

## New taxa of skipper butterflies (Lepidoptera: Hesperiiidae) from tropical Africa

Published online: 7 September 2020

urn: lsid:zoobank.org:pub:C3B1E04C-3D2F-463B-9082-1A8D59A6FA60

Szabolcs Sáfián<sup>1,2</sup>, Claudio Belcastro<sup>3</sup>, Patrick Boireau<sup>4</sup> & Steve C. Collins<sup>5</sup>

<sup>1</sup>Institute of Silviculture and Forest Protection, University of Sopron, Bajcsy-Zsilinszky út 4. H9400 Sopron, Hungary.

<sup>2</sup>African Natural History Research Trust, Street Court, Kingsland, Leominster, Herefordshire, HR6 9QA, UK. E-mail: [szsafian@gmail.com](mailto:szsafian@gmail.com)

<sup>3</sup>Museo della Biodiversità, Parco Nazionale della Sila, Loc Cupone, I-87058 Spezzano della Sila, Italy. E-mail: [belcastroclaudio@yahoo.com](mailto:belcastroclaudio@yahoo.com)

<sup>4</sup>Afrique Nature, Abidjan, 01 BP 4264 Abidjan 01 Côte d'Ivoire. E-mail: [pboireau@hotmail.com](mailto:pboireau@hotmail.com)

<sup>5</sup>African Butterfly Research Institute, P.O. Box 14308, Nairobi, Kenya. E-mail: [collinsabri@gmail.com](mailto:collinsabri@gmail.com)

Copyright © Lepidopterists' Society of Africa

**Abstract:** Three new species, *Apallaga klaudia* sp. n., *Gorgyra ziama* sp. n., *Andronymus teresae* sp. n. and a new subspecies, *Eagris tetrastigma lomana* ssp. n., of skipper butterflies (Lepidoptera: Hesperiiidae) from the tropical forest zone of Africa are described in comparison with their presumed closest relatives.

**Key words:** Afrotropical Region, skipper butterflies, new species, new subspecies, Sierra Leone, Guinea, Liberia, Democratic Republic of Congo.

**Citation:** Sáfián, Sz., Belcastro, C., Boireau, P. & Collins, S.C. 2020. New taxa of skipper butterflies (Lepidoptera: Hesperiiidae) from tropical Africa. *Metamorphosis* 31(1): 56–71. DOI: <https://dx.doi.org/10.4314/met.v31i1.13>

### INTRODUCTION

Claudio Belcastro and the late Torben B. Larsen were working on the description of various West African skippers. Unfortunately, with the sudden death of Larsen in 2015, their work was also terminated until Szabolcs Sáfián and Belcastro decided to continue studying various skipper groups, initially publishing the description of two species (Sáfián *et al.*, 2019). Sáfián also visited the African Butterfly Research Institute (ABRI), where a major collection of African Hesperiiidae is hosted, including further undescribed species. This paper is the latest result of the studies on African skipper butterflies, completing the description of two taxa originally identified by Belcastro and Larsen: *Gorgyra ziama* sp. n. and *Eagris tetrastigma lomana* ssp. n., collected in Sierra Leone and Guinea. The authors also describe a newly-found high altitude species, *Apallaga klaudia* sp. n., from the Nimba Mountains, Guinea and one from the lowland forests of the Congo Basin, *Andronymus teresae* sp. n.

### MATERIALS AND METHODS

#### Abbreviations

ABRI: African Butterfly Research Institute, Nairobi, Kenya

ANHRT: African Natural History Research Trust, Leominster, UK

CAR: Central African Republic

CB: Claudio Belcastro's scientific reference collection, Rome, Italy

CEP-MZUJ: Nature Education Centre, Jagiellonian University, Kraków, Poland

DRC: Democratic Republic of Congo

MCLB: McGuire Center for Lepidoptera and Biodiversity, Gainesville, Florida, USA

NHM: Natural History Museum, London, UK

PB: Patrick Boireau's scientific reference collection Abidjan, Ivory Coast and La Gaude, France

SMFG: Société des Mines de Fer de Guinée, Guinea

#### Material examined

For practical reasons, the authors list all comparative material below with further illustrations of male genitalia and other supplementary material of some species available online using the direct link below the listing of specimens.

*Apallaga galenus* (Fabricius, 1793): 1♂ LIBERIA, Yekepa residential area, Nimba Mountains, 06.vii.2020, leg. Sáfián, Sz.; 1♂ GHANA, Volta Region, Asato, 300–400 m, 04.iv.2008, leg. Sáfián, Sz (Gen. prep.: 2728/16.06.2020/K. Florczyk), deposited in CEP-MZUJ; 64 specimens (both sexes) SIERRA LEONE, Bumbuna, Wara Wara Mts, Kabala Yaterya, Kalafuga (E Bumbuna), Loma Mountains: Sinikoro-Bandakarafaia, Yalamba, Bendugu, Dodo Hills (above Panguma); GHANA, Aquapem Ridge: Mamfe, Tutu, Aburi, Obosomasi; Atewa Range: Kibi, Sagyimase, Apapam, Potroase. All deposited in CB; 1♂ BENIN, Forêt de Niaouli, 31.x.2014, 1♀ BENIN, Pénésoulou, Forêt de Pénélan, 02.xii.2014, leg. Coache, A., deposited in MCLB.

Online supplementary material:

[https://abdb-africa.org/species/apallaga\\_galenus](https://abdb-africa.org/species/apallaga_galenus)

Received: 23 May 2020

Published: 7 September 2020

Copyright: This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. To view a copy of this license, send a letter to Creative Commons, Second Street, Suite 300, San Francisco, California, 94105, USA, or visit: <http://creativecommons.org/licenses/by-nc-nd/3.0/>

*Apallaga ghanaensis* Libert, 2014: 1♂ GHANA, Atewa Range (Gen. prep.: 2749/06.07.2020/K. Florczyk); 50 specimens (both sexes) (not confirmed by genitalia or molecular data) GHANA, Apapam, Mamfe, Obosomasi, Kibi, Wli Falls, Mampong, Aburi; specimen (not sexed) IVORY COAST, Danané; SIERRA LEONE. All deposited in CB; 2♂♂, 1♀ BENIN, Forêt de Niaouli, 25–30.vi.2013, leg. Coache, A, deposited in MCLB.

Online supplementary material:

[https://abdb-africa.org/species/apallaga\\_ghanaensis](https://abdb-africa.org/species/apallaga_ghanaensis)

*Apallaga belcastroi* Libert, 2014: 1♂ SIERRA LEONE, Freetown, Guma Valley, Western Peninsular Mountains, leg. Belcastro, C.; 1♂, 2♀♀ SIERRA LEONE, Lahun, Gola North, leg. Belcastro, C.; 1♀ (Kabala) Wara Wara Mountains, Kataweya Bridge, 800 m, leg. Belcastro, C. All deposited in CB.

Online supplementary material:

[https://abdb-africa.org/species/apallaga\\_belcastroi](https://abdb-africa.org/species/apallaga_belcastroi)

*Apallaga galkasa* Libert, 2014: 1♂, 1♀ (in copula) SIERRA LEONE, Gola Forest South, 14.xii.2009, leg. Belcastro, C.; 1♀ SIERRA LEONE, Gola South, 14.xii.2013, leg. Belcastro, C.; 1♀ GUINEA, Sereidou, Forêt de Ziamá, 600–800 m, xi.2010, leg. Belcastro, C.; 1♂ IVORY COAST, Forêt de Tai, 11.xii.1994, leg. Belcastro, C.; IVORY COAST, Mount Nimba, Yealé, 1000 m, iii.2000, leg. Belcastro, C.; 2♂ GHANA, Akwapem Ridge, 500 m, Mamfe, 24.vii.1998, leg. Belcastro, C.; 1♀ Akwapem Ridge, 500 m, Mamfe, 7.v.1988, leg. Belcastro, C.; 1♂ GHANA, Atewa Ridge, Potroase (Kibi), 18.vii.1987, leg. Belcastro, C.; 2♂♂ GHANA, Begoro W-Falls, 500 m, 25.vi.1978 & 3.xi.1979, leg. Belcastro, C. All deposited in CB. 1♂ GUINEA, Forêt Classée de Ziamá, Massadou campsite, lowland forest, 8°20'36.25"N, 9°26'14.70"W, 541 m, light trapping (250W blended bulb + 8W UV bucket traps), 08–13.iii.2019, leg. Sáfián, Sz., Simonics, G., Florczyk, K (Gen. prep.: 2729/16.06.2020/K. Florczyk).

Online supplementary material:

[https://abdb-africa.org/species/apallaga\\_galkasa](https://abdb-africa.org/species/apallaga_galkasa)

*Apallaga intermixtus* (Aurivillius, 1896): 1♂ CAMEROON, PlanteCam Camp, Crater Lake, Elephant Camp, 1100–1850 m, Mount Cameroon (Gen. prep.: 4–22.08.18-Przystalkowska); 35♂♂, 20♀♀ CAMEROON, PlanteCam Camp, Crater Lake, Elephant Camp, 1100–1850 m, Mount Cameroon, leg. Sáfián, Sz., Maicher, V., Janeček, Š., Tropek, R., various dates between xi.2014 and ii.2017. All deposited in CEP-MZUJ; 2♀♀ CAMEROON, Mount Cameroon, 1500 m, iv.2012, leg. Belcastro, C., deposited in CB.

*Apallaga kakamegae* Libert, 2014: ♂ KENYA, Yala River, Kakamega Forest, Western Province, 0°12'N, 34°52'E, 1550–1600 m, 1–29.ii.2012, leg. T. Pyrcz (Gen. prep.: 3-12.14.17-Przystalkowska); 6♂♂ KENYA, Yala River, Kakamega Forest, Western Province, 0°12'N, 34°52'E, 1550–1600 m, 1–29.ii.2012, leg. T. Pyrcz; 1♀ KENYA, Yala River, Kakamega Forest, Western Province, 0°12'N, 34°52'E, 1550–1600 m, 1–29.ii.2012, leg. T. Pyrcz. All deposited in CEP-MZUJ.

*Apallaga opalinus* (Butler, 1901): 1♀ KENYA, Yala River, Kakamega Forest, Western Province, 0°12'N,

34°52'E, 1550–1600 m, 27.ii.2012, leg. T. Pyrcz, deposited in CEP-MZUJ.

*Eagris tetrastigma tetrastigma* (Mabille, 1891): 2♂♂ CAMEROON, Forêt d'Ebogo, vii.2012, local collector, in coll. Belcastro, C.; 1♂ CAMEROON, Lolodorf, iii.2013, local collector, in coll. Belcastro, C.; 1♀ CAMEROON, Forêt d'Ebogo, vii.2015, local collector, in coll. all deposited in CB; 1♂ CAMEROON, Eastern Region, 2 km north of Dimako, 28.iv.2013, leg. Sáfián, Sz. & Espeland, M. ANHRT unique number: ANHRTUK00043262, deposited in ANHRT; 22♂♂, 23♀♀ CAMEROON Ebogo, Dja, Maan, Yaoundé, Pinda, Campo, various dates from 1986–2012; 45♂♂, 23♀♀ CAR, Yakoli, Yombo, Botambi, Bangui, Corniche, Maka, Bimon, 1994–1998; 5♂♂, 4♀♀ DRC, North Kivu, Biakato, Mapimbi, Pateka, Makele, 2011–2013; 1♂ UGANDA, Semliki, Bundibugyo, 4.xii.2005. All deposited in ABRI.

*Eagris tetrastigma subolivescens* (Holland, 1892): 3♂♂ IVORY COAST, Yapo, 29.vii.2001, leg. Belcastro, C.; 1♂ IVORY COAST, Forêt du Banco, ix.1998, leg. H. Sodre; 1♂ IVORY COAST, Lakota, 15–30.i.1997, leg. N. Tahou; 2♀♀ IVORY COAST, Banco Forest, iv&vii.1998, leg. Belcastro, C.; 1♀ IVORY COAST, Yapo, 8.xi.1992; 2♂♂ GHANA, Boti Falls, 12.iv.1980, leg. Belcastro, C.; 3♂ GHANA, Begoro, 20.x.1979, 25.vi.1978, leg. Belcastro, C.; 1♂ GHANA, Sagyimaase, 17.x.1977, leg. Belcastro, C.; 1♂ GHANA, Wli Falls, 18.xi.1979, leg. Belcastro, C.; 1♂ GHANA, Bia, Western Region, 26.iv.1984, leg. Belcastro, C.; 1♂ GHANA, Akuapem, Mamfe, 19.vii.1987, leg. Belcastro, C.; 1♂ GHANA, Tutu, 28.x.1979, leg. Belcastro, C.; 1♀ GHANA, Begoro, 3.xi.1979, leg. Belcastro, C.; 1♀ GHANA, Kibi, 31.vii.1977, leg. Belcastro, C. All deposited in CB; 43♂♂, 10♀♀ GHANA, Bia, Tano Ofin, Bibiani, Suhin, Pampusu, Kibi, Ketepe, Lolobi, various dates from 1990–2008, all deposited in ABRI. 1♂ GHANA, Ashanti Region, Bobiri Butterfly Sanctuary at Kubeasi, 20–24.ix.2016, leg. Sáfián, Sz., Aduse-Poku, K.; 1♂ GHANA, Eastern Region, Asuom Amanfrom, Amanfrom Forest, Kade District, 20–24.iii.2015, leg. Sáfián, Sz., Csontos, G., Kormos, B., deposited in ANHRT.

*Gorgyra kalinzu* Evans, 1949: 1♂ CAMEROON, Ebogo, ix.2011, leg. Jo. Ozela, in coll. Belcastro, C, deposited in CB; 4♂♂ KENYA, Kakamega, iii–iv.1997, leg. Collins, S.; 1♂ UGANDA, Kalinzu, v.1995, deposited in ABRI coll.

*Andronymus caesar caesar* (Fabricius, 1793): 1♀ SIERRA LEONE, Guma Valley, xi.2001, leg. Collins, S.; 2♂♂ 1♀ IVORY COAST, Mount Peko, Forêt Classée de Kokondékro, 2001, 2014; 21 specimens (both sexes) GUINEA, Dubreka, Latoma, Labé; 1♂, LIBERIA, Gambo Trail, Sapu National Park, Grand Gedeh County, 15–20.xi.2012, leg. Sáfián, Sz. & Tropek, R., unique number: ABRI-2019-3039 (Gen. prep.: SAFI00345); 1♀ LIBERIA, Mount Ghi Ridge, Putu Range, Grand Gedeh County, 05–12.xii.2012, leg. Sáfián, Sz. & Tropek, R., unique number: ABRI-2019-3040 (Gen. prep.: SAFI00346); 6♂♂, 3♀♀ LIBERIA, Nimba Mountains, Putu Range, 2010–2014, leg. Sáfián, Sz.; 37 specimens (both sexes) GHANA, Wli Falls, Kintampo, Lolobi,

Hohoé, Likpe Maté, Bia NP, 1991–2013; 1♂, 1♀ TOGO, Danyi, Badou, 2009 & 1996; 28 specimens (both sexes) CAMEROON, Maan, Ebogo, Mt. Kala, Dja, Wack, 1993–2006; 43 specimens (both sexes) CAR, Yakoli, Bangui, Botambi, Maka, 1995–1998. All deposited in ABRI.

Online supplementary material:

[https://abdb-africa.org/species/andronymus\\_caesar\\_caesar](https://abdb-africa.org/species/andronymus_caesar_caesar)

*Andronymus caesar philander* (Hopffer, 1855): 1♂ DRC, Mamove, N.Kivu, E.DRC, vi.2012, leg. ABRI, unique number: ABRI-2019-3041; 1♀ DRC, Mamove, N.Kivu, E.DRC, vi.2012, leg. ABRI, unique number: ABRI-2019-3042; 1♀ DRC, Lukolela, Equateur, x.2013–ii.2014, leg. ABRI, unique number: ABRI-2019-3043; 110 specimens (both sexes) Kivu, Equateur, Beni, Katanga, dates from 1982–2014. All deposited in ABRI.

Online supplementary material:

[https://abdb-africa.org/species/Andronymus\\_caesar\\_philander](https://abdb-africa.org/species/Andronymus_caesar_philander)

Relevant literature was also consulted, including original descriptions and illustration of types in Libert's (2014) comprehensive revision of African *Celaenorrhinus* and in the original summary of African Hesperiiidae by Evans (1937). The authors also studied the late Larsen's (2015) unpublished manuscript with permission from Nancy Fee.

### Genitalia dissection and wing venation

Genitalia of most specimens were dissected at CEP-MZUJ using the following method: tip of abdomen containing genitalia was removed and soaked and boiled in 10% KOH solution for 5–10 minutes. Subsequently, abdomens were preliminarily cleaned of soft tissue in water in order to expose the genitalia. Dissected genitalia were cleaned using 90–95% ethanol solution. A Nikon digital camera DS-Fi1 and an Olympus SZX9 stereomicroscope were used for imaging the dissections, processed in Combine ZP and Corel PHOTO-PAINT X3 programmes to enhance focus and improve quality. Genitalia were retained in glycerol-filled vials pinned under the corresponding specimens (see reference numbers below). Genitalia dissected by Belcastro and Larsen were extracted and cleaned using the same method, although one valva was removed during dissection and the genitalia were mounted on standard microscope slides, which were later scanned under a magnifying slide scanner. The digital images, colour plates and locality maps were edited in Adobe Photoshop photo editor and Adobe InDesign layout and page design software. References for venation and spaces between veins follow the simplified English or numerical system (Miller, 1970), which is also used in other modern works on African butterflies (Larsen, 1991, 2005).

## DESCRIPTION OF NEW TAXA

### Genus *Apallaga* Strand, 1911.

*In*: Strand, 1911. *Entomologische Rundschau* **28**: 143 (143–144). Type-species: *Apallaga separata* Strand, 1911, by monotypy.

*Apallaga klaudivae* Sáfián, Boireau & Belcastro **sp. n.** (Figs 1A, D; 2A, D; 3A, D; 4A; 5)

urn: lsid:zoobank.org:act:2B42D6C9-D4E6-4482-BCBD-2295F66AAF67

**Holotype** ♂ GUINEA, Nimba Mountains, SMFG concession area, R600 Forest, Mont Pierré Richaud,

7°39'49.9"N, 8°22'22.1"W, 1500 m, 15–29.viii.2017, leg. Sáfián, Sz. & Simonics, G. (Gen. prep.: 1146/15.02.2018/K. Florczyk), deposited in CEP-MZUJ.

**Paratypes** 1♂ GUINEA, Nimba Mountains, Zié Pompage forest, SMFG concession area, 26.ii.2008, leg. Patrick Boireau, deposited in PB; 2♀ GUINEA, Nimba Mountains, SMFG concession area, R600 Forest, Mont Pierré Richaud, 7°39'49.87"N, 8°22'22.14"W, 1500 m, 27.v–06.vi.2017, leg. Sáfián, Sz.; 1♀ GUINEA, Nimba Mountains, SMFG concession area, R600 Forest, Mont Pierré Richaud, 7°39'49.87"N, 8°22'22.14"W, 1500 m, 15–29.viii.2017, leg. Sáfián, Sz. & Simonics, G., deposited in CEP-MZUJ, ANHRT, ABRI; 1♀ GUINEA, forest behind Zougoué Pompage, 1100 m, Nimba Mountains, deposited in ANHRT.

**Other material examined** 1♀ GUINEA, Nimba Mountains, Réserve naturelle intégrale des monts Nimba, Gouan/Zié pompage, 02.iii.2008, leg. Boireau, P., deposited in PB.

Online supplementary material:

[https://abdb-africa.org/species/apallaga\\_klaudivae](https://abdb-africa.org/species/apallaga_klaudivae)

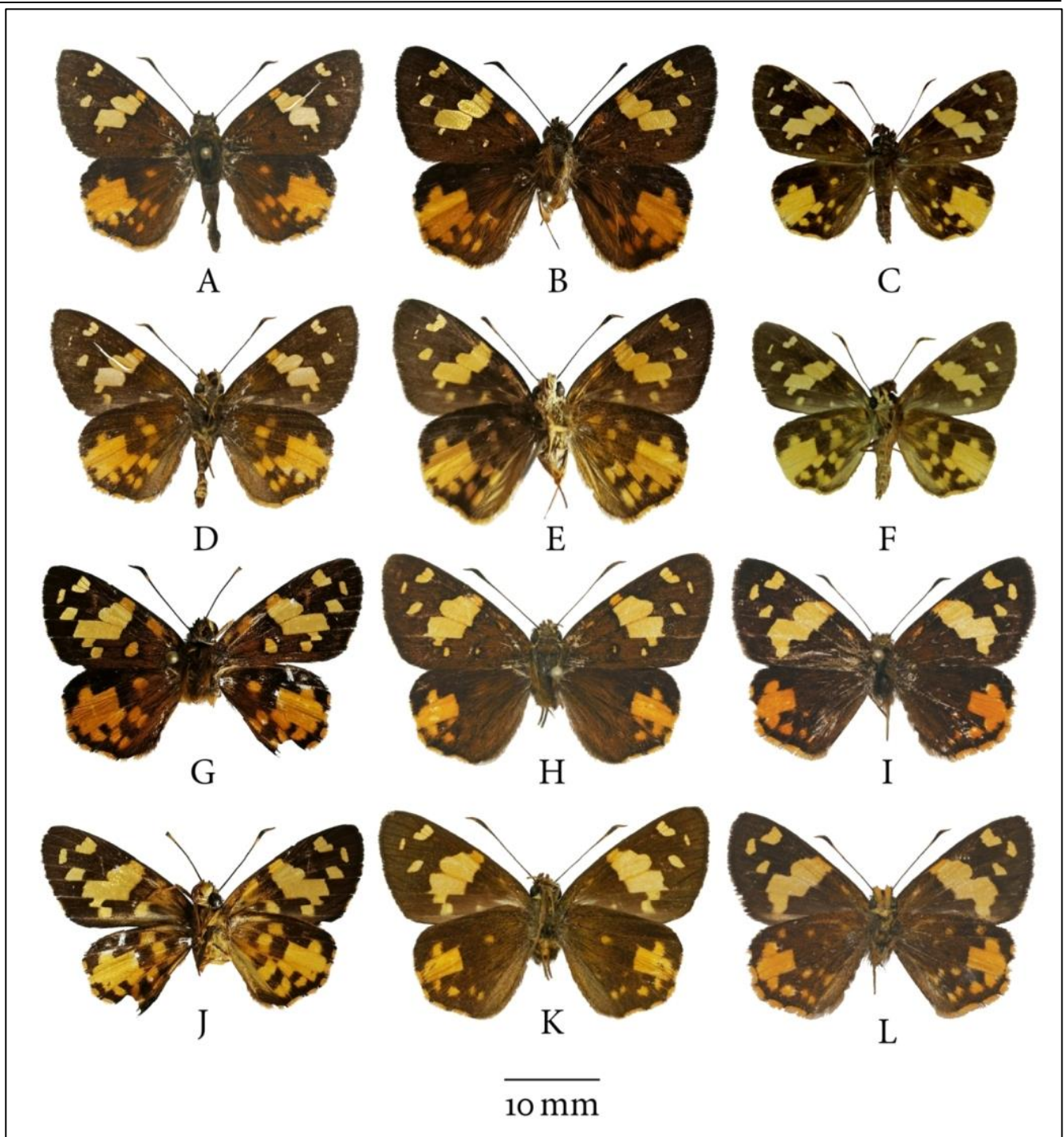
### Descriptions

**Male holotype** (Figs 1A, D) Forewing length: 16.5 mm. Wingspan: 32 mm. Ground colour dark brown, densely overlaid with orange scales on upper side of both wings, also with hairs mainly on hindwing. General *Apallaga* pattern present; forewing orange median band very narrow, terminates at vein 2, with single narrow rectangular spot attached in space 1b. Single small orange spot towards inner margin and base also present in space 1b, as well as one more prominent rectangular spot in space 3 and three small orange sub-apical spots with inconspicuous spot between the two, closer to outer margin. Hindwing with larger orange, rectangular patch along margin restricted to spaces 3 and 4, with adjoining smaller spot in space 5, also two separate small oval spots in space 2. Two pairs of even smaller oval twin-spots in space 1b present, as well as single orange round spot in discal cell. Fringes on hindwing orange between tornus and apex, interrupted by dark brown towards end of veins. Underside brighter orange, more extensively overlaid by lighter orange scaling and hairs. Body dark brown dorsally, haired with orange ventrally. Palpi, legs also covered by orange hairs. Eyes bald, black.

**Female** (Figs 2A, D) Forewing length: 17 mm. Wingspan: 32.5 mm. In general appearance, female very similar to male, forewing apex slightly less pointy and dark chocolate brown ground colour only sparsely overlaid with lighter orange hairs and scales. *Apallaga* pattern lighter yellowish rather than orange. On hindwing, rectangular spot smaller, restricted to space 4 with two adjoined spots in space 3 and one in space 5.

**Variation** The size of forewing spots in the median band varies between the two males available for examination. They are reduced on the male paratype specimen previously illustrated in Libert (2014) as *Apallaga* sp. (re-illustrated:

[https://abdb-africa.org/species/apallaga\\_klaudivae](https://abdb-africa.org/species/apallaga_klaudivae)).



**Figure 1** – *Apallaga* males: *Apallaga klaudiae* (holotype) recto – A, verso – D; *A. galkasa* (Guinea, Zيام Forest) recto – B, verso – E (Gen. prep.: 2729/16.06.2020/K. Florczyk); *A. belcastroi* (Sierra Leone) recto – C, verso – F (Gen. prep.: 2751/06.07.2020/K. Florczyk); *A. galenus* (Ghana, Volta Region) recto – G, verso – J (Gen. prep.: 2728/16.06.2020/K. Florczyk); *A. kakamegae* (Kenya, Kakamega Forest) recto – H, verso – K; *A. intermixtus* (Cameroon, Mount Cameroon) recto – I, verso – L (Gen. prep.: 4-22.08.18-Przystalkowska).

One of the female paratypes appears to have a small sub-basal spot in space 1b on the forewing. It matches the other known females in all other features.

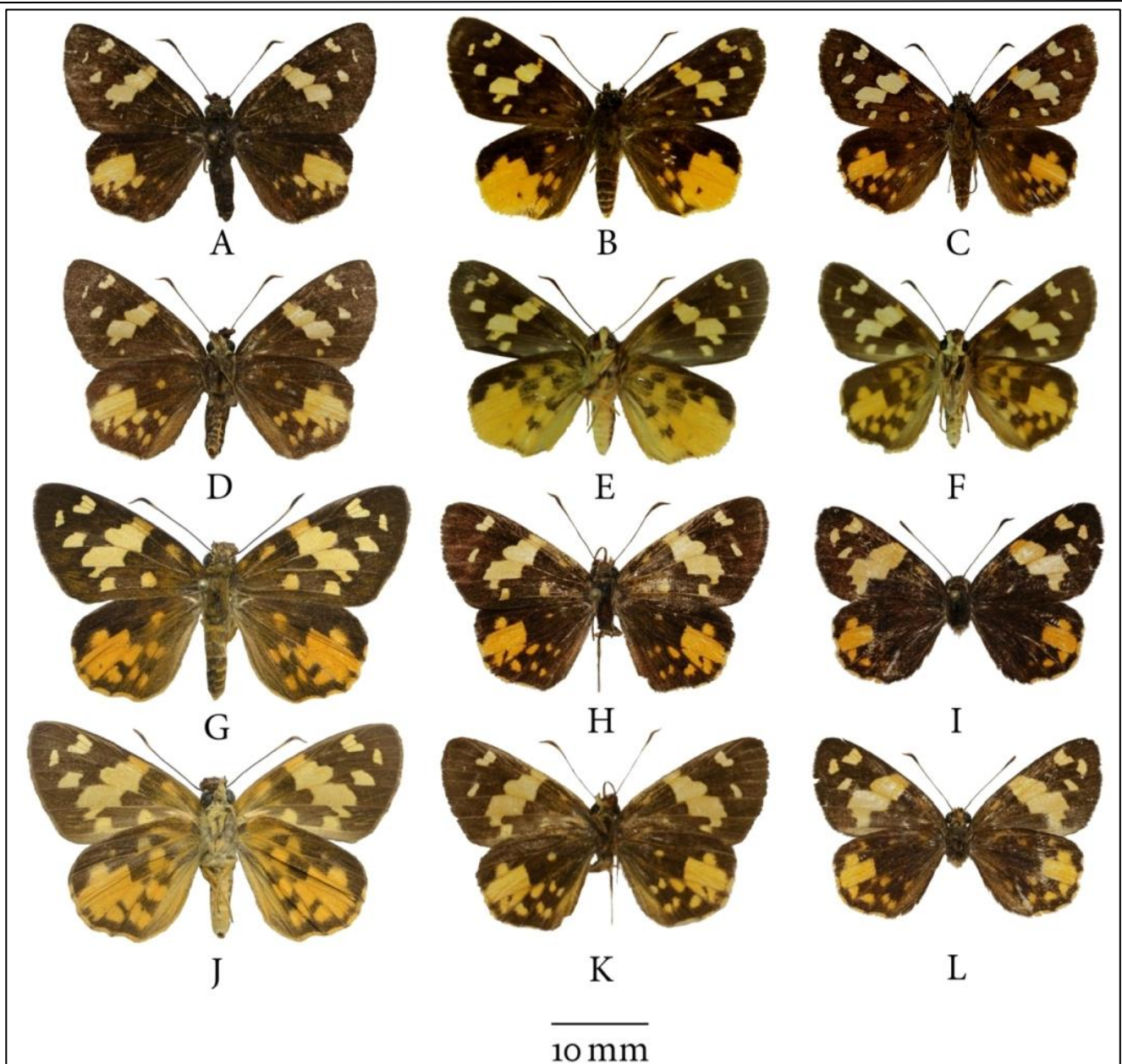
**Genitalia** ♂ (Figs 3A,D; 4A) Tegumen rounded, uncus short, with down curved claw-like tip, and with single, small hairtuft on dorsal edge, tip bi-lobed in dorsoventral view. Gnathos upper arm broad, angled to narrow claw-like, upcurving lower arm. Length of lower arm as of uncus. Vinculum S-bent, saccus weakly sclerotized, slightly upcurving, triangular with strongly concave edges, dorsoventrally. Fultura inferior weakly sclerotized,

deltoid in posterior view, with V shaped groove, which holds the straight, cylindrical aedeagus which has more sclerotized slightly dentated tip and narrow tongue on ventral side of base. Valva trapezoid with straight dorsal edge, except small hump on top and with down-curving, slightly oblong, rounded tip. Edges gently hairy.

**Genitalia** ♀ Not dissected.

#### Diagnosis

In the *Apallaga galenus* clade (*sensu* Libert, 2014) in West Africa west of the Dahomey Gap, four *Apallaga*

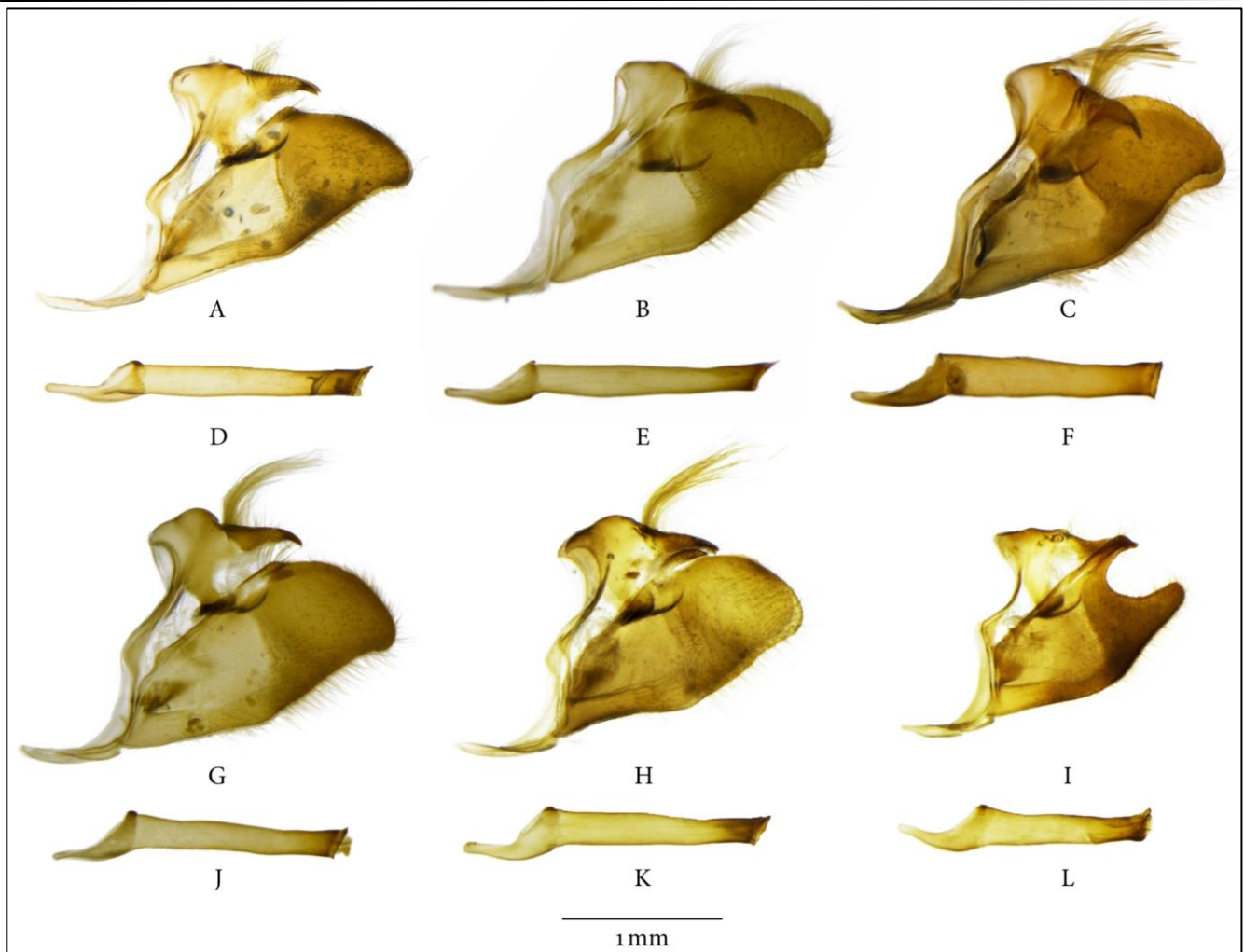


**Figure 2** – *Apallaga* females: *A. klaudiaae* (paratype, Guinea, Nimba Mountains) recto – A, verso – D; *A. galkasa* (Sierra Leone, Gola Forest) recto – B, verso – E; *A. belcastroi* (Sierra Leone, Guma Valley) recto – C, verso – F; *A. galenus* (Benin, Forêt de Pénélan) recto – G, verso – J; *A. kakamegae* (Kenya, Kakamega Forest) recto – H, verso – K (Gen. prep.: 3-12.14.17-Przystalkowska); *A. intermixtus* (Cameroon, Mount Cameroon) recto – I, verso – L.

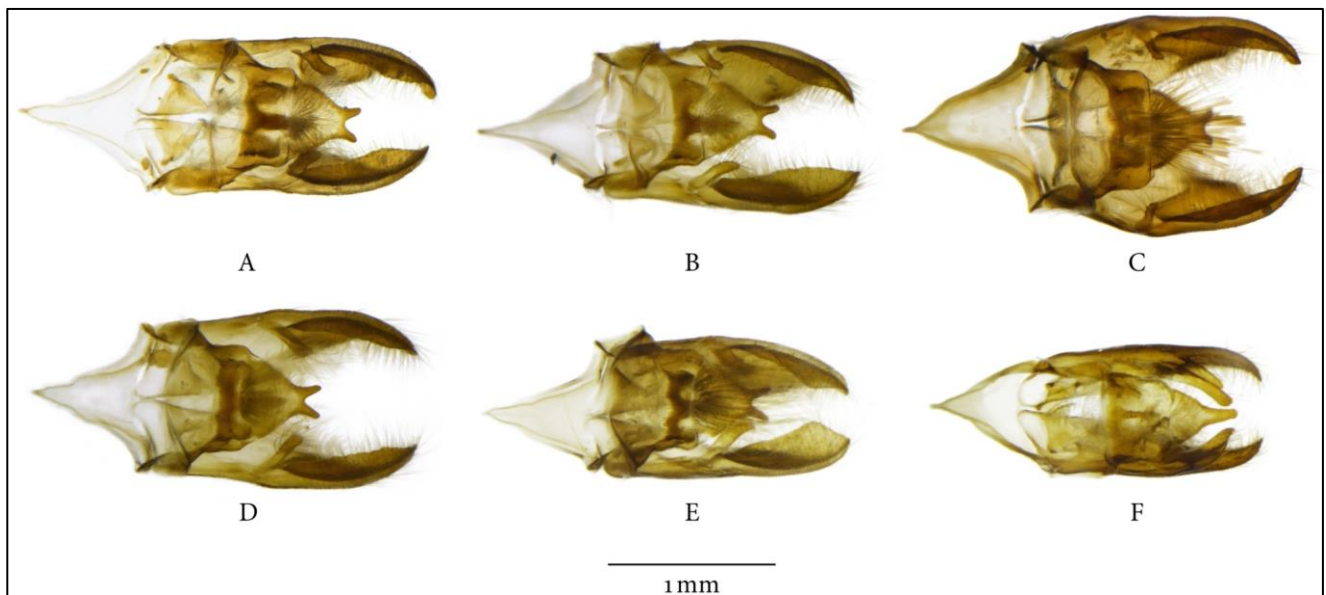
species occur: *A. galenus*, *A. ghanaensis*, *A. galkasa* and *A. belcastroi* (Fig. 4). Three of these were positively recorded from the general Nimba area, but the presence of *A. ghanaensis* was not confirmed by molecular data or examination of male genitalia, although many specimens with matching morphology are available in Belcastro's collection (Libert, 2014). From their general appearance, *A. galenus* and *A. ghanaensis* could be immediately excluded from more detailed comparisons as the orange median band on their forewings in both sexes are significantly broader, with the lower spot much more elongated towards the margin. This is supplemented by a prominent orange sub-basal spot in space 1b, which is characteristic to these species and is missing or completely overlaid by brown scales in all specimens of the type series in *A. klaudiaae*. With its darker upper side ground colour (due to sparser orange scaling), narrower orange forewing median band and narrow and rectangular

hindwing spot in spaces 3 and 4, the two partially detached orange spots in space 2 and two pairs of rather prominent twin-spots in space 1b, *A. belcastroi* is rather similar to *A. klaudiaae*. However, the above emphasised sub-basal orange spot, which is missing or obsolete in *A. klaudiaae* is always present and is rather prominent in *A. belcastroi*. *A. galkasa* has the sub-basal spot occasionally reduced in specimens of both sexes but the large hindwing orange spot is always broader, more prominent. Also the two pairs of twin-spots are usually ill-defined, often partially or completely missing in *A. galkasa*, as appears also on the female holotype and the male allotype illustrated in Libert (2014).

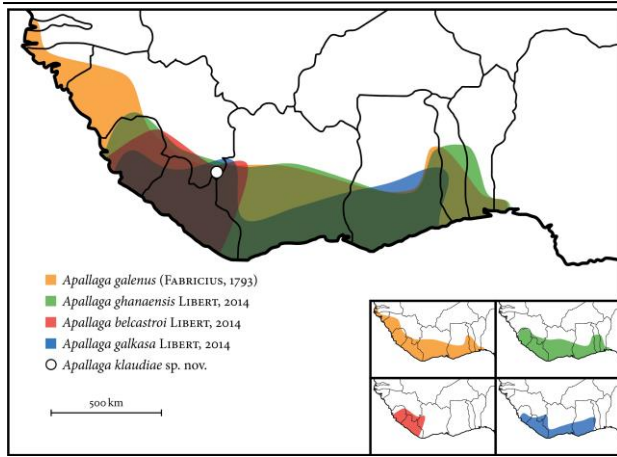
Within the West African species in the *A. galenus* clade, only *A. galkasa*, *A. belcastroi* and *A. galenus* males have similar genitalia, with a more down-curving tip of the valva, but in *A. belcastroi* it is blunter, similarly to that of



**Figure 3** – Male genitalia with separated aedeagi: *Apallaga klaudia* (holotype) – A, D (Gen. prep.: 1146/15.02.2018/K. Florczyk); *A. galkasa* (Guinea, Ziama Forest) – B, E (Gen prep.: 2729/16.06.2020/K. Florczyk); *A. belcastroi* (Sierra Leone) – C, F (Gen. prep.: 2751/06.07.2020/K. Florczyk); *A. galenus* (Ghana, Volta Region) – G, J (Gen. prep.: 2728/16.06.2020/K. Florczyk); *A. kakamegae* (Kenya, Kakamega Forest) – H, K (Gen. prep.: 3-12.14.17-Przystalkowska); *A. intermixtus* (Cameroon, Mount Cameroon,) – I, L (Gen. prep.: 4-22.08.18-Przystalkowska).



**Figure 4** – Male genitalia dorsal view: *Apallaga klaudia* (holotype) – A (Gen. prep.: 1146/15.02.2018/K. Florczyk); *A. galkasa* (Guinea, Ziama Forest) – B (Gen prep.: 2729/16.06.2020/K. Florczyk); *A. belcastroi* (Sierra Leone) – C (Gen. prep.: 2751/06.07.2020/K. Florczyk); *A. galenus* (Ghana, Volta Region) – D (Gen. prep.: 2728/16.06.2020/K. Florczyk); *A. kakamegae* (Kenya, Kakamega Forest) – E (Gen. prep.: 3-12.14.17-Przystalkowska); *A. intermixtus* (Cameroon, Mount Cameroon,) – F (Gen. prep.: 4-22.08.18-Przystalkowska).



**Figure 5** – Approximate distribution of *A. galenus*, *A. ghanaensis*, *A. belcastroi* and *A. galkasa* and the type locality of *A. klaudiae*.

*A. galenus*. The tip of the valva in *A. ghanaensis* is squatter with small humps or serration on its dorsal edge. The dorsal edge of the valva is straight and its width narrows down evenly to the base in *A. klaudiae*, while in all other species in the *A. galenus* clade the dorsal edge is slightly angled at the basal third of valva. The tegumen is shorter with a more pronounced hump on the dorsal edge in *A. belcastroi* and *A. galenus*, while it is longer and flatter in *A. klaudiae* and *A. galkasa*. *Apallaga belcastroi* has two prominent hairtufts on the tegumen and the uncus, while *A. galenus* has a single hairtuft on the uncus. *Apallaga klaudiae* and *A. galkasa* have only one rather small hairtuft at the base of the uncus. The fultura is deltoid-shaped in posterior view, with a deep V-shaped groove in *A. klaudiae*, the fultura is trapezoid in *A. galkasa*, also in *A. belcastroi*, but not as deeply grooved as in *A. klaudiae*, also clearly visible on dorsal view (Fig. 3). These genitalic features position *A. klaudiae* near *A. galkasa*, however the narrower hindwing orange patch, the obsolete or missing sub-basal spot in 1b along with the evenly narrowing valva are sufficient diagnostic features for the safe separation of *A. klaudiae* from specimens of *A. galkasa*.

Beyond members of the *A. galenus* clade, no other *Apallaga* species are present in West Africa without the sub-basal spot in space 1b on the forewing. In submontane areas of the Gulf of Guinea Highlands *A. intermixtus* is similar in general appearance, however the male genitalia have bi-furcate valvae. The East African *A. kakamegae* also inhabits submontane forests. It has similar but blunter valvae and has a sub-basal orange spot in space 1b in both sexes (could be occasionally missing).

### Etymology

The species is named in honour of Klaudia Joanna Florczyk, a young biologist working at the Nature Education Centre, Jagiellonian University, Kraków, Poland. Klaudia recently got involved in taxonomic studies of African butterflies, particularly on the genus *Iolais* and related genera. She also helps the authors' research, particularly with genitalia dissection and photography on other projects. Klaudia also assisted Sáfián's field work in Ziama Forest, Guinea in 2019.

### Discussion

The species was first captured by Patrick Boireau in 2009, and he kindly provided pictures of his specimen to Libert (2014) for his revision of the African *Celaenorrhinus*. In the revision, the specimen is erroneously illustrated as collected in the Nimba Mountains in Ivory Coast, although it was found in the Guinean, northern area of Nimba. The rest of the type series were collected during a baseline biodiversity survey in the concession area of SMFG in 2017. All specimens were found above 1 100 m.a.s.l. in submontane forest in two localities in the Guinean Nimba Mountains (Fig. 5). Subsequent research failed to find the species in other high altitude forests in the Guinean Nimba, neither was it found during the extensive butterfly studies in the Liberian Nimba Mountains in 2008 and 2009 and from 2012–2014 (Boireau, 2009; Sáfián, 2014). Similar sub-montane forest localities where *A. klaudiae* could still occur are scarce in the Guinea Highlands. In Guinea, the only other two mountainous areas are the Ziama Massif (1 385 m.a.s.l.) and the southern, more forested range of the Simandou Mountains (cc 1 650 m.a.s.l.). In Liberia, the butterfly could occur near Mount Wutuwe, the highest peak of the Wologizi Mountains (cc 1 400 m.a.s.l.). In Sierra Leone, the high plateaus of the Tingi (1 709 m.a.s.l.) and Loma Mountains (1 945 m.a.s.l.) might have suitable forest habitats, but the butterfly fauna of these plateaus are very poorly known. Based on current knowledge, the species is considered endemic to the Nimba Mountains.

### Genus *Eagris* Guenée, 1862

*In*: Maillard, L., *Notes sur l'île de la Réunion* 2: 6, 19 (1–72) Paris. [2nd edition]. Type-species: *Thymele sabadius* Gray, 1832, by monotypy.

***Eagris tetrastigma lomana* Belcastro & Sáfián ssp. n.** (Figs 6A–F; 7A,D; 8A,D; 9)

urn: lsid:zoobank.org:act:77278C9A-D58B-4840-AD51-0E474B38D476

**Holotype** ♂ SIERRA LEONE, Kondembaia, Loma Mountains, 30.xi.1983, leg. Belcastro, C. To be deposited in NHM, temporarily stored in CB.

**Paratypes** 1♂ SIERRA LEONE, Gola Forest, South Sileti, 3.ii.2012, leg. C. Belcastro. (Gen. prep.: SAFI00336); 3♂♂ SIERRA LEONE, Gola Forest, Gola South, Sileti Road from Sileti camp to old Mahoi bridge 3.ii.2012; 1♂ SIERRA LEONE, Kondembaia (Loma Mountains), 30.xi.1983, leg. Belcastro, C.; 1♂ SIERRA LEONE, Sinikoro, Loma Mountains, 27.xi.1983, leg. Belcastro, C.; 1♂ SIERRA LEONE, Gola Forest, Gola South, Mahoi River trail, 08.v.2014, leg. Belcastro, C.; 12♂♂ GUINEA, Forêt de Ziama, various dates from 2007–2011, local collector, all deposited in CB; 1♀ GUINEA, Forêt de Ziama, xii.2007, local collector, deposited in CB; 1♂ GUINEA, Forêt Classée de Ziama, Sérédou campsite area, upland forest 8°21'14.53"N, 9°19'31.93"W, 800–1100 m, 24.ii–06.iii.2019, leg. Sáfián, Sz., Simonics, G. & Florczyk, K. (Gen. prep.: 2651/27.04.2020/K. Florczyk); 1♂ GUINEA, Forêt Classée de Ziama, Sérédou campsite area, upland forest 8°21'14.53"N, 9°19'31.93"W, 800–1100 m, 24.ii–06.iii.2019, leg. Sáfián, Sz., Simonics, G. & Florczyk, K. (Gen. prep.: 2651/27.04.2020/K. Florczyk); 3♂♂

GUINEA, Forêt Classée de Ziama, Sérédou campsite area, upland forest 8°21'14.53"N, 9°19'31.93"W, 800–1100 m, 24.ii–06.iii.2019, leg. Sáfián, Sz., Simonics, G. & Florczyk, K., deposited in CEP-MZUJ; 1♂, 1♀ LIBERIA, Putu, 10–31.xii.2010, 08–21.iv.2011, in coll.: ABRI; 1♀ Coldwater, 20–31.xii.2013, deposited in ABRI; 1♂ LIBERIA, Foya Proposed Protected Area, Lofa County, 10–19.xi.2017, leg. Aristophanous, M., Sáfián, Sz., Simonics, G., Smith, L. ANHRT unique number: ANHRT00037693); 2♂♂ LIBERIA, Wologizi Mountains, Base Camp forest Lofa County, 20.xi–01.xii.2017, leg. Aristophanous, M., Sáfián, Sz., Simonics, G., Smith, L. ANHRT unique numbers: ANHRT00037714, ANHRT00037715; 1♂ LIBERIA, Wologizi Mountains, Base Camp forest, Lofa County, 08–09.xii.2018, leg. Simonics, G. & Sáfián, Sz. ANHRT unique number: ANHRTUK00058078. All deposited in ANHRT.

Online supplementary material:

[https://abdb-africa.org/species/eagris\\_tetrastigma\\_lomana](https://abdb-africa.org/species/eagris_tetrastigma_lomana)

## Descriptions

**Male holotype** (Figs 6A,D) Forewing length: 16 mm. Wingspan: 28 mm. Forewing axe-shaped, hindwing trapezoid with gently curving edge between apex and tornus, slightly lobed along basal half of costa. Ground colour of upper side black without pattern, except three tiny white subapical dots. Hindwing costal lobe with oval black androconial spot, surrounded by slightly paler marginal area. Forewing underside black with paler silvery area around sub-basal, oval, black androconial spot. Base ochreous yellow between discal cell and costa. Majority of hindwing ochreous yellow, slightly darker on costal lobe, except narrow contrasting black marginal line. Five black round spots follow the arc of the margin between veins 5 and 9, of which the outer spot in space 8 is distinctly larger. Body black from above, yellow below, including palpi. Legs yellow, antennae brown, eyes bald, black.

**Female** (Figs 7A,D) Forewing length: 19 mm. Wingspan: 32 mm. Wing shape similar to male but wings longer and broader. Ground colour dark chocolate brown, with slightly warmer brown, rather inconspicuous sub-marginal band that follows outer margin across the wing. Forewing with six small sub-apical white/hyaline spots, also row of three discal spots. Hindwing basal half dark brown with broad yellow margin between tornus and vein 5. Yellow margin tapers down to fine line between vein 5 and 7. Four dark brown, almost black spots in spaces 5–8 follow arc of margin. Apex blackish-brown. Forewing underside lighter brown than upper surface, with yellow scaling at base, white spots more prominent. Yellow covers most of hindwing, apex brown, costal margin with brown diffusion. Dark brown spots of upper side present, costal spots more prominent. Fifth spot in space 8 inconspicuous. Body dark brown from top, yellow below, including palpi. Legs yellow, antennae brown, eyes bald, black.

**Variation** Among the known male specimens of *E. tetrastigma lomana* examined, there is variation in the

number of subapical white dots. Some of the four white dots can be obsolete or one or more can be missing. *Eagris tetrastigma lomana* specimens with a slightly darker underside are known from the Nimba Mountains, showing a transitional form towards *E. tetrastigma subolivescens* (Figs 6B,E), but with the typical black marginal line of the hindwing. Variation in the width of the hindwing yellow marginal band was also observed in females.

**Genitalia** ♂ (Figs 8A,D) Tegumen rounded and blunt, uncus with rectangular protrusion on dorsal edge, its tip short, tubular with moderately thick hair-tuft dorsally. Base of gnathos broad, rectangular, its narrower arm protrudes at a right angle. Saccus spoon-like, short, back-curving. Valva trapezoid in lateral view, broadest in the middle, narrows down towards tip, before curving upwards with a hook-like tip, another curved, spiny process and few smaller teeth on dorsal edge. Length of aedeagus like valva, slightly curved, broadest in the middle. Basal end upcurved, terminal tip spoon-like, with slight serration dorsally near middle.

**Genitalia** ♀ The female was not dissected.

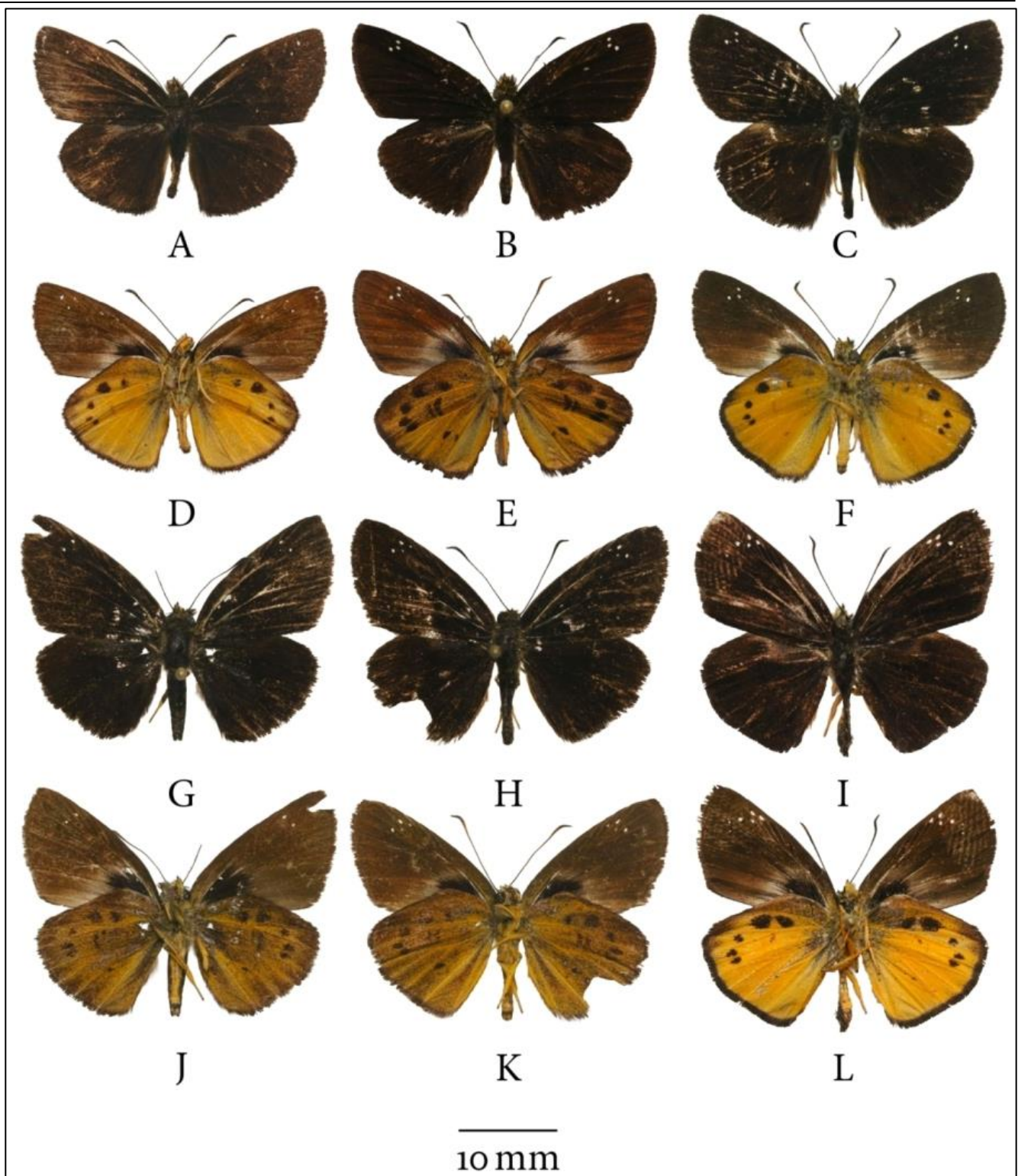
## Diagnosis

Males of *E. tetrastigma lomana* resemble mostly the nominate subspecies with an ochreous yellow hindwing underside and a narrow but firm black margin. *Eagris tetrastigma subolivescens* has a diffuse margin, often appearing as blackish indistinct triangles in spaces between veins in the submarginal area, and the hindwing is olive coloured rather than yellow. In the male genitalia *E. tetrastigma lomana* resembles more the nominate subspecies, with the broader base of the gnathos, and the more humped top of the tegumen. Also the base of the aedeagus is bent more upwards in the lateral view compared to that of *E. tetrastigma subolivescens*.

## Etymology

The name *lomana* refers to the location of the original capture of the subspecies, the Loma Mountains in Sierra Leone, which are the highest mountains of the Guinea Highlands and the highest in West Africa west of the Dahomey Gap with Mount Bintumani (1 945 m.a.s.l.). The Loma Mountains are among the westernmost representatives of true Upper Guinean rainforest with various elements of the Liberian subregion butterfly fauna, including *Euriphene lomaensis* Belcastro, 1986 (Belcastro, 1986a) and the Guinea Highlands endemic *Hypolimnas aubergeri* Hecq, 1987 (Sáfián & Takano, 2019). The butterfly fauna of the Loma (and the neighbouring Tingi) Mountains are probably hiding several new taxa, and further studies on the butterfly fauna would be desirable to help protect the mountain slopes and gallery forests, and the high-altitude grasslands on the plateau and around the summits. Loma also hosts biogeographically important populations of butterflies with montane affinities, e.g. *Bicyclus campus* (Karsch, 1893), *Brakefieldia elisi* (Karsch, 1893) and *Precis coelestina* Dewitz, 1879 (C. Belcastro, pers. obs.).



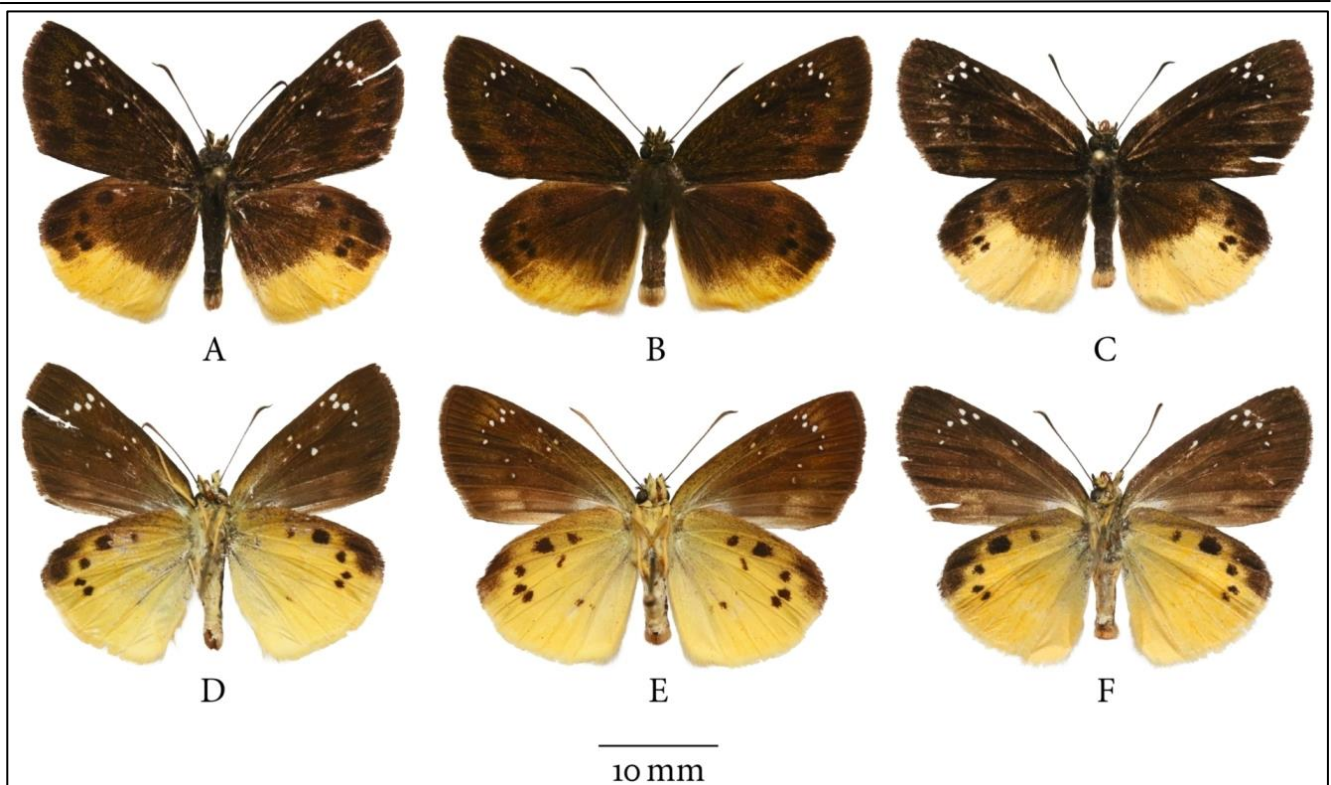


**Figure 6** – *Eagris tetrastigma* males. *E. tetrastigma lomana* (holotype) recto – A, verso – D; *E. tetrastigma lomana* (paratype, Ivory Coast, Yealé, Nimba Mountains) recto – B, verso – E; *E. tetrastigma lomana* (paratype, Liberia, Wologizi Mountains) recto – C, underside – F; *E. tetrastigma subolivescens* (Ghana, Bobiri Butterfly Sanctuary) upper side – G, underside – J; *E. tetrastigma subolivescens* (Ghana, Asuom Amanfrom) upper side – H, underside – K; *E. tetrastigma tetrastigma* (Cameroon, Ebogo) upper side – I, underside – L.

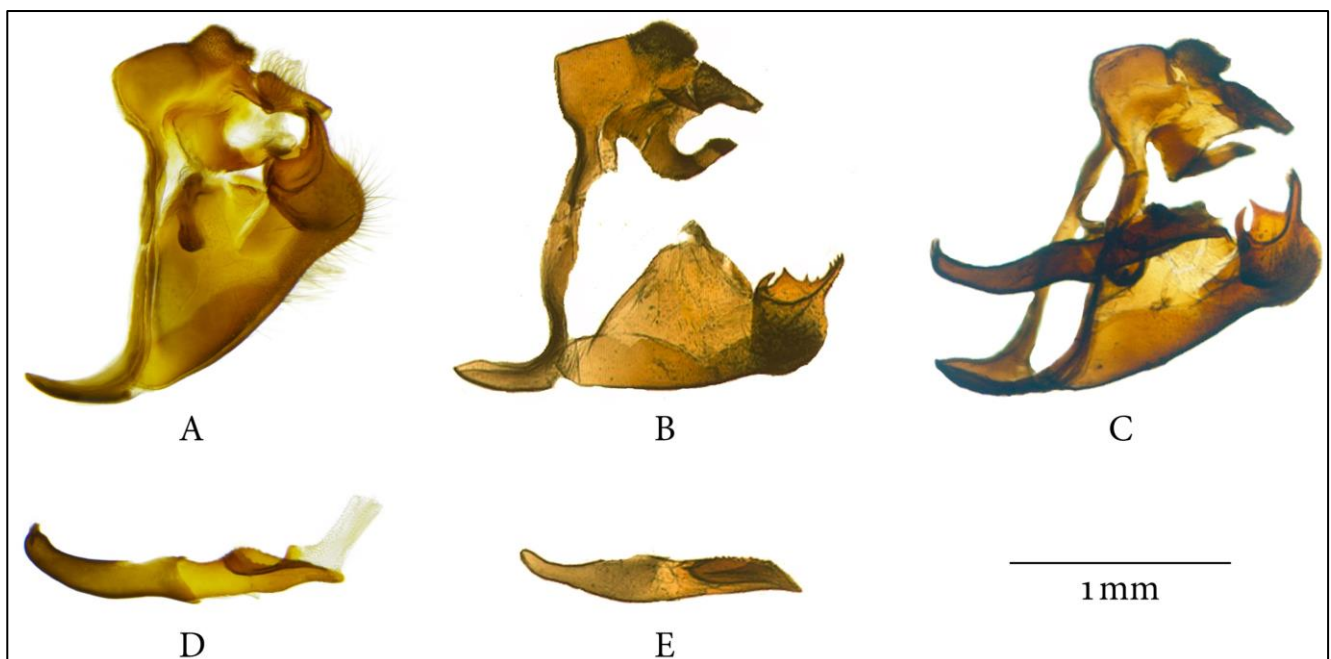
### Discussion

Previously, *E. tetrastigma* had two subspecies, the nominate one distributed from western Uganda across the Congo Basin to Nigeria and *ssp. subolivescens*, which is found from western Nigeria to central Ivory Coast (Larsen, 2005) with a distribution gap in the savannah habitats of the Dahomey Gap. The new taxon was first illustrated by Belcastro (1986b), and Larsen (2005, 2015)

mentions it also as “*ssp. claudio*”. Belcastro originally collected *ssp. lomana* in the Loma Mountains, Sierra Leone and he also recognized the differences, described above. The taxon was subsequently also found in lowland forest areas in Sierra Leone, Guinea and Liberia. A few specimens collected in the Nimba Mountains have a more olive-green coloured underside, similar to those of *E. tetrastigma subolivescens* but they show a continuous



**Figure 7** – *Eagris tetrastigma* females: *E. tetrastigma lomana* (paratype, Guinea, Ziama Forest) recto – A, verso – D; *E. tetrastigma subolivescens* (Ghana, Kibi) recto – B, verso – E; *E. tetrastigma tetrastigma* (Cameroon, Ebogo) recto – C, verso – F.



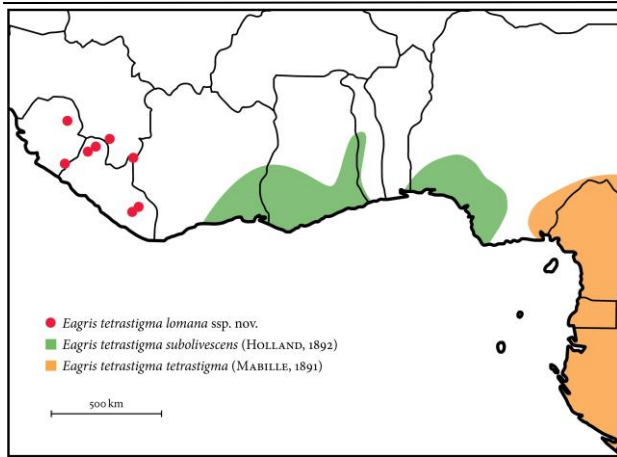
**Figure 8** – *Eagris tetrastigma* male genitalia: *E. tetrastigma lomana* lateral view and aedeagus (paratype, Guinea, Ziama Forest) – A, D; *E. tetrastigma subolivescens* lateral view and aedeagus (Ghana, Atewa Range – Larsen, 2015) – B, E; *E. tetrastigma tetrastigma* lateral view with aedeagus (DRC – Larsen, 2015) – C. Only A and D are illustrated in ratio with the scale bar, all other images were adjusted to fit on the figure, as the original illustrations appeared without scale bar.

black margin on the hindwing underside. Subspecies *lomana* seems to be genuinely restricted to the Liberian subregion of West Africa as a westernmost subspecies of *E. tetrastigma* (Fig. 9). Although Larsen (2005) did not rule out the possibility of the “Loma population” of *E. tetrastigma* representing a distinct species, from the slight differences in male genitalia among the specimens examined between Cameroon and Sierra Leone, the

Liberian sub-regional populations are best recognised as a subspecies of *E. tetrastigma*.

#### Genus *Gorgyra* Holland, 1896

*In*: Holland 1896. *Proceedings of the Zoological Society of London* 31 (2–107). Type-species: *Apaustus aburae* Plötz, by original designation.



**Figure 9** – Approximate distribution of *E. tetragona tetragona*, *E. tetragona subolivescens* and known localities of *E. tetragona lomana*.

***Gorgyra ziamo*** Belcastro & Sáfián **sp. n.** (Figs 10A,B,D,E; 11A-F; 12)

urn: lsid:zoobank.org:act:CE8EC4F8-A67C-4DE1-B615-A9CBF2B88B57

**Holotype** ♂ GUINEA, Ziamo Forest, 24.xii.2007, leg. Claudio Belcastro. To be deposited in NHM, presently stored in CB.

**Paratypes** 1♀ GUINEA, Forêt de Ziamo, 24.xii.2007, leg. Belcastro, C.; 1♂, 1♀ SIERRA LEONE, Gola South, Nemahugoima, 03.ii.2012 and 13.iii.2020, leg. Belcastro, C.; 1♂ SIERRA LEONE, Gola Forest, Gola North, Lalehun, 04.ii.2012, leg. Belcastro, C. Deposited in CB; 1♂ GUINEA, Forêt Classée de Ziamo, Sérédou campsite area, upland forest, 8°21'14.53"N, 9°19'31.93"W, 800–1100 m, 24.ii–06.iii.2019, leg. Sáfián, Sz., Simonics, G., Florczyk, K. (Gen. prep.: 2632/17.04.2020/K. Florczyk). Deposited in CEP-MZUJ.

**Other material examined** 1♂ LIBERIA, Putu Range, xii.2010, leg. Sáfián, Sz. (the specimen was originally deposited in ABRI from where Larsen took it on loan and made the dissection illustrated on Figs 7C,F in London. Unfortunately, many specimens have not yet been recovered from Larsen's bequest, including this male).

Online supplementary material:

[https://abdb-africa.org/species/gorgyra\\_ziamo](https://abdb-africa.org/species/gorgyra_ziamo)

## Descriptions

**Male holotype** (Figs 10B,E) Forewing length: 13.5 mm. Wingspan: 23 mm. General appearance as other *Gorgyra*. Ground colour black with white hyaline spotting on upper side. One larger rectangular spot present below forewing discal cell, two smaller rather irregular spots in cell. Three small sub-apical spots present and one quadrangulate spot in space 3, its outer edge toothed inward. Hindwing has two median oval spots and a basal triangular one. Underside colour dark grey, with very pale yellowish overlay and whitish shade along inner margin of forewing. Centre of forewing darker, blackish. All hyaline spots visible. Body black from above, yellowish-dark grey from underneath, including palpi.

**Genitalia** ♂ (Figs 11A–F) Uncus, tegumen and vinculum slender. Uncus with hair-tuft dorsally very long tapering into a blunt, very slightly down-curving tip. Saccus tongue-like, short (one-fourth the length of valva). Valva

trapezoid in lateral view, with triangular, acute tip. Dorsal edge with prominent strongly-toothed protrusion. Aedeagus simple, with rounded base and acute terminal tip. Valva and aedeagus equally long.

## Diagnosis

The size and general appearance of *G. ziamo* and *G. kalinzu* are almost identical. However their genitalia differ in the dorsal edge of valva: *G. ziamo* has a prominently serrated ridge, protruding out at the base of the triangular tip, while it is flatter with only moderate serration on a small 'kick' at the base of the triangular tip in *G. kalinzu*.

## Etymology

The species is named to recognise the Ziamo Forest (Forêt Classée de Ziamo) for its unique and rich butterfly fauna and its role in biodiversity conservation, being the largest intact rainforest area in Guinea and the north-westernmost one in the Upper Guinean forest zone.

## Discussion

*Gorgyra ziamo* was only found very recently by Belcastro in Guinea (2007) and by Sáfián in Liberia (2010), while Larsen (2005) mentions only a single specimen of *G. kalinzu* from West Africa (Okwango, Eastern Nigeria). The unexpected catch of an almost identical species in West Africa, west of the Dahomey Gap led Larsen and Belcastro to further investigate the matter but Larsen's untimely death prevented description of the taxon. In Larsen's (2015) unpublished manuscript there is a mention of "*Gorgyra [kalinzu] ziamo* ssp. nov." indicating that the taxon was going to be recognised by him as a West African subspecies of *G. kalinzu*. However, the wide disjunction of distribution between the two taxa, and the recognized difference in the male genitalia, give justification for the specific status of *G. ziamo*, supported also by other examples of similar division of distribution, including *Parasiomera paradoxa* (Schultze, 1917) and *P. alfa* Sáfián, 2015 (Sáfián & Collins, 2015), and *Andronymus fenestrella* Bethune-Baker, 1908 and *A. fenestra* Belcastro & Sáfián, 2019 (Sáfián *et al.*, 2019).

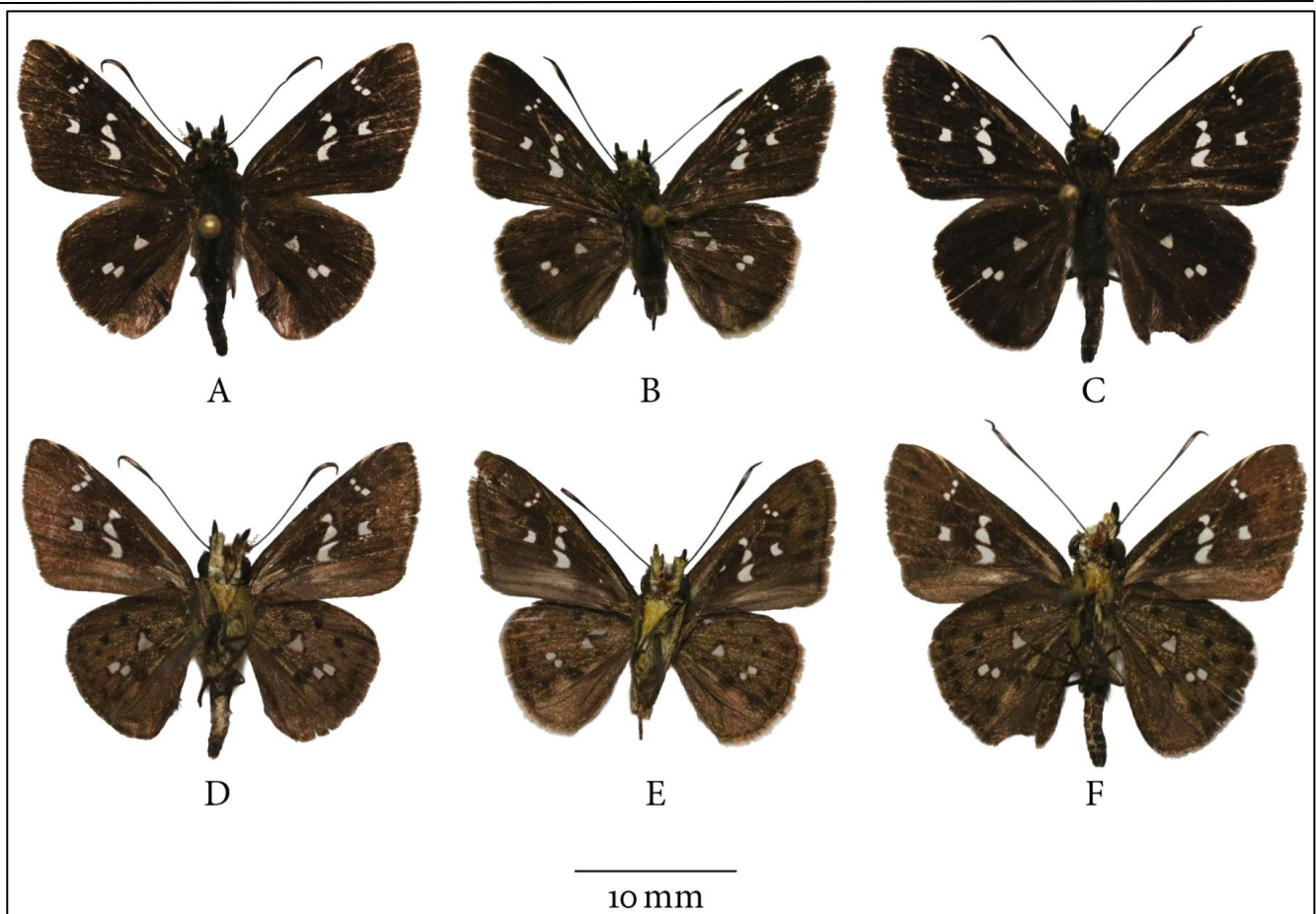
Further male specimens were collected in other localities in Guinea, Sierra Leone and Liberia, which indicates that *G. ziamo* is restricted to, but widely distributed, in the Liberian sub-region (Fig. 12). Although two female specimens were preliminarily identified as *G. ziamo* in the CB and ABRI collections, due to the fact that *Gorgyra* females are often difficult to assign to the males, the authors avoided presenting them until further material becomes available.

## Genus *Andronymus* Holland, 1896

*In*: Holland, 1896. *Proceedings of the Zoological Society of London* 80 (2–107). Type-species: *Pamphila philander* Hopffer, by original designation.

***Andronymus teresae*** Collins & Sáfián **sp. n.** (Figs 13A,D; 14A,D; 15A,D; 16)

urn: lsid:zoobank.org:act:0192F02D-BA1C-4CC3-B28A-BE837B69168C



**Figure 10** – *Gorgyra* males: *G. ziama* (paratype, Guinea, Ziama Forest) recto – A, verso – D; *G. ziama* (holotype) recto – B, verso – E; *G. kalinzu* (Cameroon, Ebogo) recto – C, verso – F.

**Holotype** ♂ DRC, Lukolela, Equateur, 650 m amsl, x.2013–ii.2014, leg. ABRI (Luafa), deposited in ABRI. Unique number: ABRI-2019-3037 (Gen. prep.: SAFI00343).

**Paratypes** 1♂ DRC, Lukolela, Equateur; 1♀ DRC, Equateur, Kuluboku 50 km north of Mbandaka, vi.1998, leg. Luafa, deposited in ABRI. Unique number: ABRI-2019-3038 (Gen. prep.: SAFI00344).

Online supplementary material:

[https://abdb-africa.org/species/andronymus\\_teresae](https://abdb-africa.org/species/andronymus_teresae)

### Descriptions

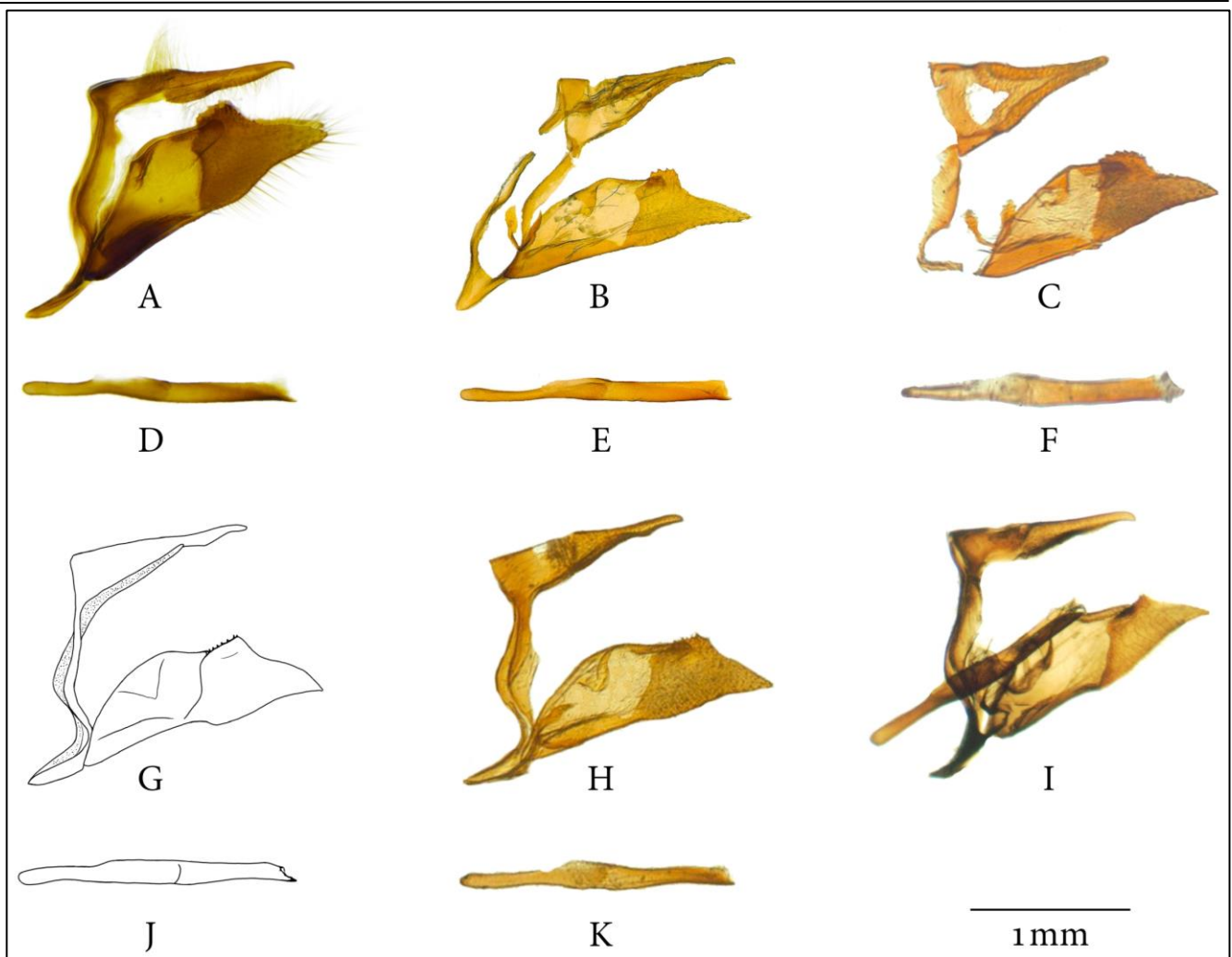
**Male holotype** (Figs 13A,D) Forewing length: 18.5 mm. Wingspan: 34.5 mm. General appearance like other *Andronymus*, with very elongate forewing, creamy yellow pattern on dark brown ground colour on both surfaces and hyaline central patch on hindwing. Forewing sub-apex with three small quadrangular spots; upper cell-spot oval above very long streak (lower cell-spot), lower cell-spot much longer than rectangular spot in the fork of veins 2 and 3. Ochreous trapezoid spot present in space 1b, as well as rather small rather quadrangular one in space 3. Hindwing with irregular creamy yellow spot that surrounds inconspicuous hyaline centre-spot. Outer margin of spot has two small rectangular indentations. Hindwing fringes creamy around tornus. Forewing underside similar to upper side with spot in 1b more irregular. Inner half of hindwing creamy yellow with

brown costal edge, also broad brown marginal band between apex and inner margin interrupted by narrow sub-tornal creamy streak. Margin and fringes creamy yellow around tornus. Body brown on upper side, underside of head (including palpi) and thorax covered with creamy-white. Abdomen brown, with creamy spot on last segment. Legs brown and white, eyes bald, black. Antennae long, black, clubs long with white spot dorsally.

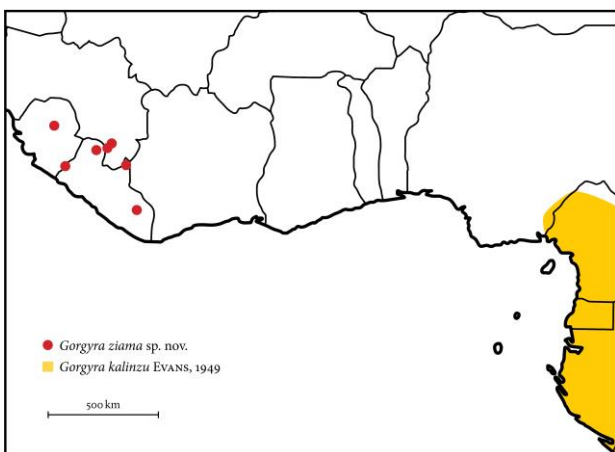
**Female** (Figs 14A,D) Forewing length: 18.4 mm. Wingspan: 35 mm. In appearance the only known female does not differ from the males.

**Genitalia** ♂ (Figs 15A,D) Tegumen squat, broad, uncus narrows down to long, down-curving tentacle with rounded tip. Dorsal base of uncus covered with short hairs. Vinculum slender, bent, saccus large, broad, upcurving. Small, tentacle-like process above saccus is part of fultura. Valva trapezoid in lateral view, with slightly down-curving acute tip. Dorsal edge of tip strongly serrated. Aedeagus short, broad, tubular with spoon-like tip. Fultura inferior with straight, long and very slim anterior process holds the aedeagus inseparably tight. This is a unique feature in the genus *Andronymus*, first illustrated and explained in Sáfián *et al.* (2019).

**Genitalia** ♀ The only-known female specimen was not dissected.



**Figure 11** – *Gorgyra* male genitalia: *G. ziama* (paratype, Guinea, Ziama Forest) lateral view – A, aedeagus – D; *G. ziama* (holotype) lateral view – B, aedeagus – E; *G. ziama* (paratype, Liberia, Putu Range) valva lateral view, uncus ventral view – C, aedeagus – F; *G. kalinzu* (Uganda, re-drawn from Larsen (2005)) lateral view – G, aedeagus – J; *G. kalinzu* (Cameroon, Ebogo – illustrated from Larsen, 2015) lateral view – H, aedeagus – K; *G. kalinzu* (DRC, MRAC – illustrated from Larsen, 2015) lateral view with aedeagus – I. Only A and D are illustrated in ratio with the scale bar, all other images were adjusted to fit on the figure, as the original illustrations appeared without scale bar.



**Figure 12** – Known localities of *G. ziama* and the western limit of the distribution of *G. kalinzu*.

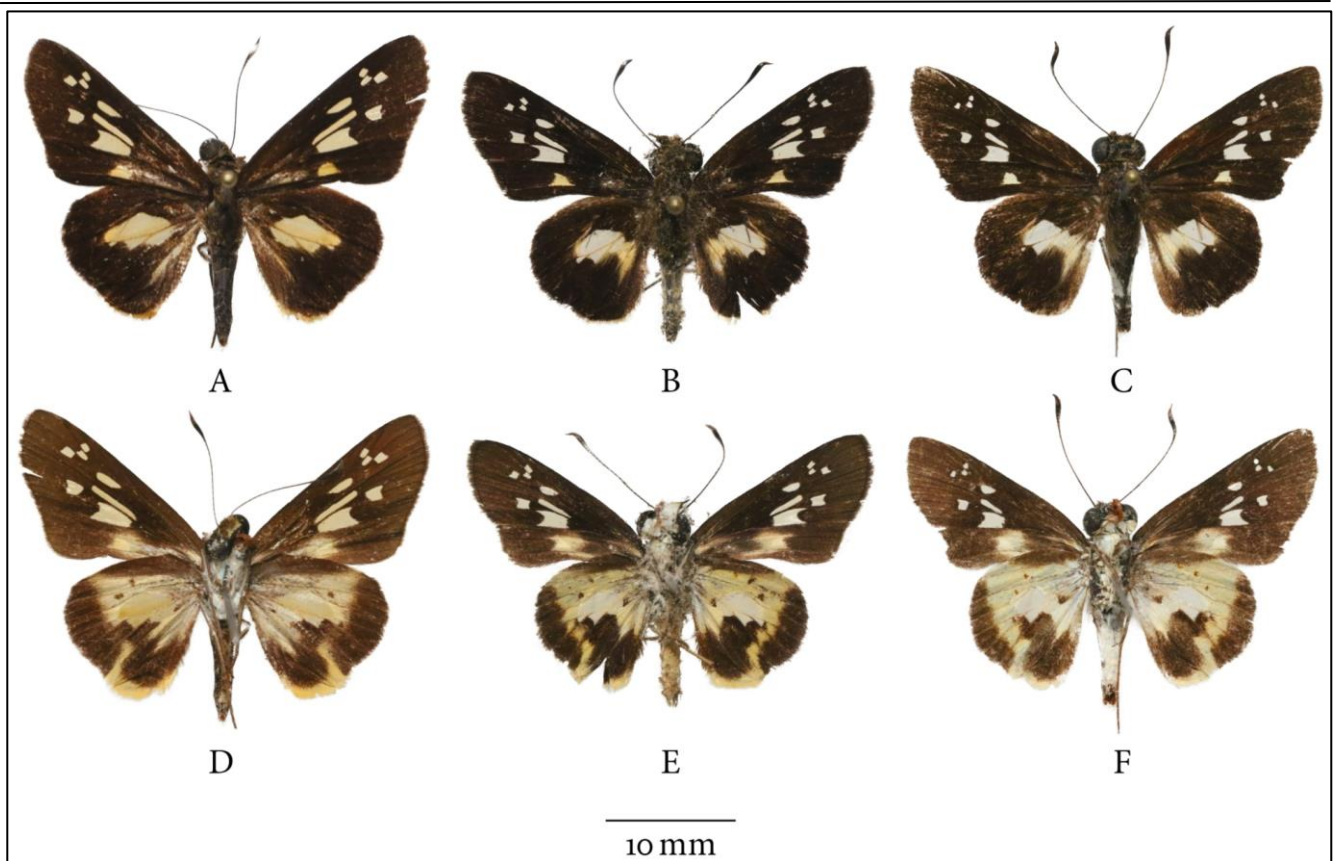
### Diagnosis

The species is most similar to *A. caesar*, particularly to its nominal subspecies, from which it differs in the length of

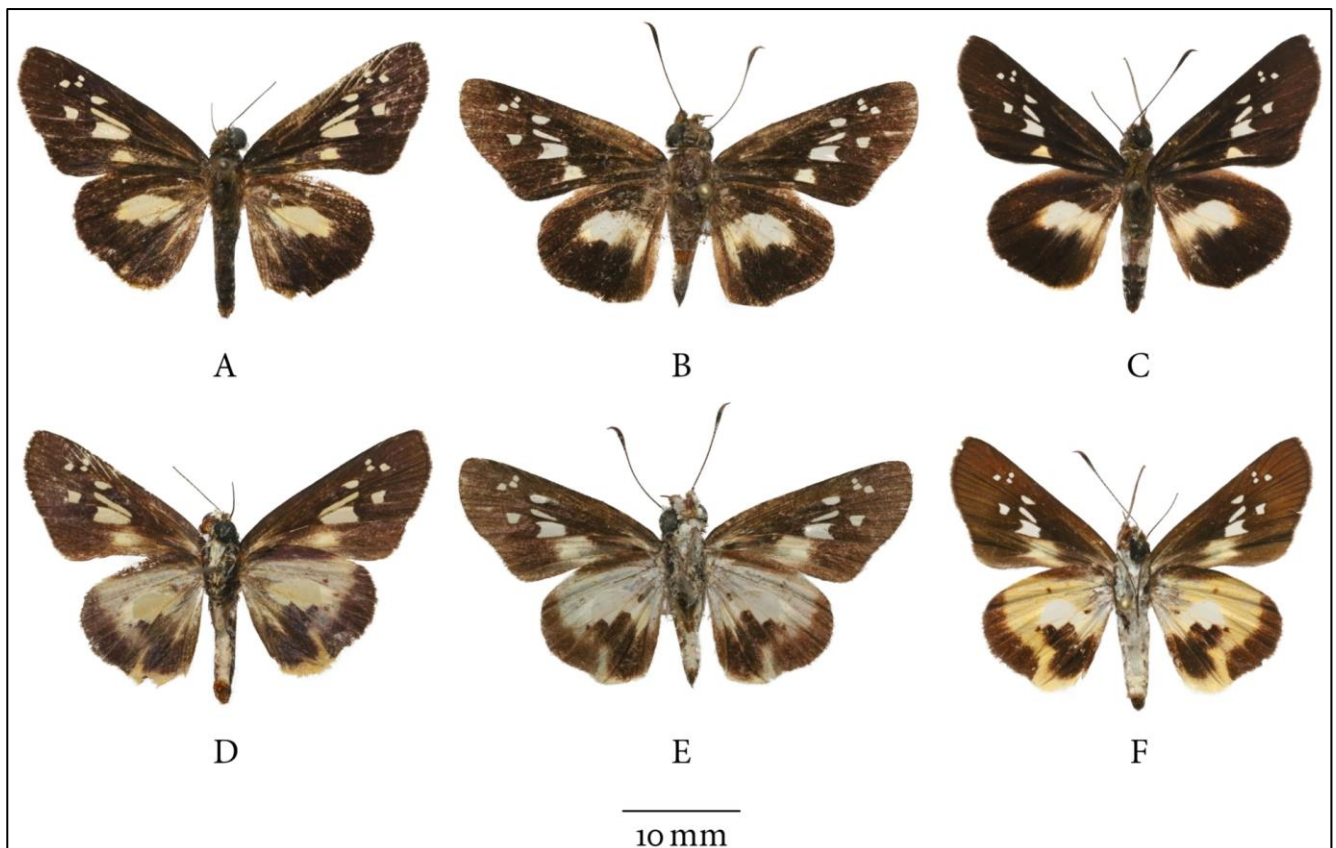
the upper cell-streak on the forewing, which extends remarkably beyond the outer edge of the rectangular lower cell-spot in *Andronymus teresae*, while it stops at the outer edge of the lower cell-spot in *A. caesar*. No other *Andronymus* appear to have such a long upper cell-streak. The male genitalia are also remarkably different from all known *Andronymus* with the down-curving acute tip with strongly serrated dorsal edge of the valva. In *A. caesar caesar* and *A. caesar philander*, the ventral edge of the valva is up-curving, with an almost straight, evenly serrated dorsal edge. The aedeagus and the attached fultra inferior of both subspecies of *A. caesar* are much longer and slightly bent, while this joint structure in *A. teresae* is straight in lateral view with shorter and narrower anterior process of the fultra.

### Etymology

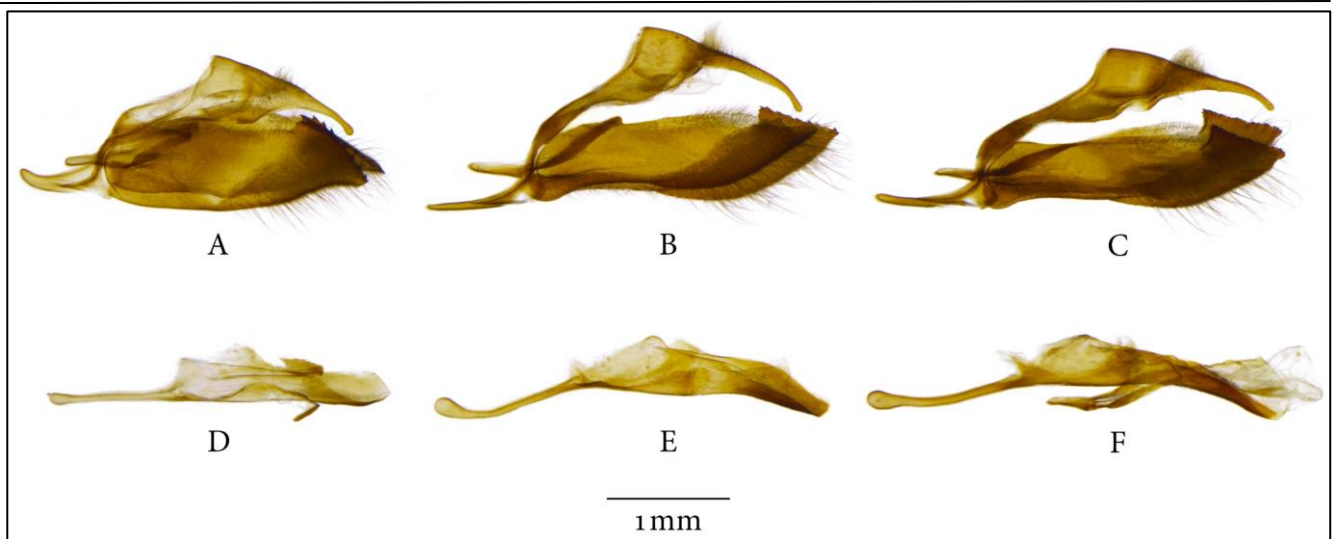
The authors are honoured to name this species after Teresa di Micco de Santo, a long-time volunteer at ABRI.



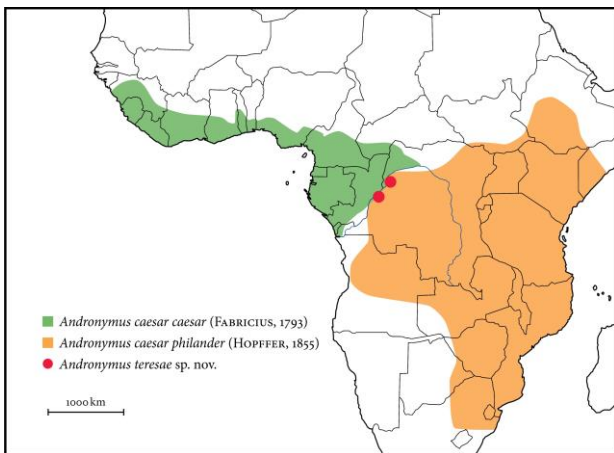
**Figure 13** – Males: *Andronymus teresae* (holotype) recto – A, verso – D (Gen. prep.: SAFI00343); *Andronymus caesar caesar* (Liberia, Sapo National Park) recto – B, verso – E; *Andronymus caesar philander* (DRC, North Kivu) recto – C, verso – F.



**Figure 14** – females: *Andronymus teresae* (paratype) recto – A, verso D; *Andronymus caesar caesar* (Liberia, Putu Range) recto – B, verso – E; *Andronymus caesar philander* (DRC, Lukolela) recto – C, verso – F.



**Figure 15** – Male genitalia: *Andronymus teresae* (holotype) lateral view – A, aedeagus – D (Gen. prep.: SAFI00343); *A. caesar caesar* (Liberia, Sapo National Park) lateral view – B, aedeagus – E (Gen. prep.: SAFI00345); *A. caesar philander* (DRC, Kivu) lateral view – C, aedeagus – F (Gen. prep.: SAFI00347).



**Figure 16** – Approximate distributions of *A. caesar caesar*, *A. caesar philander* and the known localities of *A. teresae*.

## Discussion

*Andronymus teresae* is known exclusively from lowland forests in the Equateur Region of DRC (Fig. 16). A specimen collected at light by Michael Ochse (pers. comm.) in Ivindo National Park in Gabon is most certainly a male *A. teresae*, but the specimen was identified from a photograph.

## ACKNOWLEDGEMENTS

The authors are grateful to the late Torben B. Larsen for his amazing work on Afrotropical skippers. Without Torben's work, the descriptions of the these taxa would have suffered further delay. Torben's widow, Nancy Fee, kindly permitted access to Torben's unfinished monograph on Afrotropical Hesperiiidae. The description of *Apallaga klaudia* would not have been possible without the support of butterfly studies in the Nimba Mountains by the SMFG and its environmental programme coordinated by Jamison D. Suter and assisted by Guy Parker. Claudio Belcastro conducted research in Ziama Forest with permission from the Guinean Authorities between 2005 and 2010. The first author's

field work in Ziama Forest was carried out under the auspices of the Conserving and Connecting the Ziama-Wonegizi-Wologizi Transboundary Forest Landscape between Guinea and Liberia of Fauna & Flora International (FFI) and in partnership with USAID's West Africa Biodiversity and Climate Change Programme and Centre Forestier de N'Zérékoré (CFZ), and in Guinea with funding from the USAID West Africa Biodiversity and Climate Change Program.

Staff of FFI Liberia and FFI Guinea and CFZ were instrumental in the organisation of the field work, and we are thankful to Wing-Yunn Crawley, Toupou Koighae, Alan Deverell, Madam Wata Kamara and Colonel Dumbouya for their assistance.

The first author is grateful to the African Natural History Research Trust, Leominster, UK and its trustee and director Richard H. Smith for additional funding that allowed the butterfly team to survey Wologizi in 2017 and 2018, Wonegizi in 2019 and also to return to Ziama at the end of March 2019. All authors are grateful to Klaudia Florczyk (CEP-MZUJ) who dissected and photographed several male genitalia. We also used dissections of *Apallaga* prepared by Anna Przystalkowska (CEP-MZUJ). Alain Coache kindly provided additional comparative material. Renátó Molnár helped with editing the digital images and plates used in the paper. Thanks to Jon Baker for proofreading the final draft of the manuscript and for two reviewers who pushed the authors to add further information on the new taxa and the comparative material, particularly on *Apallaga*, which is taxonomically the most complex genus of African Hesperiiidae.

## LITERATURE CITED

- BELCASTRO, C. 1986a. A new *Euriphene* (Lepidoptera Nymphalidae) from Loma Mountains (Sierra Leone). *Problemi Attuali di Scienza e di Cultura* **260**: 195–196.
- BELCASTRO, C. 1986b. A preliminary list of Hesperiiidae (Lepidoptera) from Sierra Leone with

- description of a new species. *Problemi Attuali di Scienza e di Cultura* **260**: 165–194.
- BOIREAU, P. 2009. Preliminary survey of lepidopterans of the Tokadeh and Gangra areas and the East Nimba Nature Reserve, Nimba Mountains, Liberia (manuscript report). In: *Western Area Deposits, Environmental Studies – BIOPA Studies. ArcelorMittal, Liberia and Afrique Nature*. Pp. 182–257.
- EVANS, W.H. 1937. *A catalogue of the African Hesperidae indicating the classification and nomenclature adopted in the British Museum*. London, Printed by order of the Trustees. xii, 212 pp.
- LARSEN, T.B. 1991. *The Butterflies of Kenya and their Natural History*. Oxford University Press, Oxford. 490 pp. + 22 colour plates.
- LARSEN, T.B. 2005. *Butterflies of West Africa*. Apollo Books, Svendborg, Denmark. 595 pp. + 135 colour plates.
- LARSEN, T.B.† 2015. *Skipper butterflies of the Afrotropical region (Hesperidae)*. Unpublished manuscript.
- LIBERT, M. 2014. *Sur la taxonomie du genre Celaenorrhinus Hübner en Afrique (Lepidoptera, Hesperidae)*. African Butterfly Research Institute, Nairobi. 272 pp. + 26 colour plates.
- MILLER, L.D. 1970. Nomenclature of wing veins and cells. *Journal of Research on the Lepidoptera* **8**: 37–48.
- SÁFIÁN, SZ. 2014. *Butterflies of the Nimba Mountains, Liberia*. Report on the butterfly surveys (2013–2014) for ArcelorMittal, Liberia, 81 pp. <http://dx.doi.org/10.13140/RG.2.1.4005.2565>
- SÁFIÁN, SZ. & COLLINS, S.C. 2015. Establishment of a new genus for *Eresiomera paradoxa* (Schultze, 1917) and related taxa (Lepidoptera: Lycaenidae) with description of two new species. *Zootaxa*. **4018(1)**:124–136. <http://dx.doi.org/10.11646/zootaxa.4018.1.7>
- SÁFIÁN, SZ. & TAKANO, H. 2019. *Hypolimnas aubergeri* Hecq, 1987 (Nymphalidae: Nymphalinae) a little-known West African butterfly. *Metamorphosis* **30**: 14–18.
- SÁFIÁN, SZ., BELCASTRO, C. & TROPEK, R. 2019. Two new species in the genus *Andronymus* Holland, 1896 (Lepidoptera, Hesperidae). *Zootaxa* **4624(1)**: 108–120. <http://dx.doi.org/https://doi.org/10.11646/zootaxa.4624.1.7>