Coast, Banco NP	ANHRTUK-00165003	ANLMN455-21	653
Euproctosia cretata	♂	Ivory Coast, Banco NP	ANHRTUK-00134231	ANLMN456-21	653
Euproctosia cretata	♂	Ivory Coast, Banco NP	ANHRTUK-00134222	ANLMN457-21	655
Euproctosia cretata	♂	Ivory Coast, Banco NP	ANHRTUK-00134230	ANLMN458-2	654
Euproctosia cretata	♂	Liberia, Wetezu camp	ANHRTUK-00150870	ANLMN459-21	655
Euproctosia cretata	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00107515	ANLMN460-21	654
Euproctosia cretata	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00107571	ANLMN461-21	654
Euproctosia cretata	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00193509	ANLMN462-21	654
Euproctosia cretata	♂	Guinea, Bossou Forest	ANHRTUK-00153468	ANLMN464-21	654
Euproctosia cretata	♂	Guinea, Bossou Forest	ANHRTUK-00153480	ANLMN465-21	653
Euproctosia cretata	♂	Guinea, Serengbara	ANHRTUK-00150659	ANLMN466-21	654
Euproctosia cretata	♂	Guinea, Ziela	ANHRTUK-00192427	ANLMN467-21	653
Euproctosia cretata	♀	Liberia, Wologizi Mts, Ridge camp	ANHRTUK-00020044	ANLMN468-21	654
Euproctosia cretata	♀	Liberia, Wologizi Mts, Ridge camp 2	ANHRTUK-00060188	ANLMN469-21	654
Euproctosia cretata	♂	Congo, NNNP, Makao Forest	ANHRTUK00292650	ANLMO7927-23	653
Lymantriopsis lacteata	♀	Liberia, Lake Piso area	ANHRTUK-00199607	ANLMN1292-21	654
Lymantriopsis lacteata	♀	Liberia, Lake Piso area	ANHRTUK-00199608	ANLMN1293-21	655
Lymantriopsis lacteata	♀	Liberia, Lake Piso area	ANHRTUK-00199615	ANLMN1294-21	655
Lymantriopsis lacteata	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00193424	ANLMN463-21	655
Lymantriopsis lacteata	♀	Guinea, Serengbara	ANHRTUK-00159095	ANLMN472-21	655
Lymantriopsis lacteata	♀	Guinea Ziela	ANHRTUK-00192382	ANLMN473-21	655
Lymantriopsis lacteata	♀	Guinea, Ziela	ANHRTUK-00192385	ANLMN474-21	654
Lymantriopsis mysterica HT	♀	Liberia, Foya PPA	ANHRTUK-00019868	ANLMN470-21	654
Lymantriopsis mysterica PT	♀	Liberia, Wologizi Mts, Base camp	ANHRTUK-00020194	ANLMN471-21	654
Processosia obscura PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00138752	ANLMN889-21	654
Processosia obscura PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00162588	ANLMN890-21	654
Processosia obscura PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK00208801	ANLMO7320-23	654
Processosia obscura PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK00208830	ANLMO7321-23	653
Processosia obscura PT	♂	Congo NNNP, Bomassa Forest	ANHRTUK00292528	ANLMO7920-23	655
Processosia obscura PT	♂	Congo, NNNP, Bomassa Forest	ANHRTUK00292590	ANLMO7921-23	653
Processosia obscura HT	♂	Congo, NNNP, Ndoki formation	ANHRTUK00292699	ANLMO7923-23	656
Processosia obscura PT	♀	Congo, NNNP, Bomassa camp	ANHRTUK00290809	ANLMO7924-23	654
Processosia obscura PT	♂	Liberia, Foya PPA	ANHRTUK-00142180	ANLMN886-21	653
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK-00166331	ANLMN887-21	654
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK-00134317	ANLMN888-21	652
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK00220607	ANLMO7316-23	653
Processosia banco HT	♂	Ivory Coast, Banco NP	ANHRTUK00220609	ANLMO7317-23	653
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK00220630	ANLMO7318-23	654
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK00220631	ANLMO7319-23	653
Processosia banco PT	♂	Ivory Coast, Banco NP	ANHRTUK00164982	ANLMO7323-23	654
Processosia crystallina HT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00165674	ANLMN475-21	655
Processosia asymmetrica HT	♂	Liberia, Foya PPA	ANHRTUK-00020104	ANLMN883-21	651
Processosia asymmetrica PT	♂	Ivory Coast, Banco NP	ANHRTUK00220632	ANLMO7326-23	653
Simplicosia smithi PT	♂	Gabon, Ivindo, Dilo ANPN camp	ANHRTUK-00163075	ANLMN876-21	654
Simplicosia smithi PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00162616	ANLMN878-21	654
Simplicosia smithi PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00111231	ANLMN879-21	652
Simplicosia smithi PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00107550	ANLMN880-21	654
Simplicosia smithi PT	♂	Gabon, Mikongo (Rougier)	ANHRTUK-00138755	ANLMN881-21	655
Simplicosia smithi PT	♂	Congo, NNNP, Makao Forest	ANHRTUK00292629	ANLMO7929-23	656
Afrasura indecisa	♂	Liberia, Wologizi Mts, Ridge camp	ANHRTUK-00020180	ANLMN043-21	654
Eilema caniolum	♂	Austria, Kaernten	KLM Lep 01652	ABOLA132-14	658

Results

Molecular data

Although the nomenclatural acts presented below are based on morphological characters, they also correspond to the results of the COI-5P-based phylogenetic analyses. The topologies resulting from the BI and ML analyses were mostly congruent. However, because the topology of the '*Palaeugoa*' clade was poorly resolved in the ML analysis (see the Supplementary File on the journal webpage), the better-resolved BI tree was selected for illustration in the present paper (Fig. 1). In both analyses, five major clades were recovered, which fully aligns with the morphological characters of the groups included in the present study.

The '*Palaeugoa*' clade (PP: 100; BS: 96) includes three well-supported and morphologically distinct lineages, which were previously treated as belonging to a single genus, *Palaeugoa*, by Volynkin & László (2020) and Volynkin (2024b). Due to the substantial differences in their external and genital morphology, those three lineages are treated in the present paper as distinct genera: *Afroadites* **gen. n.** (PP: 100; BS: 100) erected for the '*Palaeugoa peregrina* (Hacker, 2014) species-group' *sensu* Volynkin & László (2020); *Reticuligoa* **gen. n.** (PP/BS: 99.8/-) erected for the '*Palaeugoa takanoi* Volynkin & László, 2020 species-group' *sensu* Volynkin & László (2020); and *Palaeugoa* (PP/BS: 97/-). The genus *Palaeugoa*, in turn, includes two minor lineages distinguished from each other by male and female genitalia morphology, the close relationship of which was well supported in the BI analysis (PP: 0.97). In the ML analysis, one of these lineages (represented by a single sequence of *Palaeugoa smithi*) was recovered within the genus *Reticuligoa* **gen. n.**, forming a poorly-supported clade (BS: 34) together with its two species. In the present paper, the lineage containing *P. smithi* alongside two other species is treated as a distinct subgenus within *Palaeugoa*: *Palaeugoa* (*Sacculigoa*) **subgen. n.**

The '*Vulpeculella'* clade (PP: 96; BS: 56) includes members of five groups of species formerly placed in *Cyana* by Karisch (2013), who assigned them to the subgenera *Vulpeculella* Karisch, 2013, *Paravulpeculella* Karisch, 2013, *Cyabarda* Karisch, 2013, and *Louisia* Karisch, 2013. To represent the genus in the current analysis, only a single species per species-group or subgenus was included. All species of this clade display a complex of morphological characters clearly distinguishing them from other species in *Cyana*. The single COI-5P sequence of *Cyana* (*C. pretoriae*), which was included in the analysis for reference, was recovered separately. Consequently, the aforementioned four taxa are considered as a distinct genus, to which the name *Vulpeculella* is applied as senior in the present paper (see below in the Note 1 under *Vulpeculella*). Although the internal topology of the clade was unresolved in both trees (likely due to the limited taxon sampling), the five species-groups of the genus *Vulpeculella* are herein subdivided into three subgenera displaying combinations of diagnostic characters in the ground plans of their genitalia of both sexes (see below).

The '*Euproctosia*' clade (PP: 100; BS: 100) contains a single species, *Euproctosia cretata* Hampson, 1914, the type species of the little-known genus *Euproctosia*. Morphologically, *Euproctosia* is reminiscent of the genus *Vulpeculella* but distinct in a combination of male and female genital characters. Unfortunately, the molecular data on the only species of the subgenus *Pseudoproctosia* **subgen. n.** of *Euproctosia* were unavailable for this study.

The '*Lymantriopsis'* clade (PP: 100; BS: 100) includes two species of the little-known genus *Lymantriopsis* Hampson, 1900. While externally reminiscent of *Euproctosia*, members of this genus possess fundamentally different male genitalia structures and a female genitalia ground plan more similar to that of the '*Processosia*' clade (see below).

The '*Processosia*' clade (PP: 99.9; BS: 86) comprises the genus *Simplicosia* **gen. n.** and the poorly supported minor clade (PP: 81.9; BS: 84) consisting of two morphologically clearly defined groups, which were recovered as well-supported monophyletic lineages (PP/BS: 99.6/100 and 98.1/99). Since these groups share such important diagnostic characters as the presence of the lateral processes of the juxta, the elongate ampulla, and the characteristic subbasal transverse cluster of cornuti in the vesica, they are herein treated not as two distinct genera but as two subgenera of a single genus, *Processosia* **gen. n.**: *Processosia s. str.* and *Processosia* (*Armatosia*) **subgen. n.** Another new genus described in the present paper, *Euproctosiella* **gen. n.**, was not sampled in the course of this study. However, based on its male genitalia morphology, namely the large plate-like caulis and the uncus structure, a close relationship to the members of the '*Processosia'* clade can be inferred.

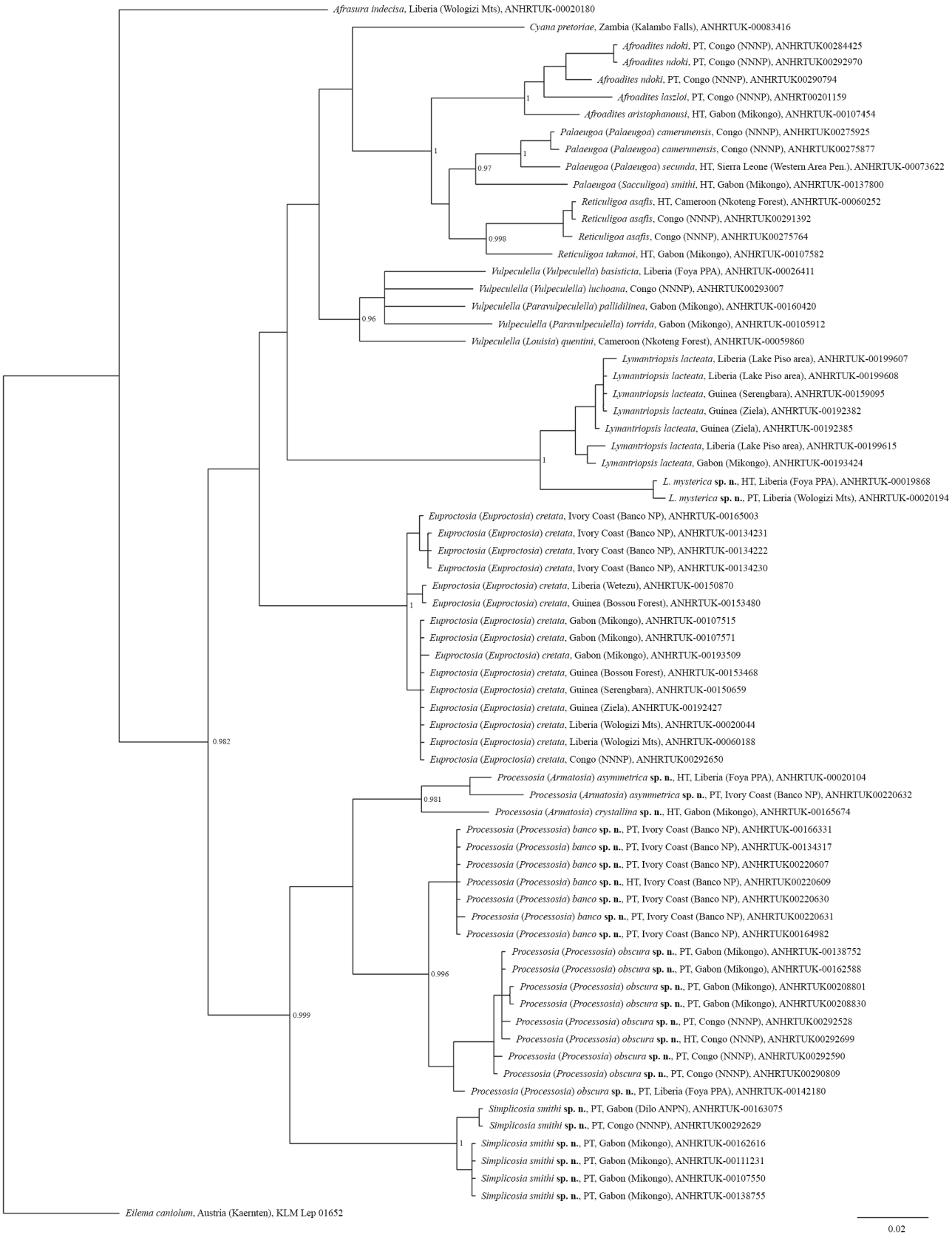

Figure 1. Phylogenetic tree of the Afrotropical taxa of the genera *Vulpeculella*, *Cyana*, *Palaeugoa*, *Reticuligoa* **gen. n.**, *Afroadites* **gen. n.**, *Euproctosia*, *Lymantriopsis*, *Euproctosiella* **gen. n.**, *Processosia* **gen. n.**, and *Simplicosia* **gen. n.** recovered from the BI analysis of COI-5P sequences. Scale indicates number of expected nucleotide substitutions per site. Numbers indicate posterior probabilities.

Checklist of the taxa included in the genera treated in the present paper

Genus ***Vulpeculella*** Karisch, 2013, **stat. n.**

Subgenus ***Vulpeculella*** Karisch, 2013

The *V.* (*V.*) *basisticta* species-group
– *V.* (*V.*) *basisticta* (Hampson, 1914), **comb. n.**
– *V.* (*V.*) *loloana* (Strand, 1912), **comb. n.**
– *V.* (*V.*) *ueleana* (Karisch, 2003), **comb. n.**
– *V.* (*V.*) *rubritermina* (Bethune-Baker, 1911), **comb. n.**
– *V.* (*V.*) *admiranda* **sp. n.**
– *V.* (*V.*) *rawlinsi* (Karisch, 2013), **comb. n.**
– *V.* (*V.*) *rubriterminalis* (Strand, 1912), **comb. n.**

The *V.* (*V.*) *luchoana* species-group
– *V.* (*V.*) *luchoana* (Karisch, 2003), **comb. n.**

Subgenus ***Paravulpeculella*** Karisch, 2013, **stat. rev.**
= *Cyabarda* Karisch, 2013, **syn. n.**

The *V.* (*P.*) *pallidilinea* species-group
– *V.* (*P.*) *pallidilinea* (Karisch, 2003), **comb. n.**

The *V.* (*P.*) *torrida* species-group
– *V.* (*P.*) *torrida* (Holland, 1893), **comb. n.**
– *V.* (*P.*) *nambi* (Volynkin & László, 2019), **comb. n.**
– *V.* (*P.*) *suessmuthi* (Karisch, 2013), **comb. n.**

Subgenus ***Louisia*** Karisch, 2013, **stat. rev.**
– *V.* (*L.*) *quentini* (Karisch, 2003), **comb. n.**
– *V.* (*L.*) *yaseminae* (Baron & Karisch, 2016), **comb. n.**
– *V.* (*L.*) *smithi* (Volynkin & László, 2019), **comb. n.**

Genus ***Reticuligoa*** **gen. n.**

The *R. takanoi* species-group
– *R. takanoi* (Volynkin & László, 2020), **comb. n.**

The *R. asafis* species-group
– *R. asafis* (Volynkin & László, 2020), **comb. n.**
– *R. meyi* **sp. n.**

Genus ***Palaeugoa*** Durante, 2012

Subgenus ***Palaeugoa*** Durante, 2012

The *P.* (*P.*) *spurrelli* species-group
– *P.* (*P.*) *spurrelli* (Hampson, 1914)
– *P.* (*P.*) *moa* Volynkin & László, 2020
– *P.* (*P.*) *secunda* Volynkin, 2017

The *P.* (*P.*) *camerunensis* species-group
– *P.* (*P.*) *camerunensis* (Strand, 1912)

Subgenus ***Sacculigoa*** **subgen. n.**

The *P.* (*S.*) *smithi* species-group
– *P.* (*S.*) *smithi* Volynkin & László, 2020

– *P.* (*S.*) *montana* **sp. n.**

The *P.* (*S.*) *megala* species-group
– *P.* (*S.*) *megala* Volynkin & László, 2020

Genus ***Afroadites* gen. n.**
– *A. aristophanousi* (Volynkin & László, 2020), **comb. n.**
– *A. laszloi* (Volynkin, 2024), **comb. n.**
– *A. ndoki* (Volynkin, 2024), **comb. n.**
– *A. ngoko* (Volynkin & László, 2020), **comb. n.**
– *A. peregrinus* (Hacker, 2014), **comb. n.**
– *A. phebe* **sp. n.**

Genus ***Euproctosia*** Hampson, 1914

Subgenus ***Euproctosia*** Hampson, 1914
– *E.* (*E.*) *cretata* Hampson, 1914

Subgenus ***Pseudoproctosia* subgen. n.**
– *E.* (*P.*) *pemba* **sp. n.** (Tanzania)

Genus ***Lymantriopsis*** Hampson, 1900
– *L. lacteata* (Holland, 1893)
– *L. mysterica* **sp. n.**

Genus ***Euproctosiella* gen. n.**
– *E. elegans* **sp. n.**
– *E. amabere* **sp. n.**

Genus ***Processosia* gen. n.**

Subgenus ***Processosia* subgen. n.**
– *P.* (*P.*) *obscura* **sp. n.**
– *P.* (*P.*) *banco* **sp. n.**

Subgenus ***Armatosia* subgen. n.**
– *P.* (*A.*) *imbalanga* **sp. n.**
– *P.* (*A.*) *crystallina* **sp. n.**
– *P.* (*A.*) *asymmetrica* **sp. n.**

Genus ***Simplicosia* gen. n.**
– *S. smithi* **sp. n.**
– *S. nigrescens* **sp. n.**

Taxonomic accounts

Genus *Vulpeculella* Karisch, 2013, stat. n.

[*Cyana* Walker, 1854] Subgenus *Vulpeculella* Karisch, 2013, *Esperiana*, 18: 116 (Type species: *Chionaema basisticta* Hampson, 1914, by original designation).

Notes. **(1)** Due to the differences between *Vulpeculella* and *Cyana* listed below, the complex of species assigned by Karisch (2013) to the subgenera *Vulpeculella*, *Paravulpeculella*, *Cyabarda*, and *Louisia* is herein treated as a distinct genus. Since all four names were described in the same publication (Karisch 2013), *Vulpeculella* is herein selected as the senior name applied to the genus by the author of the present paper acting as First Reviser. **(2)** The detailed morphological description of all groups within *Vulpeculella* was provided by Karisch (2013). **(3)** The genus is currently under revision by the author of the present paper.

Diagnosis. Members of the genus *Vulpeculella* (Figs 4–15) differ from most groups of the related *Cyana* (Figs 2, 3) in the small size and broad forewing, and are most reminiscent of the subgenus *Isine* Walker, 1854 of *Cyana* (illustrated by Karisch (2013)), from which *Vulpeculella* can be distinguished by the more substantial sexual dimorphism expressed in the male having modified forewing venation and an additional black spot on the R3+R4 base, and the more sinuous and strongly curved ante- and postmedial fasciae of the forewing in both sexes. In the male genitalia, *Vulpeculella* (Figs 70–76) differs from *Cyana* (Fig. 69) in the broader, flattened distal saccular process, which is bilobate in most species, and the phallus bearing heavily sclerotised carinal crests and processes, whereas the phallus of *Cyana* is distally smooth or bears a cluster of dentation subapically in certain species including the type one. Additionally, all groups of *Vulpeculella* (Figs 70–75) but *Louisia* have a swollen and setose digitus, which is smooth thorn-shaped or digitiform if present in *Cyana*; in *Louisia* (Fig. 76), the digitus is reduced but all other morphological characters typical of *Vulpeculella* are present in the subgenus. The main differences between the two genera are found in the female genitalia (Figs 107–114): those of *Vulpeculella* are characterised by the very short but broad ductus bursae (it is more elongate in *Cyana*), the rugose corpus bursae having reticulate sclerotisations anteriorly (absent in *Cyana*), and the reduced appendix bursae, which is large and pyriform or bulla-shaped in *Cyana*, and in certain groups of the latter it is markedly larger than the corpus bursae. Additionally, the 7th abdominal segment of *Vulpeculella* is from well- to heavily sclerotised with a very narrow and gelatinous lateral membrane juncting the tergite and sternite. The 7th sternite bears postero-lateral subostial lobes and various sclerotised sculptures, and is strongly articulated with the ventral margin of the ostium bursae. Unlike in *Vulpeculella*, the 7th segment of *Cyana* is weakly sclerotised and its sternite is juncted with the ostium bursae by a membrane.

Molecular data. The COI pairwise distance between two species of the subgenus *Vulpeculella s. str.* is 4.93% while that between two species of the subgenus *Paravulpeculella* is 5.27%. The pairwise distance between the subgenera *Vulpeculella s. str.* and *Paravulpeculella* is in the range of 4.94–6.12%. The subgenus *Louisia* diverges from *Vulpeculella s. str.* and *Paravulpeculella* by 5.43–5.94% and 5.09–5.75%, respectively.

Taxonomic content. The genus is herein subdivided into three subgenera: *Vulpeculella s. str.*, *Paravulpeculella* Karisch, 2013, **stat. rev.**, and *Louisia* Karisch, 2013, **stat. rev.**, which were originally described as subgenera of *Cyana*. Another genus-group name belonging to this complex, *Cyabarda* Karisch, 2013, is synonymised with *Paravulpeculella* in the present paper.

Subgenus *Vulpeculella* Karisch, 2013

Diagnosis. Species of the nominate subgenus differ externally from *Paravulpeculella* and *Louisia* in the females having two distal black cellular spots (vs. a single distal spot in *Paravulpeculella* and *Louisia*). In the male genitalia, *Vulpeculella s. str.* (Figs 70–73) is characterised by the combination of the following features. (1) The juxta is flattened-pyramidal and has a deep and broad ventral membranous depression. (2) The vinculum has a short and weakly sclerotised saccus, which is reduced in certain species. (3) The digitus is present. (4) The phallus has one or two carinal crests bearing dentation. (5) The vesica bears a cornutus medio-laterally. In the female genitalia, the ductus bursae is extremely short, the posterior margin of the 7th sternite bears sclerotised subostial lobes, and the posterior section of the corpus bursae is heavily sclerotised and rugose.

Taxonomic content. The nominate subgenus comprises eight valid species subdivided into two species-groups.

The *V.* (*Vulpeculella*) *basisticta* Hampson, 1914 species-group

Diagnosis. The species-group is characterised by the male genitalia (Figs 70–72) having a large, triangular, heavily sclerotised processus momenti articulated with the gelatinous, thick transtilla (this complex was erroneously indicated as a conjuga in Volynkin (2024a: fig. 22)), a bilobate distal saccular process, and a phallus bearing a single carinal crest dorsally or dorso-laterally.

Taxonomic content. The species-group comprises seven valid species (see above in the check-list of the genus), one of which is described below as new.

***Vulpeculella* (*Vulpeculella*) *admiranda* sp. n.**

(Figs 6, 7, 71, 109)

http://zoobank.org/urn:lsid:zoobank.org:act:3D3C3F44-7603-4BBE-B44B-1B47FC337D20

Type material. **Holotype** (Figs 6, 71): male, "DR Congo | Mai-Ndombe [Prov.], [Salonga NP], Ekongo camp, | 02°45'23"E, 20°18'55"S [02°45'23"S, 20°18'55"E] | 14 km E – [of] Cutembo | Mai [May] 2007 | leg. local collector | ex.Coll. Sulak" / "Ex. Coll. H. Sulak | ANHRT:2025.12" / "ANHRTUK | 00456005" / "Slide | AV9959♂ | A. Volynkin" (ANHRT).

Paratypes. **DRC**: 1 male, 1 female, same data as in the holotype, gen. slide No.: AV9960♀ (ANHRT); 5 males, 2 females, Salonga National Park, 02°45'22.79"S, 20°18'55.56"E, Ekongo Camp, early June 2017, V.D. Kravchenko & G.C. Müler [leg.] (CGM).

Diagnosis. The forewing length is 8.0 mm in males and 9.0 mm in the females. *Vulpeculella admiranda* **sp. n.** is externally clearly different from other species in the genus in its brownish-orange ground colour of both wings and brick-red transverse lines of the forewing, which are creamy white and red or grey, respectively, in other congeners. The male genitalia of the new species have a ground plan typical of the *V. basisticta* species-group and are most similar to *V. rubritermina* with its vesica bearing a large dorsal cornutus with a broad and heavily sclerotised base. The male genital capsule of *V. admiranda* **sp. n.** is distinguished from *V. rubritermina* by the shorter but broader saccus, the narrower valva with a more angular collis, the markedly smaller digitus covered with shorter setae, the longer valvula, and the medially broader distal saccular process. The phallus of the new species is longer and distally broader than in *V. rubritermina*, and has a shorter carinal crest armed with finer denticles. Compared to *V. rubritermina*, the vesica of *V. admiranda* **sp. n.** has a broader main chamber, a small, semiglobular and membranous lateral diverticulum (it is broad, trilobate and granulose in *V. rubritermina*), and a unilobate and curved ventral diverticulum, which is bilobate in *V. rubritermina*. In the female genitalia, *V. admiranda* **sp. n.** differs from *V. rubritermina* in the narrower ductus bursae with a markedly narrower ventral section of the ostium bursae, which bears a gelatinous and rugose medial fold protruding posteriorly, whereas in *V. rubritermina*, the ventral margin of the ostium bursae is membranous and even. The dorsal wall of the ductus bursae of the new species is membranous posteriorly, whereas it bears two elongate postero-lateral sclerotised plates in *V. rubritermina*. Additionally, the female genitalia of *V. admiranda* **sp. n.** are distinguished from *V. rubritermina* by the narrower posterior sclerotised section of the corpus bursae lacking areas of scobination, and the narrower and membranous anterior section of the corpus bursae, which bears reticulate sclerotisations in *V. rubritermina*.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from its type locality in Mai-Ndombe Province of the Democratic Republic of the Congo.

Etymology. The specific epithet is a Latin adjective referring to the admirable brownish-orange colouration of the new species, which is unique within the genus.

The *V.* (*Vulpeculella*) *luchoana* species-group

Diagnosis. The male genitalia of the species-group (Fig. 73) are characterised by the reduced processus momenti, the unilobate, triangular distal saccular process, and the phallus having two carinal crests dorsally and ventrally.

Note. The female genitalia illustrated by Karisch (2013) as '*Cyana* (*Vulpeculella*) *luchoana*' belong to an unidentified species of the *V.* (*Vulpeculella*) *basisticta* species-group. The female genitalia of *V.* (*V.*) *luchoana* (matched with males based on assessment of DNA barcodes) are illustrated in the present paper for the first time (Fig. 111).

Taxonomic content. The species-group currently comprises a single species, *V.* (*V.*) *luchoana* (Karisch, 2003), **comb. n.**

Subgenus *Paravulpeculella* Karisch, 2013, stat. rev.

[*Cyana* Walker, 1854] Subgenus *Paravulpeculella* Karisch, 2013, *Esperiana*, 18: 113 (Type species: *Cyana pallidilinea* Karisch, 2003, by original designation).

= [*Cyana* Walker, 1854] Subgenus *Cyabarda* Karisch, 2013, *Esperiana*, 18: 125 (Type species: *Cabarda torrida* Holland, 1893, by original designation), **syn. n.**

Notes. **(1)** The male genitalia of the type species of *Cyabarda* (Fig. 75) and *Paravulpeculella* (Fig. 74) share all three diagnostic features listed above (the structures of the juxta and saccus in males and the shape of the ductus bursae in females), and differ from each other to the same degree as the two species-groups of *Vulpeculella s. str.* For this reason, the groups of species described by Karisch (2013) as different subgenera *Cyabarda* and *Paravulpeculella* are herein treated as species-groups within the same subgenus, and the latter name is accepted as senior in the present paper. **(2)** The original description of the male genitalia of *Cyabarda* was based on specimens of *Cyana* cf. *maculata* Karisch, 2013 erroneously assigned by the author to *Vulpeculella torrida*. This taxonomic issue was clarified by Volynkin & László (2019), who correctly illustrated and diagnosed the male of *V. torrida* for the first time. The male genitalia of the latter are similar to *V.* (*P.*) *suessmuthi* (Karisch, 2013), **comb. n.**, which was originally placed in the subgenus *Paravulpeculella* by Karisch (2013).

Diagnosis. Species of the subgenus *Paravulpeculella* (Figs 10–13) differ externally from *Vulpeculella s. str.* (Figs 4–9) in the females having a single distal cellular spot on the forewing, the character shared with the subgenus *Louisia* (Fig. 15), from which species of *Paravulpeculella* can be easily distinguished by their genitalia structures. The male genitalia of the subgenus *Paravulpeculella* (Figs 74, 75) are most similar to *Vulpeculella s. str.* (Figs 70–73) but distinct in the broader juxta having two lateral dorsal processes (it is flattened-pyramidal in *Vulpeculella s. str.*), and the sacculus bearing a markedly larger, swollen and heavily sclerotised saccus directed cranially. The female genitalia of the subgenus *Paravulpeculella* (Figs 112, 113) differ from *Vulpeculella s. str.* (Figs 108–111) in the more elongate, broad, funnel- or cup-shaped, and sclerotised or gelatinous ductus bursae, which is extremely short in the nominate subgenus.

Taxonomic content. The subgenus comprises four valid species subdivided into two species-groups in the present paper.

The *V.* (*P.*) *pallidilinea* species-group

Diagnosis. In the male genitalia, the *V.* (*P.*) *pallidilinea* species-group (Fig. 74) is characterised by the short processus momenti, the narrow and apically bilobate distal saccular process, and the phallus having two dentate carinal crests dorsally and ventrally. In the female genitalia (Fig. 112), the ductus bursae is moderately broad, funnel-shaped and heavily sclerotised.

Taxonomic content. The species-group comprises a single species, *V.* (*P.*) *pallidilinea* (Karisch, 2003), **comb. n.**

The *V.* (*P.*) *torrida* species-group

Diagnosis. In the male genitalia, the *V.* (*P.*) *torrida* species-group (Fig. 75) differs clearly from the *V.* (*P.*) *pallidilinea* species-group (Fig. 74) in the markedly larger processus momenti, the broader and unilobate distal saccular process, and the phallus strongly dilated distally and bearing an additional lateral carinal crest connecting the dorsal and ventral carinal crests. In the female genitalia, the ductus bursae of the *V.* (*P.*) *torrida* species-group (Fig. 113) is considerably broader, cup-shaped and heavily gelatinous.

Taxonomic content. The species-group comprises three valid species: *V.* (*P.*) *torrida* (Holland, 1893), **comb. n.**, *V.* (*P.*) *nambi* (Volynkin & László, 2019), **comb. n.**, and *V.* (*P.*) *suessmuthi* (Karisch, 2013), **comb. n.**

Subgenus *Louisia* Karisch, 2013, stat. rev.

[*Cyana* Walker, 1854] Subgenus *Louisia* Karisch, 2013, *Esperiana*, 18: 123 (Type species: *Cyana quentini* Karisch, 2003, by original designation).

Diagnosis. Species of the subgenus (Figs 14, 15) are externally similar to certain species of the subgenus *Paravulpeculella* (Figs 10, 11) and can be distinguished by the genitalia structures. In the male genitalia, the subgenus *Louisia* (Fig. 76) differs from the subgenus *Paravulpeculella* (Figs 74, 75) in the base of the vinculum having a reduced saccus, the ventral costal protrusion lacking the setose digitus, the hook-shaped distal saccular

process (it is broad and flattened in *Paravulpeculella*), the shorter phallus of uniform width lacking the dorsal and lateral carinal crests, and the broader vesica lacking the cornutus but having longer conical and utricular diverticula. The female genitalia of the subgenus *Louisia* (Fig. 114) are very characteristic and have an extremely short and broad ductus bursae (similar to *Vulpeculella s. str.*), and the posterior section of the corpus bursae bearing a setose signum postero-medially and having a postero-lateral rugose protrusion, which is absent in both other subgenera. Additionally, the 7th abdominal segment of the subgenus *Louisia* is considerably more weakly sclerotised than in *Vulpeculella s. str.*, and the 7th sternite bears irregular rugose sclerotisations.

Taxonomic content. The subgenus comprises three valid species: *V.* (*L.*) *quentini* (Karisch, 2003), **comb. n.**, *V.* (*L.*) *yaseminae* (Baron & Karisch, 2016), **comb. n.**, and *V.* (*L.*) *smithi* (Volynkin & László, 2019), **comb. n.**

Genus *Reticuligoa* gen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:BF2F0A8E-C85B-4F4F-B1D0-555733AB3359

Type species: *Palaeugoa asafis* Volynkin & László, 2020, by present designation.

Diagnosis. Species of the genus (Figs 16–21) are small-sized moths externally reminiscent of *Palaeugoa* (Figs 22–31) but distinct in their reticulate forewing pattern formed by the pale ground colour and the dark suffusion between veins, whereas species of *Palaeugoa* have well-expressed transverse lines and discal and subterminal markings. In the male genital capsule, *Reticuligoa* **gen. n.** (Figs 77–79) differs from *Palaeugoa* (Figs 80–84) in the combination of the following features. (1) The distal section of the valva (valvula+costa) is heavily sclerotised dorsally and distally, and is distally tapered, whereas in *Palaeugoa*, it is distally broader and rounded, and the valvula has only weak dorsal sclerotisation along the thin terminal section of the costa. (2) The ventral costal protrusion bears a robust digitus directed ventrally or distally-ventrally, whereas the ventral costal protrusion of *Palaeugoa* bears only a crest in certain species. (3) The transtilla bears a process arising from both the bases of the editum and tendon and can be called a basal ampulla, whereas in *Palaeugoa*, the transtillar process is situated in the diaphragmal section of the transtilla. The phalli of the two genera display no fundamental differences. In the female genitalia, *Reticuligoa* **gen. n.** (Figs 115, 116) is clearly distinct from *Palaeugoa* (Figs 119–122) in the structure of its 8th segment, which is conical (like in many other related genera, e.g., *Afroadites* **gen. n.**, *Euproctosia*, *Vulpeculella*, etc.) and has a tergite short and transverse band-shaped dorsally and with short and smooth lobular ventro-lateral extensions, while the sternite is relatively broad. Unlike in *Reticuligoa* **gen. n.**, the 8th segment of *Palaeugoa* is longer and rather bell-shaped, its tergite is longer and has markedly longer and broader latero-ventral extensions, which are heavily sclerotised, rugose, bear crest-like sculptures and occupy over 2/3 of the ventral side of the segment; additionally, the 8th sternite of *Palaeugoa* is considerably narrower than in *Reticuligoa* **gen. n.** and has weakly sclerotised reticulation. The corpus and appendix bursae of the two genera are similar in structure but in *Reticuligoa* **gen. n.**, the appendix bursae has a more sclerotised and conical proximal section, and a medial section of the appendix bursae is markedly more strongly constricted than in *Palaeugoa*.

Description. **External morphology of adults** (Figs 16–21). Forewing length 6.5–8.0 mm in males and 8.0–8.5 mm in females. Antenna setose-ciliate in males and sparsely setose in females. Sexual dimorphism limited to females being somewhat larger than males and having slightly less elongate forewing apex. Body ground colour ochreous. Forewing ground colour from beige to ochreous. Forewing pattern reticulate, consisting of irregular areas of brown or red-brown suffusion between veins and terminal line interrupted into small spots on veins; cilia as ground colour. Hindwing ground colour from beige to pale ochreous, intensely suffused with brownish-grey or reddish-brown; suffusion more intense in females; cilia as ground colour. **Male genitalia** (Figs 77–79). Uncus weakly sclerotised, short, dorso-ventrally flattened and apically rounded, sparsely setose, fused with dorsal wall of tuba analis. Tuba analis membranous, with broad and setose subscaphium. Tegumen short with narrow and weakly sclerotised arms. Vinculum as long as tegumen, but more heavily sclerotised, with short, U-shaped base. Valva as long as tegumen–vinculum complex or shorter, distally tapered; dorsal margin with collis. Transtilla bearing basal ampulla arising from both the bases of editum and tendon; ampulla serrulate or spinulose. Proximal section of costa narrow and tapered distally; ventral costal protrusion triangular, stretching from collis ventrad, and bearing robust and apically pointed digitus directed ventrally or distally-ventrally. Distal section of valva (valvula+costa) distally tapered, heavily sclerotised dorsally and medially and only with ventral margin membranous, its inner surface

setose. Sacculus ca. half of valva width, distally tapered, with elongate and apically pointed medial and distal processes. Proximal ends of sacculi thin and articulated with each other. Juxta weakly sclerotised, trapezoidal with broad medial membranous depression ventrally. Anellus sclerotised, bearing dentation in certain species. Phallus cylindrical and narrow, with well-sclerotised walls and long downcurved and apically rounded coecum. Vesica with several conical and semiglobular diverticula, bearing areas of scobination and a cluster of robust spines. Vesica ejaculatorius narrow, without elasma. **Female genitalia** (Figs 115, 116). Ovipositor nearly rectangular. Papilla analis broad trapezoid with rounded corners, weakly setose. Apophysis posterior thin, rod-like. 8th tergite transverse band-shaped, moderately sclerotised, with lateral lobes wrapping segment ventro-laterally. 8th sternite membranous; postvaginal area membranous and rugose. Apophysis anterior thin, rod-like, markedly shorter than apophysis posterior. Ostium bursae with membranous dorsal margin; ventral margin of ostium sclerotised and rugose, and fused with base of heavily sclerotised antevaginal plate; latter lobular and loose. Ductus bursae medially narrow, tubular, weakly sclerotised and rugose; distal section dilated and forming funnel-shaped antrum; anterior section of corpus bursae somewhat dilated, rugose, more heavily sclerotised than medial section. Corpus bursae pyriform, its anterior section densely covered with spinulose scobination; posterior section heavily gelatinous and rugose. Appendix bursae situated postero-laterally on the left side; its proximal section broad conical, heavily gelatinous, directed laterally; junction between proximal and distal sections strongly constricted; distal section pyriform with curved or twisted proximal (narrow) part, weakly scobinate; ductus seminalis originates from the lateral side of distal section. 7th sternite membranous and weakly scobinate medially, and with rugose, gelatinous or sclerotised regions laterally.

Molecular data. Only a single COI sequence of *R. takanoi* and three sequences of *R. asafis* were available for the current study. The intraspecific divergence between the three DNA barcoded specimens of *R. asafis* is in the range of 0.00–0.31%. The pairwise distance between *R. asafis* and *R. takanoi* is 3.80%.

Etymology. The generic name is an aggregate of the Latin adjective 'reticulatus' meaning 'reticulate' and the genus-group name *Palaeugoa*, referring to the reticulate forewing pattern and close relationship of the new genus to *Palaeugoa*. The gender is feminine.

Taxonomic content. The new genus currently comprises three valid species subdivided into two species-groups.

The *R. takanoi* species-group

Diagnosis. The only known species of the species-group (Figs 16, 17) has plum-grey forewing markings. In the male genitalia (Fig. 79), the basal ampulla is digitiform and serrulate; the valva apex bears a bunch-like cluster of spinules; the anellus is smooth; the vesica is markedly broader than the phallus tube and almost as long as it. In the female genitalia (Fig. 115), the antevaginal plate has short lateral lobes; the antrum is broad but very short; the anterior section of the corpus bursae is densely covered with relatively long spinules; the proximal section of the appendix bursae is as long and broad as the corpus bursae; and the proximal (narrow) part of the distal section of the appendix bursae is curved.

Taxonomic content. The group comprises a single species, *R. takanoi* (Volynkin & László, 2020), **comb. n.**

The *R. asafis* species-group

Diagnosis. Both species of the species-group (Figs 18–21) have reddish-brown forewing markings. In the male genitalia (Figs 77, 78), the basal ampulla is flattened and densely covered with robust spines; the valva apex is smooth and pointed; the anellus bears two serrulate clusters; and the vesica is markedly shorter and only somewhat broader than the phallus tube. In the female genitalia (Fig. 116), the antevaginal plate has elongate lateral lobes; the antrum is considerably longer than in the *R. takanoi* species-group; the anterior section of the corpus bursae is covered with short spinules, which are remarkably sparser anteriorly; the proximal section of the appendix bursae is markedly shorter and narrower than the corpus bursae; and the proximal (narrow) part of the distal section of the appendix bursae is twisted.

Taxonomic content. The group comprises two species, one of which is described below: *R. asafis* (Volynkin & László, 2020), **comb. n.** and *R. meyi* **sp. n.**

***Reticuligoa meyi* sp. n.**
(Figs 21, 78)
http://zoobank.org/urn:lsid:zoobank.org:act:8D10AAD1-8A96-45F2-87FC-35FDFF7171B0

Type material. **Holotype** (Figs 21, 78): male, "Uganda, Mpigi | Mpanga Forest | 25.–30.XI.2014, LF [light trap] | leg. W. Mey" / "Slide | AV11191♂ | A. Volynkin" / QR-code label "MfN URI | http://coll.mfn- | berlin.de/u/ | 09c222" (MfN).

Diagnosis. The forewing length is 7.5 mm in the male holotype. *Reticuligoa meyi* **sp. n.** can be externally distinguished from *R. asafis* by the narrower forewing with a more elongate apex. The male genitalia of the two species are very similar but unlike in *R. asafis*, *R. meyi* **sp. n.** has a longer proximal saccular process with a tip extending beyond the base of the distal saccular process (vs. not extending in *R. asafis*). The transtillar process of *R. meyi* **sp. n.** is shorter than in *R. asafis* and bears shorter spinules, and the denticles on the anellus of the new species are more robust than in the similar congener. In addition, compared to *R. asafis*, the vesica of *R. meyi* **sp. n.** bears a broader sclerotised cluster consisting of somewhat larger and thicker spines.

The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from its type locality in Uganda.

Etymology. The new species is named after Dr Wolfram Mey (Berlin, Germany), former curator for Lepidoptera at MfN and collector of the holotype.

Genus *Palaeugoa* Durante, 2012

Palaeugoa Durante, 2012, *European Journal of Taxonomy*, 22: 5 (Type species: *Xanthetis spurrelli* Hampson, 1914, by original designation).

Diagnosis. The detailed comparison of *Palaeugoa* with the most similar *Reticuligoa* **gen. n.** is provided above in the diagnosis of the latter genus.

Redescription. **External morphology of adults** (Figs 22–31). Forewing length 6.5–12.0 mm in males and 9.5–11.0 mm in females. Antenna setose-ciliate in males and sparsely setose in females. Sexual dimorphism limited: females somewhat larger than males and with slightly more elongate forewing apex. Body ground colour from ochreous yellow to orange. Ground colour of both wings from ochreous yellow to orange with intense pink suffusion. Forewing pattern reddish-brown, consisting of sinuous subbasal, ante- and postmedial lines, rows of irregular spots in subbasal and subterminal areas, circular discal spot at the distal end of cell, longitudinal dash in the cell medially, and terminal line interrupted into triangular spots on veins. Hindwing intensely suffused with pink, lacking markings. **Male genitalia** (Figs 80–84). Uncus short, dorso-ventrally flattened, weakly sclerotised and setose, almost fully fused with dorsal wall of tuba analis with only the tip being loose. Arms of tegumen moderately broad and weakly sclerotised. Vinculum somewhat longer than or as long as tegumen, with narrow but well-sclerotised arms, and trapezoidal or U-shaped and well-sclerotised base. Diaphragmal section of transtilla with sclerotised plate bearing lobular process; processes can be separate, connected to each other basally, or fused into a single bilobate plate, depending on the species-group. Valva elongate, with nearly parallel margins. Valval section of transtilla membranous. Costa proximally narrow and distally dilated, reaching the tip of valva; ventral costal protrusion stretching ventrad from distal third of costa and reaching base of distal saccular process; bearing transverse crest in certain species. Distal section of valva (costa+valvula) rectangular with rounded corners or elliptical. Sacculus dilated medially and distally, with narrow and apically pointed, flattened and upcurved distal process; in *Sacculigoa* **subgen. n.**, medial saccular process is also present. Juxta trapezoidal or triangular, with membranous ventral medial section, and with flattened, crest-like medial process in certain species. Phallus heavily sclerotised, narrow and tubular, almost straight or somewhat S-like curved; its distal section with ventral crest in certain species. Vesica broader but shorter than phallus tube, its proximal section upcurved. Main chamber of vesica saccate, with several short utricular or semiglobular diverticula bearing clusters of graniculi or single spike-like cornutus apically. Elasma absent. **Female genitalia** (Figs 119–122). Papilla analis rectangular with rounded corners, weakly setose. Apophysis posterior rod-shaped, somewhat shorter than papilla analis. 8th segment bell-

shaped, well-sclerotised, with relatively long tergite having long, broad and rugose ventro-lateral extensions bearing crest-like sculptures in certain groups and occupying over 2/3 of ventral side of segment; postvaginal region (8th sternite) narrow, membranous with weak sclerotised reticulation or with sclerotised and rugose anterior transverse plate connecting the ventro-lateral tergal extensions. Apophysis anterior basally dilated and flattened, and rod-like distally; shorter than apophysis posterior. Ostium bursae narrow, its ventral margin bearing heavily sclerotised antevaginal plate with lateral lobes extending laterally along the 8th segment margins. Ductus bursae posteriorly dilated forming short but broad, membranous antrum. Medial section of corpus bursae tubular and membranous. Anterior section slightly dilated, sclerotised and longitudinally rugose; this sclerotisation extended into posterior end of corpus bursae. Corpus bursae saccate or globular, its posterior section sclerotised, long and rugose or short and smooth in certain groups; anterior section densely spinulose. Appendix bursae situated laterally and directed laterad or anterio-laterad, larger than corpus bursae, with constricted basal section, weakly scobinate, globular or elliptical.

Molecular data. Species of the genus have not been extensively sampled for DNA barcoding yet, and only a single sequence per *P.* (*P.*) *secunda* and *P.* (*S.*) *smithi*, and two sequences of *P.* (*P.*) *camerunensis* were available for the current analysis. The two latter sequences diverge from each other by 0.15%. The pairwise distance between *P.* (*P.*) *camerunensis* and the holotype of *P.* (*P.*) *secunda* is in the range of 1.87–2.02%, while *P.* (*S.*) *smithi* diverges from the two species of the nominate subgenus by 4.29–4.79%.

Subgenus *Palaeugoa* Durante, 2012

Diagnosis. In the male genitalia (Figs 80, 81), species of the subgenus are characterised by the sacculus bearing only a distal process. In the female genitalia (Figs 119, 120), the posterior margin of the 8th tergite is rugose and has a medial depression; the corpus bursae is saccate and has longer longitudinally rugose posterior and markedly shorter anterior sections; and the appendix bursae is globular and somewhat longer than or as long as the corpus bursae.

The *P.* (*P.*) *spurrelli* species-group

Diagnosis. The male genitalia of the species-group (Fig. 80) are characterised by the laterally setose transtillar processes having thin bases and connected to each other basally, the ventral costal protrusion bearing a crest, and the nearly straight phallus. In the female genitalia (Fig. 119), the postvaginal region of the 8th sternite has a heavily sclerotised, rugose and serrulate plate connecting the ventro-lateral extensions of the 8th tergite; the antevaginal plate is broad, with lateral lobes occupying the whole anterior margin of the 8th sternite; and the ductus bursae is short.

Taxonomic content. The group comprises three valid species: *P.* (*P.*) *spurrelli* (Hampson, 1914), *P.* (*P.*) *moa* Volynkin & László, 2020, and *P.* (*P.*) *secunda* Volynkin, 2017.

The *P.* (*P.*) *camerunensis* species-group

Diagnosis. The male genitalia of the species-group (Fig. 81) differ from the *P.* (*P.*) *spurrelli* species-group in the diaphragmal section of the transtilla bearing a broad sclerotised plate separated from its counterpart by a medial membrane, from which the smooth transtillar process arises. Additionally, unlike in the *P.* (*P.*) *spurrelli* species-group, the ventral costal protrusion of the *P.* (*P.*) *camerunensis* species-group is smooth, and the phallus is S-like curved, and its distal half bears a longitudinal crest ventrally. In the female genitalia (Fig. 120), the species-group is distinguished from the *P.* (*P.*) *spurrelli* species-group by the membranous postvaginal region with a weak reticulate sclerotisation, the narrower antevaginal plate occupying only the ventral part of the 8th sternite, and the longer ductus bursae.

Taxonomic content. The group comprises a single species, *P.* (*P.*) *camerunensis* (Strand, 1912).

Subgenus *Sacculigoa* subgen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:E234D486-F3D0-4A5A-8E64-EF2822677083

Type species: *Palaeugoa smithi* Volynkin & László, 2020, by present designation.

Diagnosis. Species of the new subgenus display no fundamental external differences from *Palaeugoa s. str.* The male genitalia of the species of *Sacculigoa* **subgen. n.** (Figs 82–84) are distinguished from the nominate subgenus (Figs 80, 81) by the presence of the second, medial saccular process directed dorsad (similar to *Reticuligoa* **gen. n.**). The female genitalia of the new subgenus (Figs 121, 122) are more characteristic and differ from *Palaeugoa s. str.* (Figs 119, 120) in the smooth posterior dorsal margin of the 8th tergite bearing two thorns directed posteriad (the posterior margin of the 8th tergite is rugose and has a medial depression in *Palaeugoa s. str.*), the more weakly sclerotised ventro-lateral protrusions of the 8th tergite, the markedly smaller corpus bursae having a shorter posterior section, and the remarkably longer, saccate appendix bursae situated on the right side of the corpus bursae, whereas it is globular and situated on the left side in *Palaeugoa s. str.*

Description. **External morphology of adults** (Figs 26–31). From small to medium-sized lithosiine moths. Sexual dimorphism limited: females somewhat larger than males and with slightly more elongate forewing apex. Antenna ciliate in both sexes but cilia sparser in females. Body ground colour orange. Ground colour of both wings orange with intense pink suffusion. Forewing pattern from reddish-brown to greyish-brown, consisting of broad sinuous subbasal, ante- and postmedial fasciae, rows of irregular spots in subbasal and subterminal areas (latter can be fused with postmedial fascia in certain species), circular discal spot at the distal end of cell, irregular longitudinal dash in the cell medially, and terminal line interrupted into triangular spots on veins (absent in certain species). Hindwing markedly paler than forewing, lacking markings, and intensely suffused with pink in certain species. **Male genitalia** (Figs 82–84). Uncus short, dorso-ventrally flattened, weakly sclerotised and setose, almost fully fused with dorsal wall of tuba analis with only the tip being loose. Arms of tegumen moderately broad and weakly sclerotised. Vinculum as long as tegumen, with narrow but well-sclerotised arms, and trapezoidal or U-shaped and well-sclerotised base. Diaphragmal section of transtilla with sclerotised plate bearing lobular process; processes can be separate or fully fused into a single bilobate plate. Valva elongate, with nearly parallel margins. Valval section of transtilla membranous. Dorsal margin of valva straight or with collis. Costa proximally narrow and distally dilated, almost reaching the tip of valva; ventral costal protrusion stretching ventrad from distal third of costa and reaching base of distal saccular process; bearing transverse crest dorsally in certain species. Distal section of valva (costa+valvula) elliptical. Sacculus dilated medially and distally, with narrow and apically pointed, flattened and upcurved medial and distal processes. Juxta triangular with broad membranous medial area dorsally, and with laterally flattened medial process in certain species. Anellus sclerotised, smooth or with dense cluster of spinules. Phallus heavily sclerotised, narrow and tubular, nearly straight. Vesica broader but shorter than phallus tube, its proximal section upcurved. Main chamber of vesica saccate, with several short semiglobular diverticula bearing clusters of graniculi, and one or two utricular diverticula bearing clusters of graniculi and single spike-like cornutus apically. Elasma absent. **Female genitalia** (Figs 121, 122). Papilla analis rectangular with rounded corners, weakly setose. Apophysis posterior rod-shaped, somewhat longer than papilla analis. 8th segment bell-shaped; dorsal section of 8th tergite has smooth posterior margin bearing two short processes directed posteriad; ventro-lateral extensions of 8th tergite broad and markedly longer than the dorsal section, rugose and bearing crest-like sculptures laterally and ventro-laterally; 8th sternite (postvaginal region) membranous with weak sclerotised reticulation. Apophysis anterior narrow triangular and very short. Ostium bursae narrow, its ventral margin bearing moderately sclerotised and rugose bend-like antevaginal plate with serrulate posterior margin; its lateral parts stretching along the anterior margin of 8th sternite and occupying its ventral medial half. Ductus bursae posteriorly dilated forming short but broad, membranous antrum. Medial section of corpus bursae short, tubular and membranous. Corpus bursae markedly shorter than ovipositor, pyriform, its posterior section conical, sclerotised and smooth; anterior section globular and densely spinulose. Appendix bursae situated laterally on the right side and directed laterad or anterio-laterad, ca. twice as large as corpus bursae, saccate with constricted basal section, weakly scobinate.

Etymology. The subgenus name is an aggregate of the word ‘sacculus’ and the genus-group name *Palaeugoa*, referring to the presence of the second, medial process in the sacculus of all species included in the subgenus. The gender is feminine.

Taxonomic content. The newsubgenus comprises three species subdivided into two subgenera.

The *P.* (*S.*) *smithi* species-group

Diagnosis. The male genitalia of the species-group (Figs 83, 84) are characterised by the smooth transtillar processes fused into a solid bilobate plate; the juxta lacking the medial process and having a broad and deep ventral membranous section making it almost curved band-shaped; the straight dorsal margin of the valva; the smooth ventral costal protrusion; the anellus bearing a dense cluster of spinules; the slender phallus, which is shorter than the valva; and the relatively short and narrow vesica with a single utricular diverticulum bearing a short spike-shaped cornutus. The female genitalia (Figs 121, 122) are described above, under the genus *Palaeugoa*.

Taxonomic content. The species-group comprises two valid species, *P.* (*S.*) *smithi* Volynkin & László, 2020 and *P.* (*S.*) *montana* **sp. n.**

Palaeugoa (*Sacculigoa*) *montana* sp. n.

(Figs 28, 29, 84, 122)

http://zoobank.org/urn:lsid:zoobank.org:act:3519009D-A81B-4C4F-B622-78BA0FBA1477

Type material. **Holotype** (Figs 28, 84): male, "CAMEROON 1100m | Bokwaongo, Mt. Cameroon | 04°08'0.33"N, 09°12'36.83"E | 03–06.iii.2018, MV light trap | Ishmael, K., Miles, W., | Safian, S. leg. | ANHRT:2018.3" / "ANHRTUK | 00405738" / "Slide | AV9941♂ | A. Volynkin" (ANHRT).

Paratypes. **CAMEROON**: 2 males, 2 females, same data as in the holotype, gen. slide Nos.: AV9942♀, AV9950♂, AV9951♂, AV9953♀ (ANHRT).

Diagnosis. The forewing length is 8.5–9.0 mm in males and 11.0 mm in females. Amongst the *Palaeugoa* species, *P. montana* **sp. n.** is most externally reminiscent of another mountain species, *P. megala*, known from Rwanda and south-western Uganda, but differs clearly in the somewhat smaller size, the more convex costal margin of the forewing, the darker, orange-yellow forewing ground colour (it is ochreous yellow in the similar congener), and the darker and broader forewing markings forming irregular spots. The female of the new species has the posterior section of the medial area filled with dark scales, which fuses the ante- and postmedial fasciae and the medial spot into a large medial shade interrupted only in the distal section of the cell. The male genitalia of *P. montana* **sp. n.** are largely reminiscent of the externally dissimilar *P. smithi* widely distributed in the lowland rainforests of Central Africa, but can be distinguished by the longer lobes of the transtillar plate; the longer and proximally broader medial saccular process; the somewhat longer distal saccular process extending beyond the ventral corner of the valvula, and the asymmetrical lateral subdiverticula on the largest (utricular) diverticulum in the vesica. In the female genitalia, *P. montana* **sp. n.** is distinct from *P. smithi* in the broader antevaginal plate with more dentate posterior margin, the considerably shorter and narrower corpus bursae, and the proximally narrower appendix bursae bearing weaker scobination.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from Mount Cameroon (Cameroon).

Etymology. The specific epithet is a Latin adjective meaning 'mountainous' and refers to the occurrence of the new species in montane forests, in contrast to the closely related *P. smithi* inhabiting lowland rainforests.

The *P.* (*S.*) *megala* species-group

Diagnosis. The male genitalia of the species-group (Fig. 82) differ from the *P.* (*S.*) *smithi* species-group (Figs 83, 84) in the serrulate transtillar process separated from its counterpart by the medial membrane; the dorsal margin of the valva having a well-developed collis; the ventral costal protrusion bearing a triangular crest in its dorsal part; the markedly longer and broader phallus; and the considerably broader vesica having two utricular diverticula bearing longer spike-shaped cornuti apically. The female is unknown.

Taxonomic content. The group comprises a single species, *P.* (*S.*) *megala* Volynkin & László, 2020.

Palaeugoa (*Sacculigoa*) *megala* Volynkin & László, 2020

(Figs 30, 31, 82)

Palaeugoa megala Volynkin & László, 2020, *Ecologica Montenegrina*, 36: 63, figs 15, 16, 41, 42 (Type locality: "Rwanda, Nyungwe, ... 2000m").

Type material examined. **Holotype** (Figs 30, 82): male, "Rwanda | Nyungwe | 12.X.[19]74 | B. Turlin [leg.] | 2000m" / "Slide | ZSM Arct. | 2019-217♂ | A. Volynkin" (ZSM). **Paratypes**. **RWANDA**: 1 male, Nyungwe, 2000m, 23.IV.[19]77, B. Turlin [leg.], gen. slide No.: ZSM Arct. 183/2017 (prepared by Volynkin) (ZSM); 1 male, Nyungwe NP, 2000m, Kamiranzovu Swamp, 2°29'S, 29°08'E, 6.VIII.2008, leg. J. & W. De Prins / De Prins Coll. BMNH (E) 2014-125, gen. slide No.: NHMUK010315267 (prepared by Volynkin) (NHMUK).

Additional material examined. **UGANDA**: 3 males, 1700m, Bwindi Impenetrable N.P., Cuckooland Lodge, 01°00'17"S, 29°43'06"E, 28–29.vi.2022, Naumann, S., Ott, E., Schintlmeister, A., Sulak, H. leg., gen. slide No.: AV9943♂ (ANHRT).

Distribution. The species is known from Rwanda (Volynkin & László 2020) and south-western Uganda (new country record).

Genus *Afroadites* gen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:3B6F5B44-0767-45BE-8E82-720658C60286

Type species: *Palaeugoa ndoki* Volynkin, 2024, by present designation.

Diagnosis. Members of the new genus (Figs 32–35) have a distinctive greyish-brown forewing pattern, which is unique among the Afrotropical Lithosiini but vaguely reminiscent of the Oriental genera *Adites* Moore, [1882] and *Pseudoadites* N. Singh & Kirti, 2016. The male genital capsule structure of *Afroadites* **gen. n.** (Figs 85–87) is most similar to the subgenus *Sacculigoa* **subgen. n.** of *Palaeugoa* (Figs 82–84) but differs fundamentally in the lack of the diaphragmal transtillar processes but the presence of extensive spinulose scobination of the anellus and a serrulate tendon, which is possibly homologous to the basal ampulla of *Reticuligoa* **gen. n.** Additionally, unlike in *Palaeugoa* (*Sacculigoa*) **subgen. n.**, the medial saccular process of *Afroadites* **gen. n.** is short and lobular, and can be reduced in certain species. The distal half of the phallus of *Afroadites* **gen. n.** bears one or two robust carinal crests, which is similar only to the *P.* (*S.*) *smithi* species-group, which has, however, a markedly shorter and narrower phallus (in proportion to the genital capsule). The vesica of *Afroadites* **gen. n.** differs from *Palaeugoa* (*Sacculigoa*) **subgen. n.** in the broader main chamber having larger diverticula bearing fields of robust spinulose scobination and one or two clusters of spines or short cornuti. In the female genitalia, *Afroadites* **gen. n.** (Figs 117, 118) is most similar to *Reticuligoa* **gen. n.** (Figs 115, 116), from which it differs in the more weakly sclerotised 8th tergite lacking the lateral plates (they are wrapping the 8th segment latero-dorsally in *Reticuligoa* **gen. n.**), the lack of the antevaginal plate, and the considerably longer and broader proximal section of the appendix bursae directed anteriorly (it is directed laterally in *Reticuligoa* **gen. n.**). In addition, the 7th sternite of *Afroadites* **gen. n.** is smooth and weakly sclerotised whereas in *Reticuligoa* **gen. n.**, it has lateral rugose sclerotised areas. Compared to *Palaeugoa* (*Sacculigoa*) **subgen. n.** (Figs 121, 122), the female genitalia of *Afroadites* **gen. n.** have a weakly sclerotised 8th segment with a membranous sternite and a band-shaped tergite (in *Palaeugoa* (*Sacculigoa*) **subgen. n.**, the whole segment is bell-shaped, well-sclerotised and has an extended membranous-reticulate anterior part of the sternite), the lack of the antevaginal plate, and the large and heavily sclerotised and spinulose proximal section of the appendix bursae, which is membranous and finely scobinate in *Palaeugoa* (*Sacculigoa*) **subgen. n.**

Description. **External morphology of adults** (Figs 32–35). Forewing length 8.0–11.5 mm in males and 10.0–11.0 mm in females. Antenna setose-ciliate in males and sparsely setose in females. Body pale creamy yellow with admixture of brown scales. Forewing ground colour pale creamy yellow, pattern greyish brown, indistinct, represented by an extensive spot at wing base, an indistinct shade in the antemedial area, a longitudinal shade in the cell, a large elongate medial patch at anal margin, a dense suffusion along the costal margin near apex and a sparse suffusion between veins. Forewing cilia pale greyish brown. Hindwing from pale creamy yellow with pale brownish suffusion to greyish-brown. **Male genitalia** (Figs 85–87). Uncus short, dorso-ventrally flattened, weakly sclerotised and setose, fully fused with the tuba analis. Tuba analis broad, membranous, subscaphium weakly setose. Tegumen

with narrow and weakly sclerotised arms. Vinculum as long as tegumen or somewhat longer, well-sclerotised, with broad U-shaped base. Tendon thickened and densely spinulose, fused with dorsal part of anellus distally. Valva lobular, as long as tegumen–vinculum complex or somewhat shorter; dorsal margin with collis medially. Costa narrow, occupying whole dorsal margin of valva, reaching the valva apex; ventral costal protrusion stretching from collis to the base of distal saccular process; in certain species, costa with small triangular crest on its inner surface in the collis region. Distal section of valva (costa+valvula) lobular and apically rounded; valvular component broad and relatively long, membranous and weakly setose. Sacculus from 1/2 to 2/3 of valva width in proximal section, with short lobular medial process (reduced to a protrusion in certain species), and elongate, flattened, apically rounded distal process slightly curved dorsad-inwards. Juxta moderately sclerotised, broad, trapezoidal or triangular, with deep and broad ventral medial membranous region, and triangular medial process. Anellus broad, thick-walled, densely covered with short but robust spines. Phallus large, cylindrical, somewhat S-like curved, its distal half with one or two robust longitudinal carinal crests. Vesica considerably broader than phallus, with three or four large diverticula bearing fields of scobination or graniculi, and clusters of spines or short cornuti. Elasma very weakly sclerotised. **Female genitalia** (Figs 117, 118). Papilla analis rectangular with rounded corners, weakly setose. Apophysis posterior elongate and slender, somewhat longer than papilla analis. 8th tergite short, weakly sclerotised, transverse band-shaped; apophysis anterior basally triangular and rod-like distally, ca. 1/3 of apophysis posterior length; 8th sternite membranous, longer than tergite. Ostium bursae broad (ca. 1/3 of 8th segment width). Antrum broad funnel-shaped with V-shaped ventral posterior margin, moderately sclerotised and rugose. Ductus bursae short, tubular, membranous. Corpus bursae globular, rugose and densely spinulose, and with sclerotised rugose plate dorsally. Appendix bursae situated postero-laterally on the left side; proximal section of appendix bursae as long as corpus bursae but somewhat broader, basally spinulose and heavily sclerotised laterally, directed anteriad; medial (constricted) section of appendix bursae curved to the left; distal section of appendix bursae globular, broader than corpus bursae, membranous and scobinate, directed anteriad. 7th sternite weakly sclerotised and smooth.

Molecular data. Species of the genus have not been extensively sampled for DNA barcoding yet, and only a single sequence each of *A. aristophanousi* and *A. laszloi*, and three sequences of *A. ndoki* were available for the current analysis. The pairwise distances between the species of *Afroadites* **gen. n.** and *Palaeugoa* and *Reticuligoa* **gen. n.** are in the range of 5.92–7.11% and 5.59–6.43%, respectively. The intraspecific divergence of COI-5P sequences of *A. ndoki* calculated from three sampled specimens is in the range of 0.00–2.03%; the species diverges from *A. aristophanousi* and *A. laszloi* by 2.83–3.32% and 2.99–3.32%, respectively, while the pairwise distance between the single sequences of the two latter species is 3.31%.

Etymology. The genus name refers to the similarity of members of the new genus to the Oriental *Adites* and their occurrence in Africa, in contrast to *Adites*. The gender is masculine.

Taxonomic content. The new genus comprises six species including a new one described below: *A. aristophanousi* (Volynkin & László, 2020), **comb. n.**, *A. laszloi* (Volynkin, 2024), **comb. n.**, *A. ndoki* (Volynkin, 2024), **comb. n.**, *A. ngoko* (Volynkin & László, 2020), **comb. n.**, *A. phebe* **sp. n.**, and *A. peregrinus* (Hacker, 2014), **comb. n.** The ending of the specific epithet of the latter species, which is a Latin adjective, is herein changed to masculine in order to make it agree with the new genus's gender, following the requirement in Article 34.2 of ICZN (1999).

Afroadites phebe **sp. n.**

(Figs 34, 86)

http://zoobank.org/urn:lsid:zoobank.org:act:B3532BE8-E87B-4021-8B0C-06D7F3948355

Type material. **Holotype** (Figs 34, 86): male, "Coll.K.Maes | CAMEROON Center | Yaoundé Mt. Phébé | 1070m vi.1993" / "African Natural History | Research Trust | ANHRT:2023.12" / "ANHRTUK | 00338865" / "Slide | AV9948♂ | A. Volynkin" (ANHRT).

Diagnosis. The forewing length is 8.5 mm in the male holotype. *Afroadites phebe* **sp. n.** is morphologically similar to *A. ngoko* described from Dja River in South Cameroon, and can be distinguished from it by the genitalia structures. The male genital capsules of the two species are very similar but in *A. phebe* **sp. n.**, the distal section of the valva is broader and the medial saccular process is basally broader and less prominent than in *A. ngoko*. The

phallus of the new species is somewhat straighter than in the similar congener and has a slightly longer carinal crest. The main differences between the species are found in their vesica structures: *A. phebe* **sp. n.** differs clearly from *A. ngoko* in the presence of a long band-like transverse cluster of spines on the left side of the main chamber, the lack of the compact cluster of robust spines in the middle of the right side of the main chamber, and the presence of the bilobate ventral diverticulum bearing two clusters of spines of various lengths, which is absent in *A. ngoko*. The medial diverticulum of *A. phebe* **sp. n.** is curved, bears robust graniculi, and is situated laterally whereas in *A. ngoko*, this diverticulum is conical, bears considerably finer graniculi, and is situated distally. Additionally, unlike in *A. ngoko*, the subbasal ventral diverticulum of *A. phebe* **sp. n.** is smaller, the subbasal dorsal diverticulum is broader and bears coarser scobination, and the terminal section of the vesica at the base of the vesica ejaculatorius is narrower.

The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from its type locality on Mount Phébé in Yaoundé City, Central Cameroon.

Etymology. The specific epithet is homonymic with the type locality of the new species. The name is a noun in the nominative singular.

Afroadites ngoko (Volynkin & László, 2020), comb. n.

(Figs 35, 87, 118)

Palaeugoa ngoko Volynkin & László, 2020, *Ecologica Montenegrina*, 36: 75, figs 25, 50 (Type locality: "Bitje, Ja River, Cameroons, 2000 ft.").

Type material examined. **Holotype** (Figs 35, 87): male, "1494 | Bitje Ja [Dja] River | Cameroons | 2000 ft. | Oct–Nov 1912" / "1915–113." / QR-code label with unique ID "NHMUK 010918063" / "Slide | NHMUK010315725" (NHMUK).

Additional material examined. **CAMEROON**: 1 female, same locality label as in the holotype / Joicey Bequest. Brit. Mus. 1934-120 / unique ID: NHMUK016480630, gen. slide No.: NHMUK014334881 (prepared by Volynkin) (NHMUK).

Note. The species was described from a single male (Volynkin & László 2020). Subsequently, the author of the present paper discovered a topotypical, heavily worn female among the accessioned specimens in the NHMUK collection. The female genitalia of the species are illustrated for the first time in the present paper (Fig. 118).

Distribution. The species is currently known only from its type locality in Cameroon.

Genus *Euproctosia* Hampson, 1914

Euproctosia Hampson, 1914, *Catalogue of the Lepidoptera Phalaenae in the British Museum*. Supplement 1: 615 (Type species: *Euproctosia cretata* Hampson, 1914, by original designation).

Diagnosis. The species of the genus (Figs 36–41) are most externally similar to *Lymantriopsis* (Figs 42–49) but can be recognised by the more angular apex and tornus of the forewing. Besides *Lymantriopsis*, *Euproctosia* is externally reminiscent of *Vulpeculella* (Figs 4–15), from which it differs in the male forewing having an unmodified venation and lacking the lobus, and the proximal spot in the middle area situated on the vein Cu and extended posteriorly into the area between the Cu and CuA1, whereas it is situated within the cell in *Vulpeculella*. The male genital capsule of *Euproctosia* (Figs 88–90) is similar to *Vulpeculella* (Figs 70–76) but distinguished by the weakly sclerotised, elongate juxta dorsally reaching the base of the anellus (it is heavily sclerotised, short, and separated from the anellus by the membrane in *Vulpeculella*), and the more weakly sclerotised sacculus bearing a longitudinal serrulate crest (it is smooth in *Vulpeculella*). The phallus of *Euproctosia* lacks the carinal processes and sclerotisations, which are typical of *Vulpeculella*. The vesica of *Euproctosia* is relatively characterless and displays no fundamental differences from *Vulpeculella*. In the female genitalia, *Euproctosia* (Figs 123, 124) differs clearly from *Vulpeculella* (Figs 108–114) in the markedly narrower, tubular and membranous ductus bursae (it is very broad and gelatinous or sclerotised in *Vulpeculella*); the membranous corpus bursae bearing spinulose scobination (it is posteriorly

sclerotised, anteriorly gelatinous with reticulate sclerotisations, and lacks the scobination in *Vulpeculella*); and the well-developed appendix bursae having a bulla-shaped distal section, whereas in *Vulpeculella*, the appendix bursae is reduced, very small, conical and membranous. In addition, the 7th sternite of *Euproctosia* is membranous and only bears anterio-lateral gelatinous pockets receiving the male distal saccular processes during copulation, whereas in *Vulpeculella*, the 7th sternite has postero-lateral sclerotised plates forming subostial lobular plates. The detailed comparison of the genitalia of both sexes of *Euproctosia* and *Lymantriopsis* is provided below in the diagnosis of the latter genus.

Redescription. **External morphology of adults** (Figs 36–41). Antenna setose-ciliate in males and sparsely ciliate in females. Sexual dimorphism limited to female being somewhat larger than male and having slightly broader forewing with more convex costal margin and paler and more diffuse forewing markings. Forewing ground colour off-white; pattern brown, consisting of broad transverse fasciae with irregular margins, spots on costal and outer margins, and two spots in medial area, which can be fused: the proximal one on the vein Cu, and the distal one in the cell. Hindwing creamy or brown, without markings. **Male genitalia** (Figs 88–90). Uncus short, dorso-ventrally flattened, weakly sclerotised, sparsely setose, its proximal 2/3 fused with tuba analis; apically rounded or with small medial notch. Tuba analis with setose subscaphium. Arms of tegumen weakly sclerotised, thin ventrally and dilated and fused dorsally. Vinculum shorter than or as long as tegumen, with U-shaped base; with or without saccus. Valva lobular, as long as tegumen–vinculum complex, its dorsal margin with collis medially. Costa thin but well-sclerotised, tapered towards collis and terminating on it or stretching distally and reaching the valva apex; ventral costal protrusion broad plate-like, stretching from collis to the middle of valva; with or without digitus. Valvula large, forming distal section of valva, membranous or moderately sclerotised, apically pointed or rounded. Sacculus broad, from half to 1/3 of valva width in its proximal section; its inner surface smooth or bearing longitudinal swollen serrulate crest. Distal saccular process apically rounded, smooth or bearing longitudinal serrulate crest on its inner surface. Juxta weakly sclerotised, caudally convex, its medial section fused with annelifers of valvae, while dorsal section reaching the base of anellus. Anellus membranous. Phallus well-sclerotised, cylindrical, with short conical and apically rounded coecum. Main chamber of vesica shorter than phallus tube, with short conical diverticula and areas of graniculi and scobination. **Female genitalia** (Figs 123, 124). Papilla analis broad, rectangular with rounded corners, weakly sclerotised, setose. Apophysis posterior thin, rod-like, somewhat longer than papilla analis. 8th tergite moderately sclerotised, short, transverse band-shaped, with clavate lateral plates stretching ventrally from bases of apophyses; apophysis anterior flattened, with triangular base and slender distal section. 8th sternite medially membranous; postvaginal area membranous and weakly rugose. Ostium bursae narrow, its ventral margin with or without antevaginal plate. Ductus bursae short, tubular, membranous. Corpus bursae pyriform, densely covered with fine spinulose scobination; anterior section with or without signum. Appendix bursae with conical and membranous proximal section, strongly constricted medially, and with bulla-like distal section having thin membranous and finely scobinate walls. 7th sternite membranous with anterio-lateral gelatinous pockets.

Molecular data. Since the molecular data are currently unavailable for the type species of the subgenus *Pseudoproctosia* **subgen. n.**, the COI-5P sequences of the type species of the genus, *E. cretata*, were compared with the similar genus *Lymantriopsis*, from which *Euproctosia s. str.* diverges by 9.47–12.16%.

Taxonomic content. The genus is hereby subdivided into two monotypic subgenera.

Subgenus *Euproctosia* Hampson, 1914

Diagnosis. The male genitalia of the nominate subgenus (Figs 88, 89) are characterised by the combination of the following features. (1) The uncus has a small apical notch. (2) The vinculum has a lobular saccus, which is dorso-ventrally flattened and proximally upcurved. (3) The ventral costal protrusion bears a robust, densely serrulate digitus. (4) The valvula is broad, apically rounded, and membranous. (5) The medial section of the sacculus is smooth and distally tapered. (6) The distal saccular process is apically serrulate and bears a longitudinal serrulate crest. (7) The juxta is weakly sclerotised and narrow; its ventral and medial sections are strongly convex in caudal direction, and the dorsal section is directed dorso-cranially and reaches the base of the anellus. The medial section of the juxta is fused with the anellifers of the valvae, making it impossible to spread the latter wide. (8) The vesica

ejaculatorius lacks the elasma. In the female genitalia (Fig. 123), the membranous ventral margin of the ostium bursae, and the well-developed apophysis anterior are characteristic of the nominate subgenus.

Euproctosia (*Euproctosia*) *cretata* Hampson, 1914

(Figs 36–38, 88, 89, 123)

Euproctosia cretata Hampson, 1914, *Catalogue of the Lepidoptera Phalaenae in the British Museum*. Supplement 1: 615 (Type locality: [Ghana, Bibiani] "Gold Coast, Bibianaha").

Type material examined. **Lectotype** (hereby designated) (Figs 36, 88): "Gold Coast. [Ghana] | Bibianaha. [Bibiani] | 24–26.X.1911. | H.G.F.Spurrell | 1911–413." / "Euproctosia | cretata. | type ♂. Hmpsn." / round label with deep blue margin "LECTO | TYPE" / QR-code label with unique ID "NHMUK 010918028" / "Slide | NHMUK014334358" [prepared by Volynkin] (NHMUK). **Paralectotype**: female, same data as the lectotype, unique ID: NHMUK010918029 (NHMUK).

Additional material examined. **GABON**: 3 males, 430m, Mikongo (Rougier), Monts de Cristal (secondary forest), 0°29'47"N, 11°10'42"E, 28.vii.–12.viii.2019, MV & LepiLED light traps, Albert, J.-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg., gen. slide No.: AV6479♂ (ANHRT); **REPUBLIC OF CONGO**: 12 males, 1 female, 372m, Sangha Prov., NNNP, Mbeli camp (*Gilbertiodendron* forest), 02°14'23.8"N, 16°23'52.1"E, 1–10.x.2022, MV, actinic & LepiLED light traps, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 7 males, 1 female, same locality as previous but 14–20.ii.2023, MV & actinic light traps, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 8 males, 14 females, 365m, NNNP, Mondika camp, 02°21'50.63"N 16°16'25.82"E, 07–14.ii.2023, actinic & LepiLED light traps, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg., gen. slide No.: AV9939♀; 3 males, same locality as previous but 27.iv.–6.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 2 males, 349m, Likouala Prov., NNNP, Makao forest (secondary forest), 02°36'42.5"N 17°09'23.8"E, 15–21.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 3 males, 1 female, same locality as previous but 24–29.ix.2022, actinic light trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg., gen. slide No.: AV6951♂; 5 males, 352m, Sangha Prov., NNNP, Ndoki formation (secondary forest), 02°12'47.7"N, 16°23'45.8"E, 29.ix.–1.x.2022, actinic & LepiLED light traps, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 1 male, 3 females, 358m, Sangha Prov., NNNP, Bomassa forest (secondary forest), 02°11'58.1"N, 16°11'16.9"E, 17–23.ix. 2022, LepiLED L.T., Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 1 female, 341m, Sangha Prov., NNNP, Bomassa camp, 02°12'36.9"N 16°11'30.2"E, 16–23.ix.2022, MV light trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 1 male, same locality as previous but 6–14.v.2023, LepiLED light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 1 male, same locality as previous but 01–02.ii.2023, actinic light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 1 male, 377m, NNNP, Makao camp (secondary forest), 02°35'42.2"N 17°10'08.3"E, 15–21.v.2023, MV light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 1 male, 338m, NNNP, Wali forest, 02°13'56.8"N, 16°12'13.9"E, 10–14.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 9 males, 570m, OKNP, Mbomo Headquarters, 00°26'13"N, 14°42'01"E, 28.ix–01.x.2024, MV light trap, Bashford, M., László, G., Volynkin, A. leg.; 3 males, 1 female, 379m, OKNP, Lekoli River near Mboko, 00°37'04.79"N, 14°54'27.32"E, 21–23.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 1 male, 390m, OKNP, Lobo Research Camp, 00°35'04"N, 14°53'12"E, 20–27.ix.2024, MV light trap, Bashford, M., László, G., Volynkin, A. leg.; 2 males, 1 female, 490m, OKNP, Camp Imbalanga, 00°45'59"N, 15°15'20"E, 13–20.ix.2024, MV & actinic light traps, Bashford, M., László, G., Talani, M., Volynkin, A. leg.; 2 males, 500m, OKNP, Kilo Forest, 00°31'37"N, 14°52'20"E, 23–24.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg. (all in ANHRT); **IVORY COAST**: 14 males, 1 female, 40m, Banco National Park, 05°23'3.8"N, 04°03'11.2"W, 29.xi.–5.xii.2019, MV, actinic & LepiLED light traps, Aristophanous, M., Dérozier, V., Moretto, P., Ouattara, S. leg.; 1 male, 39–48m, Abidjan, Banco Forest (Parc-National du Banco), 05°23'03.8"N, 04°03'11.2"W, 21–30.iv.2017, MV light trap, Aristophanous, A., Aristophanous, M., Geiser, M., Moretto, P. leg., gen. slide No.: AV5977♂ (all in ANHRT); **LIBERIA**: 1 male, 551m, Wetezu camp, Wonegizi Nature Reserve, Lofa County, 8°4'57.11"N 9°34'47.86"W, 19–27.iii.2019, UV cold cathode light trap, Sáfián, Sz., Koivagui, S. leg.; 1 female, 865m, Lofa County, Wologizi Mts, Ridge camp, 8°07'10"N,

9°57'11"W, 24–29.xi.2017, cold cathode light bucket, Aristophanous, M., Sáfián, Sz., Simonics, G. & Smith, L. leg.; 1 female, 883m, Lofa County, Wologizi Mts., Ridge Camp 2, 8°7'20.79"N, 9°56'50.75"W, 22–31.xi.2018, cold cathode UV light trap, Sáfián, Sz., Simonics, G. leg., gen. slide No.: AV5101♀ (all in ANHRT); **GUINEA**: 2 males, 690m, Guinée Forestière, Bossou Forest and Institut de Recherche Environnementale de Bossou (lowland forest–farmland), 07°38'32"N, 08°30'30"W, 24–31.vi.2019, 8W UV cold cathode light trap, Dérozier, V., Suah Dore, J., Koivagui, S., Miles, W., Sáfián, Sz., Warner, R. leg.; 1 male, 700m, Guinée Forestière, Monts Nimba UNESCO World Heritage Site, Serengbara Village to Yie River Valley (lowland forest-farmland), 07°36'56"N, 08°26'54"W, 1–8.vii.2019, UV cold cathode light trap, Dérozier, V., Koivagui, S., Miles, W., Sáfián, Sz., Warner, R. leg., gen. slide No.: AV5978♂; 1 male, 625m, Guinée Forestière, Forêt Classée de Ziama, Sérédou (lowland forest / farmland), 08°21'26"N, 09°17'48"W, 9–16.vii.2019, UV cold cathode light trap, Dérozier, V., Koivagui, S., Miles, W., Sáfián, Sz., Warner, R. leg.; 1 male, 540–600m, 619km ESE of Conakry, Nzerekore Region, Prefecture Lola, Ziela env., x.2017, 7°42'N, 8°21'W, local collectors leg. (all in ANHRT).

Note. The species was described from two specimens, a male and a female (Hampson 1914), which are syntypes. In order to stabilise the nomenclature, the male specimen is hereby designated as the lectotype and labelled accordingly.

Diagnosis. The forewing length is 6.5–7.5 mm in males and 9.0–9.5 mm in females. The detailed comparison with *E.* (*P.*) *pemba* **sp. n.** is provided below in the diagnosis of the subgenus *Pseudoproctosia* **subgen. n.**

Molecular data. The intraspecific divergence of COI-5P sequences calculated from 15 sampled specimens is in the range of 0.00–0.93%.

Distribution. The species is widespread in rainforests of West and western Central Africa, and is currently known from Ghana (Hampson 1914), Guinea, Liberia, Ivory Coast, Gabon, and Republic of Congo (new country records).

Subgenus *Pseudoproctosia* subgen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:9181F237-3506-42EA-A38B-7E2AA18739A8

Type species: *Euproctosia* (*Pseudoproctosia*) *pemba* **sp. n.**, by present designation.

Diagnosis. Although the only known member of the new subgenus (Figs 39–41) is externally reminiscent of the type species of *Euproctosia s. str.* (Figs 36–38), the male genitalia structures of the two subgenera are noticeably different (Figs 88–90): unlike in *Euproctosia s. str.*, the uncus of *Pseudoproctosia* **subgen. n.** is apically rounded (it has an apical notch in *Euproctosia s. str.*); the vinculum lacks the saccus; the juxta is shorter but broader, which lets the valvae spread wider; the costa lacks the digitus and occupies the whole dorsal margin of the valva reaching the tip (it terminates at the collis in *Euproctosia s. str.*); the valvula is moderately sclerotised, narrow, distally tapered, apically pointed (it is broadly lobular, membranous and apically rounded in *Euproctosia s. str.*); the dorsal section of the sacculus bears a long and swollen, distally dilated, heavily sclerotised and serrulate crest reaching the base of the distal saccular process (in *Euproctosia s. str.*, the sacculus is distally tapered and smooth); and the distal saccular process is smooth whereas it bears a serrulate longitudinal crest on its inner surface in *Euproctosia s. str.* The phallus of *Pseudoproctosia* **subgen. n.** is longer and broader than in *Euproctosia s. str.* (in proportion to the tegumen–vinculum complex dorso-ventral length). The vesicae of the two subgenera are similar but the vesica ejaculatorius of *Pseudoproctosia* **subgen. n.** bears an elasma subbasally, whereas it is absent in the nominate subgenus. In the female genitalia, *Pseudoproctosia* **subgen. n.** (Fig. 124) differs from *Euproctosia s. str.* (Fig. 123) in the markedly smaller apophysis anterior, the presence of the antevaginal plate, and the strongly medially constricted appendix bursae having a markedly larger bulla-like distal section. Additionally, the 7th sternite of *Pseudoproctosia* **subgen. n.** is shorter than in *Euproctosia s. str.*, and has deeper and more rugose anterio-lateral pockets receiving the male distal saccular processes during copulation. The genitalia structure of both sexes of *Pseudoproctosia* **subgen. n.** is also reminiscent of *Reticuligoa* **gen. n.**, from which the male genitalia of the new subgenus can be easily distinguished by the lack of the basal ampulla, digitus, and medial costal process. In the vesica, *Pseudoproctosia* **subgen. n.** has clusters of fine scobination, whereas in *Reticuligoa* **gen. n.**, a cluster of spike-like cornuti is present. The female genitalia ground plans of *Pseudoproctosia* **subgen. n.** and *Reticuligoa* **gen. n.** are similar, but in the latter, the lateral lobes of the 8th tergite are broader and more heavily sclerotised than in *Pseudoproctosia* **subgen. n.**,

and the appendix bursae is less constricted medially and has a sclerotised and rugose proximal section, which is membranous in *Pseudoproctosia* **subgen. n.**

Description. **External morphology of adults** (Figs 39–41). Sexual dimorphism moderate: female larger than male, having more elongate forewing, broader discal marking on forewing upperside, lacking intense rusty-fuscous suffusion on forewing underside, and having somewhat paler hindwing. Head and thorax brown. Antenna serrulate-ciliate in male and sparsely ciliate in female. Forewing broad triangular with rounded apex and slightly convex margins. Forewing ground colour off-white. Ante- and postmedial area with broad rust brown markings having irregular outer margins. Costal margin with several irregular orange brown spots. Cell with elliptical rust brown marking in the medial area. Subterminal area with diffuse irregular orange ochreous markings. Cilia as ground colour. Hindwing brown, paler along the costa; terminal line and cilia ochreous. Male abdomen brown medially, pale ochreous basally and ochreous apically. Female abdomen brown with admixture of ochreous scales. **Male genitalia** (Fig. 90). Uncus weakly sclerotised, short, dorso-ventrally flattened and apically rounded, sparsely setose, its ventral side fused with tuba analis. Tuba analis membranous, weakly setose. Tegumen short with narrow and weakly sclerotised arms. Vinculum longer than tegumen, with short U-shaped base and lobular dorsal ends of its arms. Valva slightly dilated distally, its dorsal margin with short collis. Proximal section of costa moderately sclerotised, narrow, and tapering towards the collis; distal section of costa thin but heavily sclerotised, stretching along the dorsal margin of valva and reaching valva apex, forming a spike-shaped tip; ventral costal protrusion stretching from collis apex to ventral proximal corner of valvula, its dorsal end bearing short crest at the collis apex. Valvula narrow triangular, weakly sclerotised medially, and with heavily sclerotised ventral margin dorsally fused with the thorn-shaped tip of costa. Sacculus broad, distally dilated, its dorsal side heavily sclerotised, swollen and densely covered with numerous denticles (serrulate). Distal saccular process digitiform, flattened, apically rounded. Proximal ends of sacculi thin, band-like, upcurved, articulated with each other. Juxta weakly sclerotised, trapezoidal, with broad medial membranous depression ventrally. Anellus membranous. Phallus cylindrical, with well-sclerotised walls, somewhat dilated proximally, with short and rounded coecum. Main chamber of vesica shorter than phallus, nearly globular, with large conical and apically rounded diverticulum on the right side bearing elongate cluster of scobination. Left side of vesica with short and narrow, ligulose diverticulum, with cluster of scobination at its base on the dorsal side of vesica. Proximal section of vesica ejaculatorius narrow conical, with short and narrow elasma subbasally. **Female genitalia** (Fig. 124). Ovipositor nearly rectangular. Papilla analis broad trapezoid with rounded corners, weakly setose. Apophysis posterior thin, rod-like, short. 8th tergite band-like, moderately sclerotised, with two narrow clavate lateral lobes partly wrapping the segment ventro-laterally; 8th sternite narrow, setose medially; postvaginal area membranous and rugose. Apophysis anterior extremely short, narrow triangular. Ostium bursae narrow (ca. 1/3 of 8th sternite width), with membranous dorsal margin; ventral margin of ostium weakly sclerotised and rugose, and fused with moderately sclerotised antevaginal plate situated on the posterior end of 7th sternite. Ductus bursae tubular, membranous, somewhat dilated posteriorly, shorter than ovipositor. Corpus bursae pyriform, slightly constricted medially, densely scobinate. Appendix bursae situated postero-laterally on the left side; its proximal section broad conical, membranous, directed laterally; junction between proximal and distal sections extremely narrow; distal section teardrop-shaped, longer and broader than proximal section, weakly scobinate; ductus seminalis originates from the base of distal section. 7th sternite membranous and setose medially, and with sclerotised and rugose plates laterally.

Molecular data: currently unavailable for this subgenus.

Etymology. The subgeneric name is an aggregate of the prefix ‘pseudo-’ meaning ‘false’, and the genus-group name *Euproctosia*. The gender is feminine.

Euproctosia (*Pseudoproctosia*) *pemba* sp. n.

(Figs 39–41, 90, 124)

http://zoobank.org/urn:lsid:zoobank.org:act:7821093C-5C99-4CD3-863E-DA2B09A4FEF4

Type material. **Holotype** (Figs 39, 90): male, “TANZANIA | Pemba Island | Ngezi Forest | 4°56'S 39°42'E | 16.xi.1998 | At MV light | G. Martin” / QR-code label with unique ID “NHMUK016480477” / “Slide | NHMUK014334025” [prepared by Volynkin] (NHMUK).

Paratypes. **TANZANIA**: 11 males, 3 females, same locality and collector as in the holotype, 23–29.xi.1998, gen. slide Nos.: NHMUK014334026 (male), NHMUK014334027 (female) (prepared by Volynkin) (NHMUK).

Diagnosis. The forewing length is 6.0–6.5 mm in males and 8.5 mm in females. The new species is externally reminiscent of *E. cretata*, from which *E. pemba* **sp. n.** can be readily distinguished by the somewhat more limited sexual dimorphism with the female having the same forewing markings as the male, whereas in *E. cretata*, the female has more diffuse and interrupted ante- and postmedial fasciae, and indistinct spots of the medial area, which are large and contrasting in the male. Both sexes of *E. pemba* **sp. n.** are distinct from *E. cretata* in the broader forewing and the dark, brownish-grey hindwing, which is pale creamy in *E. cretata*. The detailed comparison of the genitalia of both sexes of *E. pemba* **sp. n.** and *E. cretata* is provided above in the diagnosis of the subgenus *Pseudoproctosia* **subgen. n.**

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from Pemba Island (Tanzania).

Etymology. The specific epithet is homonymic with the island of Pemba, where the new species is found. The name is a noun in the nominative singular.

Genus *Lymantriopsis* Hampson, 1900

Lymantriopsis Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum*, 2: 465 (Type species: *Nudaria lacteata* Holland, 1893, by original designation).

Diagnosis. Species of the genus (Figs 42–49) are externally reminiscent of *Euproctosia* (Figs 36–41) and *Euproctosiella* **gen. n.** (Figs 50–52) and differ from the former genus in the more rounded apex and tornus of the forewing, and the blackish suffusion on the female forewing underside (it is rusty-fuscous in *Euproctosia*). Compared to *Euproctosiella* **gen. n.**, males of *Lymantriopsis* have a longer and narrower forewing and a diffuse dash-like proximal spot in the medial area stretching along the vein Cu and touching the proximal discal spot (absent in *Euproctosiella* **gen. n.**). The male genital capsule of *Lymantriopsis* (Figs 91–93) can be distinguished from *Euproctosia* (Figs 88–90) by the basally broader uncus, the broad and swollen costa bearing a short, conical and setose distal process, the narrow and elongate valvula (it is membranous and lobular or moderately sclerotised and triangular in *Euproctosia*), and the smooth sacculus, which bears serrulate crests in both species of *Euproctosia*. The phallus and vesica of *Lymantriopsis* display no fundamental differences from *Euproctosia*. The female genitalia of *Lymantriopsis* (Figs 125, 126) are very characteristic and are clearly distinct from *Euproctosia* (Figs 123, 124) in the presence of an antevaginal plate, the corpus bursae lacking the spinulose cover but bearing a robust, transverse bar-like serrulate signum medio-anteriorly and a weakly sclerotised dentate plate postero-laterally, and the reduced, shortly conical appendix bursae without a bulla-like distal section. Unlike in *Lymantriopsis*, both subgenera of *Euproctosia* have a densely spinulose corpus bursae, and a larger appendix bursae with a bulla-shaped distal section; the signum is small elliptical in *Euproctosia s. str.* and absent in *Pseudoproctosia* **subgen. n.** The 8th sternite of *Lymantriopsis* has elliptical anterior sclerotised plates on either side of the ostium bursae; this feature can be considered characteristic of the genus. Additionally, the 8th tergite of *Lymantriopsis* has broad and rounded lateral lobes wrapping the segment ventro-laterally whereas those lobes are elongate, narrow clavate and are extended ventrally in *Euproctosia*. The detailed comparison of the genitalia of both sexes of *Lymantriopsis* and *Euproctosiella* **gen. n.** is provided below in the diagnosis of the latter genus.

Redescription. **External morphology of adults** (Figs 42–49). Antenna serrate setose-ciliate in males and ciliate in females. Sexual dimorphism moderate: female forewing broader and longer than in male, having more diffuse fasciae and dash-like spot along vein Cu in medial area, and lacking intense blackish suffusion in medial area of underside. Body off-white. Forewing ground colour white. Forewing pattern diffuse, consisting of brownish-grey irregularly waved subbasal and ante- and postmedial transverse fasciae, dash-like spot in medial area along vein Cu (blackish in male), and series of irregular spots in subterminal area and on costal and outer margins; cell with two small rounded black discal spots: proximal one on vein Cu and distal one at discocellular vein. Hindwing white; discal spot indistinct, represented by grey suffusion on discocellular vein. **Male genitalia** (Figs 91–93). Uncus dorso-ventrally flattened, broadly triangular basally and plank-shaped distally, weakly sclerotised, almost fully fused with tuba analis (only tip loose). Tuba analis broad, rugose, with broad and heavily setose subscaphium.

Tegumen arms weakly sclerotised, slender ventrally and dilated and fused dorsally. Vinculum somewhat longer than tegumen, heavily sclerotised, U-shaped. Valva lobular, distally tapered. Costa heavily sclerotised, broad, swollen, occupying proximal 2/3 of dorsal margin, terminating with robust conical and serrulate distal process directed distad. Diaphragmal section of transtilla membranous; editum weakly sclerotised and setose, swollen, stretching along costa and fused with it. Valvula membranous and setose, elongate and narrow. Sacculus ca. half of valva width proximally, weakly setose, with flattened and heavily sclerotised distal process curved inwards. Juxta broad, weakly sclerotised, medially convex in caudal direction, with broad membranous medial depression ventrally. Anellus membranous. Phallus narrow cylindrical, shorter than valva, straight medially and somewhat dilated and downcurved proximally and distally; its distal section with cluster of dentation laterally. Vesica shorter than phallus tube, with several short conical diverticula and areas of graniculi. Elasma absent. **Female genitalia** (Figs 125, 126). Papilla analis rectangular with rounded corners, weakly setose. Apophysis posterior as long as papilla analis, slender, rod-like. 8th tergite moderately sclerotised, transverse band-shaped, with broad and rounded lateral lobes wrapping segment ventro-laterally. Apophysis anterior ca. half of length of apophysis posterior, slender, rod-like. 8th sternite membranous with elliptical anterior sclerotised plates on either side of ostium bursae; postvaginal area slightly rugose. Ostium bursae narrow (from quarter to third of 8th segment width). Antevaginal plate rectangular or trapezoidal, its ventral margin with U- or V-shaped medial depression. Ductus bursae short, tubular, membranous. Corpus bursae pyriform, membranous, its posterior (narrow) section bearing weakly sclerotised and serrulate plate laterally. Anterior section of corpus bursae with large transverse bar-like serrulate signum having short triangular medial protrusion directed posteriad. Appendix bursae membranous, short, conical, situated postero-ventrally.

Molecular data. The pairwise distances between the two known species of *Lymantriopsis* and the type species of the similar genus *Euproctosia*, *E. cretata*, are in the range of 9.47–12.16%.

Taxonomic content. The genus currently comprises two species, one of which is described below as new.

Lymantriopsis lacteata (Holland, 1893)

(Figs 42–47, 91–93, 125)

Nudaria lacteata Holland, 1893, *Psyche*, 6 (201): 412 (Type locality: [Gabon, Ogooué River] “Valley of the Ogové River”).

Type material examined. **Lectotype** (hereby designated) (Figs 42, 91): male, “Nudaria | lacteata, Holl. | ♂ Type. Ogové R.” / “Lymantriopsis | lacteata, Holl. | Fide G.F. Hampson” / pink label “HOLO Type No. | -256- | Carn.Mus. Ent.” / “Gen. slide No. | LG 4860 ♂ | prep. by Gy.M. Laszlo” (CMNH).

Additional material examined. **GABON**: 1 male, 430m, Mikongo (Rougier), Monts de Cristal (secondary forest), 0°29'47"N, 11°10'42"E, 28.vii.–12.viii.2019, MV light trap, Albert, J.-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg. (ANHRT); **REPUBLIC OF CONGO**: 4 males, 13 females, 390m, OKNP, Lobo Research Camp, 00°35'04"N, 14°53'12"E, 20–27.ix.2024, MV light trap, Bashford, M., László, G., Volynkin, A. leg., gen. slide Nos.: AV9871♂, AV9931♀, AV9980♀; 1 female, 400m, OKNP, Bangassou Forest near Lobo, 00°32'50"N 14°51'47"E, 23–26.ix.2024, actinic light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 1 female, 379m, OKNP, Lekoli River near Mboko, 00°37'04.79"N, 14°54'27.32"E, 21–23.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 1 male, 1 female, 338m, NNNP, Wali forest, 02°13'56.8"N, 16°12'13.9"E, 10–14.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg., gen. slide No.: AV9981♀; 1 female, 341m, NNNP, Bomassa camp, 02°12'36.9"N 16°11'30.2"E, 6–14.v.2023, MV light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 1 male, 365m, NNNP, Mondika camp, 02°21'50.63"N 16°16'25.82"E, 27.iv.–6.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg., gen. slide No.: AV9870♂ (all in ANHRT); **CAMEROON**: 1 male, 1 female, 830m, Adamawa Region, Meki River near Mbakaou, 06°16'50"N 12°47'04"E, 25.ix.2024, MV light trap, Černý, K., Hluchý, M. leg., gen. slide Nos.: AV9929♂, AV9930♀ (ANHRT); **NIGERIA**: 1 male, Illaro Forest, 2.iii. [19]75, M.A. Cornes, unique ID: NHMUK016480474, gen. slide No.: NHMUK014334033 (prepared by Volynkin) (NHMUK); **LIBERIA**: 3 females, 15m, Grand Cape Mount County, Lake Piso area, 6°39'19.19"N, 11°7'17.35"W, 2–9.i.2019, MV light trap, Sáfián, Sz., Simonics, G. leg. (ANHRT); **GUINEA**: 1 female, 700m, Guinée Forestière, Monts Nimba UNESCO World Heritage Site, Serengbara Village to Yie River Valley (lowland forest-farmland), 07°36'56"N, 08°26'54"W, 1–8.vii.2019, UV cold cathode light trap, Dérozier, V., Koivagui, S., Miles, W., Sáfián, Sz.,

Warner, R. leg., gen. slide No.: AV6478♀ (ANHRT); 2 females, 540–600m, 619km ESE of Conakry, Nzerekore Region, Prefecture Lola, Ziela env., x.2017, 7°42'N, 8°21'W, local collectors leg., gen. slide No.: AV9977♀ (ANHRT); 3 males, Konakry [Conakry], Macenta Prefecture, Ziama Forest, 550m, Mt. Nimba, November 2016, G. Petrányi, V.D. Kravchenko & G.C. Müller leg., gen. slide Nos.: AV9949♂, AV9963♂, AV9964♂ (CGM).

Note. The species was described from an unspecified number of males (Holland 1893). In order to stabilise the nomenclature, the male specimen labelled as "Holotype" and housed in the CMNH collection is hereby designated as the lectotype.

Diagnosis. The forewing length is 6.5–7.0 mm in males and 8.0–8.5 mm in females. The male adult and its genitalia are described and compared to *Euproctosia* above in the diagnosis of the genus *Lymantriopsis*. The detailed comparison of the female with *L. mysterica* **sp. n.** is provided below in the diagnosis of the latter species.

Molecular data. The intraspecific divergence of COI-5P sequences calculated from seven sampled specimens is in the range of 0.00–1.71%. The pairwise distance between *L. lacteata* and *L. mysterica* **sp. n.** is in the range of 4.46–4.95%.

Distribution. The species is widespread in rainforests of West and western Central Africa and is known from Gabon (Holland 1893; Hampson 1900), Republic of Congo, Cameroon, Nigeria, Liberia, and Guinea (new country records).

Lymantriopsis mysterica **sp. n.**

(Figs 48, 49, 126)

http://zoobank.org/urn:lsid:zoobank.org:act:1723070E-E13C-4675-B5D9-B97C7F38E00B

Type material. **Holotype** (Figs 48, 126): female, "LIBERIA 530m | Lofa County, Foya Proposed | Protected Area | 7°56'36"N, 10°16'36"W | 10–19.xi.2017 | MV Light Trap (125w) | Aristophanous, M., Sáfián, Sz., | Simonics, G., & Smith, L., Leg. | ANHRT:2017.33" / "ANHRTUK | 00019868" / "Slide | AV4530♀ | A. Volynkin" (ANHRT).

Paratypes. **LIBERIA**: 1 female, 611m, Lofa County, Wologizi Mts, base camp forest, 8°07'17"N, 9°57'42"W, 20.xi.–01.xii.2017, MV light trap (125w), Aristophanous, M., Sáfián, Sz., Simonics, G. & Smith, L. leg., gen. slide No.: AV4926♀ (ANHRT); **GHANA**: 1 female, Western [Region], 3 km E of Elubo, 5°17'N 2°45'W, 30m, 08.vi.2011, leg. J. & W. De Prins / De Prins Coll., BMNH (E) 2014-125 / unique ID: NHMUK010889615, gen. slide No.: NHMUK010315304 (prepared by Volynkin) (NHMUK).

Diagnosis. The forewing length is 7.0–9.0 mm in females. The female of *L. mysterica* **sp. n.** is externally very similar to *L. lacteata* but lacks the diffuse dash in the medial area along the vein Cu. In the female genitalia, the new species is distinguished from its congener by the larger lateral subostial plates of the 8th sternite, the markedly broader, trapezoidal antevaginal plate with a broader U-shaped medial depression (it is rectangular with a narrower V-shaped depression in *L. lacteata*), and the smaller postero-lateral sclerotised serrulate plate of the corpus bursae.

The male is unknown.

Molecular data. The intraspecific divergence between the two DNA barcoded specimens is 0.31%. The pairwise distance between *L. mysterica* **sp. n.** and *L. lacteata* is in the range of 4.46–4.95%.

Distribution. The new species is known from Liberia and Ghana.

Etymology. The specific epithet is a Latin adjective meaning 'mysterious' and refers to the fact that the new species is known only from three females with the male remaining undiscovered.

Genus *Euproctosiella* **gen. n.**

http://zoobank.org/urn:lsid:zoobank.org:act:144E4CF5-78BF-48A1-AA33-1CC765852F8B

Type species: *Euproctosiella elegans* **sp. n.**, by present designation.

Diagnosis. Males of *Euproctosiella* **gen. n.** (Figs 50–52) are externally reminiscent of *Lymantriopsis* (Figs 42–44) but can be distinguished by the shorter and broader forewing and the lack of the diffuse dash-like spot in the medial area of the forewing along the vein Cu. The male genital capsule of *Euproctosiella* **gen. n.** (Figs 94, 95) differs from *Lymantriopsis* (Figs 91–93) in the following features. (1) The uncus has a deep apical notch making it distally bifurcate. (2) The base of the vinculum slightly protrudes beyond the bases of the sacculi, whereas it protrudes

considerably further in *Lymantriopsis*. (3) The valva has a large triangular collis. (4) The costa is narrower than in *Lymantriopsis*, flattened (it is swollen in *Lymantriopsis*), its proximal section is tapered towards the collis; the distal section is broader than the proximal one, stretching distad from the collis apex, and distally dilated and extending into the base of the valvula. (5) The valvula is moderately sclerotised whereas it is membranous in *Lymantriopsis*. (6) The juxta is very short and narrow, fold-like; its lateral margins are fused with annelifers, being holding the bases of the sacculi brought together (in *Lymantriopsis*, the juxta is broad and lets the valvae open wide). (7) The diaphragm has a large ventral sclerotised plate edging the ventral and lateral margins of the anellus. This plate is herein assumed to be a derivative of the caulis (and is referred to as 'plate of the caulis' in the species' diagnoses below), and is a character shared by the genera *Euproctosiella* **gen. n.**, *Processosia* **gen. n.**, and *Simplicosia* **gen. n.** (8) The vesica is globular, lacking diverticula but bearing clusters of robust spines of various lengths, whereas the vesica of *Lymantriopsis* has short conical diverticula and bears only areas of graniculi.

Description. **External morphology of male adults** (Figs 50–52). Male antenna serrate-ciliate. Body off-white. Forewing broad with rounded apex and tornus, and convex costal margin. Ground colour of forewing upperside creamy white. Transverse lines brown, diffuse, irregularly sinuous, strongly spot-like dilated on costal margin. Cell with two black dot-shaped spots: proximal one at vein Cu, and distal one at discocellular vein. Cilia off-white with admixture of ochreous becoming more intense at apex. Forewing underside intensely suffused with blackish, except for off-white margins. Both sides of hindwing creamy-white without markings. **Male genitalia** (Figs 94, 95). Uncus weakly sclerotised, short, dorso-ventrally flattened, with deep apical notch making it distally bifurcate; its proximal 2/3 fused with tuba analis. Tegumen weakly sclerotised, its arms slender ventrally and dilated dorsally, their dorsal quarters fused. Vinculum shorter than tegumen, heavily sclerotised, U-shaped, its base slightly protruding beyond the bases of sacculi. Valva lobular with broad proximal and strongly tapered distal halves; its dorsal margin with large triangle-shaped collis medially. Costa flattened and smooth, its proximal section narrow and tapering towards the collis; distal section broader than proximal one, stretching distad from collis apex and distally dilated and extending into the base of the valvula. Valvula narrow elliptical, moderately sclerotised and setose, with irregularly dentate ventral margin. Whole transtillar region membranous. Annelifer region broad. Sacculus narrow, with narrowly triangular and apically pointed distal process curved inwards. Juxta short and weakly sclerotised, its ventral section flattened and with broad triangular ventral membranous depression; dorsal section short, convex, folded anteriad; lateral margins of juxta fused with annelifers, keeping bases of sacculi close together. Ventral section of diaphragm bearing a broad semilunar sclerotised plate, dorsal depression of which edging the ventral margin of base of anellus (most probably, derivative of caulis). Phallus cylindrical, with distal section bearing dentate carinal plate laterally; can be distally upcurved in certain species. Vesica globular, shorter than phallus, bearing fields of spinulose scobination and lateral cluster of short but robust spines of various sizes.

Female unknown.

Molecular data: currently unavailable for this genus.

Etymology. The genus name is derived from the genus-group name *Euproctosia* by adding the diminutive suffix '-ella' indicating the small size of the species of the genus. The gender is feminine.

Taxonomic content. The genus currently comprises two species, which are described below as new.

Euproctosiella elegans sp. n.

(Figs 51, 52, 94)

http://zoobank.org/urn:lsid:zoobank.org:act:80B259E0-E25F-4C1B-AFA8-6968893ECBCA

Type material. **Holotype** (Figs 51, 94): male, "REPUBLIC OF CONGO 365m | Nouabale-Ndoki National Park, | Mondika camp | 02°21'50.63"N, 16°16'25.82"E | 07–14.ii.2023, actinic light trap | Bakala, N., M., Dérozier, V., | Kirk-Spriggs, A., László, G. leg. | ANHRT:2023.3" / "ANHRTUK | 00304244" / "Slide | AV9873♂ | A. Volynkin" (ANHRT).

Paratypes. **REPUBLIC OF CONGO**: 1 male, same data as in the holotype, gen. slide No.: AV9874♂; 2 males, 349m, Likouala Prov., NNNP, Makao forest (secondary forest), 02°36'42.5"N 17°09'23.8"E, 15–21.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg., gen. slide Nos.: AV9872♂, AV9875♂ (all in ANHRT).

Diagnosis. The forewing length is 5.5–6.0 mm in males. *Euproctosiella elegans* **sp. n.** differs externally from its only known congener *E. amabere* **sp. n.** in the smaller size, the somewhat narrower forewing, and the more distinct transverse lines on the forewing upperside. The male genital capsule of *E. elegans* **sp. n.** is distinguished from *E. amabere* **sp. n.** by the narrower uncus having a deeper apical notch, the medially broader valva with a more angled collis, the slightly broader distal saccular process, and the somewhat longer and broader plate of the caulis. Unlike in *E. amabere* **sp. n.**, the phallus of *E. elegans* **sp. n.** is more elongate and somewhat narrower, its distal section is upcurved (vs. straight in the congener), and its carinal plate is markedly narrower and less dentate. The vesica of *E. elegans* **sp. n.** is broader than in *E. amabere* **sp. n.**, bears a field of more robust spinulose scobination distally, and its lateral cluster of spines is sparser than in *E. amabere* **sp. n.** and consists of not only short spines but also several long and robust spines of different lengths, whereas *E. amabere* **sp. n.** has a dense lateral cluster of nearly identical short spines.

The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. *Euproctosiella elegans* **sp. n.** is currently known from two localities in the northern Republic of Congo.

Etymology. The specific epithet is a Latin adjective meaning 'elegant' and refers to the small size and nice appearance of the new species.

Euproctosiella amabere sp. n.

(Figs 50, 95)

http://zoobank.org/urn:lsid:zoobank.org:act:CCCF6E5E-EF0A-4743-A849-4E5D569A732D

Type material. **Holotype** (Figs 50, 95): male, "Uganda | Western Region | Cave Camp 15 km W –F.Portal [W of Fort Portal] | N o.675.928 E 30.223.560 [0°40'33.34"N 30°13'24.82"E] | 28..I.2011 - Lux [at light] – 1700 m | Leg. H. Sulak & Tom Kolb" / "Ex Coll. H. Sulak | ANHRT:2025.12" / "Slide | AV9880♂ | A. Volynkin" (ANHRT).

Diagnosis. The forewing length is 7.0 mm in the male holotype. *Euproctosiella amabere* **sp. n.** is externally distinct from its allopatric congener in the larger size and more diffuse transverse lines on the forewing upperside. The detailed comparison of the male genitalia of *E. amabere* **sp. n.** and *E. elegans* **sp. n.** is provided above in the diagnosis of the latter species. The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. *Euproctosiella amabere* **sp. n.** is currently known only from its type locality in western Uganda.

Etymology. The specific epithet is derived from the Amabere Caves, near which the new species was collected. The name is a noun in the nominative singular.

Genus *Processosia* gen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:C60914F9-D469-4E15-BAB4-48AA07F6EA9F

Type species: *Processosia* (*Processosia*) *obscura* **sp. n.**, by present designation.

Diagnosis. Superficially, species of *Processosia* **gen. n.** (Figs 53–64) are reminiscent of *Euproctosiella* **gen. n.** (Figs 50–52) with their small size and two black cellular spots on the forewing upperside, but can be distinguished by the somewhat more elongate forewing apex, the diffuse forewing markings, and the indistinct proximal cellular spot. In the male genitalia, *Processosia* **gen. n.** (Figs 96–103) is characterised by the combination of the following features. (1) The juxta is fused with the plate of the caulis and bears large setose and serrulate lateral processes whereas in *Euproctosiella* **gen. n.**, the juxta and the plate of the caulis are separate and the former lacks processes. (2) The editum bears a robust ampulla, which is absent in *Euproctosiella* **gen. n.** (3) The vesica bears a transverse band-shaped cluster of short but robust triangular cornuti subbasally whereas it bears a cluster of spines medially in *Euproctosiella* **gen. n.** As the females of *Euproctosiella* **gen. n.** remain unknown, the female genitalia of *Processosia* **gen. n.** were compared with *Lymantriopsis*, from which the new genus differs in the solid sterigma (it is subdivided into an antevaginal plate and lateral subostial plates in *Lymantriopsis*), and the scobinate corpus bursae lacking the

postero-lateral serrulate plate and bearing a narrower plank-shaped signum lacking the medial triangular process but bearing triangular lateral processes.

Description. **External morphology of adults** (Figs 53–64). Antenna densely setose in males and sparsely setose in females. Sexual dimorphism limited: female somewhat larger than male and having paler ground colour of both wings and more diffuse forewing pattern. Forewing ground colour from off-white to ochreous; pattern consisting of intense grey suffusion or indistinct shade-like greyish-brown transverse fasciae, and two black cellular spots, of which the proximal one situated on vein Cu and indistinct, while the distal one situated on discocellular vein; cell with pale longitudinal stripe in certain species. Forewing underside intensely suffused with blackish except for subterminal and terminal areas; in species with cellular pale stripe the latter also present on underside. Hindwing off-white or intensely suffused with greyish-brown; markings absent. **Male genitalia** (Figs 96–103). Uncus short, dorso-ventrally flattened, weakly sclerotised and setose, its base fused with tuba analis; apical notch can be present or absent within the same species. Tuba analis moderately broad with broad and densely setose subscaphium. Tegumen short with weakly sclerotised arms. Vinculum longer than tegumen, heavily sclerotised, more or less U-shaped. Valva lobular, broad basally and tapered distally; collis short and smooth. Costa narrow, tapered towards the collis and strongly dilated distal to it, forming well-sclerotised valva apex. Valvula forming only ventral section of distal portion of valva. Diaphragmal section of transtilla membranous. Editum broad, setose, dorsally fused with proximal section of costa, bearing large ampulla directed distally. Sacculus broad (ca. half of valva width in its proximal section), distally tapered, with heavily sclerotised and apically pointed distal process S-like curved inwards. Juxta with large and spinulose lateral processes, proximal parts of which articulated with annelifers by thick membranes; medial section of juxta short conical or absent. Plate of caulis fused with juxta, heavily sclerotised plate-like, long. Anellus membranous, with thick walls. Phallus broad, cylindrical, distally narrowed, slightly downcurved, with one or two short and dentate subapical carinal processes; coecum very short; ductus ejaculatorius situated at the anterior end. Main chamber of vesica shorter than phallus tube, globular, bearing areas of graniculi or fine spinulose scobination, and subbasal transverse cluster of short but robust triangular cornuti; in certain species distal diverticulum present. **Female genitalia** (Fig. 127). Papilla analis rectangular with rounded corners, moderately sclerotised and weakly setose. Apophysis posterior flattened and triangular basally and slender rod-like distally. 8th tergite band-shaped, moderately sclerotised. Apophysis anterior like posterior one but shorter. 8th sternite with two latero-ventral sclerotised plates anteriorly fused with sterigma; postvaginal area membranous. Ostium moderately broad (ca. 1/3 of 8th sternite width), with sclerotised ventral margin fused with sterigma. Sterigma irregular plate-like, with two medial folds anterior to the ostium, as broad as 8th sternite. Ductus bursae very short, tubular, gelatinous. Corpus bursae pyriform and postmedially constricted. Posterior (narrow) section elliptical, membranous and posteriorly gelatinous; anterior section globular, finely scobinate and with robust, plank-shaped transverse signum bearing triangular lateral processes. Appendix bursae very short, conical, membranous, situated posteriorly. 7th sternite with elliptical postero-medial weakly sclerotised plate connected to sterigma; area surrounding the plate anteriorly and laterally rugose.

Molecular data. The pairwise distance between two species of the nominate subgenus and two species of the subgenus *Armatosia* **subgen. n.** is in the range of 5.26–7.12%.

Etymology. The generic name is an aggregate of the Latin noun ‘processus’ meaning ‘a process’ and the second half of the genus-group name *Euproctosia*. The name refers to the genital capsule of the new genus bearing elongate processes of the juxta and sacculus, and an ampulla. The gender is feminine.

Taxonomic content. The genus currently comprises five species described below, which are subdivided into two morphologically clearly defined subgenera.

Subgenus *Processosia* subgen. n.

Diagnosis. Members of the nominate subgenus (Figs 53–59) are externally distinct from the subgenus *Armatosia* **subgen. n.** (Figs 60–64) in their brown body, the forewing having pale ochreous or cream-white ground colour suffused with brown, and broad shade-like brown markings, the lack of the proximal cellular spot, and the hindwing intensely suffused with greyish-brown. The male genitalia (Figs 96–99) are characterised by the combination of the following features. (1) The base of the vinculum is relatively narrower than in *Armatosia* **subgen. n.** and moderately

sclerotised. (2) The juxta lacks the medial section. (3) In the lateral process of the juxta, the proximal section is flattened and smooth while the distal section is clavate, swollen and spinulose. The proximal halves of the processes are articulated with the annelifer by the thick membrane, which holds the bases of the sacculi brought together and does not allow the valvae to be opened wide. The shape of the apical (swollen) part of the process of the juxta of the *P. obscura* species-group is found to be variable. (4) The plate of the caulis is broad, discoid, and its dorsal margin is connected to the ventral margin of the anellus; medially, it has a rounded invagination forming a short semiglobular protrusion on the anterior side of the plate of the caulis. (5) The anellus is broad. (6) The collis is prominent. (7) The valva apex, which is formed by the distal section of the costa, is broadly triangular and heavily sclerotised. (8) The ampulla is relatively short, finger-shaped, apically rounded and smooth. The female genitalia (Fig. 127) are characterised and diagnosed above, under the genus *Processosia* **gen. n.**

***Processosia* (*Processosia*) *obscura* sp. n.**

(Figs 53–56, 96, 97, 127)

http://zoobank.org/urn:lsid:zoobank.org:act:45A9DD51-9779-465D-99D4-94DFCF38657B

Type material. **Holotype** (Figs 53, 96): male, "REPUBLIC OF CONGO 352m | Sangha Prov., Nouabale-Ndoki | National Park, Ndoki formation | (Secondary forest) | 02°12'47.7"N, 16°23'45.8"E | 29.ix.–1.x.2022, LepiLED L. T. | Dérozier, V., Fouka, B., | Kirk-Spriggs, A., Takano, H. Leg. | ANHRT:2022.14" / "ANHRTUK | 00292699" / "Slide | AV10013♂ | A. Volynkin" (ANHRT).

Paratypes. **REPUBLIC OF CONGO**: 1 male, same data as holotype; 1 male, 352m, NNNP, Mombongo camp, 02°10'30.7"N 16°8'37.7"E, 02–07.ii.2023, actinic light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 1 female, 353m, NNNP, Mombongo forest, 02°10'10.28"N, 16°8'06.9"E, 05–06.ii.2023, actinic light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 8 males, 1 female, 349m, Likouala Prov., NNNP, Makao forest (secondary forest), 02°36'42.5"N 17°09'23.8"E, 15–21.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg., gen. slide Nos.: LGN-A 1365♂ (prepared by Gy. László), AV9937♀; 1 male, 1 female, 341m, Sangha Prov., NNNP, Bomassa camp (secondary forest), 02°12'36.9"N 16°11'30.2"E, 10–16.x.2022, LepiLED light trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg., gen. slide No.: AV10016♀; 1 male, same locality as previous but 20–21.ii.2023, actinic light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 7 males, 1 female, same locality as previous but 06–14.v.2023, MV, LepiLED and actinic light traps, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 17 males, 338m, NNNP, Wali forest, 02°13'56.8"N, 16°12'13.9"E, 10–14.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg., gen. slide Nos.: AV9893♂, AV9894♂, AV9895♂; 13 males, 5 females, 365m, NNNP, Mondika camp, 02°21'50.63"N 16°16'25.82"E, 07–14.ii.2023, LepiLED & actinic light traps, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg., gen. slide Nos.: AV9827♀, AV9891♂; 2 males, 1 female, same locality as previous but 27.iv.–6.v.2023, actinic & LepiLED light traps, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 3 males, 372m, Sangha Prov., NNNP, Mbeli camp (*Gilbertiodendron* forest), 02°14'23.8"N, 16°23'52.1"E, 1–10.x.2022, MV light trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg., gen. slide No.: AV10014♂; 5 males, 1 female, 372m, NNNP, Mbeli camp, 02°14'23.8"N, 16°23'52.1"E, 14–20.ii.2023, MV & actinic light traps, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg., gen. slide No.: AV9936♀; 4 males, 358m, Sangha Prov., NNNP, Bomassa forest (secondary forest), 02°11'58.1"N, 16°11'16.9"E, 17–23.ix.2022, actinic & LepiLED light traps, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 9 males, 570m, OKNP, Mbomo Headquarters, 00°26'13"N, 14°42'01"E, 28.ix–01.x.2024, MV & LepiLED light traps, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg., gen. slide Nos.: AV9898♂, AV10015♂; 3 males, 390m, OKNP, Lobo Research Camp, 00°35'04"N, 14°53'12"E, 20–27.ix.2024, MV & LepiLED light traps, Bashford, M., László, G., Volynkin, A., Yaba Ngouma, S. leg., gen. slide Nos.: AV9897♂, AV9899♂; 2 males, 400m, OKNP, Bangassou Forest near Lobo, 00°32'50"N 14°51'47"E, 23–26.ix.2024, LepiLED & actinic light traps, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 9 males, 540m, OKNP, Kokoua base, 01°28'39"N, 15°16'42"E, 05–13.ix.2024, MV, actinic & LepiLED light traps, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg., gen. slide No.: AV9896♂; 1 male, 379m, OKNP, Lekoli River near Mboko, 00°37'04.79"N, 14°54'27.32"E, 21–23.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 1 male, 490m, OKNP, Camp Imbalanga, 00°45'59"N,

15°15'20"E, 13–19.ix.2024, actinic light trap, Bashford, M., László, G., Talani, M., Volynkin, A. leg.; 1 male, 500m, OKNP, Kilo Forest, 00°31'37"N, 14°52'20"E, 23–24.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg. (all in ANHRT); **GABON**: 3 males, 2 females, 430m, Mikongo (Rougier), Monts de Cristal (secondary forest), 0°29'47"N, 11°10'42"E, 28.vii.–12.viii.2019, actinic & LepiLED light traps, Albert, J.-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg., gen. slide Nos.: AV9900♂, AV9938♀, AV10012♂ (ANHRT); **DRC**: 14 males, Bas-Congo, 250m, Luki-Mayumbe N.R., 05°27'S 13°05'E, 29.xi.2008, J. & W. De Prins leg., unique ID: NHMUK010605601, gen. slide No.: NHMUK010315224 (prepared by Volynkin); 1 male, Bas-Congo, 320m, Nat. Res. Luki-Mayumbe, 05°37'S 13°05'E, 30.v.2007, J. & W. De Prins leg.; 3 males, same data as previous but 6.vi.2007; 1 male, same data as previous but 22.iii.2008 (all in NHMUK); **UGANDA**: 1 female, Western Region, near Bundibugio [Bundibugyo], N0.814277 E30.154103 [0°48'51.40"N, 30°9'14.77"E], 23–27.i.2001, lux [at light], 800m, H. Sulak & Tom Kolb leg., gen. slide No.: AV10017♀ (ANHRT); **LIBERIA**: 1 male, 530m, Lofa County, Foya Proposed Protected Area, 7°56'36"N, 10°16'36"W, 10–19.xi.2017, MV light trap (125w), Aristophanous, M., Sáfián, Sz., Simonics, G., & Smith, L., leg., gen. slide No.: AV9890♂ (ANHRT).

Diagnosis. The forewing length is 5.5–6.0 mm in males and 7.0 mm in females. Externally, *P.* (*P.*) *obscura* **sp. n.** is characterised by the forewing having pale ochreous ground colour, brown shade-like markings occupying the antemedial and medial areas and becoming darker at the costal margin, intense fuscous suffusion throughout the wing, and an elliptical distal cellular spot whereas the proximal spot is absent. In the male genitalia, the valva is short and the ampulla is thick. The diagnostic comparison with *P.* (*P.*) *banco* **sp. n.** is provided below in the diagnosis of the latter species. The female genitalia are characterised and diagnosed above, under the genus *Processosia* **gen. n.**

Molecular data. The intraspecific divergence of COI-5P sequences calculated from eight sampled specimens from western Central Africa is in the range of 0.00–0.46%. The single specimen from Liberia (Fig. 55) diverges from specimens from Gabon and Republic of the Congo by 1.40–1.70%. The pairwise distance between *P.* (*P.*) *obscura* **sp. n.** and *P.* (*P.*) *banco* **sp. n.** is in the range of 1.56–2.57%.

Distribution. The new species is widespread in lowland rainforests of western Central and West Africa, and is known from Liberia, Gabon, Republic of Congo, western DRC, and western Uganda.

Etymology. The specific epithet is a Latin adjective meaning 'dark' and refers to the dark colouration of the new species.

Processosia (*Processosia*) *banco* sp. n.

(Figs 57–59, 98, 99)

http://zoobank.org/urn:lsid:zoobank.org:act:041A7626-211C-4C4C-8550-B337E43391D4

Type material. **Holotype** (Figs 57, 98): male, "IVORY COAST 40m | Banco National Park | 05°23'3.8"N, 04°03'11.2"W | 29.xi.–5.xii.2019 LepiLED Light | Trap. Aristophanous, M., | Dérozier, V., Moretto, P., | Ouattara, S. Leg. | ANHRT:2019.23" / "ANHRTUK | 00220609" / "Slide | AV10011♂ | A. Volynkin" (ANHRT).

Paratypes. **IVORY COAST**: 8 males, same data as in the holotype, gen. slide No.: AV9889♂; 5 males, 39–48m, Abidjan, Banco Forest (Parc-National du Banco), 05°23'03.8"N, 04°03'11.2"W, 21–30.iv.2017, MV light trap, Aristophanous, A., Aristophanous, M., Geiser, M., Moretto, P. leg., gen. slide No.: AV9888♂ (all in ANHRT).

Diagnosis. The forewing length is 5.0–6.0 mm in males. *Processosia* (*P.*) *banco* **sp. n.** is superficially distinct from *P.* (*P.*) *obscura* **sp. n.** in the markedly paler, cream-white forewing ground colour less suffused with fuscous, the more contrasting, rusty-brown medial and antemedial markings of which the latter one is considerably narrower, and the paler hindwing. The male genitalia of the two species are very similar but in *P.* (*P.*) *banco* **sp. n.**, the ampulla is somewhat longer and slenderer, the dorsal section of the valva is slightly longer, and the medial anterior protrusion of the plate of the caulis is shorter than in *P.* (*P.*) *obscura* **sp. n.** Additionally, the vesica of *P.* (*P.*) *banco* **sp. n.** bears somewhat larger cornuti than in *P.* (*P.*) *obscura* **sp. n.**

The female is unknown.

Molecular data. The intraspecific divergence of COI-5P sequences calculated from seven sampled specimens is in the range of 0.00–0.15%. The pairwise distance between *P.* (*P.*) *banco* **sp. n.** and *P.* (*P.*) *obscura* **sp. n.** is in the range of 1.56–2.57%.

Distribution. The new species is currently known only from its type locality in the coastal region of Ivory Coast.

Etymology. The specific epithet is homonymic with Banco Forest, where the new species is found.

Subgenus *Armatosia* subgen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:3966CFE8-2576-4459-9917-7B8ACBED3B11

Type species: *Processosia* (*Armatosia*) *imbalanga* **sp. n.**, by present designation.

Diagnosis. Species of the subgenus *Armatosia* **subgen. n.** (Figs 60–64) have off-white body and forewing ground colour; the forewing pattern is represented by the intense grey suffusion, the longitudinal discal stripe, and two black cellular dot-shaped spots, of which the proximal one is diffuse. In the male genitalia, *Armatosia* **subgen. n.** (Figs 100–103) differs from *Processosia s. str.* (Figs 96–99) in the combination of the following features. (1) The base of the vinculum is markedly thicker and more heavily sclerotised than in the nominate subgenus. (2) The juxta has a conical and apically rounded medial section, which is absent in *Processosia s. str.* (3) The lateral process of the juxta is uniformly spinulose along its entire length, slender, and distally tapered and apically pointed; only the basal part of the process (ca. 1/5 of the length) is articulated with the annelifer. Unlike in *Armatosia* **subgen. n.**, the lateral process of the juxta of *Processosia s. str.* has a flattened and smooth proximal section while the distal section is clavate, swollen and spinulose; and the proximal half of the process is articulated with the annelifer, which holds the bases of the sacculi brought together and does not allow the valvae to be opened wide. The processes of the juxta can be asymmetrical in their length in certain species of *Armatosia* **subgen. n.** (4) The plate of the caulis is elongate plank-like, smooth, dorsally dilated, and the anellus is situated in the middle of its dorsal dilated end. Unlike in *Armatosia* **subgen. n.**, the plate of the caulis of *Processosia s. str.* is broad, discoid, and its dorsal margin is connected to the ventral margin of the anellus; medially, it has a rounded invagination forming a short semiglobular protrusion on the anterior side of the plate of the caulis. (5) The anellus is narrower than in the nominate subgenus. (6) The collis is reduced and the dorsal margin of the valva is only slightly convex, whereas the collis is more prominent in *Processosia s. str*. (7) The valva apex is more elongate, narrower and more weakly sclerotised than in the nominate subgenus. (8) The ampulla is strongly elongate, finely spinulose and apically pointed, whereas in *Processosia s. str.*, it is shorter, finger-shaped, apically rounded and smooth.

The female is unknown.

Etymology. The subgeneric name is an aggregate of the Latin adjective ‘armatus’ meaning ‘armed’ and the second half of the genus-group name *Processosia*. The name refers to the elongate, pointed and spinulose processes of the juxta and ampullae of the new subgenus. The gender is feminine.

Processosia (*Armatosia*) *imbalanga* sp. n.

(Figs 60, 61, 100)

http://zoobank.org/urn:lsid:zoobank.org:act:C5B70EF7-AD17-41D5-8640-CBE0DE6AE785

Type material. **Holotype** (Figs 60, 100): male, “REPUBLIC OF CONGO 490m | Odzala-Kokoua National Park, | Camp Imbalanga | 00°45'59"N, 15°15'20"E | 13–20.ix.2024, MV light trap | Bashford, M., László, G., | Talani, M., Volynkin, A. leg. | ANHRT:2024.15” / “ANHRTUK | 00422371” / “Slide | AV9877♂ | A. Volynkin” (ANHRT).

Paratypes. **REPUBLIC OF CONGO**: 2 males, same data as in the holotype, MV and actinic light traps, gen. slide Nos.: AV9876♂, AV9878♂ (ANHRT).

Diagnosis. The forewing length is 5.5–6.0 mm in males. *Processosia* (*A.*) *imbalanga* **sp. n.** is externally reminiscent of *P.* (*A.*) *crystallina* **sp. n.** but differs in the more rounded forewing apex, the narrower and shorter pale discal stripe, and the somewhat more distinct black cellular spots. In the male genitalia, *P.* (*A.*) *imbalanga* **sp. n.** is distinguished from *P.* (*A.*) *crystallina* **sp. n.** by the shorter uncus, the thicker and symmetrical lateral processes of the juxta, the somewhat slenderer ampulla, and the shorter and narrower main chamber of the vesica bearing markedly narrower cornuti.

The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from its type locality in the northern Republic of the Congo.

Etymology. The specific epithet is homonymic with the Imbalanga Camp in the Odzala-Kokoua National Park, where the new species is found. The name is a noun in the nominative singular.

***Processosia* (*Armatosia*) *crystallina* sp. n.**

(Figs 62, 101)

http://zoobank.org/urn:lsid:zoobank.org:act:B5FB2364-6801-4135-93B9-F982745937CE

Type material. **Holotype** (Figs 62, 101): male, "GABON 430m | Mikongo (Rougier), Monts | de Cristal (Secondary forest) | 0°29'47"N, 11°10'42"E | 28.vii.–12.viii.2019 MV Light Trap | Albert, J.-L., Aristophanous, M., | Bie Mba, J., Dérozier, V., | Moretto, P. Leg. | ANHRT:2019.17" / "ANHRTUK | 00165674" / "Slide | AV5992♂ | A. Volynkin" (ANHRT).

Diagnosis. The forewing length is 6.0 mm in the male holotype. *Processosia* (*A.*) *crystallina* **sp. n.** is superficially reminiscent of *P.* (*A.*) *imbalanga* **sp. n.** but differs in the more elongate forewing apex, the broader and longer pale discal stripe, and the somewhat more diffuse cellular spots. The comparisons of the male genitalia of *P.* (*A.*) *crystallina* **sp. n.** with *P.* (*A.*) *imbalanga* **sp. n.** and *P.* (*A.*) *asymmetrica* **sp. n.** are provided in the diagnoses of these species.

The female is unknown.

Molecular data. As the species is known from its holotype only, the intraspecific variability of COI-5P sequences of this species could not be calculated. The pairwise distance between *P.* (*A.*) *crystallina* **sp. n.** and the allopatric *P.* (*A.*) *asymmetrica* **sp. n.** is in the range of 3.97–4.64%.

Distribution. The new species is currently known only from its type locality in Gabon.

Etymology. The specific epithet is an adjective derived from the Crystal Mountains, where the new species is found.

***Processosia* (*Armatosia*) *asymmetrica* sp. n.**

(Figs 63, 64, 102, 103)

http://zoobank.org/urn:lsid:zoobank.org:act:32BA9313-9BAB-4C2C-BB37-E5272436D611

Type material. **Holotype** (Figs 63, 102): male, "LIBERIA 530m | Lofa County, Foya Proposed | Protected Area | 7°56'36"N, 10°16'36"W | 10–19.xi.2017 | MV Light Trap (125w) | Aristophanous, M., Sáfián, Sz., | Simonics, G., & Smith, L., leg. | ANHRT:2017.33" / "ANHRTUK | 00020104" / "Slide | AV4584♂ | A. Volynkin" (ANHRT).

Paratypes. **IVORY COAST**: 1 male, 40m, Banco National Park, 05°23'3.8"N, 04°03'11.2"W, 29.xi.–5.xii.2019, actinic light trap, Aristophanous, M., Dérozier, V., Moretto, P., Ouattara, S. leg., gen. slide No.: AV9879♂ (ANHRT); **GHANA**: 2 males, Ashanti, 35 km E of Kumasi, 3 km NE of Kubease, 6°42'N, 1°20'W, 25.iii.2014 & 05.iv.2014, 240m, J. & W. De Prins leg.; unique IDs: NHMUK016480469, NHMUK016480470; gen. slide Nos.: NHMUK014334028, NHMUK014334029 (prepared by Volynkin) (NHMUK).

Diagnosis. The forewing length is 5.5 mm in males. *Processosia* (*A.*) *asymmetrica* **sp. n.** is most externally reminiscent of *P.* (*A.*) *imbalanga* **sp. n.**, from which the former differs in the somewhat less elongate forewing, the more distinct medial fascia, and the less intense fuscous suffusion on the forewing. The male genital capsule of *P.* (*A.*) *asymmetrica* **sp. n.** is most similar to *P.* (*A.*) *crystallina* **sp. n.**, from which the former species differs in the somewhat longer lateral processes of the juxta, the larger medial conical section of the juxta, the medially broader valva, and the considerably narrower and conical cornuti, which are broader, flattened and rather triangular in *P.* (*A.*) *crystallina* **sp. n.**

The female is unknown.

Molecular data. The intraspecific divergence between the two DNA barcoded specimens from Liberia and Ivory Coast is 2.19%. Those two COI-5P sequences of *P.* (*A.*) *asymmetrica* **sp. n.** diverge from the holotype of *P.* (*A.*) *crystallina* **sp. n.** by 3.97–4.64%.

Distribution. The new species is widespread in rainforests of West Africa and currently found in Liberia, coastal Ivory Coast, and Ghana.

Etymology. The specific epithet is a Latin adjective meaning 'asymmetrical' and refers to the asymmetrical lateral processes of the juxta of the new species.

Genus *Simplicosia* gen. n.

http://zoobank.org/urn:lsid:zoobank.org:act:387DF541-4F9E-48F3-98DD-E8F751F1D696

Type species: *Simplicosia smithi* **sp. n.**, by present designation.

Diagnosis. Species of *Simplicosia* **gen. n.** (Figs 65–68) are small-sized moths reminiscent of *Processosia* **gen. n.** (Figs 53–64). The male genitalia of *Simplicosia* **gen. n.** (Figs 104–106) are clearly distinct from *Processosia* **gen. n.** (Figs 96–103) in the combination of the following features. (1) The uncus is bifurcate, having only its basal third solid. (2) The juxta structure is strongly modified: its basal section is moderately sclerotised and smooth, while the main part is voluminous, bean-pod-shaped, as long as the tegumen, and densely setose; this voluminous setose structure is herein assumed to be a derivative of the fused lateral setose/serrulate processes of the juxta, which are typical of *Processosia* **gen. n.** (3) The plate of the caulis is band-like and strongly articulated with the phallus, which makes it hardly detachable from the latter. (4) The valva lacks both the ampulla and the distal saccular process; its apex is heavily sclerotised, spatulate and dentate, whereas it is tapered and smooth in *Processosia* **gen. n.** (5) The ductus ejaculatorius arises from the anterior end of the phallus tube, and the coecum is absent. (6) The phallus is medially dilated, whereas it is distally dilated in *Processosia* **gen. n.** As the vesica could not be everted due to the extremely small size of the phallus, it is currently impossible to compare its shape with *Processosia* **gen. n.** However, it is recognisable that the vesica of *Simplicosia* **gen. n.** bears a dense cluster of small denticle-like cornuti, whereas *Processosia* **gen. n.** has fewer cornuti, which are larger, triangular or conical, and gathered into a row belting the base of the vesica. The female genitalia of *Simplicosia* **gen. n.** (Fig. 128) and *Processosia* **gen. n.** (Fig. 127) are similar but in the former, the subostial region is membranous (vs. sclerotised sterigma in *Processosia* **gen. n.**), the ductus bursae is longer than in *Processosia* **gen. n.**, and the corpus bursae has a large lateral lobe and bears a trapezoidal signum lacking thorns.

Description. **External morphology of adults** (Figs 65–68). Antenna densely setose in males and sparsely setose in females. Forewing broad with rounded apex and somewhat convex costal and outer margins. Sexual dimorphism limited to female being somewhat larger than male and having considerably darker hindwing. Forewing with cream-white ground colour and pattern consisting of large irregular brown spots and two black cellular spots, or unicolorous carbon-black without markings. Hindwing pale ochreous with intense brown-grey suffusion basally and medially, or entirely blackish. **Male genitalia** (Figs 104–106). Uncus short, with dorso-ventrally flattened basal third fused with tuba analis, and loose distal two-thirds bifurcated into two setose digitiform processes. Tuba analis with broad and densely setose subscaphium. Tegumen weakly sclerotised, its arms narrow ventrally, strongly dilated dorsally and fused in their dorsal third. Vinculum as long as tegumen, U-shaped, heavily sclerotised, its arms strongly dilated ventrally. Valva lobular, without processes, tapered subapically and with heavily sclerotised, spatulate and dentate apex. Juxta with smooth and moderately sclerotised base, and large (as long as tegumen), voluminous, bean-pod-shaped and densely setose main part directed postero-dorsally. Plate of caulis band-shaped, strongly articulated with phallus and hardly detachable from the latter. Phallus dilated medially and somewhat tapered distally, with ductus ejaculatorius arising from its anterior end; coecum absent. Vesica with dense cluster of small triangular cornuti. **Female genitalia** (Fig. 128). Papilla analis rectangular with rounded corners, weakly setose. Apophysis posterior rod-like, somewhat longer than papilla analis. 8th tergite moderately sclerotised, band-shaped; apophysis anterior shorter than posterior one, with flattened and triangular proximal and rod-like distal sections; 8th sternite membranous. Ostium moderately broad (ca. 1/3 of 8th sternite width). Ductus bursae short, somewhat flattened, anteriorly tapered, weakly sclerotised. Corpus bursae pyriform, its posterior narrow section occupies ca. 1/3 of its whole length. Anterior section of corpus bursae with an additional semiglobular lateral lobe and large trapezoid signum. Appendix bursae reduced; ductus seminalis originating from posterior narrow section of corpus bursae.

Molecular data. The COI-5P sequences of the type species of the genus diverge from the two species of *Processosia s. str.* by 6.07–7.42%, while the pairwise distance between *Simplicosia* gen. n. and the two sampled species of the subgenus *Processosia* (*Armatosia*) **subgen. n.** is in the range of 7.93–9.50%.

Etymology. The genus name is an aggregate of the Latin 'simplex' meaning 'simple' and the second half of the genus-group name *Processosia*, and refers to the simple structure of the valva of the new genus, which lacks processes, in contrast to the related *Processosia*. The gender is feminine.

Taxonomic content. The new genus currently comprises two species described below.

***Simplicosia smithi* sp. n.**

(Figs 66–68, 104, 105, 128)

http://zoobank.org/urn:lsid:zoobank.org:act:9FB43071-FE56-4CB0-86E7-302591EF06B9

Type material. **Holotype** (Figs 66, 104): male, "REPUBLIC OF CONGO 365m | Nouabale-Ndoki National Park, | Mondika camp | 02°21'50.63"N, 16°16'25.82"E | 07–14.ii.2023, LepiLED light trap | Bakala, N., M., Dérozier, V., | Kirk-Spriggs, A., László, G. leg. | ANHRT:2023.3" / "Slide | AV9863♂ | A. Volynkin" (ANHRT).

Paratypes. **REPUBLIC OF CONGO**: 34 males, same data as in the holotype, MV, LepiLED & actinic light traps, gen. slide Nos.: AV9857♂, AV9858♂, AV9861♂, AV9862♂; 10 males, same locality as in the holotype, but 27.iv.–6.v.2023, actinic light trap, Dérozier, V., Kirk-Spriggs, A., László, G., Mvouende, S. leg.; 3 males, 372m, NNNP, Mbeli camp, 02°14'23.8"N, 16°23'52.1"E, 14–20.ii.2023, MV light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg.; 1 female, 353m, NNNP, Mombongo forest, 02°10'10.28"N, 16°8'06.9"E, 05–06.ii.2023, actinic light trap, Bakala, N., M., Dérozier, V., Kirk-Spriggs, A., László, G. leg., gen. slide No.: AV9935♀; 2 males, 349m, Likouala Prov., NNNP, Makao forest (secondary forest), 02°36'42.5"N 17°09'23.8"E, 24–29.ix.2022, actinic & LepiLED light traps, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg.; 10 males, 2 females, 390m, OKNP, Lobo Research Camp, 00°35'04"N, 14°53'12"E, 20–27.ix.2024, MV light trap, Bashford, M., László, G., Volynkin, A. leg., gen. slide Nos.: AV9854♂, AV9855♂, AV9934♀; 7 males, 570m, OKNP, Mbomo Headquarters, 00°26'13"N, 14°42'01"E, 28.ix–01.x.2024, MV light trap, Bashford, M., László, G., Volynkin, A. leg., gen. slide No.: AV9856♂; 4 males, 1 female, 400m, OKNP, Bangassou Forest near Lobo, 00°32'50"N 14°51'47"E, 23–26.ix.2024, actinic & LepiLED light traps, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg., gen. slide No.: AV9933♀; 1 male, 500m, OKNP, Kilo Forest, 00°31'37"N, 14°52'20"E, 23–24.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A., Yaba Ngouma, S. leg.; 1 male, 490m, OKNP, Camp Imbalanga, 00°45'59"N, 15°15'20"E, 15–18.ix.2024, LepiLED light trap, Bashford, M., László, G., Talani, M., Volynkin, A. leg. (all in ANHRT); **DRC**: 3 males, Bas-Congo, 250m, Luki-Mayumbe N.R., 05°27'S 13°05'E, 29.xi.2008, leg. J. & W. De Prins, unique IDs: NHMUK016480434, NHMUK016480435, gen. slide No.: NHMUK014333736 (prepared by Volynkin) (NHMUK); **GABON**: 3 males, 2 females, 430m, Mikongo (Rougier), Monts de Cristal (secondary forest), 0°29'47"N, 11°10'42"E, 28.vii.–12.viii.2019, MV, actinic & LepiLED light traps, Albert, J.-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg., gen. slide Nos.: AV9867♂, AV9868♂; 1 male, 185m, Dilo ANPN camp, Ivindo (secondary forest), 0°14'1"S, 12°17'49"E, 14–19.viii.2019, LepiLED light trap, Albert, J.-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg., gen. slide No.: AV9869♂ (all in ANHRT).

Diagnosis. The forewing length is 5.5–6.0 mm in males and 6.5–7.0 mm in females. *Simplicosia smithi* **sp. n.** is externally reminiscent of species of the nominate subgenus of *Processosia* **gen. n.**, from which it can be readily distinguished by the presence of a large, elongate proximal cellular spot of the forewing, and the intense brown suffusion in the subterminal area of the forewing near the tornus. The detailed comparison of the male and female genitalia of *S. smithi* **sp. n.** and *Processosia* **gen. n.** is provided above in the diagnosis of *Simplicosia* **gen. n.**, while the comparison of the male genitalia of *S. smithi* **sp. n.** with another known species in the genus, *S. nigrescens* **sp. n.**, is provided below in the diagnosis of the latter.

Molecular data. The intraspecific divergence of COI-5P sequences calculated from six sampled specimens is in the range of 0.00–1.02%.

Distribution. The new species is known from Republic of the Congo, western Democratic Republic of the Congo, and Gabon.

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 the current one. The name is a noun in the genitive case.

***Simplicosia nigrescens* sp. n.**

(Figs 65, 106)

http://zoobank.org/urn:lsid:zoobank.org:act:3ABAFF45-4B74-4B83-8FA7-30FD052B5DAD

Type material. **Holotype** (Figs 65, 106): male, "REPUBLIC OF CONGO 540m | Odzala-Kokoua National Park, | Kokoua base | 01°28'39"N, 15°16'42"E | 11–13.ix.2024, LepiLED light | trap. Bashford, M., László, G., | Talani, M., Volynkin, A., | Yaba Ngouma, S. leg. | ANHRT:2024.15" / "ANHRTUK | 00425346" / "Slide | AV9975♂ | A. Volynkin" (ANHRT).

Diagnosis. The forewing length is 4.0 mm in the male holotype. *Simplicosia nigrescens* **sp. n.** is externally distinct from *S. smithi* **sp. n.** in its markedly smaller size and carbon-black colouration of the body and both wings lacking patterns, whereas *S. smithi* **sp. n.** has creamy white forewing ground colour and pattern represented by brown irregular spots and diffuse transverse fasciae, and two black cellular spots, and a paler hindwing. The male genital capsule of *S. nigrescens* **sp. n.** differs from *S. smithi* **sp. n.** in the somewhat narrower valva with a narrower and more elongate distal section, and the vesica bearing a smaller cluster of cornuti.

The female is unknown.

Molecular data: currently unavailable for this species.

Distribution. The new species is currently known only from its type locality in the northern Republic of the Congo.

Etymology. The specific epithet is a Latin adjective meaning 'blackish' and refers to the unicolorous carbon-black colouration of the body and wings of the new species.

Conclusion

As a result of the present study, the *Cyana* group of genera was found to be more diverse in continental Africa than previously thought, and the number of genera included in the complex has increased significantly from two to ten, including five newly described ones. Of the fifteen new species, ten were described from the Lower Guinean and Congolian forests (Republic of Congo, Gabon, DRC, Ghana, Ivory Coast, and Liberia) with five holotypes designated from material recently sampled on ANHRT expeditions to Nouabalé-Ndoki and Odzala-Kokoua National Parks, Republic of Congo, the area of Central Africa, which is a well-known biodiversity hotspot. The results of the present study highlight the limitations of our knowledge of the true biodiversity of tropical lichen moths, and it is likely that further new species of the genera reviewed in the present paper await discovery especially in the eastern Congo Basin and mountainous regions of East Africa. Such an impressive hidden species diversity is not unique to the *Cyana* group of genera and has already been observed in a number of other Lithosiini genera in the Afrotropical realm (e.g., Durante & Apinda-Legnouo 2020; Volynkin & László 2020, 2021; Volynkin 2023, 2025a, 2025b; etc.) suggesting the need for focusing on small-sized moths during collection events and for extensive revisions of the remaining genera.

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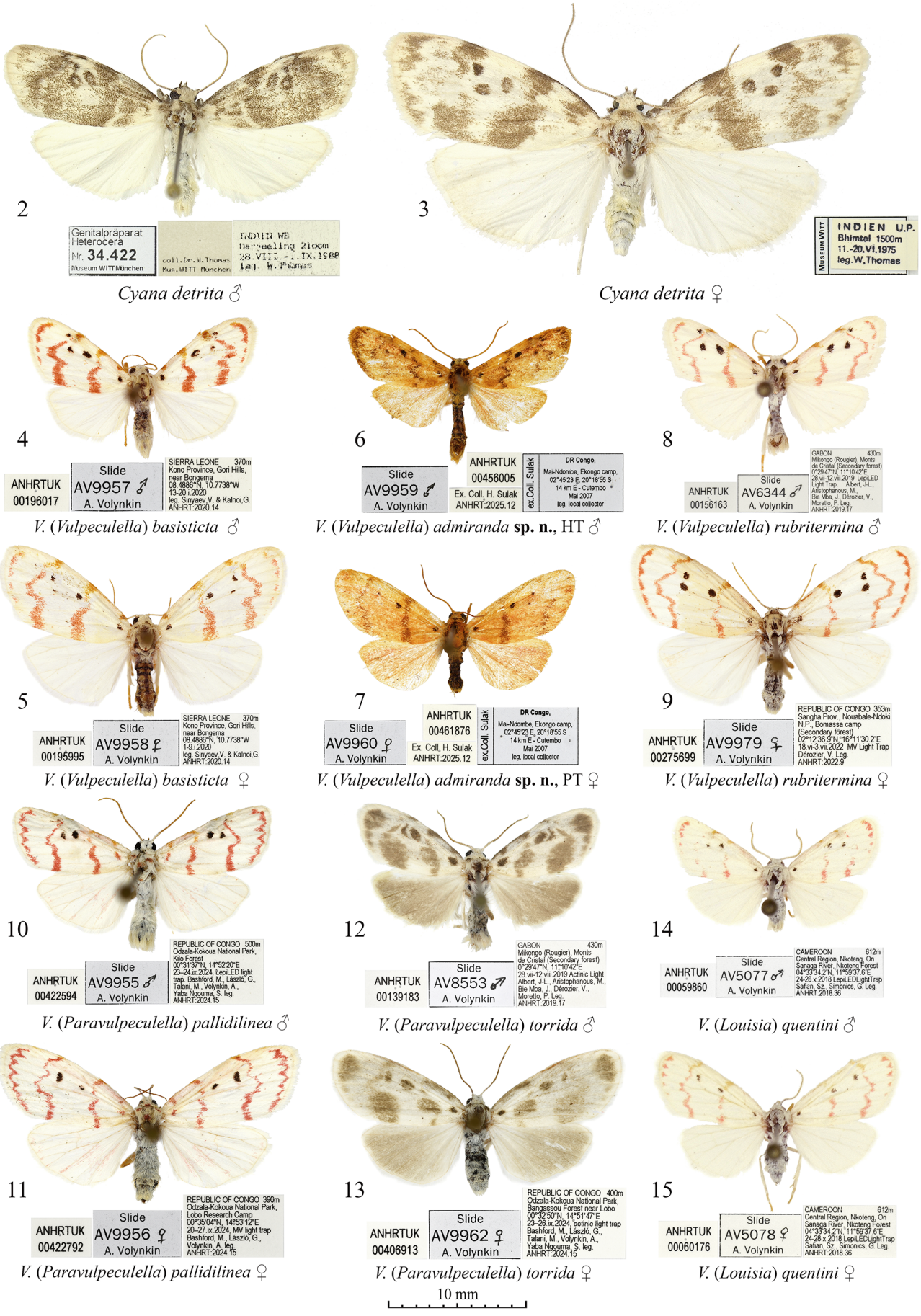
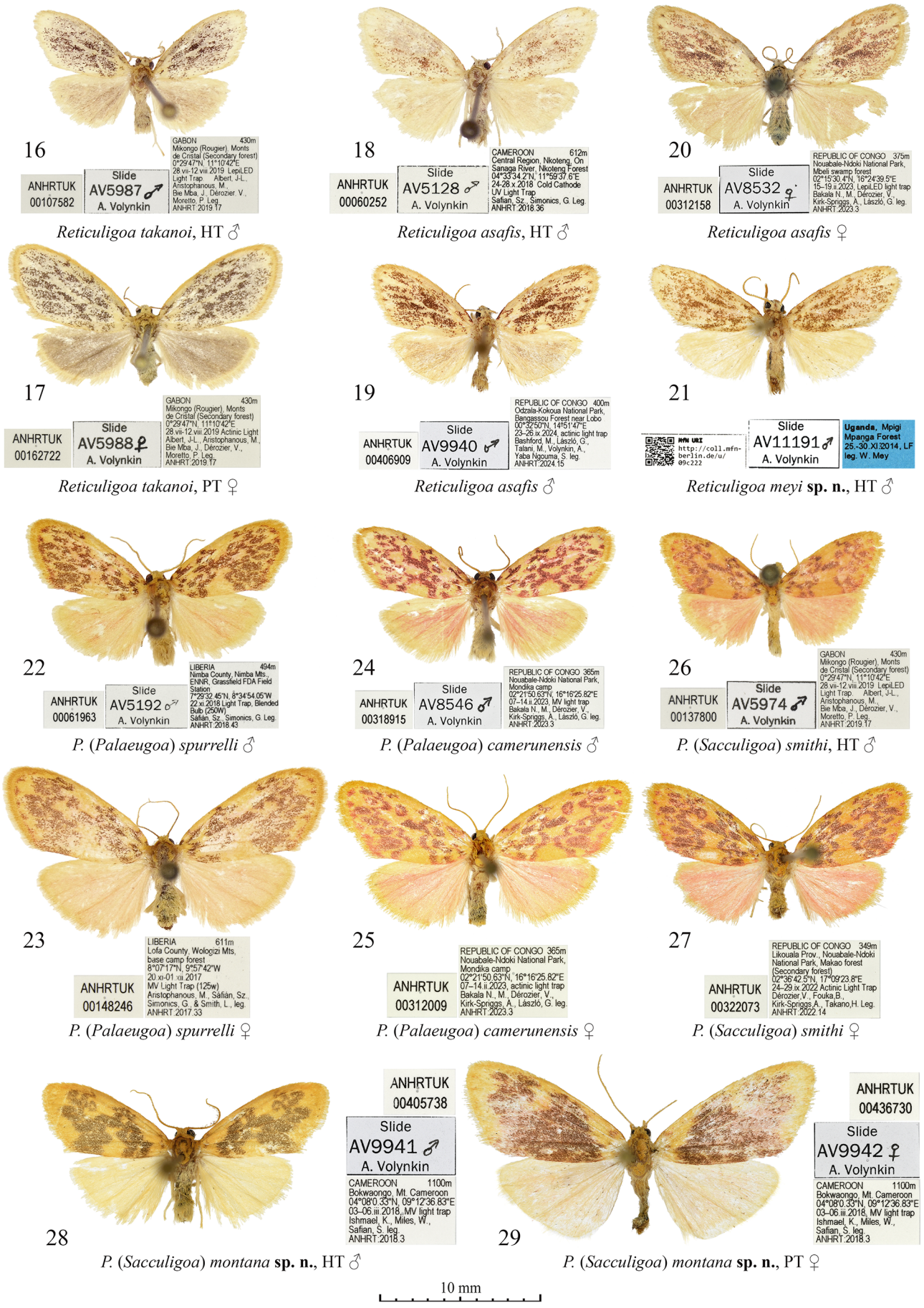
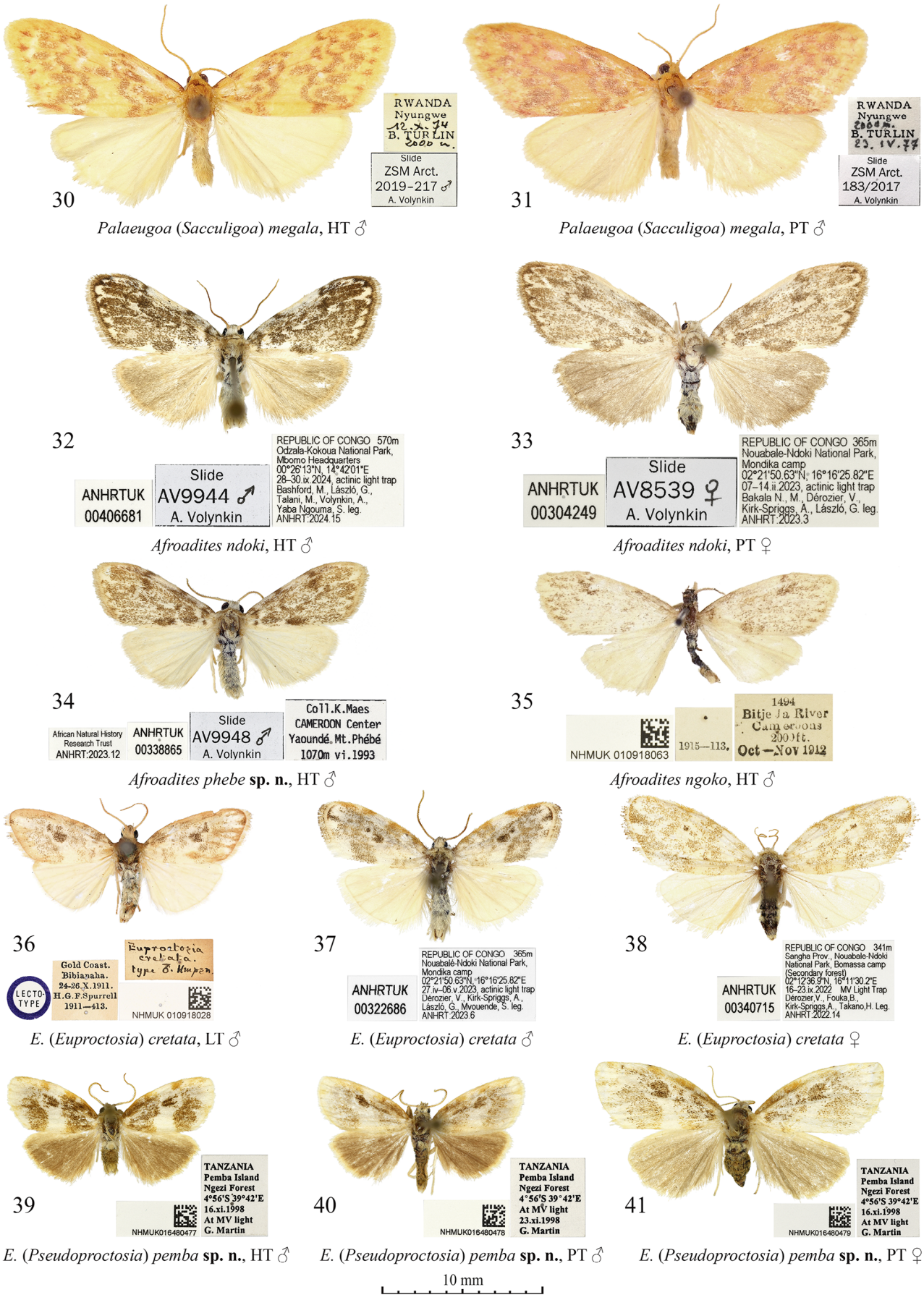


Figures 2–15. Adults of *Cyana* (2, 3) and *Vulpeculella* spp. Depositories of the specimens: 2 and 3 in MWM/ZSM; 4–15 in ANHRT.



Figures 16–29. Adults of *Reticuligoa* **gen. n.** (16–21), *Palaeugoa s. str.* (22–25), and *Palaeugoa* (*Sacculigoa*) **subgen. n.** (26–29) spp. Depositories of the specimens: 16–20 and 22–29 in ANHRT; 21 in MfN.



Palaeugoa (*Sacculigoa*) *megala*, HT ♂

Palaeugoa (*Sacculigoa*) *megala*, PT ♂

Afroadites ndoki, HT ♂

Afroadites ndoki, PT ♀

Afroadites phebe **sp. n.**, HT ♂

Afroadites ngoko, HT ♂

E. (*Euproctosia*) *cretata*, LT ♂

E. (*Euproctosia*) *cretata* ♂

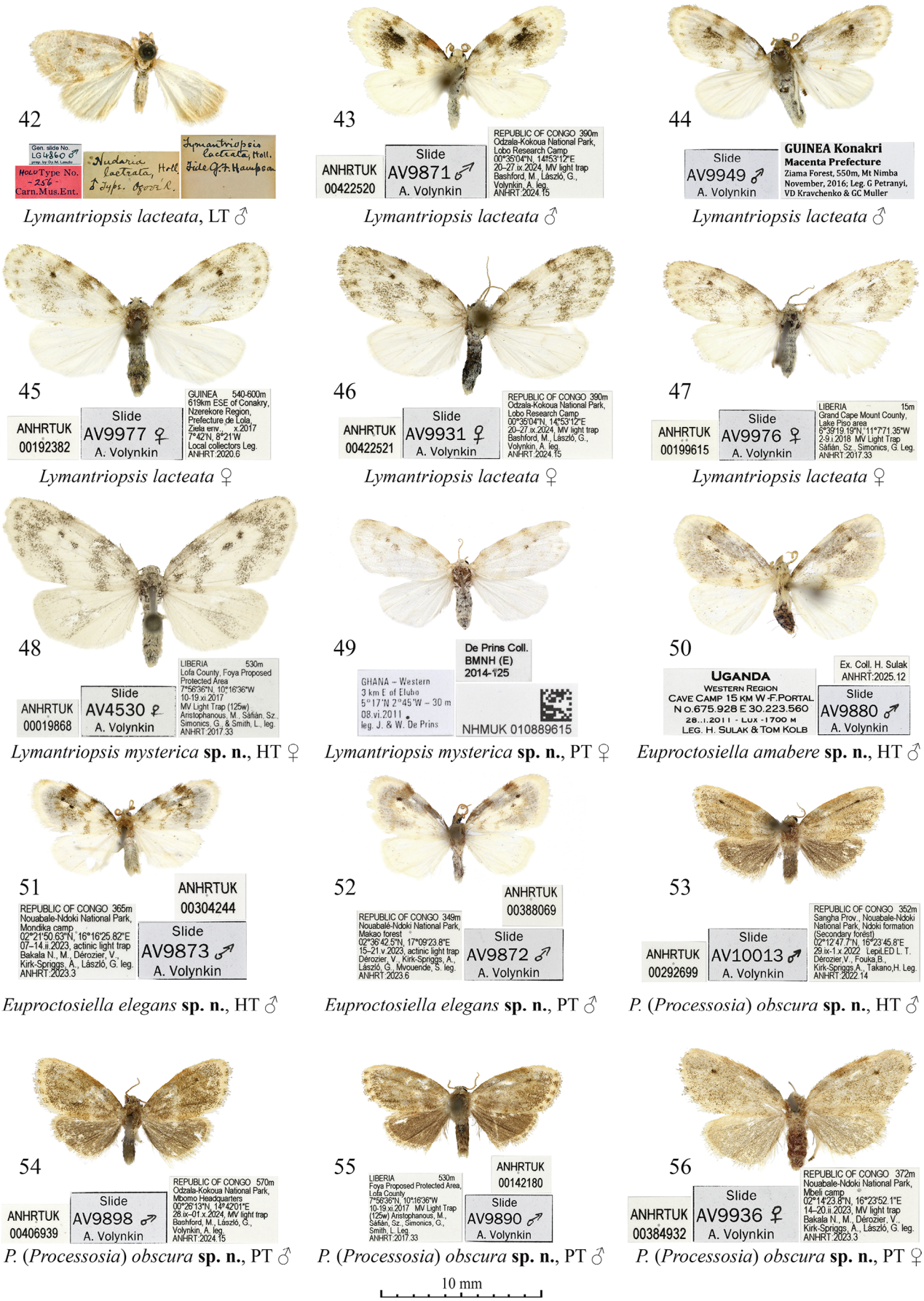
E. (*Euproctosia*) *cretata* ♀

E. (*Pseudoproctosia*) *pemba* **sp. n.**, HT ♂

E. (*Pseudoproctosia*) *pemba* **sp. n.**, PT ♂

E. (*Pseudoproctosia*) *pemba* **sp. n.**, PT ♀

Figures 30–41. Adults of *Palaeugoa* (*Sacculigoa*) **subgen. n.** (30, 31), *Afroadites* **gen. n.** (32–35), *Euproctosia s. str.* (36–38), and *Euproctosia* (*Pseudoproctosia*) **subgen. n.** (39–41) spp. Depositories of the specimens: 30 and 31 in ZSM; 32–34, 37, and 38 in ANHRT; 35, 36, and 39–41 in NHMUK.



Lymantriopsis lacteata, LT ♂ | *Lymantriopsis lacteata* ♂ | *Lymantriopsis lacteata* ♂

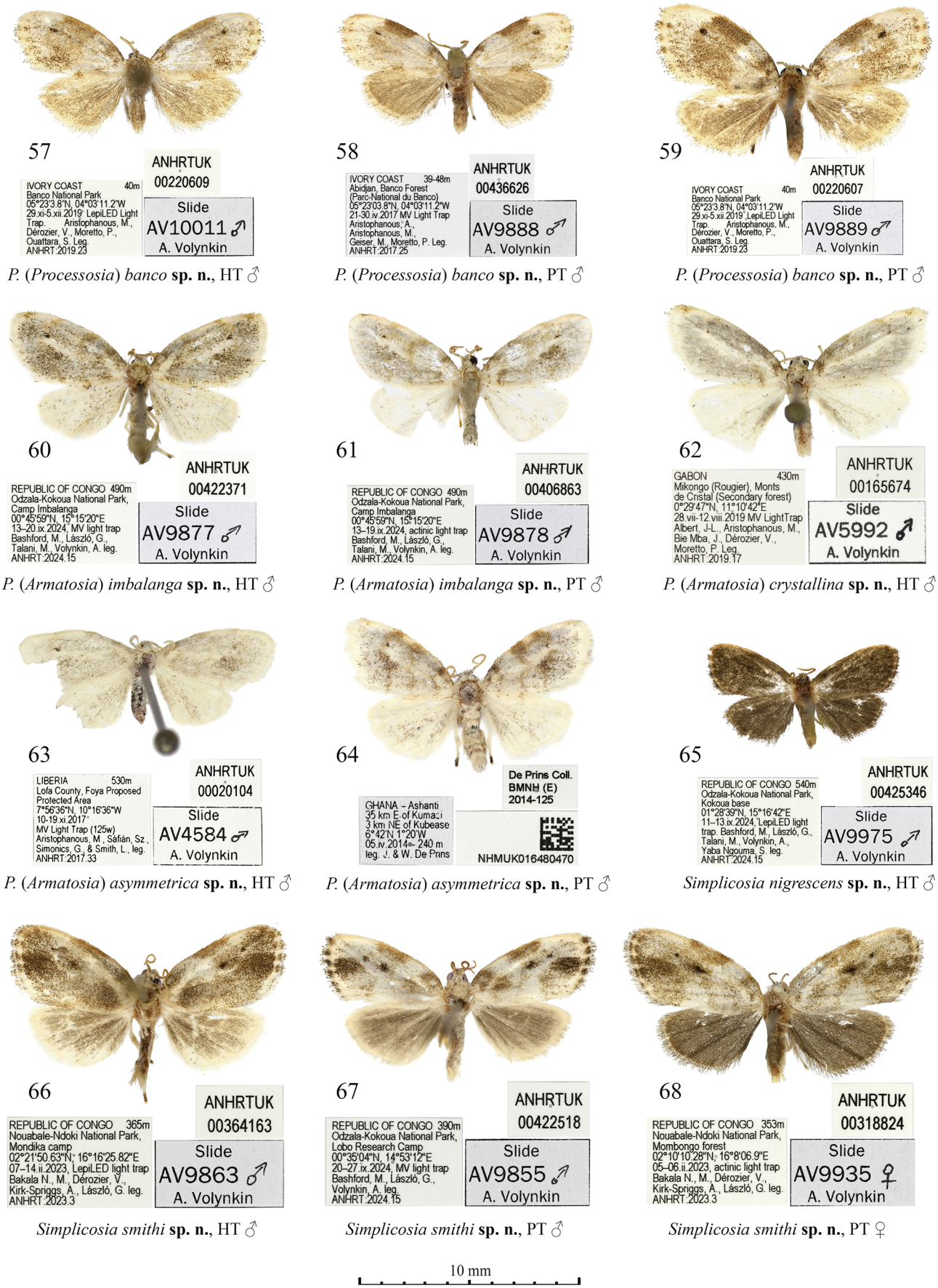
Lymantriopsis lacteata ♀ | *Lymantriopsis lacteata* ♀ | *Lymantriopsis lacteata* ♀

Lymantriopsis mysterica **sp. n.**, HT ♀ | *Lymantriopsis mysterica* **sp. n.**, PT ♀ | *Euproctosiella amabere* **sp. n.**, HT ♂

Euproctosiella elegans **sp. n.**, HT ♂ | *Euproctosiella elegans* **sp. n.**, PT ♂ | *P.* (*Processosia*) *obscura* **sp. n.**, HT ♂

P. (*Processosia*) *obscura* **sp. n.**, PT ♂ | *P.* (*Processosia*) *obscura* **sp. n.**, PT ♂ | *P.* (*Processosia*) *obscura* **sp. n.**, PT ♀

Figures 42–56. Adults of *Lymantriopsis* (42–49), *Euproctosiella* **gen. n.** (50–52), and *Processosia* **gen. n.** *s. str.* (53–56) spp. Depositories of the specimens: 42 in CMNH (photo by Gy. László); 43, 45–48, and 50–56 in ANHRT; 44 in CGM; 49 in NHMUK.



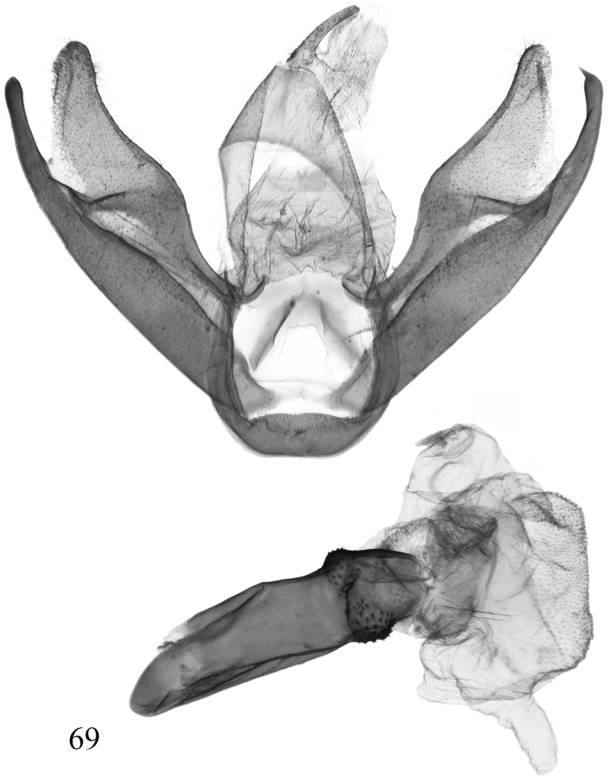
P. (*Processosia*) *banco* **sp. n.**, HT ♂ | *P.* (*Processosia*) *banco* **sp. n.**, PT ♂ | *P.* (*Processosia*) *banco* **sp. n.**, PT ♂

P. (*Armatosia*) *imbalanga* **sp. n.**, HT ♂ | *P.* (*Armatosia*) *imbalanga* **sp. n.**, PT ♂ | *P.* (*Armatosia*) *crystallina* **sp. n.**, HT ♂

P. (*Armatosia*) *asymmetrica* **sp. n.**, HT ♂ | *P.* (*Armatosia*) *asymmetrica* **sp. n.**, PT ♂ | *Simplicosia nigrescens* **sp. n.**, HT ♂

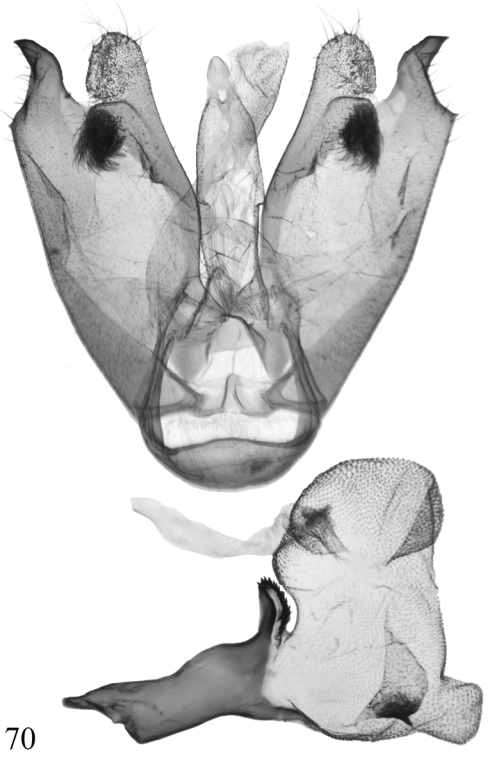
Simplicosia smithi **sp. n.**, HT ♂ | *Simplicosia smithi* **sp. n.**, PT ♂ | *Simplicosia smithi* **sp. n.**, PT ♀

Figures 57–68. Adults of *Processosia* **gen. n.** *s. str.* (57–59), *Processosia* (*Armatosia*) **subgen. n.** (60–64), and *Simplicosia* **gen. n.** (65–68) spp. Depositories of the specimens: 57–63, and 65–68 in ANHRT; 64 in NHMUK.



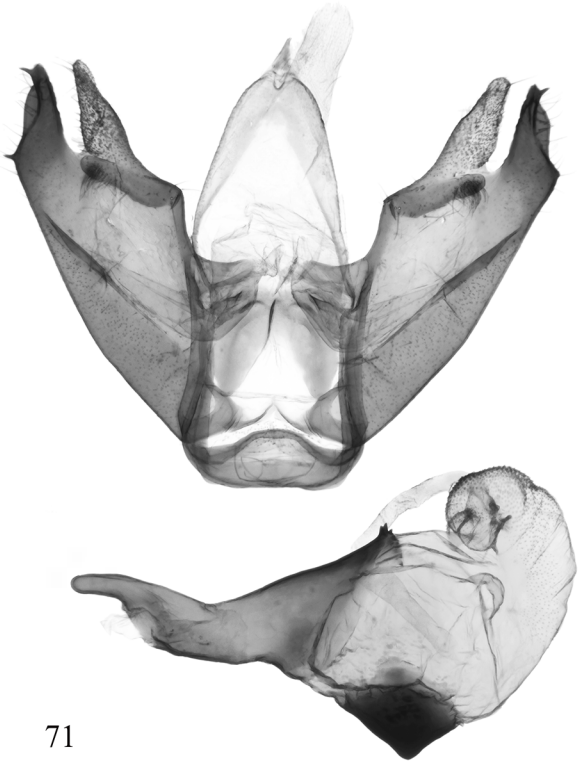
69

Cyana detrita
N India, Punjab, slide AV2077



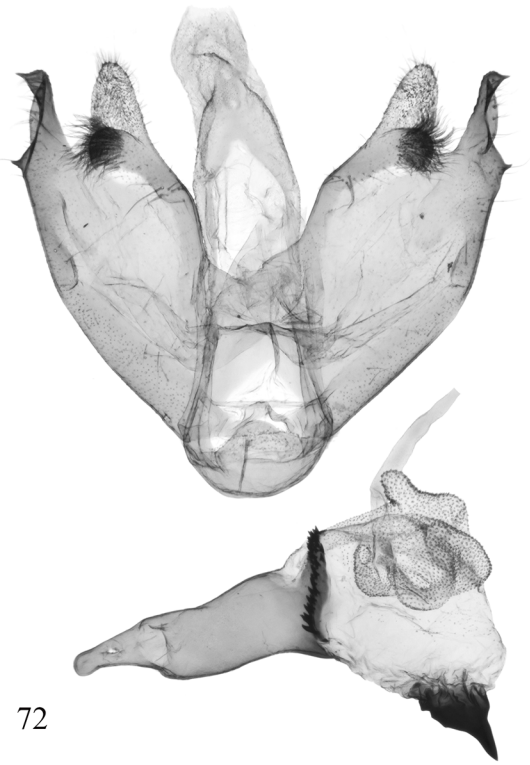
70

Vulpeculella* (*Vulpeculella*) *basisticta
Liberia, Wologizi Mts, slide AV4457



71

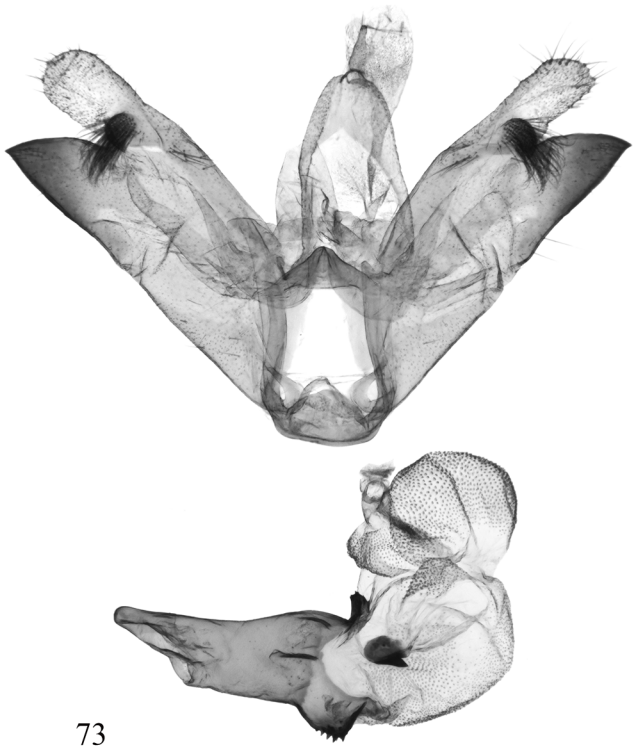
***Vulpeculella* (*Vulpeculella*) *admiranda* sp. n., HT**
DRC, Mai-Ndombe Prov., slide AV9959



72

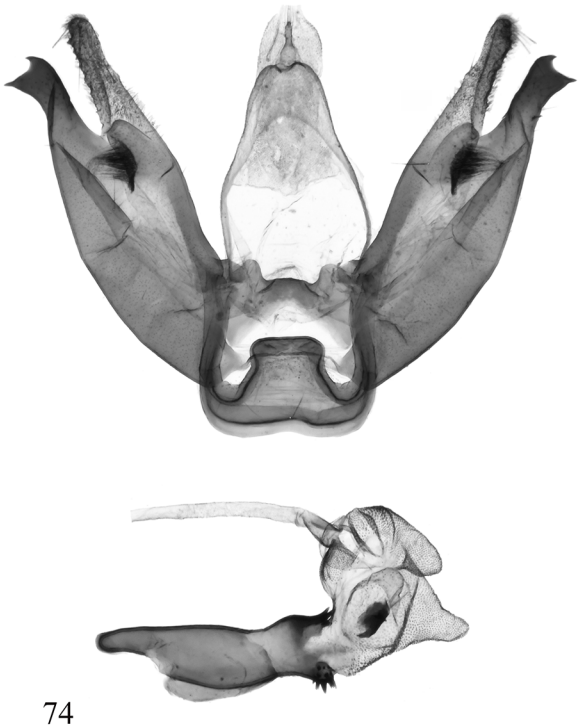
Vulpeculella* (*Vulpeculella*) *rubritermina
Gabon, Crystal Mts, slide AV6344

Figures 69–72. Male genitalia of *Cyana* (Fig. 69) and *Vulpeculella s. str.* (70–72) spp. Depositories of the specimens dissected: 69 in ZFMK; 70–72 in ANHRT.



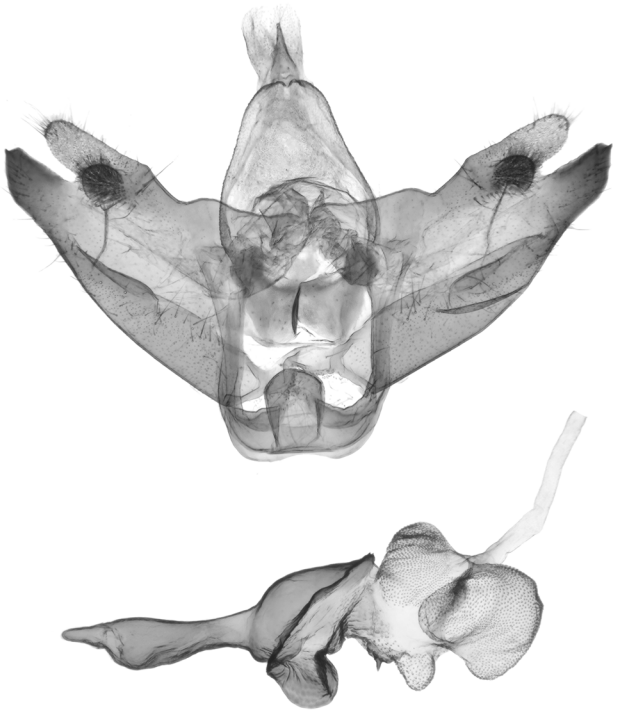
73

Vulpeculella* (*Vulpeculella*) *luchoana
Gabon, Crystal Mts, slide AV6340



74

Vulpeculella* (*Paravulpeculella*) *pallidilinea
Republic of Congo, Odzala-Kokoua NP, slide AV9955



75

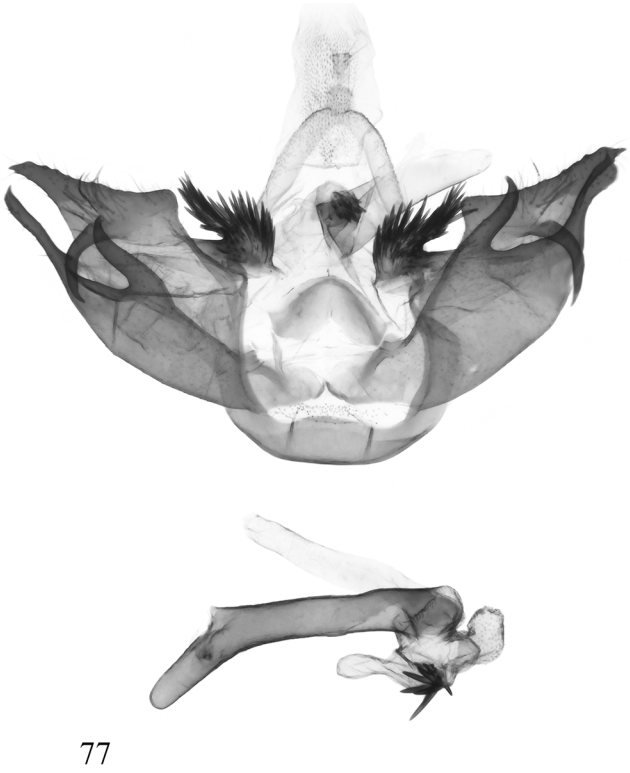
Vulpeculella* (*Paravulpeculella*) *torrida
Gabon, Crystal Mts, slide AV8553



76

Vulpeculella* (*Louisia*) *quentini
DRC, Tshopo Province, slide MWM 35737

Figures 73–76. Male genitalia of *Vulpeculella s. str.* (73), *Vulpeculella* (*Paravulpeculella*) (74, 75), and *Vulpeculella* (*Louisia*) (76) spp. Depositories of the specimens dissected: 73–75 in ANHRT; 76 in MWM/ZSM.



77

Reticuligoa asafis
Republic of Congo, Odzala-Kokoua NP, slide AV9954



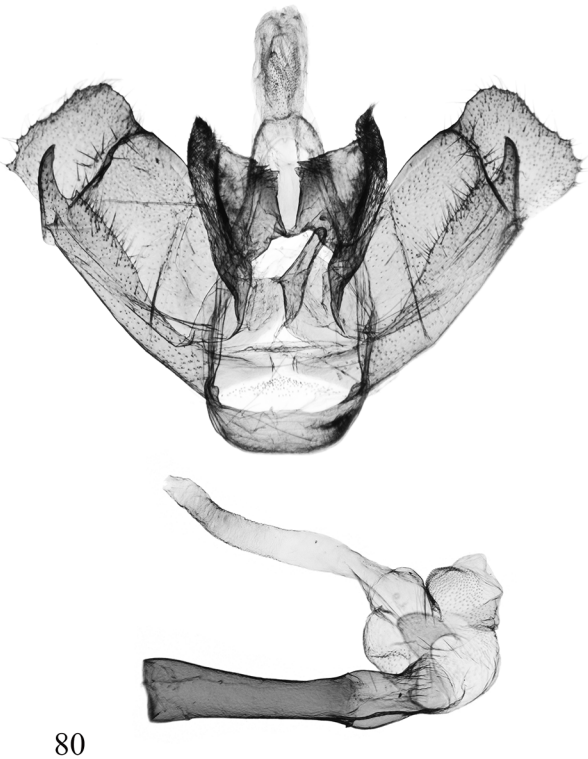
78

***Reticuligoa meyi* sp. n., HT**
Uganda, Mpanga Forest, slide AV11191



79

***Reticuligoa takanoi*, HT**
Gabon, Crystal Mts, slide AV5987



80

Palaeugoa* (*Palaeugoa*) *spurrelli
Liberia, Nimba County, slide AV5194

Figures 77–80. Male genitalia of *Reticuligoa* **gen. n.** (77–79) and *Palaeugoa s. str.* (80) spp. The specimens dissected are deposited in ANHRT.



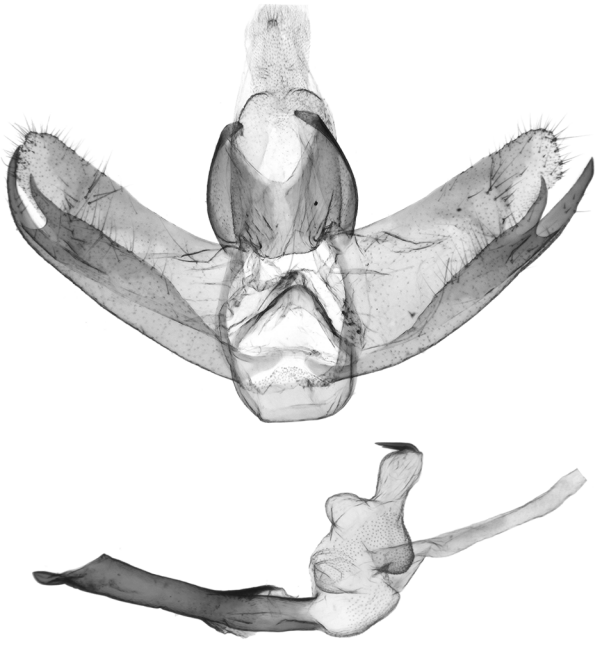
81

Palaeugoa* (*Palaeugoa*) *camerunensis
Republic of Congo, Nouabalé-Ndoki NP, slide AV8545



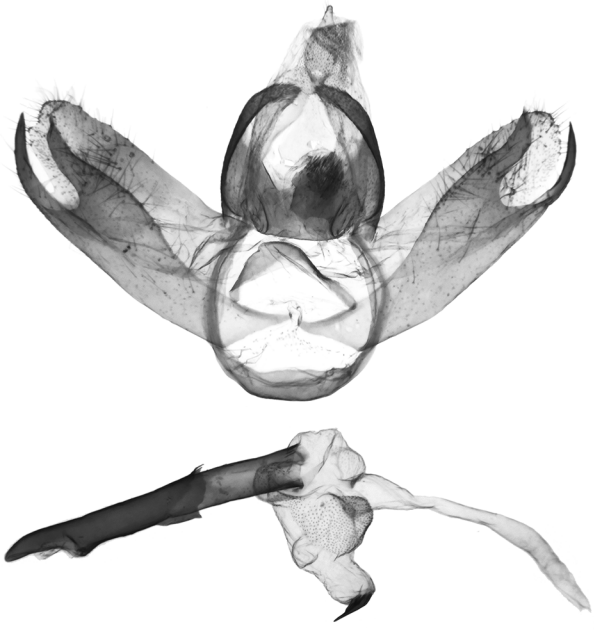
82

***Palaeugoa* (*Sacculigoa*) *megala*, HT**
Rwanda, Nyungwe Forest, slide ZSM 2019-217



83

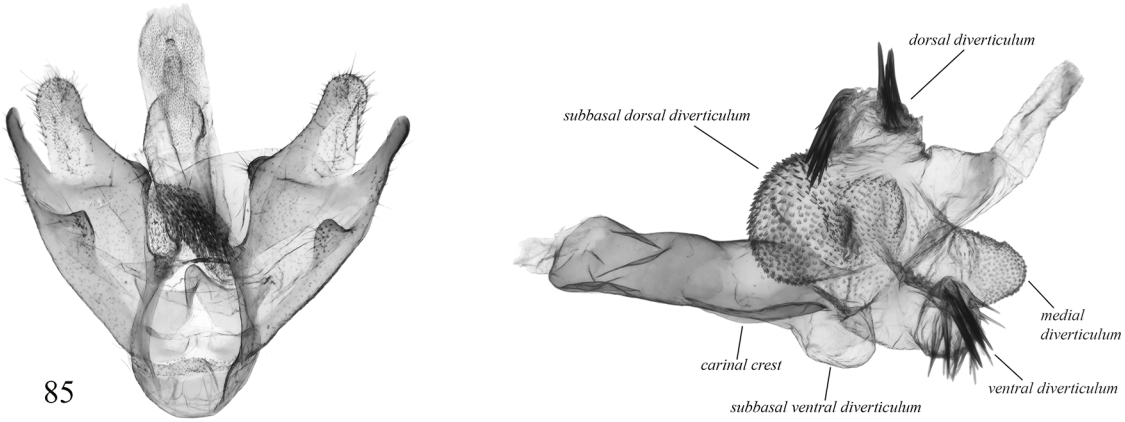
Palaeugoa* (*Sacculigoa*) *smithi
Repiblic of Congo, Nouabalé-Ndoki NP, slide AV8557



84

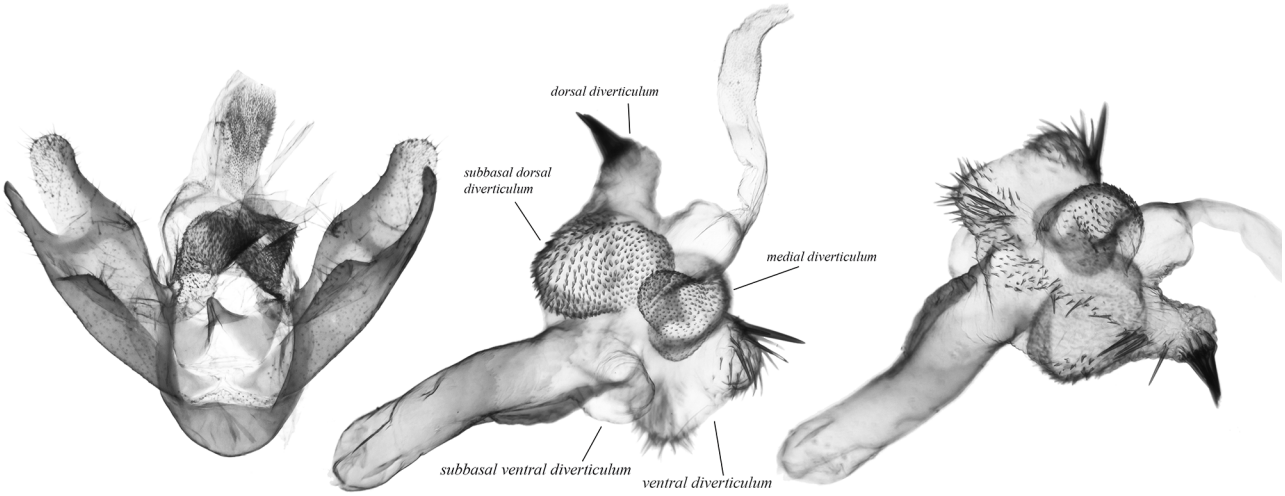
***Palaeugoa* (*Sacculigoa*) *montana* sp. n., HT**
Cameroon, Mount Cameroon, slide AV9941

Figures 81–84. Male genitalia of *Palaeugoa s. str.* (81) and *Palaeugoa* (*Sacculigoa*) **subgen. n.** (82–84) spp. Depositories of the specimens dissected: 81, 83 and 84 in ANHRT; 82 in ZSM.



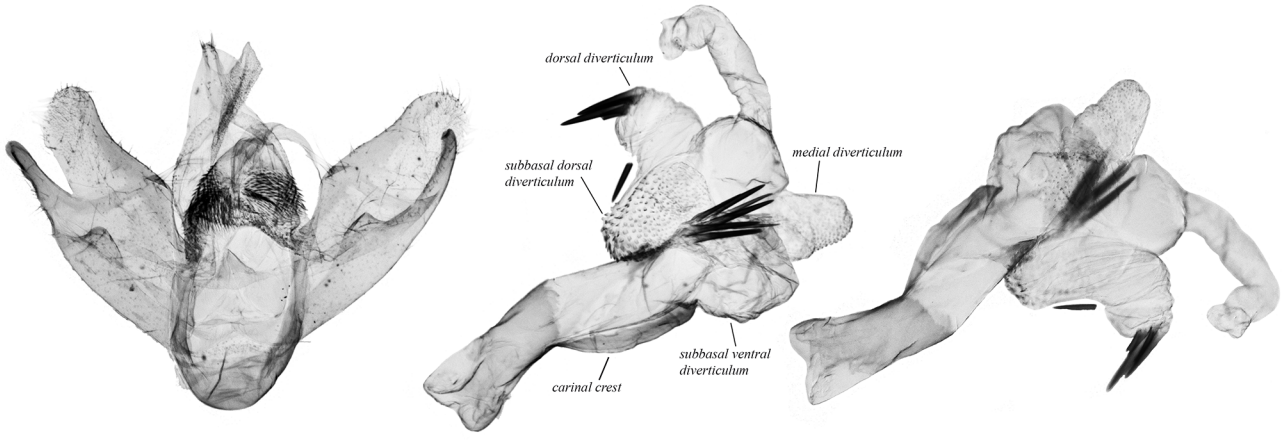
85

***Afroadites ndoki*, HT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV8537



86

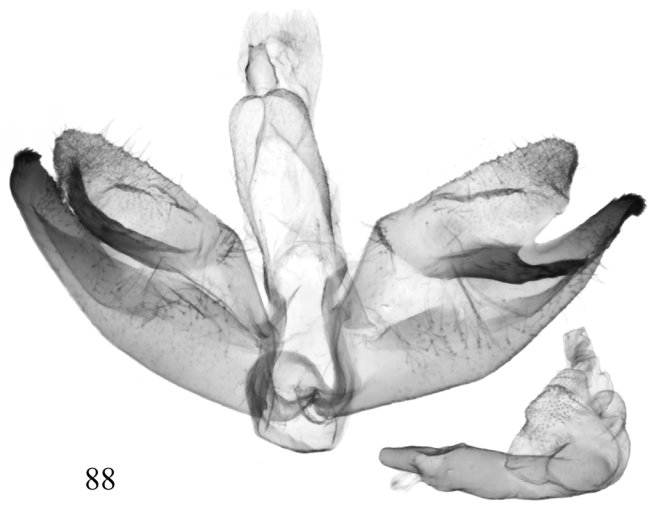
***Afroadites phebe* sp. n., HT**
Cameroon, Central Region, Yaoundé, slide AV9948



87

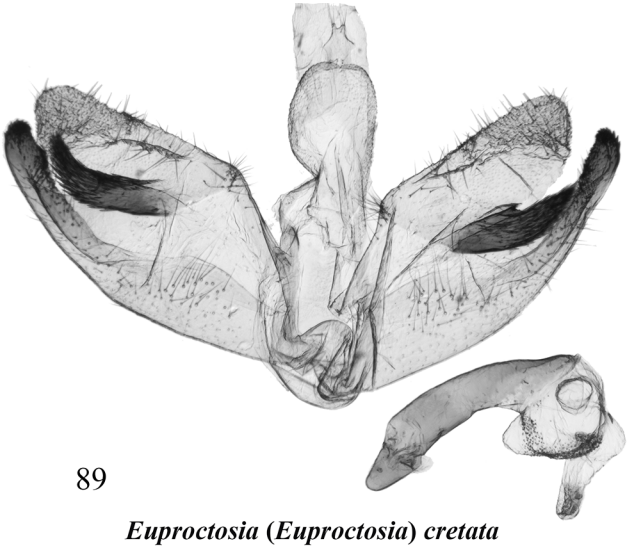
***Afroadites ngoko*, HT**
Cameroon, Dja River, slide NHMUK010315725

Figures 85–87. Male genitalia of *Afroadites* **gen. n.** spp. Depositories of the specimens dissected: 85 and 86 in ANHRT; 87 in NHMUK.



88

***Euproctosia* (*Euproctosia*) *cretata*, LT**
Ghana, Bibiani, slide NHMUK014334358



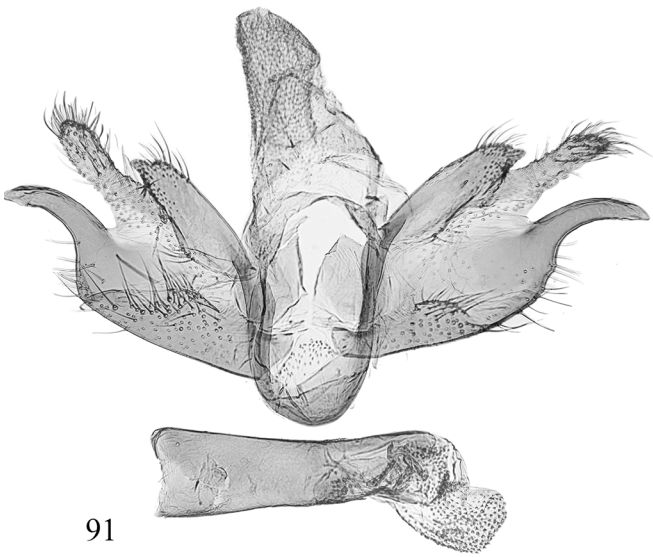
89

Euproctosia* (*Euproctosia*) *cretata
Republic of Congo, Nouabalé-Ndoki NP, slide AV6951



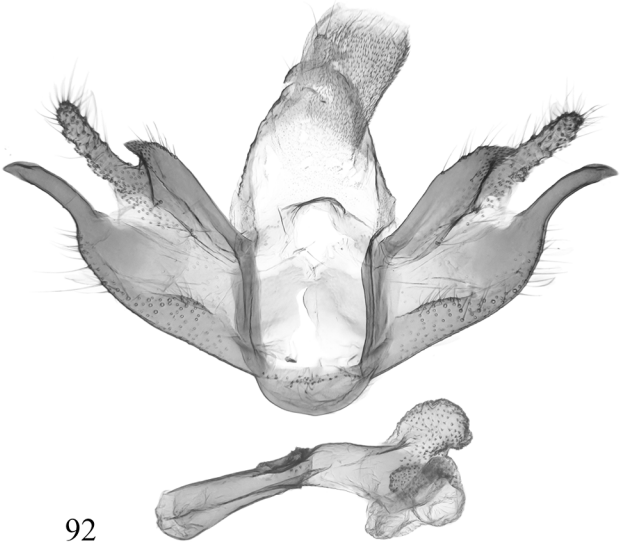
90

***Euproctosia* (*Pseudoproctosia*) *pemba* sp. n., HT**
Tanzania, Pemba Island, slide NHMUK014334025



91

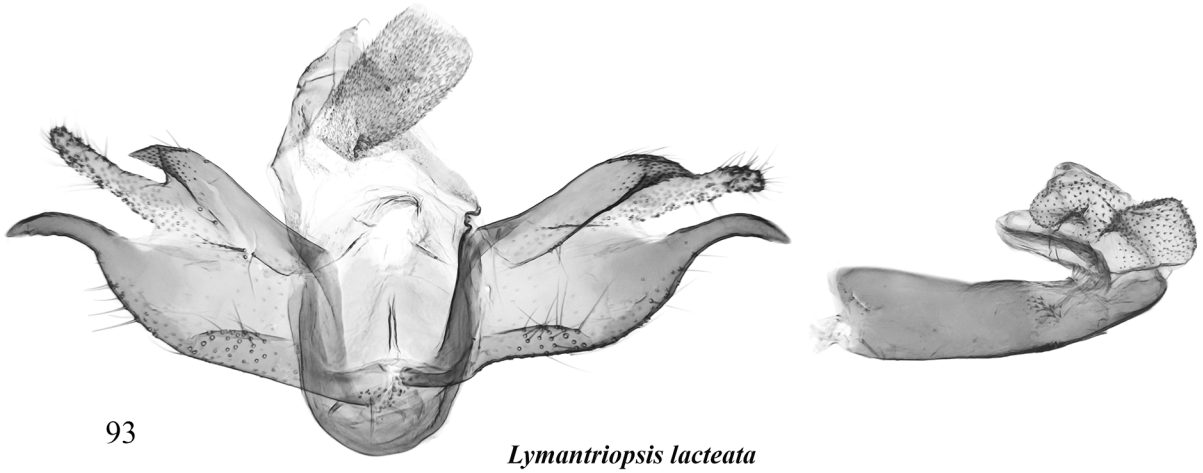
***Lymantriopsis lacteata*, LT**
Gabon, Ogooué River, slide LG 4860



92

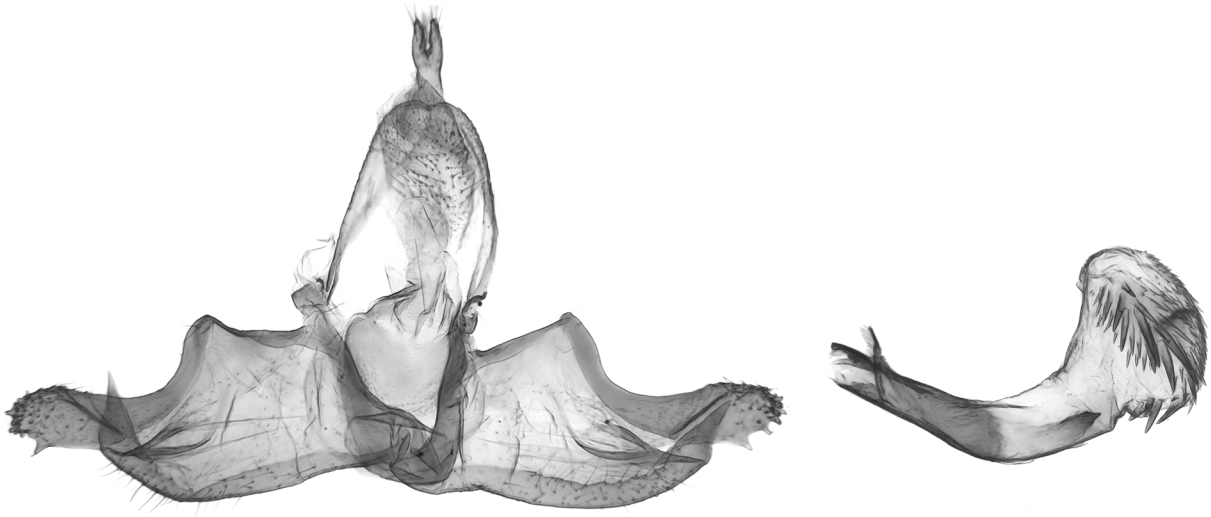
Lymantriopsis lacteata
Guinea, Ziama Forest, slide AV9949

Figures 88–92. Male genitalia of *Euproctosia s. str.* (88, 89), *Euproctosia* (*Pseudoproctosia*) **subgen. n.** (90), and *Lymantriopsis* (91, 92) spp. Depositories of the specimens dissected: 88 and 90 in NHMUK; 89 in ANHRT; 91 in CMNH (photo by Gy. László); 92 in CGM.



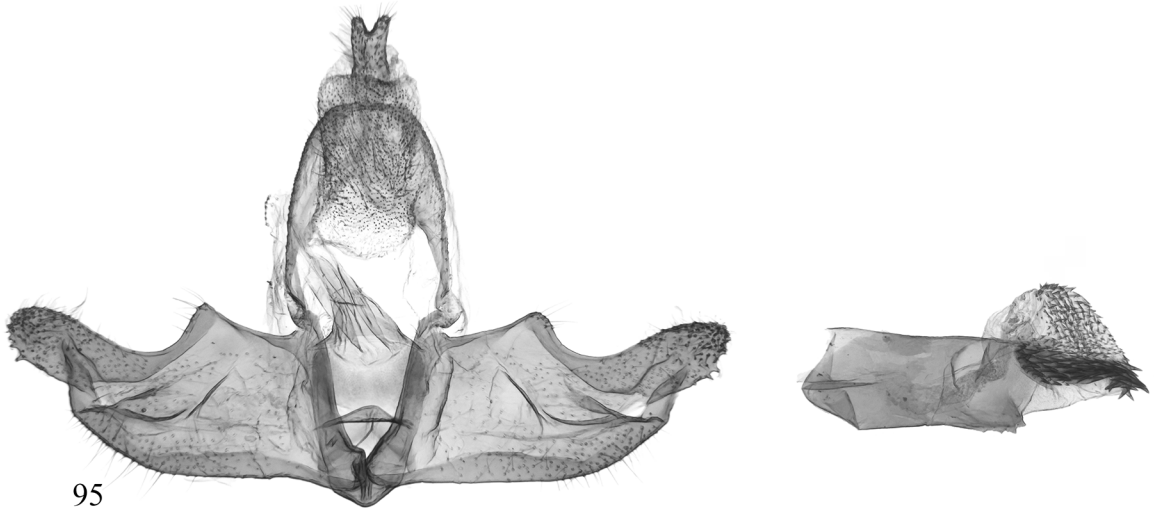
93

Lymantriopsis lacteata
Republic of Congo, Odzala-Kokoua NP, slide AV9871



94

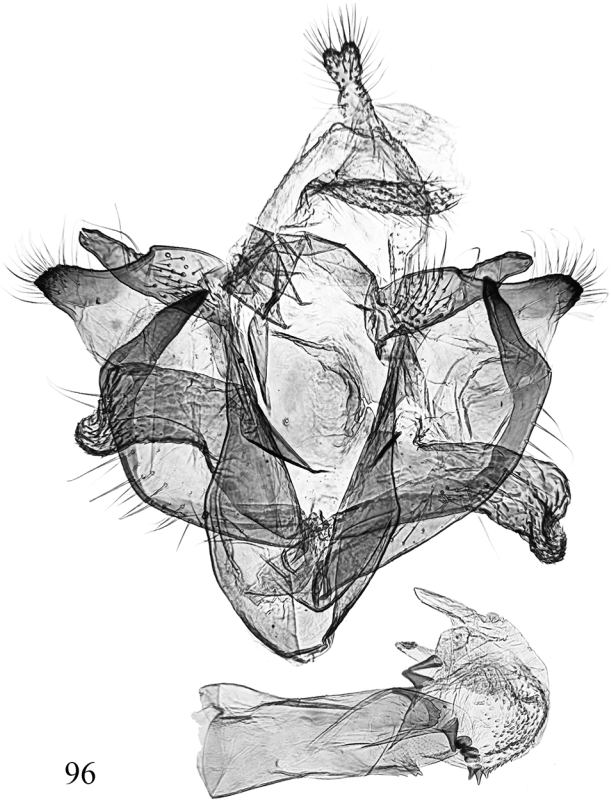
***Euproctosiella elegans* sp. n., HT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV9873



95

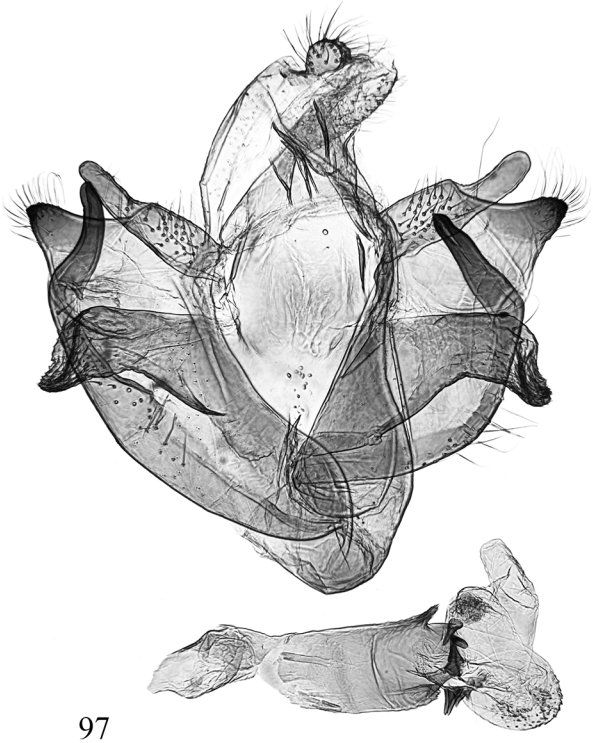
***Euproctosiella amabere* sp. n., HT**
Uganda, Western Region, slide AV9880

Figures 93–95. Male genitalia of *Lymantriopsis* (93) and *Euproctosiella* **gen. n.** (94, 95) spp. The specimens dissected are deposited in ANHRT.



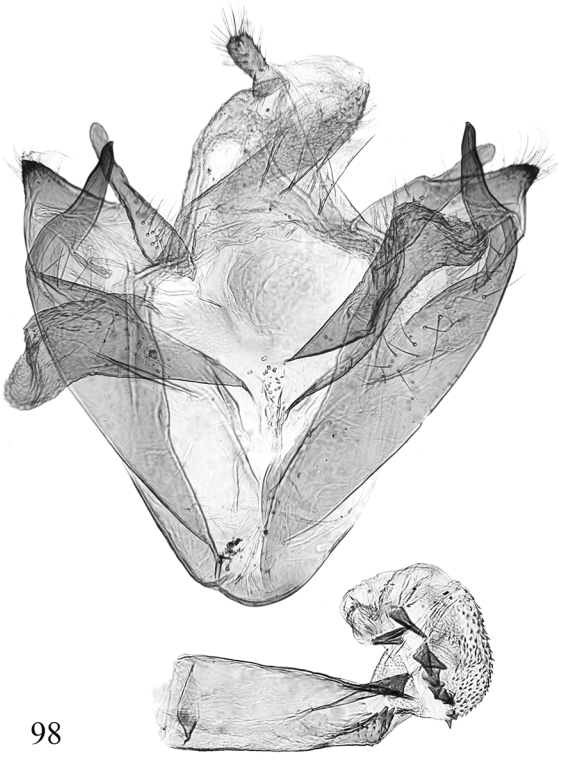
96

***Processosia* (*Processosia*) *obscura* sp. n., HT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV10013



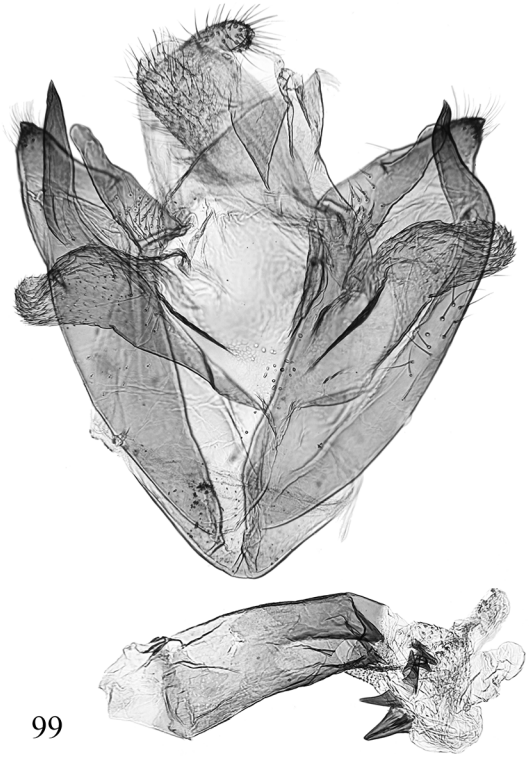
97

***Processosia* (*Processosia*) *obscura* sp. n., PT**
Gabon, Crystal Mts, slide AV10012



98

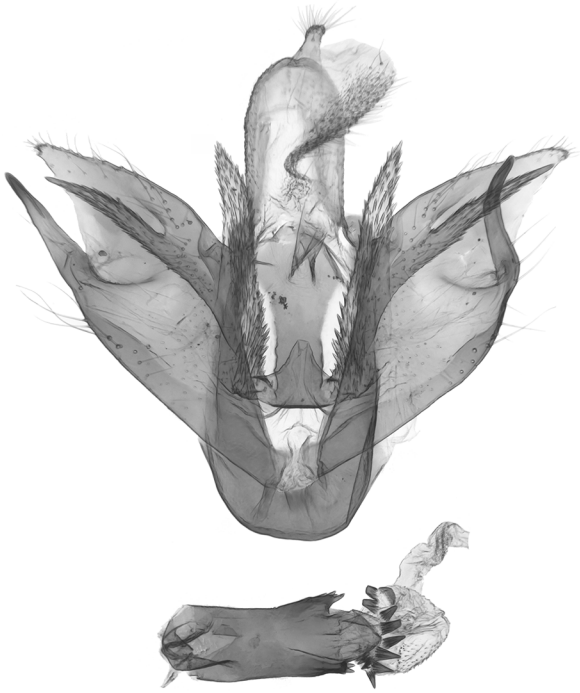
***Processosia* (*Processosia*) *banco* sp. n., HT**
Ivory Coast, Banco NP, slide AV10011



99

***Processosia* (*Processosia*) *banco* sp. n., PT**
Ivory Coast, Banco NP, slide AV10010

Figures 96–99. Male genitalia of *Processosia* **gen. n.** *s. str.* spp. The specimens dissected are deposited in ANHRT.



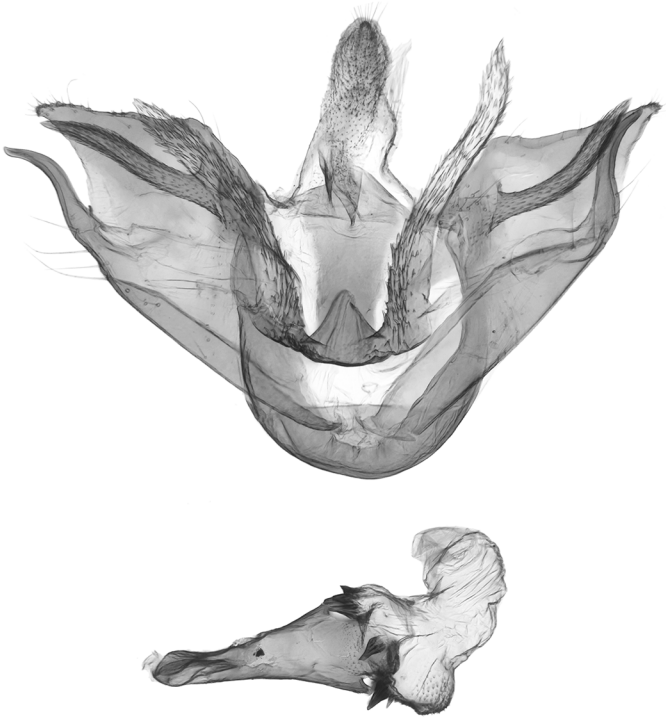
100

***Processosia* (*Armatosia*) *imbalanga* sp. n., HT**
Republic of Congo, Odzala-Kokoua NP, slide AV9877



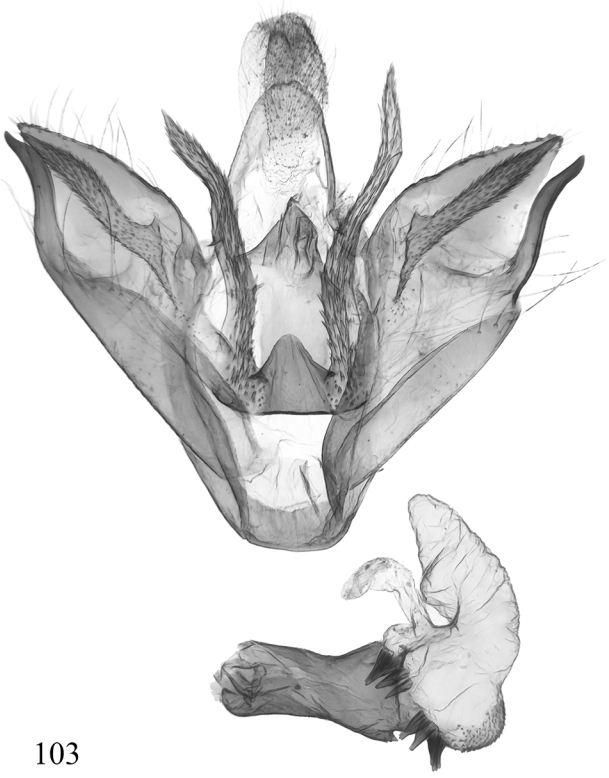
101

***Processosia* (*Armatosia*) *crystallina* sp. n., HT**
Gabon, Crystal Mts, slide AV5992



102

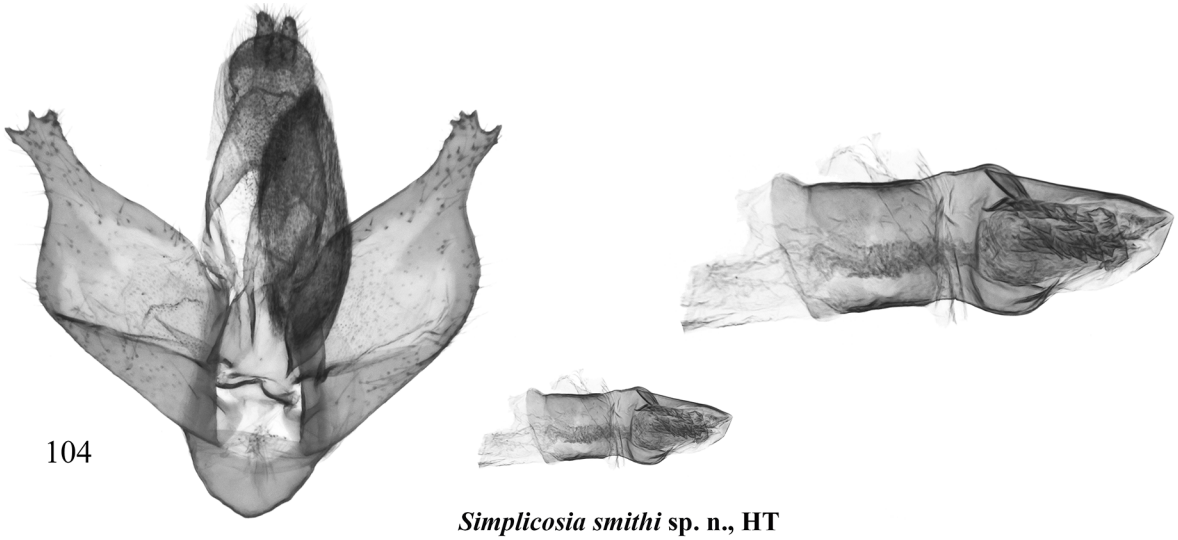
***Processosia* (*Armatosia*) *asymmetrica* sp. n., HT**
Liberia, Lofa County, slide AV4584



103

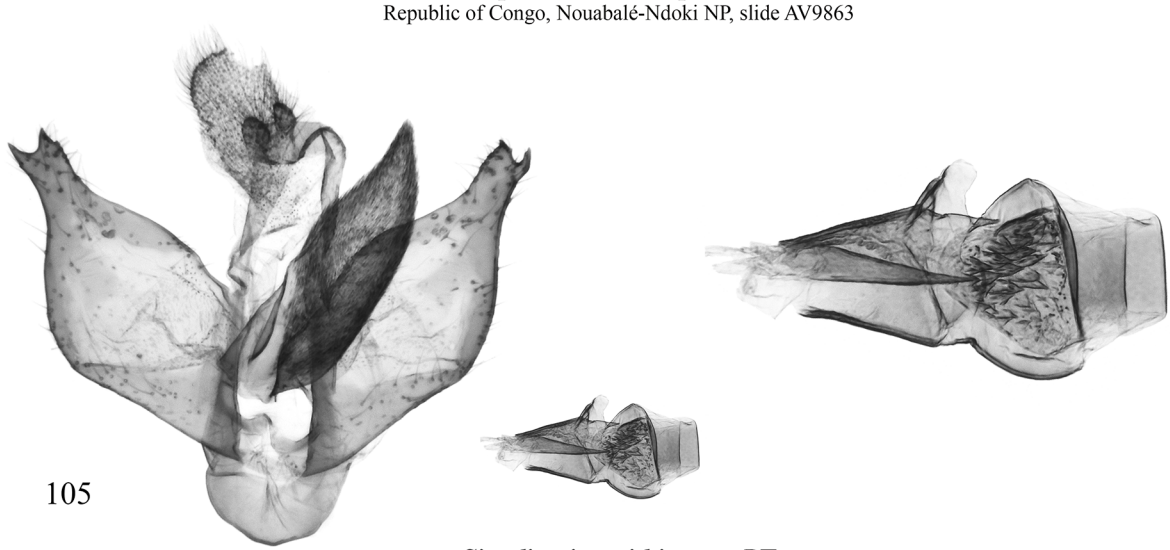
***Processosia* (*Armatosia*) *asymmetrica* sp. n., PT**
Ivory Coast, Banco NP, slide AV9879

Figures 100–103. Male genitalia of *Processosia* (*Armatosia*) **subgen. n.** spp. The specimens dissected are deposited in ANHRT.



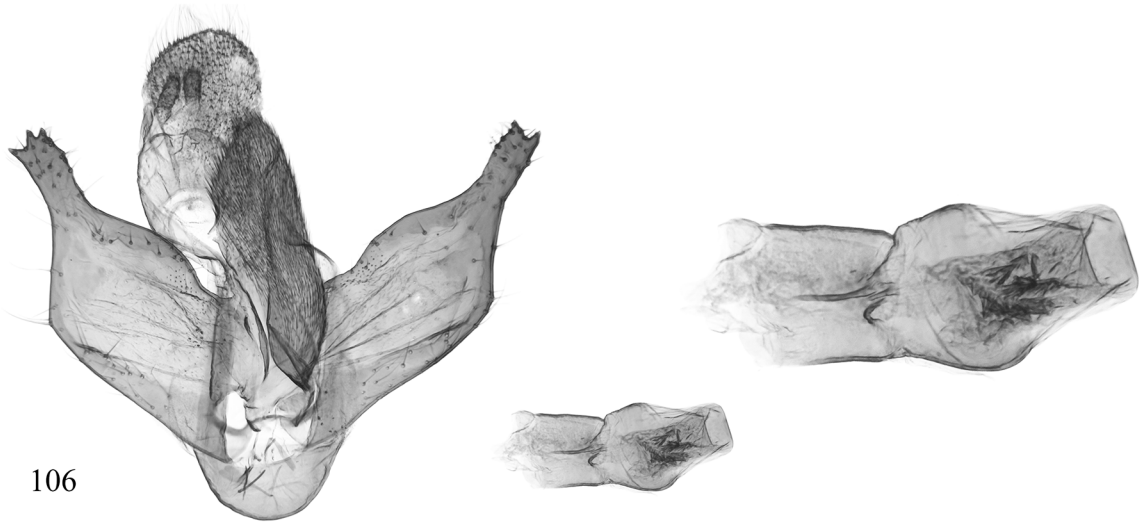
104

***Simplicosia smithi* sp. n., HT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV9863



105

***Simplicosia smithi* sp. n., PT**
Republic of Congo, Odzala-Kokoua NP, slide AV9855



106

***Simplicosia nigrescens* sp. n., HT**
Republic of Congo, Odzala-Kokoua NP, slide AV9975

Figures 104–106. Male genitalia of *Simplicosia* **gen. n.** spp. (on the right are the phalli magnified). The specimens dissected are deposited in ANHRT.



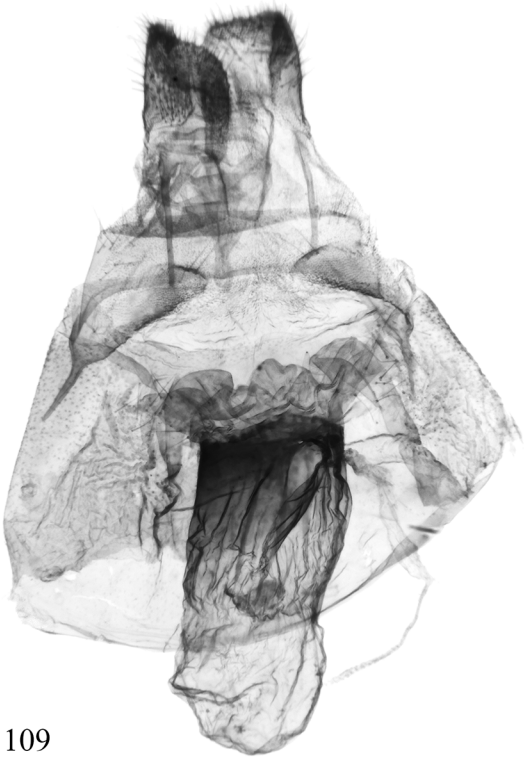
107

Cyana detrita
N India, Uttarakhand, Nainital, slide AV2078



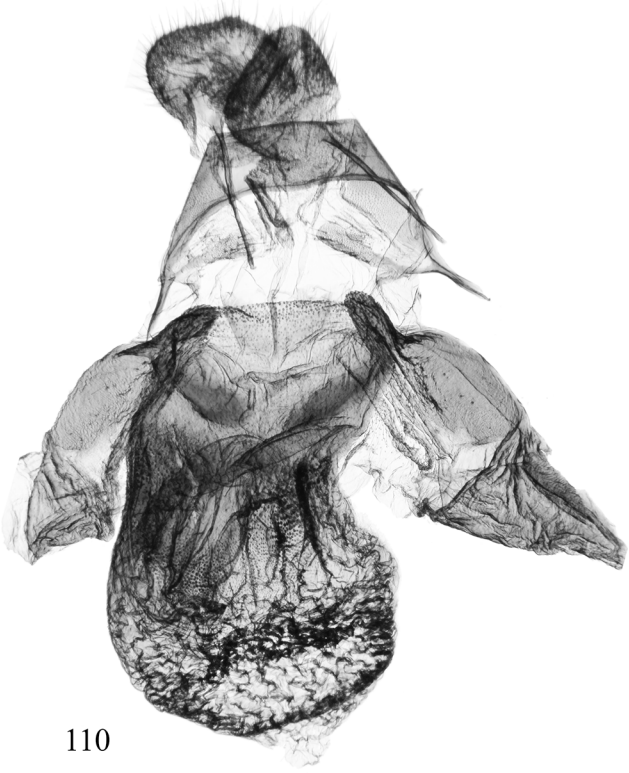
108

Vulpeculella* (*Vulpeculella*) *basisticta
Sierra Leone, Gori Hills, slide AV9958



109

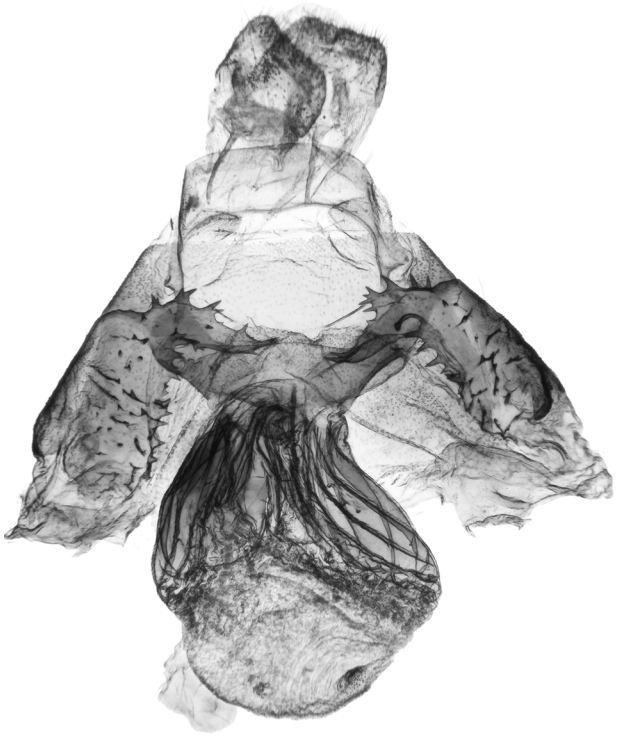
***Vulpeculella* (*Vulpeculella*) *admiranda* sp. n., PT**
DRC, Mai-Ndombe Prov., slide AV9960



110

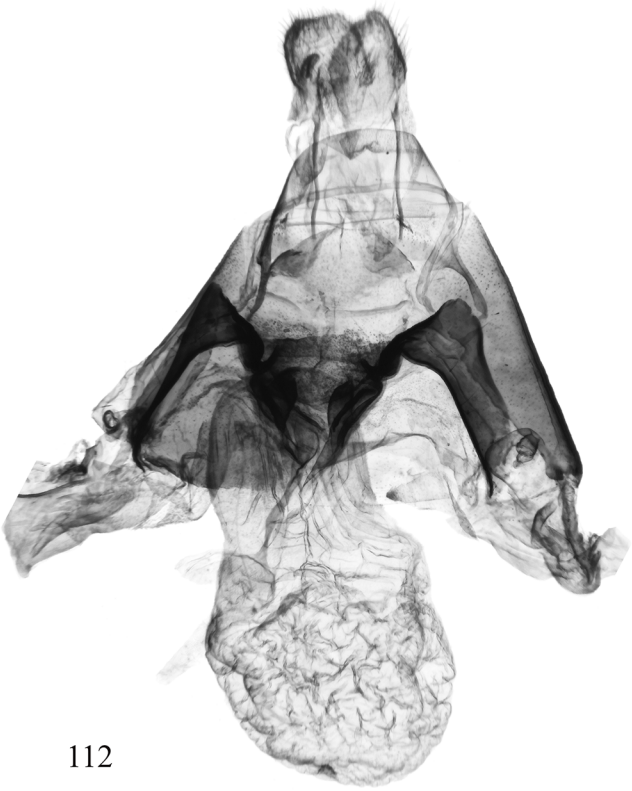
Vulpeculella* (*Vulpeculella*) *rubritermina
Republic of Congo, Nouabalé-Ndoki NP, slide AV9979

Figures 107–110. Female genitalia of *Cyana* (107) and *Vulpeculella s. str.* (108–110) spp. Depositories of the specimens dissected: 107 in ZFMK; 108–110 in ANHRT.



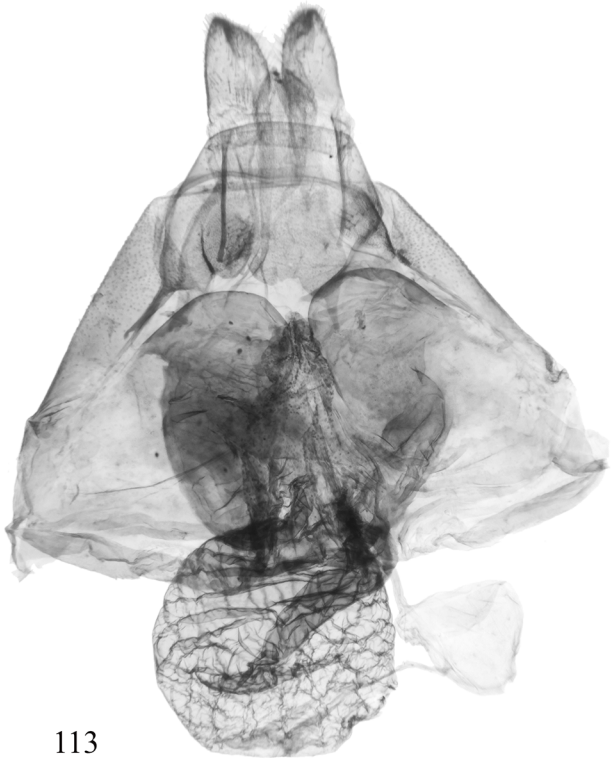
111

Vulpeculella* (*Vulpeculella*) *luchoana
Republic of Congo, Nouabalé-Ndoki NP, slide AV10019



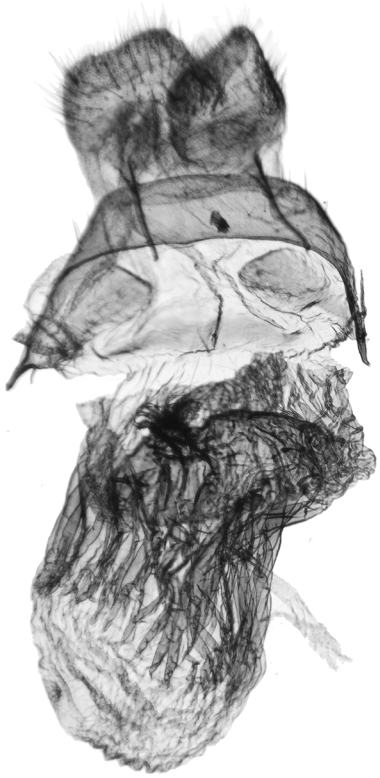
112

Vulpeculella* (*Paravulpeculella*) *pallidilinea
Republic of Congo, Odzala-Kokoua NP, slide AV9956



113

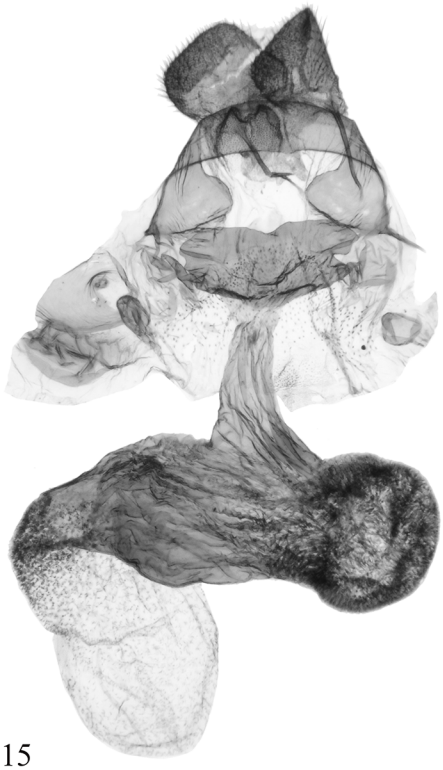
Vulpeculella* (*Paravulpeculella*) *torrida
Republic of Congo, Odzala-Kokoua NP, slide AV9962



114

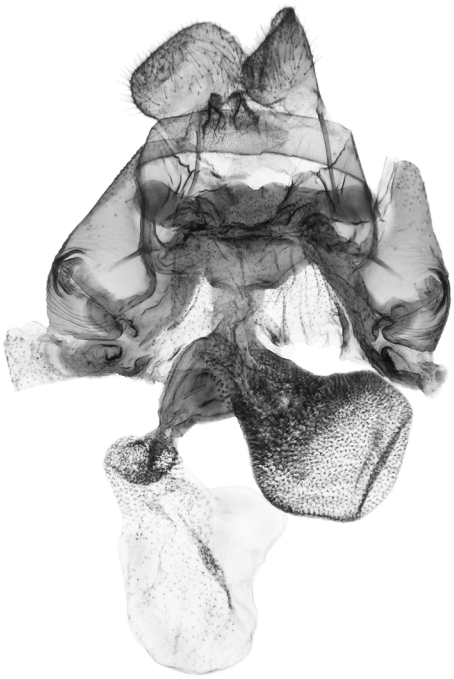
Vulpeculella* (*Louisia*) *quentini
Cameroon, Central Region, Nkoteng Forest, slide AV5078

Figures 111–114. Female genitalia of *Vulpeculella s. str.* (111), *Vulpeculella* (*Paravulpeculella*) (112, 113), and *Vulpeculella* (*Louisia*) (114) spp. The specimens dissected are deposited in ANHRT.



115

Reticuligoa takanoi
Republic of Congo, Nouabalé-Ndoki NP, slide AV8534



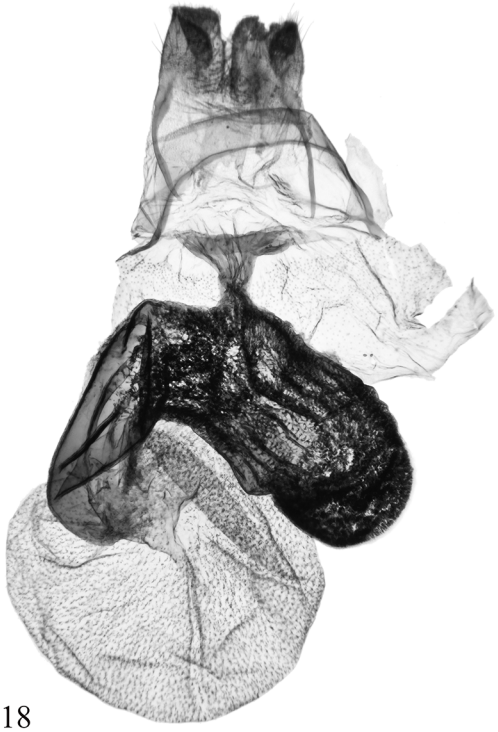
116

Reticuligoa asafis
Republic of Congo, Nouabalé-Ndoki NP, slide AV8532



117

***Afroadites ndoki*, PT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV8539



118

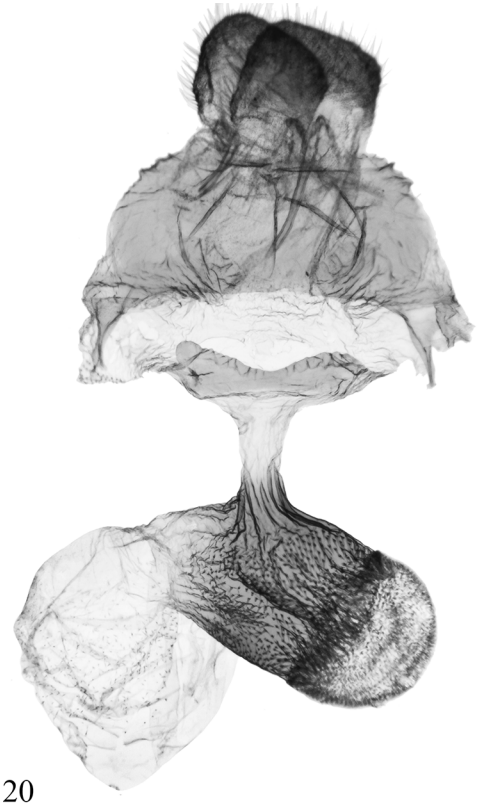
Afroadites ngoko
Cameroon, Dja River, slide NHMUK014334881

Figures 115–118. Female genitalia of *Reticuligoa* **gen. n.** (115, 116) and *Afroadites* **gen. n.** (117, 118) spp. Depositories of the specimens dissected: 115–117 in ANHRT; 118 in NHMUK.



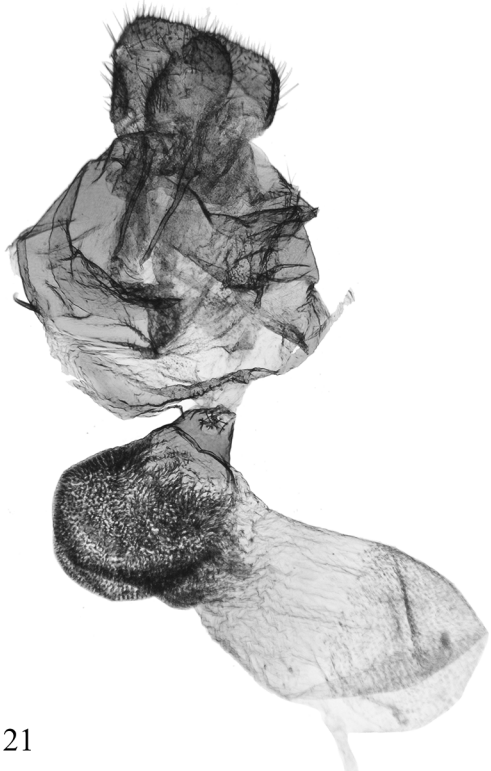
119

Palaeugoa* (*Palaeugoa*) *spurrelli
Liberia, Wologizi Mts, slide AV4476



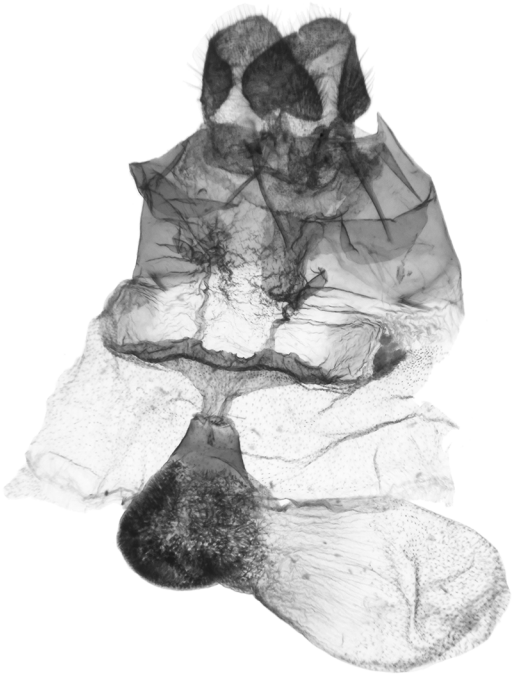
120

Palaeugoa* (*Palaeugoa*) *camerunensis
Gabon, Crystal Mountains, slide AV5984



121

***Palaeugoa* (*Sacculigoa*) *smithi*, PT**
Cameroon, Central Region, Nkoteng Forest, slide AV5074



122

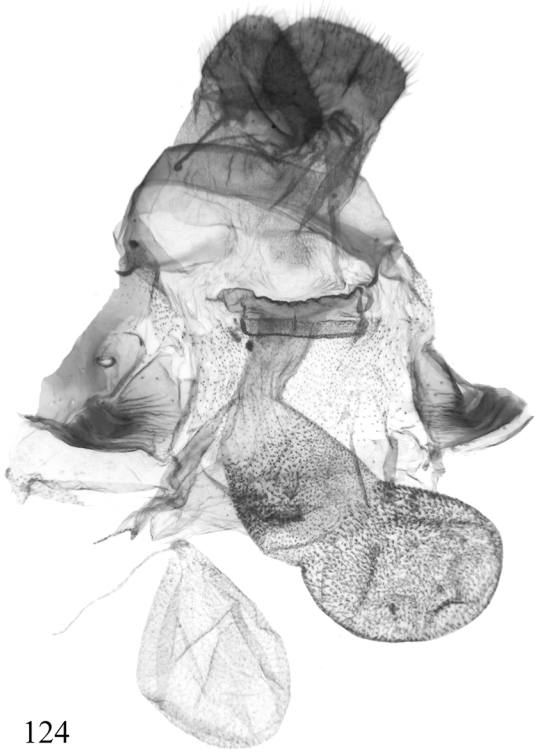
***Palaeugoa* (*Sacculigoa*) *montana* sp. n., PT**
Cameroon, Mount Cameroon, slide AV9942

Figures 119–122. Female genitalia of *Palaeugoa s. str.* (119, 120) and *Palaeugoa* (*Sacculigoa*) **subgen. n.** (121, 122) spp. The specimens dissected are deposited in ANHRT.



123

Euproctosia* (*Euproctosia*) *cretata
Republic of Congo, Nouabalé-Ndoki NP, slide AV9939



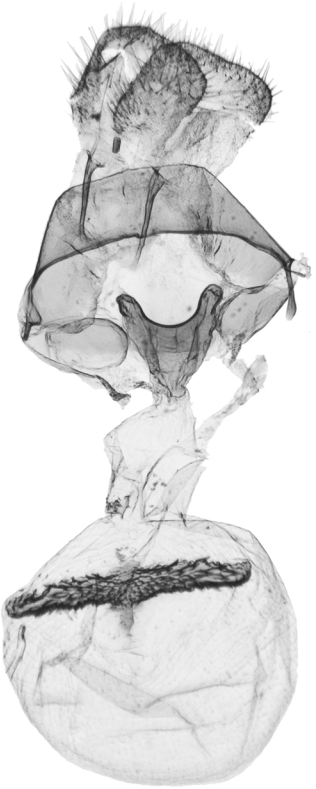
124

***Euproctosia* (*Pseudoproctosia*) *pemba* sp. n., PT**
Tanzania, Pemba Island, slide NHMUK014334027



125

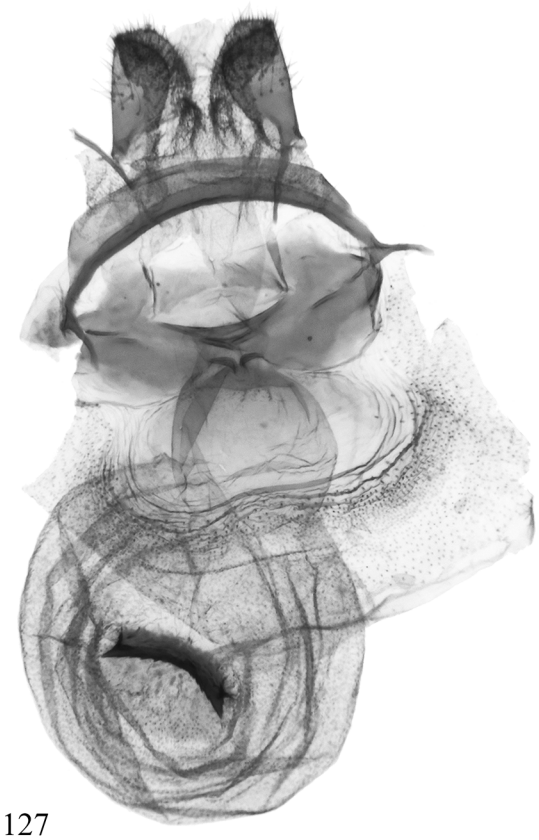
Lymantriopsis lacteata
Guinea, Ziela, slide AV9977



126

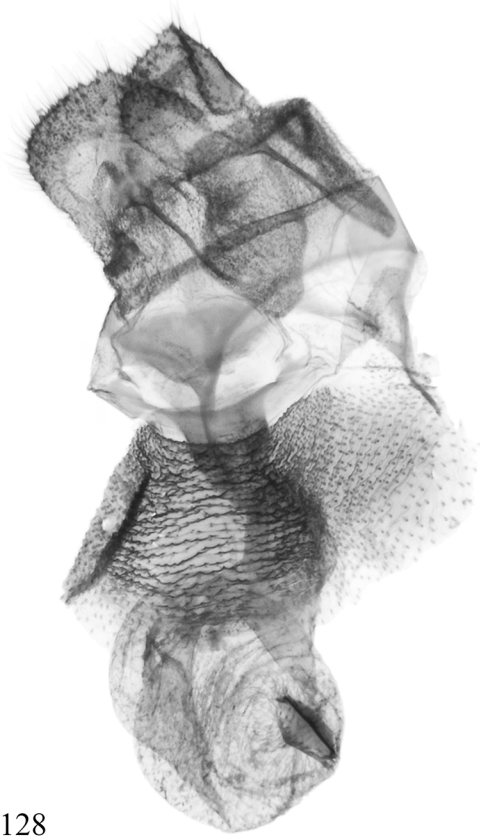
***Lymantriopsis mysterica* sp. n., HT**
Liberia, Lofa County, slide AV4530

Figures 123–126. Female genitalia of *Euproctosia s. str.* (123), *Euproctosia* (*Pseudoproctosia*) **subgen. n.** (124), and *Lymantriopsis* (121, 122) spp. Depositories of the specimens dissected: 123, 125 and 126 in ANHRT; 124 in NHMUK.



127

***Processosia* (*Processosia*) *obscura* sp. n., PT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV9936



128

***Simplicosia smithi* sp. n., PT**
Republic of Congo, Nouabalé-Ndoki NP, slide AV9935

Figures 127–128. Female genitalia of *Processosia* **gen. n.** *s. str.* (127) and *Simplicosia* **gen. n.** (128) spp. The specimens dissected are deposited in ANHRT.